Exhibit A

Written Findings of Significant Effects –

Summit Wind Repower Project

In accordance with State CEQA Guidelines Sections 15091, the following findings and supporting facts address each significant environmental effect that has been changed (including adoption of mitigation measures) to avoid or substantially reduce the magnitude of the effect, as identified in the Final PEIR (which evaluated the project at a general, programmatic level in 2014) combined together with the *Environmental Checklist* (incorporating an *Errata* describing activities and necessary mitigation measures to be implemented under the authority of Contra Costa County for activities in that County's jurisdiction) and the *Project Description and Affected Environmental Analysis* (which evaluated the project and a detailed, project-level for the purposes of CEQA). The findings described below are organized by resource issue, in the same order as the effects are discussed in the *Environmental Checklist*. No findings are required regarding project alternatives, as these were previously made when the Final PEIR was certified by the East County Board of Zoning Adjustments.

Introduction

The project area is located in the northwestern portion of the 50,000-acre APWRA, generally east of the Brushy Peak Regional Preserve, south of the Alameda County-Contra Costa County border, and west of Dyer Road, and north of Interstate 580 (I-580). Access to the Project will be available through existing private gates and roads emanating off of Vasco Road, Dyer Road, and Altamont Pass Road, all north of I-580. The project area extends over approximately 3,469 acres of grassland north of I-580 in Alameda County, and it consists of cattle-grazed land on which operating wind turbines are currently, or previously have been, installed.

Altamont Winds, LLC (Applicant) proposes to develop the Summit Wind Repower Project (Project) in unincorporated eastern Alameda County, California. Development activities will be the same as those described in the October 2014 Final Program Environmental Impact Report for the Altamont Pass Wind Resource Area (State Clearinghouse No. 2010082063) that was certified on November 12, 2014 (FPEIR). Section 2.5, "Proposed Repowering"; provides a detailed description of these activities and is therefore not repeated here. However, discussion is provided, where necessary, to describe specific design, siting, or potential impact mechanisms that are not described in the FPEIR. Where project-level design has not been completed, project-related metrics (e.g., areas of disturbance associated with specific types of activities) will be based on the Golden Hills North Project, located in the southern, Alameda County, portion of the Altamont Pass Wind Resource Area (APWRA).

The Project will repower the decommissioned site of an existing wind energy facility. Within the Project footprint, 569 wind turbine generators and foundations will be removed. Up to 33 new wind turbine generators are proposed to be installed, with an alternate location for one wind turbine generator (20a) for a total of 34 proposed wind turbine generator sites. The proposed Project would result in a net reduction of 536 wind turbine generators and foundations. The Project will continue transmitting energy from the site to the regional power grid and will maximize renewable energy production by replacing the aging infrastructure with newer, more efficient wind turbine generators.

As recognized by Alameda County, the Project will serve the public and market need for electrical energy, the documented and public policy need to produce renewable energy, and the widely held public and regulatory

agency need to substantially reduce avian mortality related to wind turbine operations. The goals of the applicant are to repower its windfarm assets in compliance with the existing CUPs and applicable laws, reduce avian mortality, and meet the County's general plan and state's goals for production of renewable energy. Consistent with those goals, the Applicant intends to remove and replace approximately 569 wind turbines.

Record of Proceedings and Custodian of Record

The record upon which all findings and determinations related to the approval of the project are based comprises the items listed below.

- The PEIR, the *Environmental Checklist*, the *Errata* to the same *Checklist,* the *Project Description and Affected Environmental Analysis,* and all other documents referenced in or relied upon by the PEIR.
- All information (including written evidence and testimony) provided by County staff to the EBZA relating to the above documents, related approvals, and the project.
- All information (including written evidence and testimony) presented to the EBZA by the environmental consultants who prepared the PEIR or incorporated into reports presented to the EBZA.
- All information (including written evidence and testimony) presented to the County from other public agencies related to the project or the PEIR.
- All applications, letters, testimony, and presentations relating to the project.
- All information (including written evidence and testimony) presented at any County hearing related to the project and the PEIR.
- All County-adopted or County-prepared land use plans, ordinances, including without limitation general plans, specific plans, and ordinances, together with environmental review documents, findings, mitigation monitoring programs, and other documents relevant to land use within the area.
- The Mitigation Monitoring and Reporting Program for the project.
- All other documents composing the record pursuant to Public Resources Code Section 21167.6(e).

The custodian of the documents and other materials that constitute the record of the proceedings upon which the County's decisions are based is Sandra Rivera, Assistant Planning Director, or her designee. Such documents and other material are located at 224 Winton Avenue, Room 111, Hayward, California 94544.

Consideration and Certification of the PEIR

In accordance with CEQA, the EBZA has previously certified (November 2014) that the PEIR has been completed in compliance with CEQA. The EBZA has independently reviewed the record and the PEIR prior to certifying the PEIR and approving the project. By these findings, the EBZA confirms, ratifies, and adopts the findings and conclusions of the PEIR and the *Environmental Checklist* as supplemented and modified by these findings. The PEIR, the *Environmental Checklist* and these findings represent the independent judgment and analysis of the County and the EBZA. The EBZA recognizes that the PEIR and the *Environmental Checklist* may contain clerical errors. The EBZA reviewed the entirety of the PEIR and bases its determination on the substance of the information it contains. The EBZA certifies that the PEIR and the *Environmental Checklist* are adequate to support the approval of the action that is the subject of the Resolution to which these CEQA findings are attached.

The EBZA certifies that the PEIR and the *Environmental Checklist* are adequate to support approval of the proposed Summit Wind Repower Project described in the staff report, each component and phase of

the project described in the PEIR, any variant of the project described in the PEIR, any minor modifications to the project or variants of the project described in the PEIR, and the components of the project.

Absence of Significant New Information

The EBZA recognizes that the *Environmental Checklist* incorporate information obtained and produced after the Final PEIR was completed, and that the *Environmental Checklist* contains additions, clarifications, and modifications. The EBZA has reviewed and considered the Final PEIR and this later information together. The *Environmental Checklist* does not add significant new information to the PEIR that would require recirculation of the PEIR under CEQA. The new information added to the PEIR does not involve a new significant environmental impact, a substantial increase in the severity of an environmental impact, or a feasible mitigation measure or alternative considerably different from others previously analyzed that the project sponsor declines to adopt and that would clearly lessen the significant environmental impacts of the project. No information indicates that the PEIR was inadequate or conclusory or that the public was deprived of a meaningful opportunity to review and comment on the PEIR. Thus, recirculation of the PEIR is not required. The EBZA finds that the Summit Wind Repower Project presented in the *Environmental Checklist*, since the Final PEIR was circulated for public review and comment do not individually or collectively constitute significant new information within the meaning of Public Resources Code Section 21092.1 or Section 15088.5 of the State CEQA Guidelines.

Severability

If any term, provision, or portion of these Findings or the application of these Findings to a particular situation is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions of these Findings, or their application to other actions related to the project, shall continue in full force and effect unless amended or modified by the County.

Findings and Recommendations Regarding Significant and Unavoidable Impacts

Aesthetics

Impact AES-3: Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings along a scenic highway.

Altamont Pass Wind Resource Area (APWRA) Issues to Consider: Will turbines be located along a state- or county-designated scenic highway?

Potential Impact: In addition to state-designated scenic highways, there are several County-designated scenic routes in the Project area. There are portions of I-580, Vasco Road, Altamont Pass Road, and the proposed Route 239 Freeway where no turbines currently exist. However, motorists on these roads are accustomed to seeing wind turbines along the route and therefore, they will not be adversely affected. Although the new, more efficient turbines will be 28–62 meters (92–203 feet) taller than the existing turbines, the new spaced out configuration detracts less from the natural landscape than the existing string configuration. The proposed configuration allows for views of the rolling, grassy terrain to become more prominent, back-dropped by the sky, and less interrupted by anthropogenic features. While the larger turbines will draw viewers' attention toward them, the eye is also able to follow the ridgeline of the hills in a more cohesive manner than existing conditions. With existing conditions, the

eye is drawn to and focuses on the numerous turbines cluttering the view by protruding from the hillsides and ridgelines. However, it will be a significant impact to locate turbines around Vasco Road where no turbines currently exist even though motorists are considered moderately but not highly sensitive.

For those areas with existing older turbines, the replacement of the many existing smaller and older turbines with far fewer and less intrusive fourth-generation turbines will serve Policies 170 and 215 of the East County Area Plan, and serve to protect and enhance scenic values; therefore, this impact is potentially significant.

Mitigation Measures: The following mitigation measures, discussed in discussed in Attachment A2: Checklist of Supporting Documents, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

AES-2a: Require site development review

AES-2b: Maintain site free of debris and restore abandoned roadways

AES-2c: Screen surplus parts and materials

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the Mitigation Measures AES-2a, AES-2b, and AES-2c will reduce the project's construction-related emissions but will not mitigate this impact to a less-than-significant level, as there is no feasible way to avoid the significant impact. The project applicant will be required to implement the following actions.

AES-2a: Require site development review

New turbines along ridgelines or hilltops that have not previously been developed with commercial-scale wind turbines will not be allowed, unless a separate Site Development Review is completed that determines that the visual effects will be substantially avoided by distance from public view points (e.g., more than 2,000 feet), intervening terrain, screening landscaping, or compensatory improvements to equivalent and nearby (radius of 1 mile) scenic features, as approved by the Planning Director.

AES-2b: Maintain site free of debris and restore abandoned roadways

Project sites will be cleaned of all derelict equipment, wind turbine components not required for the project, and litter and debris from old turbines and past turbine operations. Such litter and debris may include derelict turbines, obsolete anemometers, unused electrical poles, and broken turbine blades. In addition, abandoned roads that are no longer in use on such parcels will be restored and hydroseeded to reclaim the sites and remove their visual traces from the viewscape, except in cases where the resource agencies (United States Fish and Wildlife Service [USFWS] and California Department of Fish and Wildlife [CDFW]) recommend that the features be left in place for resource protection. All parcels with new turbines will be maintained in such a manner through the life of project operations and until the parcels are reclaimed in accordance with the approved reclamation plan.

AES-2c: Screen surplus parts and materials

Surplus parts and materials that are kept onsite will be maintained in a neat and orderly fashion and screened from view. This can be accomplished by using a weatherproof camouflage material that can be

draped over surplus parts and materials stockpiles. Draping materials will be changed out to accommodate for seasonal variations so that surplus materials are camouflaged in an effective manner when grasses are both green and brown.

Remaining Impacts: Remaining impacts related to the project's impact on scenic resources will be significant and unavoidable impacts in the area visible from Vasco Road where no turbines currently exist. In the area where older turbines currently exist, implementation of Mitigation Measures AES-2a, AES-2b, and AES-2c will reduce the significant impact to a less-than-significant.

Overriding Considerations: As more fully explained in the Statement of Overriding Considerations contained in Exhibit C to the Resolution to which these CEQA Findings are attached, the County finds that there are environmental, economic, or other benefits of the approved project that override the remaining significant and unavoidable impacts on air quality. There are no other feasible mitigation measures or changes to the project that would reduce this impact to a less-than-significant level.

Impact AES-4: Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings along a scenic highway.

Altamont Pass Wind Resource Area (APWRA) Issues to Consider: Will turbines be located along a state- or county-designated scenic highway?

Potential Impact: The Project will not be placed in the southern portion of the program area. The Project boundary is located approximately two miles north of Patterson Pass Road, and the turbine closest to Patterson Pass Road is approximately 2.4 miles north of Patterson Pass Road. The Project will primarily be visible to recreationists, area residents, motorists, and employees of the businesses. The area is mostly characterized by grass-covered, rounded hills and smooth contours. Strings of turbines, plus power lines, transformers, access roads, and substations are the most visually distinct artificial features throughout the Project area. In addition, although the new, more efficient turbines are larger than the existing turbines, the new spaced out configuration detracts less from the natural landscape than the existing string configuration. This configuration allows for views of the rolling, grassy terrain to become more prominent, back-dropped against the sky, and less interrupted by anthropogenic features. While the larger turbines will draw viewers' attention toward them, the eye is also able to follow the ridgeline of the hills in a more cohesive manner than existing conditions. With existing conditions, the eye is drawn to and focuses on the numerous turbines cluttering the view by protruding from the hillsides and ridgelines. Because of this, Project implementation in areas where turbines currently exist will not substantially degrade the existing visual character or quality of the Project area and will improve views where existing turbine threads are replace with much fewer of the new larger turbines.

According to Policy 170 of the ECAP, Alameda County is obligated to protect nearby existing uses from potential visual and other impacts generated by the construction and operation of windfarm facilities (see FPEIR, Section 3.1.2, "Existing Conditions", "Regulatory Setting"). Several residences in the vicinity will have views of this portion of the Project area (see Figure A2.1-2). Because residents are considered highly sensitive viewers, constructing turbines in this area will conflict with Policy 170. This impact will be significant, but implementation of Mitigation Measures AES-2a, AES-2b, and AES-2c will reduce this impact to a less-than-significant level.

Mitigation Measures: The following mitigation measures, discussed in discussed in Attachment A2: Checklist of Supporting Documents, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

AES-2a: Require site development review

AES-2b: Maintain site free of debris and restore abandoned roadways

AES-2c: Screen surplus parts and materials

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the Mitigation Measures AES-2a, AES-2b, and AES-2c will reduce the project's construction-related emissions but will not mitigate this impact to a less-than-significant level, as there is no feasible way to avoid the significant impact. The project applicant will be required to implement the following actions.

AES-2a: Require site development review

For the text of Mitigation Measure AES-2a, please refer to the discussion of Impact AES-1 above.

AES-2b: Maintain site free of debris and restore abandoned roadways

For the text of Mitigation Measure AES-2b, please refer to the discussion of Impact AES-1 above.

AES-2c: Screen surplus parts and materials

For the text of Mitigation Measure AES-2c, please refer to the discussion of Impact AES-1 above.

Remaining Impacts: Remaining impacts related to the project construction activities' contribution to the construction-related air pollutant emissions will be significant and unavoidable.

Overriding Considerations: As more fully explained in the Statement of Overriding Considerations contained in Exhibit C to the Resolution to which these CEQA Findings are attached, the County finds that there are environmental, economic, or other benefits of the approved project that override the remaining significant and unavoidable impacts on air quality. There are no other feasible mitigation measures or changes to the project that would reduce this impact to a less-than-significant level.

Air Quality

Impact AQ-2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

APWRA Issues to Consider: Will project construction create air quality conditions that violate air quality standards? Will project operation create air quality conditions that violate air quality standards? Will the project include activities not covered in the PEIR?

Potential Impact: Construction of the Summit Wind Project would occur over a period of approximately nine months. It is estimated that there would be 184 workdays that would involve the use of heavy construction equipment (Table A2.3-1). It is expected that the majority of equipment and material-related truck trips would originate at the Port of Stockton (45 miles to the northeast of the Project site) and in the city of Tracy (15 miles to the east of the Project site) and that the construction worker-related commute trips would occur entirely within the SFBAAB. The portion of the equipment, material, and aggregate haul trips that would originate at the Port of Stockton and in the city of Tracy would be generated in the SJVAB, which is under SJVAPCD's jurisdiction. Therefore, the heavy-duty truck trip exhaust emissions that would be generated in the SJVAB have been quantified and compared to SJVAPCD's annual significance thresholds.

Mitigation Measures: The following mitigation measures, discussed in discussed in Attachment A2: Checklist of Supporting Documents, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

AQ-2a: Reduce construction-related air pollutant emissions by implementing applicable BAAQMD Basic Construction Mitigation Measures

AQ-2b: Reduce construction-related air pollutant emissions by implementing measures based on BAAQMD's Additional Construction Mitigation Measures

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures AQ-2a, and AQ-2b would ensure that impacts related to fugitive dust emissions in the SFBAAB would be less than significant. However, implementation of these mitigation measures would not reduce total NOx emissions to a less-than-significance level. The project applicant will be required to implement the following actions.

AQ-2a: Reduce construction-related air pollutant emissions by implementing applicable BAAQMD Basic Construction Mitigation Measures.

The project proponents will require all contractors to comply with the following Bay Area Air Quality Management District (BAAQMD) requirements for all areas with active construction activities.

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) will be watered as needed to maintain dust control onsite—approximately two times per day.
- All haul trucks transporting soil, sand, or other loose material offsite will be covered.
- All visible mud or dirt track-out onto adjacent public roads will be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads will be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved will be completed as soon as possible. Building pads will be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times will be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage will be provided for construction workers at all access points.
- All construction equipment will be maintained and properly tuned in accordance with manufacturer's specifications. All equipment will be checked by a certified visible emissions evaluator.
- Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person will respond and take corrective action within 48 hours. The air district's phone number will also be visible to ensure compliance with applicable regulations.

AQ-2b: Reduce construction-related air pollutant emissions by implementing measures based on BAAQMD's Additional Construction Mitigation Measures.

The project proponents will require all contractors to comply with the following BAAQMD requirements for all areas with active construction activities.

- During construction activities, all exposed surfaces will be watered at a frequency adequate to meet and maintain fugitive dust control requirements of all relevant air quality management entities.
- All excavation, grading, and/or demolition activities will be suspended when average wind speeds exceed 20 mph, as measured at the Livermore Municipal Airport.
- Wind breaks (e.g., trees, fences) will be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50% air porosity.
- Vegetative ground cover (e.g., fast-germinating native grass seed) will be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
- If feasible and practicable, the simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time will be limited.
- Construction vehicles and machinery, including their tires, will be cleaned prior to leaving the construction area to remove vegetation and soil. Cleaning stations will be established at the perimeter of the construction area.
- Site accesses to a distance of 100 feet from the paved road will be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.
- Sandbags or other erosion control measures will be installed to prevent silt runoff to public roadways from sites with a slope greater than 1%.
- The idling time of diesel powered construction equipment will be minimized to 2 minutes.
- The project will develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20% NOx reduction and 45% Particulate Matter (PM) reduction compared to the most recent Air Resources Board (ARB) fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.
- Use low Volatile Organic Compounds (i.e., Reactive Organic Gases [ROG]) coatings beyond the local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings).
- All construction equipment, diesel trucks, and generators will be equipped with Best Available Control Technology for emission reductions of NOx and PM.
- All contractors will use equipment that meets ARB's most recent certification standard for off-road heavy duty diesel engines.

Implementation of Mitigation Measures AQ-2a and AQ-2b would ensure that impacts related to fugitive dust emissions in the San Francisco Bay Area Air Basin would be less than significant. However, implementation of these measures would not reduce total ROG or NOx emissions to a less-than-significant level. This impact of total ROG and NOx emissions would be significant and unavoidable.

Mitigation Measures AQ-2a and AQ-2b would not reduce the on-road emissions in the San Joaquin Valley Air Basin, but these emissions would not exceed San Joaquin Valley Air Pollution Control District's significance thresholds and are, therefore, less than significant.

Remaining Impacts: Remaining impacts related to the project construction activities' contribution to the construction-related air pollutant emissions will be significant and unavoidable.

Overriding Considerations: As more fully explained in the Statement of Overriding Considerations contained in Exhibit C to the Resolution to which these CEQA Findings are attached, the County finds that there are environmental, economic, or other benefits of the approved Project that override the remaining significant and unavoidable impacts on air quality. There are no other feasible mitigation measures or changes to the project that would reduce this impact to a less-than-significant level.

AQ-3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)

APWRA Issues to Consider: Will the project create new permanent stationary sources of criteria pollutants or increase criteria pollutant emissions from any existing stationary sources? Will the project result in an increase in ROG, NOX, PM10, or PM2.5? Will the project include activities not covered in the PEIR?

Potential Impact: Operation of the Project will not result in new permanent stationary sources of criteria pollutants, nor will it increase criteria pollutant emissions from any existing stationary sources. No new permanent workers will be employed under the proposed Project. Drive-by inspections and scheduled wind turbine maintenance will continue to occur on a daily, weekly, or monthly basis, and will be conducted by existing technicians and operations personnel. These activities will continue to be performed per the requirements of the equipment specifications and standard industry practice. Daily emissions of criteria pollutants associated with these activities are anticipated to reduce under the proposed Project due to the reduction of the number of turbines (from 511 to 24) and the reduction of levels of maintenance required by new turbines. Therefore, those emissions will not be considered to result in a significant contribution to existing air quality violations.

Because the Project will also provide renewable energy, the Project will reduce emissions of both criteria pollutants and GHG, thus lessening the amount of pollution emitted overall. However, because construction emissions of NOx for the Project will be greater than the BAAQMD thresholds after the implementation of mitigation measures, construction impacts are significant and unavoidable.

Mitigation Measures: The following mitigation measures, discussed in Attachment A2: Checklist of Supporting Documents, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

AQ-2a: Reduce construction-related air pollutant emissions by implementing applicable BAAQMD Basic Construction Mitigation Measures

AQ-2b: Reduce construction-related air pollutant emissions by implementing measures based on BAAQMD's Additional Construction Mitigation Measures

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures AQ-2a and AQ-2b will reduce the project's construction-related emissions but will not mitigate this impact to a less-than-significant level, as there is no feasible way to avoid the significant impact.

Remaining Impacts: Remaining impacts related to the project construction activities' contribution to cumulative construction-related air pollutant emissions will be significant and unavoidable.

Overriding Considerations: As more fully explained in the Statement of Overriding Considerations contained in Exhibit C to the Resolution to which these CEQA Findings are attached, the County finds that there are environmental, economic, or other benefits of the approved project that override the remaining significant and unavoidable impacts on air quality. There are no other feasible mitigation measures or changes to the project that would reduce this impact to a less-than-significant level.

Biological Resources

Impact BIO-11: Avian mortality resulting from interaction with wind energy facilities.

APWRA Issues to Consider: Will the project include turbines or powerlines?

Potential Impact: The operation of wind energy facilities has been shown to cause avian fatalities through collisions with wind turbines and powerlines and through electrocution on powerlines. There are no federally listed threatened or endangered avian species likely to occur within the Project area and no fatalities of federally listed avian species have been observed within the APWRA (ICF 2014). As discussed in the Checklist, the repowered Project area is expected to reduce estimated fatality rates of all four focal species, all raptors combined, and native non-raptors. However, fatalities will still be expected to result from the operation of the repowered turbines, and uncertainty surrounding the accuracy of the estimated fatality rates and the types of species potentially affected remains. Considering this information, and despite the anticipated reductions in avian impacts compared to the baseline rates, the County has determined to use a conservative approach for the impact assessment, concluding that turbine related fatalities could constitute a substantial adverse effect on avian species because the rates for some or all of the species could be greater than the baseline rates.

Mitigation Measures: The following mitigation measures, discussed in Attachment A2: Checklist of Supporting Documents, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-11a: Prepare a project-specific avian protection plan

BIO-11b: Site turbines to minimize potential mortality of birds

BIO-11c: Use turbine designs that reduce avian impacts

BIO-11d: Incorporate avian-safe practices into design of turbine-related infrastructure

BIO-11e: Retrofit existing infrastructure to minimize risk to raptors

BIO-11f: Discourage prey for raptors

BIO-11g: Implement post-construction avian fatality monitoring for all repowering projects and implement adaptive management measures as necessary

BIO-11h: Compensate for the loss of raptors and other avian species, including golden eagles, by contributing to conservation efforts

BIO-11i: Implement an avian adaptive management program

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-11a, BIO-11b, BIO-11c, BIO-11d, BIO-11e, BIO-11f, BIO-11g, BIO-11h, and BIO-11i will reduce the rate of avian mortality associated with the project but will not mitigate this impact to a less-than-significant level, as there is no feasible way to avoid the significant impact. The project proponent will be required to implement the following actions prior to and during operations.

BIO-11a: Prepare a project-specific avian protection plan

All project proponents will prepare a project-specific Avian Protection Plan (APP) to specify measures and protocols consistent with the program-level mitigation measures that address avian mortality. The project-specific APPs will include, at a minimum, the following components.

- Information and methods used to site turbines to minimize risk.
- Documentation that appropriate turbine designs are being used.
- Documentation that avian-safe practices are being implemented on project infrastructure.
- Methods used to discourage prey for raptors.
- A detailed description of the post-construction avian fatality monitoring methods to be used (consistent with the minimum requirements outlined in Mitigation Measure BIO-11g).

Methods used to compensate for the loss of raptors (consistent with the requirements of Mitigation Measure BIO-11h). Each project applicant will prepare and submit a draft project-specific APP to the County. The draft APP will be reviewed by the Technical Advisory Committee (TAC) for consistency and the inclusion of appropriate mitigation measures that are consistent with the PEIR and recommended for approval by the County. Each project applicant must have an approved Final APP prior to commercial operation.

BIO-11b: Site turbines to minimize potential mortality of birds

Siting of turbines—using analyses of landscape features and location-specific bird use and behavior data to identify locations with reduced collision risk—may result in reduced fatalities (Smallwood et al. 2009). All project proponents will conduct a siting process and prepare a siting analysis to select turbine locations to minimize potential impacts on bird and bat species. Proponents will utilize existing data as well as collect new site-specific data as part of the siting analysis.

Project proponents will utilize currently available guidelines such as the Alameda County Scientific Review Committee (SRC) guidelines for siting wind turbines (Alameda County SRC 2010) and/or other currently available research or guidelines to conduct siting analysis. Additionally, project proponents will use the results of previous siting efforts to inform the analysis and siting methods as appropriate such that the science of siting continues to be advanced. All project proponents will collect field data that identify or confirm the behavior, utilization, and distribution patterns of affected avian and bat species prior to the installation of turbines. Project proponents will collect and utilize available existing information, including but not necessarily limited to: siting reports and monitoring data from previously installed projects; published use and abundance studies and reports; and topographic features known to increase collision risk (trees, riparian areas, water bodies, and wetlands).

Project proponents will also collect and utilize additional field data as necessary to inform the siting analysis for golden eagle. As required in Mitigation Measure BIO-8a, surveys will be conducted to locate golden eagle nests within 2 miles of proposed project areas. Siting of turbines within 2 miles of an active or alternative golden eagle nest or active golden eagle territory will be based on a site-specific analysis of risk based on the estimated eagle territories, conducted in consultation with USFWS.

Project proponents will utilize methods (i.e., computer models) to identify dangerous locations for birds and bats based on site-specific risk factors informed by the information discussed above. The project proponents will compile the results of the siting analyses for each turbine and document these in the project-level APP, along with the specific location of each turbine.

Mitigation Measure BIO-11c: Use turbine designs that reduce avian impacts

Use of turbines with certain characteristics is believed to reduce the collision risk for avian species. Project proponents will implement the design-related measures listed below.

- Turbine designs will be selected that have been shown or that are suspected to reduce avian fatalities, based on the height, color, configuration, or other features of the turbines.
- Turbine design will limit or eliminate perching opportunities. Designs will include a tubular tower with internal ladders; external catwalks, railings, or ladders will be prohibited.
- Turbine design will limit or eliminate nesting or roosting opportunities. Openings on turbines will be covered to prevent cavity-nesting species from nesting in the turbines.

Lighting will be installed on the fewest number of turbines allowed by Federal Aviation Administration (FAA) regulations, and all pilot warning lights will fire synchronously. Turbine lighting will employ only red or dual red-and-white strobe, strobe-like, or flashing lights (U.S. Fish and Wildlife Service 2012). All lighting on turbines will be operated at the minimum allowable intensity, flashing frequency, and quantity allowed by FAA (Gehring et al. 2009; U.S. Fish and Wildlife Service 2012). Duration between flashes will be the longest allowable by the FAA.

BIO-11d: Incorporate avian-safe practices into design of turbine-related infrastructure

All project proponents will apply the following measures when designing and siting turbine-related infrastructure. These measures will reduce the risk of bird electrocution and collision.

- Permanent meteorological stations will avoid use of guy wires. If it is not possible to avoid using guy wires, the wires will be at least 4/0 gauge to ensure visibility and will be fitted with bird deterrent devices.
- All permanent meteorological towers will be unlit unless lighting is required by FAA. If lighting is required, it will be operated at the minimum allowable intensity, flashing frequency, and quantity allowed by FAA.
- To the extent possible, all powerlines will be placed underground. However, lines may be placed aboveground immediately prior to entering the substation. All aboveground lines will be fitted with bird flight diverters or visibility enhancement devices (e.g., spiral damping devices). When lines cannot be placed underground, appropriate avian protection designs must be employed. As a minimum requirement, the collection system will conform to the most current edition of the Avian Power Line Interaction Committee guidelines to prevent electrocutions.
- Lighting will be focused downward and minimized to limit skyward illumination. Sodium vapor lamps and spotlights will not be used at any facility (e.g., laydown areas, substations) except when emergency maintenance is needed. Lighting at collection facilities, including substations, will be minimized using downcast lighting and motion-detection devices. The use of high-intensity lighting; steady-burning or bright lights such as sodium vapor, quartz, or halogen; or other bright spotlights will be minimized. Where lighting is required it will be designed for the minimum intensity required for safe operation of the facility. Green or blue lighting will be used in place of red or white lighting.

BIO-11e: Retrofit existing infrastructure to minimize risk to raptors

Any existing power lines in a specific project area that are owned by the wind project operator and that are associated with electrocution of an eagle or other raptor will be retrofitted within 30 days to make them raptor-safe according to Avian Power Line Interaction Committee guidelines. All other existing structures to remain in a project area during repowering will be retrofitted, as feasible, according to specifications of Mitigation Measure BIO-11c prior to repowered turbine operation.

BIO-11f: Discourage prey for raptors

All project proponents will apply the following measures when designing and siting turbine-related infrastructure. These measures are intended to minimize opportunities for fossorial mammals to become established and thereby create a prey base that could become an attractant for raptors.

- Rodenticide will not be utilized on the project site to avoid the risk of raptors scavenging the remains of poisoned animals.
- Boulders (rocks more than 12 inches in diameter) excavated during project construction may be placed in aboveground piles in the project area so long as they are more than 500 meters (1,640 feet) from any turbine. Existing rock piles created during construction of first- and second-generation turbines will also be moved at least 500 meters (1,640 feet) from turbines.
- Gravel will be placed around each tower foundation to discourage small mammals from burrowing near turbines.

BIO-11g: Implement post-construction avian fatality monitoring for all repowering projects

A post-construction monitoring program will be conducted at each repowering project for a minimum of 3 years beginning on the commercial operation date (COD) of the project. Monitoring may continue beyond 3 years if construction is completed in phases. Moreover, if the results of the first 3 years indicate that baseline fatality rates (i.e., non-repowered fatality rates) are exceeded, monitoring will be extended until the average annual fatality rate has dropped below baseline fatality rates for 2 years, and to assess the effectiveness of adaptive management measures specified in Mitigation Measure BIO-11i. An additional 2 years of monitoring will be implemented at year 10 (i.e., the tenth anniversary of the COD). Project proponents will provide access to qualified third parties authorized by the County to conduct any additional monitoring after the initial 3-year monitoring period has expired and before and after the additional 2-year monitoring period, provided that such additional monitoring utilizes scientifically valid monitoring protocols.

A TAC will be formed to oversee the monitoring program and to advise the County on adaptive management measures that may be necessary if fatality rates substantially exceed those predicted for the project (as described below in Mitigation Measure BIO-11i). The TAC will have a standing meeting, which will be open to the public, every 6 months to review monitoring reports produced by operators in the program area. In these meetings, the TAC will discuss any issues raised by the monitoring reports and recommend to the County next steps to address issues, including scheduling additional meetings, if necessary.

The TAC will comprise representatives from the County (including one or more technical consultants, such as a biostatistician, an avian biologist, and a bat biologist), and wildlife agencies (CDFW, USFWS). Additional TAC members may also be considered (e.g., a representative from Audubon, a landowner in the program area, a representative of the operators) at the discretion of the County. The TAC will be a voluntary and advisory group that will provide guidance to the County Planning Department. To maintain transparency with the public, all TAC meetings will be open to the public, and notice of meetings will be given to interested parties.

The TAC will have three primary advisory roles: (1) to review and advise on project planning documents (i.e., project-specific APPs) to ensure that project-specific mitigation measures and compensatory mitigation measures described in the PEIR are appropriately and consistently applied, (2) to review and advise on monitoring documents (protocols and reporting) for consistency with the mitigation measures, and (3) to review and advise on implementation of the adaptive management plans.

Should fatality monitoring reveal that impacts exceed the baseline thresholds established in the PEIR, the TAC will advise the County on requiring implementation of adaptive management measures as described in Mitigation Measure BIO-11i. The County will have the decision-making authority, as it is the

organization issuing the conditional use permits. However, the TAC will collaboratively inform the decisions of the County.

Operators are required to provide for avian use surveys to be conducted within the project area boundaries for a minimum of 30 minutes duration. Surveyors will be qualified and trained and subject to approval by the County.

Carcass surveys will be conducted at every turbine for projects with 20 or fewer turbines. For projects with more than 20 turbines, such surveys will be required at a minimum of 20 turbines, and a sample of the remaining turbines may be selected for carcass searches. The operator will be required to demonstrate that the sampling scheme and sample size are statistically rigorous and defensible. Where substantial variation in terrain, land cover type, management, or other factors may contribute to significant variation in fatality rates, the sampling scheme will be stratified to account for such variation. The survey protocol for sets and subsets of turbines, as well as proposed sampling schemes that do not entail a search of all turbines, must be approved by the County in consultation with the TAC prior to the start of surveys.

The search interval will not exceed 14 days for the minimum of 20 turbines to be surveyed; however, the search interval for the additional turbines (i.e., those exceeding the 20-turbine minimum) that are to be included in the sampling scheme may be extended up to 28 days or longer if recommended by the TAC.

The estimation of detection probability is a rapidly advancing field. Carcass placement trials, broadly defined, will be conducted to estimate detection probability during each year of monitoring. Sample sizes will be large enough to potentially detect significant variation by season, carcass size, and habitat type.

Operators will be required to submit copies of all raw data forms to the County annually, will supply raw data in a readily accessible digital format to be specified by the County, and will prepare raw data for inclusion as appendices in the annual reports. The intent is to allow the County to conduct independent analyses and meta-analyses of data across the Altamont Pass Wind Resource Area (APWRA), and to supply these data to the regulatory agencies if requested.

Annual reports submitted to the County will provide a synthesis of all information collected to date. Each report will provide an introduction; descriptions of the study area, methods, and results; a discussion of the results; and any suitable recommendations. Reports will provide raw counts of fatalities, adjusted fatality rates, and estimates of project-wide fatalities on both a per MW and per turbine basis.

BIO-11h: Compensate for the loss of raptors and other avian species, including golden eagles, by contributing to conservation efforts

To promote the conservation of raptors and other avian species, project proponents will compensate for raptor fatalities estimated within their project areas. Mitigation will be provided in 10-year increments, with the first increment based on the estimates (raptors/MW/year) provided in the PEIR for the Vasco Winds Project or the project-specific EIR for future projects. The Vasco Winds fatality rates were selected because the Vasco turbines are the most similar to those likely to be proposed for future repowering projects and consequently represent the best available fatality estimates. Each project proponent will conduct post-construction fatality monitoring for at least 3 years beginning at project startup (date of commercial operation) and again for 2 years at year 10, as required under Mitigation Measure BIO-11g, to estimate the average number of raptors taken each year by each individual project. The project proponent will compensate for this number of raptors in subsequent 10-year increments for the life of the project (i.e., three 10-year increments) as outlined below. Mitigation Measure BIO-11g also requires additional fatality monitoring at year 10, as required under Mitigation Measure BIO-11g, to estimate the average number of raptors taken each year by each individual project. The project proponent will compensate for this number of raptors in subsequent 10-year increments for the life of

the project (i.e., three 10-year increments) as outlined below. Mitigation Measure BIO-11g also requires additional fatality monitoring at year 10 of the project. The results of the first 3 years of monitoring and/or the monitoring at year 10 may lead to revisions of the estimated average number of raptors taken, and mitigation provided may be adjusted accordingly on a one-time basis within each of the first two 10-year increments, based on the results of the monitoring required by Mitigation Measure BIO-11g, in consultation with the TAC.

Prior to the start of operations, project proponents will submit for County approval an avian conservation strategy, as part of the project-specific APP outlined in Mitigation Measure BIO- 11a, outlining the estimated number of raptor fatalities based on the number and type of turbines being constructed, and the type or types of compensation options to be implemented. Project proponents will use the avian conservation strategy to craft an appropriate strategy using a balanced mix of the options presented below, as well as considering new options suggested by the growing body of knowledge during the course of the project lifespan, as supported by a Resource Equivalency Analysis (REA) (see example in Appendix C3) or similar type of compensation assessment acceptable to the County that demonstrates the efficacy of proposed mitigation for impacts on raptors.

The County Planning Director, in consultation with the TAC, will consider, based on the REA, whether the proposed avian conservation strategy is adequate, including consideration of whether each avian mitigation plan incorporates a landscape-scale approach such that the conservation efforts achieve the greatest possible benefits. Compensation measures as detailed in an approved avian conservation strategy must be implemented within 1 year of the date of commercial operations. Avian conservation strategies will be reviewed and may be revised by the County every 10 years, and on a one-time basis in each of the two 10-year increments based on the monitoring required by Mitigation Measure BIO-11g.

- Retrofitting high-risk electrical infrastructure. USFWS's ECP Guidelines outline a compensatory mitigation strategy using the retrofit of high-risk power poles (poles known or suspected to electrocute and kill eagles). USFWS has developed an REA (U.S. Fish and Wildlife Service 2013a) as a tool to estimate the compensatory mitigation (number of retrofits) required for the take of eagles. The REA takes into account the current understanding of eagle life history factors, the effectiveness of retrofitting poles, the expected annual take, and the timing of implementation of the pole retrofits. The project proponents may need to contract with a utility or a third-party mitigation account (such as the National Fish and Wildlife Foundation) to retrofit the number of poles needed as demonstrated by a project-specific REA. If contracting directly, the project proponent will consult with utility companies to ensure that high-risk poles have been identified for retrofitting. Proponents will agree in writing to pay the utility owner/operator to retrofit the required number of power poles and maintain the retrofits for 10 years and will provide the County with documentation of the retrofit agreement. The first retrofits will be based on the estimated number of eagle fatalities as described above in this measure or as developed in the project-specific EIR for future projects. Subsequent numbers of retrofits required for additional 10-year durations will be based on the results of project-specific fatality monitoring as outlined in Mitigation Measure BIO-11g. If fewer eagle fatalities are identified through the monitoring, the number of future required retrofits may be reduced through a project-specific REA. Although retrofitting poles has not been identified as appropriate mitigation for other large raptors, they would likely benefit from such efforts, as they (particularly red-tailed and Swainson's hawks) constitute the largest non-eagle group to suffer electrocution on power lines (Avian Power Line Interaction Committee 2006).

- Measures outlined in an approved Eagle Conservation Plan and Bird and Bat Conservation Strategy. Project proponents may elect to apply for programmatic eagle take permits from USFWS. The programmatic eagle take permit process currently involves preparation of an Eagle Conservation Plan (ECP) and a Bird and Bat Conservation Strategy (BBCS). The ECP specifies avoidance and minimization measures, advanced conservation practices, and compensatory mitigation for eagles—conditions that meet USFWS's criteria for issuance of a permit. The BBCS

outlines measures being implemented by the applicant to avoid and minimize impacts on migratory birds, including raptors. If programmatic eagle take permits are obtained by project proponents, those permit terms, including the measures outlined in the approved ECP and BBCS, may constitute an appropriate conservation measure for estimated take of golden eagles and other raptors, provided such terms are deemed by the County to be comparable to or more protective of raptors than the other options listed herein.

- Contribute to raptor conservation efforts. Project proponents will contribute funds, in the amount of $580/raptor fatality, in 10-year increments to local and/or regional conservation efforts designed to protect, recover, and manage lands for raptors, or to conduct research involving methods to reduce raptor fatalities or increase raptor productivity. The $580 amount is based on the average cost to rehabilitate one raptor at the California Raptor Center, affiliated with the UC Davis School of Veterinary Medicine, which receives more than 200 injured or ill raptors annually (Stedman pers. comm.). Ten-year installments are more advantageous than more frequent installments for planning and budgeting purposes.

  The funds will be contributed to an entity or entities engaged in these activities, such as the East Bay Regional Park District and the Livermore Area Regional Park District. Conservation efforts may include constructing and installing nest boxes and perches, conducting an awareness campaign to reduce the use of rodenticide, and conducting research to benefit raptors. The specific conservation effort to be pursued will be submitted to the County for approval as part of the avian conservation strategy review process. The donation receipt will be provided to the County as evidence of payment.

  The first contributions for any given project will be based on the estimated number of raptor fatalities as described above in this measure or as developed in the project-specific EIR for future projects. Funds for subsequent 10-year installments will be provided on the basis of the average annual raptor fatality rates determined through post-construction monitoring efforts, allowing for a one-time adjustment within each 10-year increment after the results of the monitoring efforts are available. If fewer raptor fatalities are detected through the monitoring effort, the second installment amount may be reduced to account for the difference between the first estimated numbers and the monitoring results.

- Contribute to regional conservation of raptor habitat. Project proponents may address regional conservation of raptor habitat by funding the acquisition of conservation easements within the APWRA or on lands in the same eco-region outside the APWRA, subject to County approval, for the purpose of long-term regional conservation of raptor habitat. Lands proposed for conservation must be well-managed grazing lands similar to those on which the projects have been developed. Project proponents will fund the regional conservation and improvement of lands (through habitat enhancement, lead abatement activities, elimination of rodenticides, and/or other measures) using a number of acres equivalent to the conservation benefit of the raptor recovery and conservation efforts described above, or as determined through a project-specific REA (see example REA in Appendix C3). The conservation lands must be provided for compensation of a minimum of 10 years of raptor fatalities, as 10-year increments will minimize the transaction costs associated with the identification and conservation of lands, thereby increasing overall cost effectiveness. The conservation easements will be held by an organization whose mission is to purchase and/or otherwise conserve lands, such as The Trust for Public Lands, The Nature Conservancy, California Rangeland Trust, or the East Bay Regional Parks District. The project proponents will obtain approval from the County regarding the amount of conserved lands, any enhancements proposed to increase raptor habitat value, and the entity holding the lands and/or conservation easement.

- Other Conservation Measures Identified in the Future. As noted above, additional conservation measures for raptors may become available in the future. Conservation measures for raptors are currently being developed by USFWS and nongovernmental organizations (e.g., American Wind Wildlife Institute)—for example, activities serving to reduce such fatalities elsewhere, and enhancing foraging and nesting habitat. Additional options for conservation could include purchasing credits at an approved mitigation bank, credits for the retirement of windfarms that are particularly dangerous to birds or bats, the curtailment of prey elimination programs, and hunter-education programs that remove sources of lead from the environment. Under this option, the project proponent may make alternative proposals to the County for conservation measures—based on an REA or similar compensation assessment—that the County may accept as mitigation if they are deemed by the County to be comparable to or more protective of raptor species than the other options described herein.

BIO-11i: Implement an avian adaptive management program

If fatality monitoring described in Mitigation Measure BIO-11g results in an estimate that exceeds the preconstruction baseline fatality estimates (i.e., estimates at the non-repowered turbines as described in the PEIR) for any focal species or species group (i.e., individual focal species, all focal species, all raptors, all non-raptors, all birds combined), project proponents will prepare a project-specific adaptive management plan within 2 months following the availability of the fatality monitoring results. These plans will be used to adjust operation and mitigation to the results of monitoring, new technology, and new research to ensure that the best available science is used to minimize impacts to below baseline. Project-specific adaptive management plans will be reviewed by the TAC, revised by project proponents as necessary, and approved by the County. The TAC will take current research and the most effective impact reduction strategies into account when reviewing adaptive management plans and suggesting measures to reduce impacts. The project-specific adaptive management plans will be implemented within 2 months of approval by the County. The plans will include a stepped approach whereby an adaptive measure or measures are implemented, the results are monitored for success or failure for a year, and additional adaptive measures are added as necessary, followed by another year of monitoring, until the success criteria are achieved (i.e., estimated fatalities are below the baseline). Project proponents should use the best measures available when the plan is prepared in consideration of the specific adaptive management needs. For example, if only one threshold is exceeded, such as golden eagle fatalities, the plan and measures used will target that species. As set forth in other agreements in the APWRA, project proponents may also focus adaptive management measures on individual or multiple turbines if those turbines are shown to cause a significantly disproportionate number of fatalities.

In general, the following types of measures will be considered by the TAC, in the order they are presented below; however, the TAC may recommend any of these or other measures that are shown to be successful in reducing the impact.

- ADMM-1: Visual Modifications. The project proponent could paint a pattern on a proportion of the turbine blades. The proportion and the pattern of the blades to be painted will be determined by the County in consultation with the TAC. USFWS recommends testing measures to reduce motion smear—the blurring of turbine blades due to rapid rotation that renders them less visible and hence more perilous to birds in flight. Suggested techniques include painting blades with staggered stripes or painting one blade black. The project proponent will conduct fatality studies on a controlled number of painted and unpainted turbines. The project proponent will coordinate with the TAC to determine the location of the painted turbines, but the intent is to implement this measure in areas that appear to be contributing most to the high number of fatalities detected.
- ADMM-2: Anti-Perching Measures. The County will consult with the TAC regarding the use of anti-perching measures to discourage bird use of the area. The TAC will use the most recent

research and information available to determine, on a case-by–case basis, if anti-perching measures will be an effective strategy to reduce impacts. If determined to be feasible, anti-perching devices will be installed on artificial structures, excluding utility poles, within 1 mile of project facilities (with landowner permission) to discourage bird use of the area.

- ADMM-3: Prey Reduction. The project proponent will implement a prey reduction program around the most hazardous turbines. Examples of prey reduction measures may include changes in grazing practices to make the area less desirable for prey species, active reduction through direct removal of prey species, or other measures provided they are consistent with management goals for threatened and endangered species.
- ADMM-4: Implementation of Experimental Technologies. Project proponents can deploy experimental technologies at their facilities to test their efficacy in reducing turbine-related fatalities. Examples may include, but are not limited to, visual deterrents, noise deterrents, and active radar systems.
- ADMM-5: Turbine Curtailment. If post-construction monitoring indicates patterns of turbine-caused fatalities—such as seasonal spikes in fatalities, topographic or other environmental features associated with high numbers of fatalities, or other factors that can potentially be manipulated and that suggest that curtailment of a specific turbine's operation would result in reducing future avian fatalities—the project operator can curtail operations of the offending turbine or turbines. Curtailment restrictions would be developed in coordination with the TAC and based on currently available fatality data, use data, and research.
- ADMM-6: Cut-in Speed Study. Changes in cut-in speed could be conducted to see if changing cut-in speeds from 3 meters per second to 5 meters per second (for example) would significantly reduce avian fatalities. The proponent will coordinate with the TAC in determining the feasibility of the measure for the particular species affected as well as the amount of the change in the cut-in speed.
- ADMM-7: Real-Time Turbine Curtailment. The project proponent can employ a real-time turbine curtailment program designed in consultation with the TAC. The intent would be to deploy a biologist to monitor onsite conditions and issue a curtailment order when raptors are near operating turbines. Alternatively, radar, video, or other monitoring measures could be deployed in place of a biological monitor if there is evidence to indicate that such a system would be as effective and more efficient than use of a human monitor.

Remaining Impacts: Remaining impacts related to the project impacts on avian mortality will be significant and unavoidable.

Overriding Considerations: As more fully explained in the Statement of Overriding Considerations contained in Exhibit C to the Resolution to which these CEQA Findings are attached, the County finds that there are environmental, economic, or other benefits of the approved project that override the remaining significant and unavoidable impacts on biological resources. There are no other feasible mitigation measures, or changes to the project that would reduce this impact to a less than significant level.

Impact BIO-14: Turbine-related fatalities of special-status and other bats.

APWRA Issues to Consider: Will the project involve turbines?

Potential Impact: The project involves turbines and has the potential to incur turbine-related fatalities of special-status and other bats. Resident and migratory bats flying in and through the program area may be killed by collision with wind turbine blades or other interaction with the wind turbine generators. Insufficient data are currently available to develop accurate fatality estimates for individual bat species. Five bat species have been documented in fatality monitoring programs in the APWRA, of which two (western red bat and hoary bat) are special-status species. Extrapolating from existing fatality data and from trends observed at other wind energy facilities where fourth-generation turbines

are in operation, it appears likely that fatalities will occur predominantly in the late summer to mid-fall migration period; that fatalities will consist mostly of migratory bats, particularly Mexican free-tailed bat and hoary bat; that fatalities will occur sporadically at other times of year; and that fatalities of one or more other species will occur in smaller numbers.

Diablo Winds, Buena Vista, and Vasco Winds are the only repowered projects in the APWRA for which estimates of bat fatality rates are available. Based on these estimates, bat collision risk increases substantially when old-generation turbines are replaced by newer, larger turbines. Based on these estimates as presented in the FPEIR, annual estimated bat fatalities in the program area from implementation of Alternative 1 are anticipated to increase from the current estimate of 0.26 annual fatalities per MW to 1.67–3.92 annual fatalities per MW. Adjusting these estimates to the current 39.9 MW Project and the repowered 54 MW Project it is anticipated that an increase from approximately 10 bat fatalities per year to 90-212 bat fatalities per year.

Mitigation Measures: The following mitigation measures, discussed in Attachment A2: Checklist of Supporting Documents, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-14a: Site and select turbines to minimize potential mortality of bats

BIO-14b: Implement post-construction bat fatality monitoring program for all repowering projects

BIO-14c: Prepare and publish annual monitoring reports on the findings of bat use of the project area and fatality monitoring results

BIO-14d: Develop and implement a bat adaptive management plan

BIO-14e: Compensate for expenses incurred by rehabilitating injured bats

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-14a, BIO-14b, BIO-14c, BIO-14d, and BIO-14e will reduce the rate of bat mortality associated with the project but will not mitigate this impact to a less-than-significant level, as there is no feasible way to avoid the significant impact. The project applicant will be required to implement the following actions.

BIO-14a: Site and select turbines to minimize potential mortality of bats

All project proponents will use the best information available to site turbines and to select from turbine models in such a manner as to reduce bat collision risk. The siting and selection process will take into account bat use of the area and landscape features known to increase collision risk (trees, edge habitats, riparian areas, water bodies, and wetlands). Measures include but are not limited to siting turbines the greatest distance feasible up to 500 meters (1,640) feet from still or flowing bodies of water, riparian habitat, known roosts, and tree stands (California Bat Working Group 2006:6). To generate site-specific "best information" to inform turbine siting and operation decisions, a bat habitat assessment and roost survey will be conducted in the project area to identify and map habitat of potential significance to bats, such as potential roost sites (trees and shrubs, significant rock formations, artificial structures) and water sources. Turbine siting decisions will incorporate relevant bat use survey data and bat fatality records published by other projects in the APWRA. Roost surveys will be carried out according to the methods described in Mitigation Measure-BIO-12a.

BIO-14b: Implement post-construction bat fatality monitoring program for all repowering projects

A scientifically defensible, post-construction bat fatality monitoring program will be implemented to estimate actual bat fatalities and determine if additional mitigation is required. Bat-specific modifications to the 3-year post-construction monitoring program described in Mitigation Measure BIO-11g, developed in accordance with California Energy Commission CEC guidelines (CEC) (2007) and with appropriate recommendations from California Bat Working Group guidelines (2006), will be implemented.

In addition to the requirements outlined in Mitigation Measure BIO-11g, the following two bat-specific requirements will be added.

- Include on the TAC at least one biologist with significant expertise in bat research and wind energy impacts on bats.

- Conduct bat acoustic surveys concurrently with fatality monitoring in the project area to estimate nightly, seasonal, or annual variations in relative activity and species use patterns, and to contribute to the body of knowledge on seasonal bat movements and relationships between bat activity, environmental variables, and turbine fatality. Should emerging research support the approach, these data may be used to generate site-specific predictive models to increase the precision and effectiveness of mitigation measures (e.g., the season-specific, multivariate models described by Weller and Baldwin 2011:11). Acoustic bat surveys will be designed and data analysis conducted by qualified biologists with significant experience in acoustic bat survey techniques. Methods will be informed by the latest available guidelines (CEC 2007); California Bat Working Group guidelines, 2006), except where best available science supports technological or methodological updates. High-quality, sensitive acoustic equipment will be used to produce data of sufficient quality to generate species identifications. Survey design and methods will be scientifically defensible and will include, at a minimum, the following elements.

    - Acoustic detectors will be installed at multiple stations to adequately sample range of habitats in the project area for both resident and migratory bats. The number of detector arrays installed per project site will incorporate emerging research on the density of detectors required to adequately meet sampling goals and inform mitigation approaches (Weller and Baldwin 2011:10).

    - Acoustic detector arrays will sample multiple airspace heights including as close to the repowered rotor swept area as possible Vertical structures used for mounting may be preexisting or may be installed for the project (e.g., temporary or permanent meteorological towers).

    - Surveys will be conducted such that data are collected continuously from early July to early November to cover the activity transition from maternity to migration season and determine if there is elevated activity during migration. Survey season may be adjusted to more accurately reflect the full extent of the local migration season and/or season(s) of greatest local bat fatality risk, if scientifically sound data support doing so.

    - Anticipated adaptive management goals, such as determining justifiable timeframes to reduce required periods of cut-in speed adjustments, will be reviewed with the TAC and incorporated in designing the acoustic monitoring and data analysis program. Modifications to the fatality search protocol will be implemented to obtain better information on the number and timing of bat fatalities (e.g., Johnston et al. 2013:85).

Modifications to the fatality search protocol will be implemented to obtain better information on the number and timing of bat fatalities (e.g., Johnston et al. 2013:85). Modifications will include decreases in the transect width and search interval for a period of time coinciding with high levels of bat mortality, i.e., the fall migration season (roughly August to early November, or as appropriate in the view of the TAC). The nature of bat-specific transect distance and search intervals will be determined in consultation with the TAC and will be guided by scientifically sound and pertinent data on rates of bat carcass detection at wind energy facilities (e.g., Johnston et al. 2013:54–55) and site-specific data from APWRA repowering project fatality monitoring programs as these data become available.

Other methods to achieve the goals of the bat fatality monitoring program while avoiding prohibitive costs may be considered subject to approval by the TAC, if these methods have been peer reviewed and evidence indicates the methods are effective. For example, if project proponents wish to have the option of altering search methodology to a newly developed method, such as searching only roads and pads (Good et al. 2011:73), a statistically robust field study to index the results of the methodology against standard search methods will be conducted concurrently to ensure site-specific, long-term validity of the new methods.

Finally, detection probability trials will utilize bat carcasses to develop bat-specific detection probabilities. Care should be taken to avoid introducing novel disease reservoirs; such avoidance will entail using onsite fatalities or using carcasses obtained from within a reasonably anticipated flight distance for that species.

BIO-14c: Prepare and publish annual monitoring reports on the findings of bat use of the project area and fatality monitoring results

Annual reports of bat use results and fatality monitoring will be produced within 3 months of the end of the last day of fatality monitoring. Special-status bat species records will be reported to CNDDB.

BIO-14d: Develop and implement a bat adaptive management plan

In concert with Mitigation Measure BIO-14b, all project proponents will develop adaptive management plans to ensure appropriate, feasible, and current incorporation of emerging information. The goals of the adaptive management plans are to ensure that the best available science and emerging technologies are used to assess impacts on bats, and that impacts are minimized to the greatest extent possible while maximizing energy production.

The project-specific adaptive management plans will be used to adjust operation and mitigation to incorporate the results of project area monitoring and new technology and research results when sufficient evidence exists to support these new approaches. These plans will be reviewed by the TAC and approved by the County. All adaptive management measures will be implemented within a reasonable timeframe, sufficient to allow the measures to take effect in the first fall migration season following the year of monitoring in which the adaptive management threshold was crossed. Adaptive Mitigation Measures (ADMMs) may be modified by the County in consultation with the TAC to take into account current research, site-specific data, and the most effective impact reduction strategies. ADMMs will include a scientifically defensible, controlled research component and minimum post-implementation monitoring time to evaluate the effectiveness and validity of the measures. The minimum monitoring time will consist of three sequential fall seasons of the bat-specific mortality monitoring program covering the 3–4 months of the year in which the highest bat mortality has been observed: likely August–November. The start and end dates of the 3–4 months of bat-specific mortality monitoring period will be based on existing fatality data and in consultation with the TAC.

Determining a fatality threshold to trigger adaptive management is not straightforward, as insufficient information exists on the status and vitality of the populations of migratory bat species subject to mortality in the APWRA. The low estimate of anticipated bat fatality rates is from the Vasco Winds

project in the APWRA. Applying this rate programmatically would result in an estimate of 21,000 bats killed over the 30-year life of the program. The high estimate is from the Montezuma Hills Wind Resource Area. Applying this rate programmatically would result in an estimate of 49,050 bats killed over the 30-year life of the program. Bats are slow to reproduce, and turbines may be more likely to kill adult bats than juveniles, suggesting that a conservative approach is warranted. Accordingly, an initial adaptive management threshold will be established using the low fatality estimates, or 1.679 fatalities/MW/ year, to ensure that the most conservative trigger for implementation of adaptive management measures is adopted.

If post-construction fatality monitoring results in a point estimate for the bat fatality rate that exceeds the 1.679 fatalities/MW/year threshold by a statistically significant amount, then, in consultation with the TAC, ADMM-7 and ADMM-8 (described below) for bats will be implemented.

It is important to note that neither the high nor the low estimate speaks to the ability of bat populations to withstand the associated levels of take. The initial fatality rate threshold triggering adaptive management may be modified by the TAC if appropriate and if such adaptation is supported by the best available science.

The TAC may direct implementation of adaptive management measures for other appropriate reasons, such as an unexpectedly and markedly high fatality rate observed for any bat species, or special-status species being killed in unexpectedly high numbers.

ADMMs for bats may be implemented using a stepped approach until necessary fatality reductions are reached, and monitoring methods must be revised as needed to ensure accurate measurement of the effectiveness of the ADMMs. Additional ADMMs for bats should be developed as new technologies or science supports doing so.

- ADMM-7: Seasonal Turbine Cut-in Speed Increase. Cut-in speed increases offer the most promising and immediately available approach to reducing bat fatalities at fourth-generation wind turbines. Reductions in fatalities (53–87%) were observed when increasing modern turbine cut-in speed to 5.0–6.5 m/s (Arnett et al. 2009:3; Good et al. 2012:iii). While implementing this measure immediately upon a project's commencement would likely reduce bat fatalities, that assumption is not yet supported by conclusive data. Moreover, without establishing baseline fatality at repowered projects, there would be no way to determine the effectiveness of the approach or whether the costs of increased cut-in speeds (and consequent power generation reductions) were providing fatality reductions.

Cut-in speed increases will be implemented as outlined below, with effectiveness assessed annually.

- The project proponent will increase cut-in speed to 5.0 m/s from sunset to sunrise during peak migration season (generally August–October). If this is ineffective, the project proponent will increase turbine cut-in speed by annual increments of 0.5 m/s until target fatality reductions are achieved.
- The project proponent may refine site-specific migration start dates on the basis of pre- and post-construction acoustic surveys and ongoing review of dates of fatality occurrences for migratory bats in the APWRA.
- The project proponent may request a shorter season of required cut-in speed increases with substantial evidence that similar levels of mortality reduction could be achieved. Should resource agencies and the TAC find there is sufficient support for a shorter period (as low as 8 weeks), evidence in support of this shorter period will be documented for the public record and the shorter period may be implemented.
- The project proponent may request a shorter season of required cut-in speed increases with substantial evidence that similar levels of mortality reduction could be achieved. Should

resource agencies and the TAC find there is sufficient support for a shorter period (as low as 8 weeks), evidence in support of this shorter period will be documented for the public record and the shorter period may be implemented.

- The project proponent may request shorter nightly periods of cut-in speed increases with substantial evidence from defensible onsite, long-term post-construction acoustic surveys indicating predictable nightly timeframes when target species appear not to be active. Target species are here defined as migratory bats or any other species appearing repeatedly in the fatality records.
- The project proponent may request exceptions to cut-in speed increases for particular weather events or wind patterns if substantial evidence is available from onsite acoustic or other monitoring to support such exceptions (i.e., all available literature and onsite surveys indicate that bat activity ceases during specific weather events or other predictable conditions).
- In the absence of defensible site-specific data, mandatory cut-in speed increases will commence on August 1 and continue through October 31, and will be in effect from sunset to sunrise.
- ADMM-8: Emerging Technology as Mitigation. The project proponent may request, with consultation and approval from agencies, replacement or augmentation of cut-in speed increases with developing technology or another mitigation approach that has been proven to achieve similar bat fatality reductions.

The project proponent may also request the second tier of adaptive management to be the adoption of a promising but not fully proven technology or mitigation method. These requests are subject to review and approval by the TAC and must include a controlled research component designed by a qualified principal investigator so that the effectiveness of the method may be accurately assessed.

Some examples of such emerging technologies and research areas that could be incorporated in adaptive management plans are listed below.

- The use of acoustic deterrents (Arnett et al. 2013:1).
- The use of altitude-specific radar, night vision and/or other technology allowing bat use monitoring and assessment of at-risk bat behavior (Johnston et al. 2013: 90-91) if research in these areas advances sufficiently to allow effective application of these technologies.
- Application of emerging peer-reviewed studies on bat biology (such as studies documenting migratory corridors or bat behavior in relation to turbines) that support specific mitigation methods.

BIO-14e: Compensate for expenses incurred by rehabilitating injured bats

The cost of reasonable, licensed rehabilitation efforts for any injured bats taken to wildlife care facilities from the program area will be assumed in full by project proponents.

Remaining Impacts: Remaining impacts related to the project impacts on bat mortality will be significant and unavoidable.

Overriding Considerations: As more fully explained in the Statement of Overriding Considerations contained in Exhibit C to the Resolution to which these CEQA Findings are attached, the County finds that there are environmental, economic, or other benefits of the approved project that override the remaining significant and unavoidable impacts on biological resources. There are no other feasible mitigation measures, or changes to the project that would reduce this impact to a less-than-significant level.

Impact BIO-19: Potential impact on the movement of any native resident or migratory wildlife species or established native resident or migratory wildlife corridors, and the use of native wildlife nursery sites

APWRA Issues to Consider: Will the project involve construction activities or fencing of work areas?

Potential Impact: The project may potentially have an impact on the movement of native resident or migratory wildlife species or established native resident or migratory wildlife corridors, and the use of native wildlife nursery sites. Many common wildlife species, including ground squirrels, coyote, raccoon, and skunk, and potentially special-status wildlife species, such as California red-legged frog, Alameda whipsnake and American badger, are likely to occur in and move through the project area. Construction activities associated with the project and fencing of work areas may temporarily impede wildlife movement through the work area or cause animals to travel longer distances to avoid the work area. This could result in higher energy expenditure and increased susceptibility to predation for some species and is a potentially significant impact. The construction period for project will occur over may exceed nine months for various reasons, and will potentially encompass the movement/migration period for some species (e.g., California tiger salamander movement to/from breeding ponds). In particular, smaller animals, whose energy expenditures to travel around or avoid the area are greater than for larger animals, could be more strongly affected. Upon completion of the project, the new wind turbines will be spaced apart and will not be a barrier to on-the-ground wildlife movement. Additionally, there will be fewer turbines on the ground, and a net increase in the amount of natural area will result from the restoration of decommissioned turbine pads and foundations. This removal of turbines and increase of natural area will partially compensate for this impact. The project has the potential to affect native wildlife nursery sites (i.e., breeding areas). Because common species may also use these breeding areas, they may also be affected by the project. This will constitute a significant unavoidable impact.

Mitigation Measures: The following mitigation measures, discussed in Attachment A2: Checklist of Supporting Documents, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

BIO-3a: Conduct preconstruction surveys for habitat for special-status wildlife species

BIO-4a: Implement measures to avoid or protect habitat for valley elderberry longhorn beetle

BIO-5a: Implement best management practices to avoid and minimize effects on special-status amphibians

BIO-5c: Restore disturbed annual grasslands

BIO-7a: Implement best management practices to avoid and minimize effects on special-status reptiles

BIO-8a: Implement measures to avoid and minimize potential impacts on special-status and non–special-status nesting birds

BIO-8b: Implement measures to avoid and minimize potential impacts on western burrowing owl

BIO-10a: Implement measures to avoid and minimize potential impacts on San Joaquin kit fox and American badger

BIO-11b: Site turbines to minimize potential mortality of birds

BIO-11c: Use turbine designs that reduce avian impacts

BIO-11d: Incorporate avian-safe practices into design of turbine-related infrastructure

BIO-11e: Retrofit existing infrastructure to minimize risk to raptors

BIO-11i: Implement an avian adaptive management program

BIO-12a: Conduct bat roost surveys

BIO-12b: Avoid removing or disturbing bat roosts

BIO-14a: Site and select turbines to minimize potential mortality of bats

BIO-14d: Develop and implement a bat adaptive management plan

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-1b, Implementation of Mitigation Measures BIO-1b, BIO-1e, BIO-3a, BIO-4a, BIO-5a, BIO-5c, BIO-7a, BIO-8a, BIO-8b, BIO-10a, BIO-11b, BIO-11c, BIO-11d, BIO-11e, BIO-11i, BIO-12a, BIO-12b, BIO-14a, will reduce the project's impacts on native resident or migratory wildlife corridors, and the use of native wildlife nursery sites**,** but will not mitigate this impact to a less**-**than**-**significant level, as there is no feasible way to avoid the significant impact. The project applicant will be required to implement the following actions.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

Project proponents will ensure that the following Best Management Practices (BMPs), in accordance with practices established in the East Alameda County Conservation Strategy (EACCS), will be incorporated into individual project design and construction documents.

- Employees and contractors performing decommissioning and reclamation activities will receive environmental sensitivity training. Training will include review of environmental laws, mitigation measures, permit conditions, and other requirements that must be followed by all personnel to reduce or avoid effects on special-status species during construction activities.
- Environmental tailboard trainings will take place on an as-needed basis in the field. These trainings will include a brief review of the biology of the covered species and guidelines that must be followed by all personnel to reduce or avoid negative effects on these species during decommissioning and reclamation activities. Directors, managers, superintendents, and the crew leaders will be responsible for ensuring that crewmembers comply with the guidelines.
- Vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas to the extent practicable.
- Off-road vehicle travel will be avoided.

- Material will be stockpiled only in areas that do not support special-status species or sensitive habitats.
- Grading will be restricted to the minimum area necessary.
- Prior to ground-disturbing activities in sensitive habitats, project construction boundaries and access areas will be flagged and temporarily fenced during construction to reduce the potential for vehicles and equipment to stray into adjacent habitats.
- Vehicles or equipment will not be refueled within 100 feet of a wetland, stream, or other waterway unless a bermed and lined refueling area (i.e., a created berm made of sandbags or other removable material) is constructed.
- Erosion control measures will be implemented to reduce sedimentation in nearby aquatic habitat when activities are the source of potential erosion. Plastic monofilament netting (erosion control matting) or similar material containing netting will not be used at the project. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.
- Significant earth moving-activities will not be conducted in riparian areas within 24 hours of predicted storms or after major storms (defined as 1-inch of rain or more).
- The following will not be allowed at or near work sites for project activities: trash dumping, firearms, open fires (such as barbecues) not required by the activity, hunting, and pets (except for safety in remote locations).

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

All project proponents will retain a qualified biologist (as determined by Alameda County) to conduct periodic monitoring of decommissioning, repowering, and reclamation activities that occur adjacent to sensitive biological resources (e.g., special-status species, sensitive vegetation communities, wetlands). Monitoring will occur during initial ground disturbance where sensitive biological resources are present and weekly thereafter or as determined by the County in coordination with a qualified biologist. The biologist will assist the crew, as needed, to comply with all project implementation restrictions and guidelines. In addition, the biologist will be responsible for ensuring that the project proponent or its contractors maintain exclusion areas adjacent to sensitive biological resources, and for documenting compliance with all biological resources– related mitigation measures.

BIO-3a: Conduct preconstruction surveys for habitat for special-status wildlife species

No more than 3 years prior to ground-disturbing repowering activities, a qualified biologist (as determined by Alameda County) will conduct field surveys within decommissioning, repowering, and restoration work areas and their immediate surroundings to determine the presence of habitat for special-status wildlife species. The project proponent will submit a report documenting the survey results to Alameda County for review prior to conducting any repowering activities. The report will include the location and description of all proposed work areas, the location and description of all suitable habitat for special-status wildlife species, and the location and description of other sensitive habitats (e.g., vernal pools, wetlands, and riparian areas). Additionally, the report will outline where additional species- and/or habitat-specific mitigation measures are required. This report may provide the basis for any applicable permit applications where incidental take may occur.

BIO-4a: Implement measures to avoid or protect habitat for valley elderberry longhorn beetle

If it is determined through preconstruction surveys conducted pursuant to Mitigation Measure BIO-3a that elderberry shrubs are present within proposed work areas or within 100 feet of these areas, the following measures will be implemented to ensure that the proposed project does not have a significant impact on valley elderberry longhorn beetle (VELB).

- Avoid removal of elderberry shrubs.
- Elderberry shrubs/clusters within 100 feet of the construction area that will not be removed will be protected during construction. A qualified biologist (i.e., with elderberry/VELB experience) will mark the elderberry shrubs and clusters that will be protected during construction. Orange construction barrier fencing will be placed at the edge of the buffer areas. The buffer area distances will be proposed by the biologist and approved by USFWS. No construction activities will be permitted within the buffer zone other than those activities necessary to erect the fencing. Signs will be posted every 50 feet (15.2 meters) along the perimeter of the buffer area fencing. The signs will contain the following information: This area is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment.

Buffer area fences around elderberry shrubs will be inspected weekly by a qualified biological monitor during ground-disturbing activities and monthly after ground-disturbing activities until project construction is complete or until the fences are removed, as approved by the biological monitor and the resident engineer. The biological monitor will be responsible for ensuring that the contractor maintains the buffer area fences around elderberry shrubs throughout construction. Biological inspection reports will be provided to the project proponent and USFWS.

BIO-5a: Implement best management practices to avoid and minimize effects on special-status amphibians

All project proponents will ensure that BMPs and other appropriate measures, in accordance with measures developed for the EACCS, be incorporated into the appropriate design and construction documents. Implementation of some of these measures will require that the project proponent obtain incidental take permits from USFWS (California red-legged frog and California tiger salamander) and from CDFW (California tiger salamander only) before construction begins. Additional conservation measures or conditions of approval may be required in applicable project permits (e.g., ESA or California Endangered Species Act [CESA] incidental take authorization). The applicant will comply with the State of California State Water Resources Control Board National Pollutant Discharge Elimination System (NPDES) construction general requirements for stormwater.

- Ground-disturbing activities will be limited to dry weather between April 15 and October 31. No ground-disturbing work will occur during wet weather. Wet weather is defined as when there has been 0.25 inch of rain in a 24-hour period. Ground disturbing activities halted due to wet weather may resume when precipitation ceases and the National Weather Service 72-hour weather forecast indicates a 30% or less chance of precipitation. No ground-disturbing work will occur during a dry-out period of 48 hours after the above referenced wet weather.
- Where applicable, barrier fencing will be installed around the worksite to prevent amphibians from entering the work area. Barrier fencing will be removed within 72 hours of completion of work.
- Before construction begins, a qualified biologist will locate appropriate relocation areas and prepare a relocation plan for special-status amphibians that may need to be moved during construction. The proponent will submit this plan to USFWS and CDFW for approval a minimum of 2 weeks prior to the start of construction.
- A qualified biologist will conduct preconstruction surveys immediately prior to ground disturbing activities (including equipment staging, vegetation removal, grading). The biologist will survey the work area and all suitable habitats within 300 feet of the work area. If individuals (including adults, juveniles, larvae, or eggs) are found, work will not begin until USFWS and/or CDFW is contacted to determine if moving these life-stages is

appropriate. If relocation is deemed necessary, it will be conducted in accordance with the relocation plan. Incidental take permits are required for relocation of California tiger salamander (USFWS and CDFW) and California red-legged frog (USFWS). Relocation of western spadefoot and foothill yellow-legged frog requires a letter from CDFW authorizing this activity.

- No monofilament plastic will be used for erosion control.
- All project activity will terminate 30 minutes before sunset and will not resume until 30 minutes after sunrise during the migration/active season from November 1 to June 15. Sunrise and sunset times are established by the U.S. Naval Observatory Astronomical Applications Department for the geographic area where the project is located.
- Vehicles will not exceed a speed limit of 15 mph on unpaved roads within natural land cover types, or during off-road travel.
- Trenches or holes more than 6 inches deep will be provided with one or more escape ramps constructed of earth fill or wooden planks and will be inspected by a qualified biologist prior to being filled. Any such features that are left open overnight will be searched each day prior to construction activities to ensure no covered species are trapped. Work will not continue until trapped animals have moved out of open trenches.
- Work crews or the onsite biological monitor will inspect open trenches, pits, and under construction equipment and material left onsite in the morning and evening to look for amphibians that may have become trapped or are seeking refuge.
- If special-status amphibians are found in the work area during construction and cannot or do not move offsite on their own, a qualified biologist who is USFWS and/or CDFW approved under a biological opinion and/or incidental take permit for the specific project, will trap and move special-status amphibians in accordance with the relocation plan. Relocation of western spadefoot and foothill yellow-legged frog requires a letter permit from CDFW authorizing this activity.

BIO-5c: Restore disturbed annual grasslands

Within 30 days prior to any ground disturbance, a qualified biologist will prepare a Grassland Restoration Plan in coordination with CDFW and subject to CDFW approval, to ensure that temporarily disturbed annual grasslands and areas planned for the removal of permanent roads and turbine pad areas are restored to pre-project conditions. The Grassland Restoration Plan will include but not be limited to the following measures.

- Gravel will be removed from areas proposed for grassland restoration.
- To the maximum extent feasible, topsoil will be salvaged from within onsite work areas prior to construction. Imported fill soils will be limited to weed-free topsoil similar in texture, chemical composition, and pH to soils found at the restoration site.
- Where appropriate, restoration areas will be seeded (hydroseeding is acceptable) to ensure erosion control. Seed mixes will be tailored to closely match that of reference site(s) within the program area and should include native or naturalized, noninvasive species sourced within the project area or from the nearest available location.
- Reclaimed roads will be restored in such a way as to permanently prevent vehicular travel.

The plan will include a requirement to monitor restoration areas annually (between March and October) for up to 3 years following the year of restoration. The restoration will be considered successful when the percent cover for restored areas is 70% absolute cover of the planted/seeded species compared to the percent absolute cover of nearby reference sites. No more than 5% relative cover of the vegetation in the restoration areas will consist of invasive plant species rated as “high” in Cal-IPC’s California Invasive Plant Inventory Database (http://www.cal-ipc.org). Remedial measures prescribed in the plan will include supplemental seeding, weed control, and other actions as determined necessary to achieve the long-term success criteria. Monitoring may be extended if necessary to achieve the success criteria or if

drought conditions preclude restoration success. Other performance standards may also be required as they relate to special-status species habitat; these will be identified in coordination with CDFW and included in the plan. The project proponent will provide evidence that CDFW has reviewed and approved the Grassland Restoration Plan. Additionally, the project proponent will provide annual monitoring reports to the County by January 31 of each year, summarizing the monitoring results and any remedial measures implemented (if any are necessary) during the previous year.

BIO-7a: Implement best management practices to avoid and minimize effects on special-status reptiles

Where suitable habitat for Blainville's horned lizard, Alameda whipsnake, or San Joaquin coachwhip is identified in proposed work areas, all project proponents will ensure that BMPs and other appropriate measures, in accordance with measures developed for the EACCS, be incorporated into the appropriate design and construction documents. Implementation of some of these measures will require that the project proponent obtain incidental take permits from USFWS and CDFW (Alameda whipsnake) before construction begins. Additional conservation measures or conditions of approval may be required in applicable project permits (i.e., ESA incidental take permit).

- A qualified biologist will conduct preconstruction surveys immediately prior to ground-disturbing activities (e.g., equipment staging, vegetation removal, grading) associated with the program. If any Blainville's horned lizards, Alameda whipsnakes, or San Joaquin coachwhips are found, work will not begin until they are moved out of the work area to a USFWS- and/or CDFW-approved relocation site. Incidental take permits from USFWS and CDFW are required for relocation of Alameda whipsnake. Relocation of Blainville's horned lizard and San Joaquin coachwhip requires a letter from CDFW authorizing this activity.
- No monofilament plastic will be used for erosion control.
- Where applicable, barrier fencing will be used to exclude Blainville's horned lizard, Alameda whipsnake, and San Joaquin coachwhip. Barrier fencing will be removed within 72 hours of completion of work.
- Work crews or an onsite biological monitor will inspect open trenches and pits and under construction equipment and materials left onsite for special-status reptiles each morning and evening during construction.
- Ground disturbance in suitable habitat will be minimized.
- Vegetation within the proposed work area will be removed prior to grading. Prior to clearing and grubbing operations, a qualified biologist will clearly mark vegetation within the work area that will be avoided. Vegetation outside the work area will not be removed. Where possible hand tools (e.g., trimmer, chain saw) will be used to trim or remove vegetation. All vegetation removal will be monitored by the qualified biologist to minimize impacts on special-status reptiles.
- If special-status reptiles are found in the work area during construction and cannot or do not move offsite on their own, a qualified biologist who is USFWS- and/or CDFW-approved under an incidental take permit for the specific project will trap and move the animal(s) to a USFWS and/or CDFW-approved relocation area. Incidental take permits from USFWS and CDFW are required for relocation of Alameda whipsnake. Relocation of Blainville's horned lizard and San Joaquin coachwhip requires a letter from CDFW authorizing this activity.

BIO-8a: Implement measures to avoid and minimize potential impacts on special-status and non–special-status nesting birds

Where suitable habitat is present for raptors within 1 mile (within 2 miles for golden eagles) and for tree/shrub- and ground-nesting migratory birds (non-raptors) within 50 feet of proposed work areas, the following measures will be implemented to ensure that the proposed project does not have a significant impact on nesting special-status and non–special-status birds.

- Remove suitable nesting habitat (shrubs and trees) during the non-breeding season (typically September 1–January 31) for nesting birds.
- To the extent feasible, avoid construction activities in or near suitable or occupied nesting habitat during the breeding season of birds (generally February 1–August 31).
- If construction activities (including vegetation removal, clearing, and grading) will occur during the nesting season for migratory birds, a qualified biologist will conduct pre-construction nesting bird surveys within 7 days prior to construction activities. The construction area and a 1-mile buffer will be surveyed for tree-nesting raptors (except for golden eagles), and a 50-foot buffer will be surveyed for all other bird species.
- Surveys to locate eagle nests within 2 miles of construction will be conducted during the breeding season prior to construction. A 1-mile no-disturbance buffer will be implemented for construction activities to protect nesting eagles from disturbance. Through coordination with USFWS, the no-disturbance buffer may be reduced to 0.5 mile if construction activities are not within line-of-sight of the nest.
- If an active nest (other than golden eagle) is identified near a proposed work area and work cannot be conducted outside the nesting season (February 1–August 31), a no-activity zone will be established around the nest by a qualified biologist in coordination with USFWS and/or CDFW. Fencing and/or flagging will be used to delineate the no-activity zone. To minimize the potential to affect the reproductive success of the nesting pair, the extent of the no-activity zone will be based on the distance of the activity to the nest, the type and extent of the proposed activity, the duration and timing of the activity, the sensitivity and habituation of the species, and the dissimilarity of the proposed activity to background activities. The no-activity zone will be large enough to avoid nest abandonment and will be between 50 feet and 1 mile from the nest, or as otherwise required by USFWS and/or CDFW.

BIO-8b: Implement measures to avoid and minimize potential impacts on western burrowing owl

Where suitable habitat for western burrowing owl is in or within 500 feet of proposed work areas, the following measures will be implemented to avoid or minimize potential adverse impacts on burrowing owls.

- To the maximum extent feasible (e.g., where the construction footprint can be modified), construction activities within 500 feet of active burrowing owl burrows will be avoided during the nesting season (February 1–August 31).
- A qualified biologist will conduct preconstruction take avoidance surveys for burrowing owl no less than 14 days prior to and within 24 hours of initiating ground-disturbing activities. The survey area will encompass the work area and a 500-foot buffer around this area.
- If an active burrow is identified near a proposed work area and work cannot be conducted outside the nesting season (February 1–August 31), a no-activity zone will be established by a qualified biologist in coordination with CDFW. The no-activity zone will be large enough to avoid nest abandonment and will extend a minimum of 250 feet around the burrow.
- If burrowing owls are present at the site during the non-breeding season (September 1–January 31), a qualified biologist will establish a no-activity zone that extends a minimum of 150 feet around the burrow.
- If the designated no-activity zone for either breeding or non-breeding burrowing owls cannot be established, a wildlife biologist experienced in burrowing owl behavior will evaluate site-specific conditions and, in coordination with CDFW, recommend a smaller buffer (if possible) and/or other measure that still minimizes disturbance of the owls (while allowing reproductive success during the breeding season). The site-specific buffer (and/or other measure) will consider the type and extent of the proposed activity occurring near the occupied burrow, the duration and timing of the activity, the sensitivity and habituation of the owls, and the dissimilarity of the proposed activity to background activities.

- If burrowing owls are present in the direct disturbance area and cannot be avoided during the non-breeding season (generally September 1 through January 31), burrowing owls may be excluded from burrows through the installation of one-way doors at burrow entrances. A burrowing owl exclusion plan, prepared by the project proponent, must be approved by CDFW prior to exclusion of owls. One-way doors (e.g., modified dryer vents or other CDFW approved method) will be left in place for a minimum of 1 week and monitored daily to ensure that the owl(s) have left the burrow(s). Excavation of the burrow will be conducted using hand tools. During excavation of the burrow, a section of flexible plastic pipe (at least 3 inches in diameter) will be inserted into the burrow tunnel to maintain an escape route for any animals that may be inside the burrow. Owls will be excluded from their burrows as a last resort and only if other avoidance and minimization measures cannot be implemented.
- Avoid destruction of unoccupied burrows outside the work area and place visible markers near burrows to ensure that they are not collapsed.
- Conduct ongoing surveillance of the project site for burrowing owls during project activities. If additional owls are observed using burrows within 500 feet of construction, the onsite biological monitor will determine, in coordination with CDFW, if the owl(s) are or would be affected by construction activities and if additional exclusion zones are required.

BIO-10a: Implement measures to avoid and minimize potential impacts on San Joaquin kit fox and American badger

Where suitable habitat is present for San Joaquin fit fox and American badger in and adjacent to proposed work areas, the following measures, consistent with measures developed in the EACCS, will be implemented to ensure that proposed projects do not have a significant impact on San Joaquin kit fox or American badger. Implementation of some of these measures will require that the project proponent obtain incidental take permits from USFWS and CDFW (San Joaquin kit fox) before construction begins. Implementation of state and federal requirements contained in such authorization may constitute compliance with corresponding measures in the PEIR.

- To the maximum extent feasible, suitable dens for San Joaquin kit fox and American badger will be avoided.
- All project proponents will retain qualified approved biologists (as determined by USFWS) to conduct a preconstruction survey for potential San Joaquin kit fox dens (U.S. Fish and Wildlife Service 2011). Resumes of biologists will be submitted to USFWS for review and approval prior to the start of the survey.
- Preconstruction surveys for American badgers will be conducted in conjunction with San Joaquin kit fox preconstruction surveys.
- As described in U.S. Fish and Wildlife Service 2011, the preconstruction survey will be conducted no less than 14 days and no more than 30 days before the beginning of ground disturbance, or any activity likely to affect San Joaquin kit fox. The biologists will conduct den searches by systematically walking transects through the project area and a buffer area to be determined in coordination with USFWS and CDFW. Transect distance should be based on the height of vegetation such that 100% visual coverage of the project area is achieved. If a potential or known den is found during the survey, the biologist will measure the size of the den; evaluate the shape of the den entrances, and note tracks, scat, prey remains, and recent excavations at the den site. The biologists will also determine the status of the dens and map the features. Dens will be classified in one of the following four den status categories defined by USFWS (U.S. Fish and Wildlife Service 2011).
- Potential den: Any subterranean hole within the species' range that has entrances of appropriate dimensions and for which available evidence is sufficient to conclude that it is being used or has been used by a kit fox. Potential dens include (1) any suitable subterranean hole; or (2) any den or burrow of another species (e.g., coyote, badger, red fox, ground squirrel) that otherwise

has appropriate characteristics for kit fox use; or an artificial structure that otherwise has appropriate characteristics for kit fox use.

- Known den: Any existing natural den or artificial structure that is used or has been used at any time in the past by a San Joaquin kit fox. Evidence of use may include historical records; past or current radiotelemetry or spotlighting data; kit fox sign such as tracks, scat, and/or prey remains; or other reasonable proof that a given den is being or has been used by a kit fox (USFWS discourages use of the terms active and inactive when referring to any kit fox den because a great percentage of occupied dens show no evidence of use, and because kit foxes change dens often, with the result that the status of a given den may change frequently and abruptly).
- Known natal or pupping den: Any den that is used, or has been used at any time in the past, by kit foxes to whelp and/or rear their pups. Natal/pupping dens may be larger with more numerous entrances than dens occupied exclusively by adults. These dens typically have more kit fox tracks, scat, and prey remains in the vicinity of the den, and may have a broader apron of matted dirt or vegetation at one or more entrances. A natal den, defined as a den in which kit fox pups are actually whelped but not necessarily reared, is a more restrictive version of the pupping den. In practice, however, it is difficult to distinguish between the two; therefore, for purposes of this definition either term applies.
- Known atypical den: Any artificial structure that has been or is being occupied by a San Joaquin kit fox. Atypical dens may include pipes, culverts, and diggings beneath concrete slabs and buildings.

Written results of the survey including the locations of any potential or known San Joaquin kit fox dens will be submitted to USFWS within 5 days following completion of the survey and prior to the start of ground disturbance or construction activities.

- After preconstruction den searches and before the commencement of repowering activities, exclusion zones will be established as measured in a radius outward from the entrance or cluster of entrances of each den. Repowering activities will be prohibited or greatly restricted within these exclusion zones. Only essential vehicular operation on existing roads and foot traffic will be permitted. All other repowering activities, vehicle operation, material and equipment storage, and other surface-disturbing activities will be prohibited in the exclusion zones. Barrier fencing will be removed within 72 hours of completion of work. Exclusion zones will be established using the following parameters.
- Potential and atypical dens: A total of four or five flagged stakes will be placed 50 feet from the den entrance to identify the den location.
- Known den: Orange construction barrier fencing will be installed between the work area and the known den site at a minimum distance of 100 feet from the den. The fencing will be maintained until construction-related disturbances have ceased. At that time, all fencing will be removed to avoid attracting subsequent attention to the den.
- Natal/pupping den: USFWS will be contacted immediately if a natal or pupping den is discovered in or within 200 feet of the work area.
    - Any occupied or potentially occupied badger den will be avoided by establishing an exclusion zone consistent with a San Joaquin kit fox potential burrow (i.e., four or five flagged stakes will be placed 50 feet from the den entrance).
- In cases where avoidance is not a reasonable alternative, limited destruction of potential San Joaquin kit fox dens may be allowed as follows.
- Natal/pupping dens: Natal or pupping dens that are occupied will not be destroyed until the adults and pups have vacated the dens and then only after consultation with USFWS. Removal of natal/pupping dens requires incidental take authorization from USFWS and CDFW.
- Known dens: Known dens within the footprint of the activity must be monitored for 3 days with tracking medium or an infrared camera to determine current use. If no kit fox activity is

observed during this period, the den should be destroyed immediately to preclude subsequent use. If kit fox activity is observed during this period, the den will be monitored for at least 5 consecutive days from the time of observation to allow any resident animal to move to another den during its normal activity. Use of the den can be discouraged by partially plugging its entrance(s) with soil in such a manner that any resident animal can escape easily. Only when the den is determined to be unoccupied will the den be excavated under the direction of a biologist. If the fox is still present after 5 or more consecutive days of monitoring, the den may be excavated when, in the judgment of the biologist, it is temporarily vacant, such as during the fox's normal foraging activities. Removal of known dens requires incidental take authorization from USFWS and CDFW.

- Potential dens: If incidental take permits have been received (from USFWS and CDFW), potential dens can be removed (preferably by hand excavation) by biologist or under the supervision of a biologist without monitoring, unless other restrictions were issued with the incidental take permits. If no take authorizations have been issued, the potential dens will be monitored as if they are known dens. If any den was considered a potential den but was later determined during monitoring or destruction to be currently or previously used by kit foxes (e.g., kit fox sign is found inside), then all construction activities will cease and USFWS and CDFW will be notified immediately.
- Nighttime work will be minimized to the extent possible. The vehicular speed limit will be reduced to 10 miles per hour during nighttime work.
- Pipes, culverts, and similar materials greater than 4 inches in diameter will be stored so as to prevent wildlife species from using these as temporary refuges, and these materials will be inspected each morning for the presence of animals prior to being moved.
- A representative appointed by the project proponent will be the contact for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured, or entrapped kit fox. The representative will be identified during environmental sensitivity training (Mitigation Measure BIO-1b) and his/her name and phone number will be provided to USFWS and CDFW. Upon such incident or finding, the representative will immediately contact USFWS and CDFW.

The Sacramento USFWS office and CDFW will be notified in writing within 3 working days of the accidental death or injury of a San Joaquin kit fox during project-related activities. Notification must include the date, time, and location of the incident, and any other pertinent information.

BIO-11b: Site turbines to minimize potential mortality of birds

For the text of Mitigation Measure BIO-11b, please refer to the discussion of Impact BIO-11b above.

BIO-11c: Use turbine designs that reduce avian impacts

For the text of Mitigation Measure BIO-11c, please refer to the discussion of Impact BIO-11b above.

BIO-11d: Incorporate avian-safe practices into design of turbine-related infrastructure

For the text of Mitigation Measure BIO-11d, please refer to the discussion of Impact BIO-11b above.

BIO-11e: Retrofit existing infrastructure to minimize risk to raptors

For the text of Mitigation Measure BIO-11e, please refer to the discussion of Impact BIO-11b above.

BIO-11i: Implement an avian adaptive management program

For the text of Mitigation Measure BIO-11i, please refer to the discussion of Impact BIO-11b above.

BIO-12a: Conduct bat roost surveys

Prior to development of any repowering project, a qualified bat biologist will conduct a roost habitat assessment to identify potential colonial roost sites of special-status and common bat species within 750 feet of the construction area. If suitable roost sites are to be removed or otherwise affected by the proposed project, the bat biologist will conduct targeted roost surveys of all identified sites that would be affected. Because bat activity is highly variable (both spatially and temporally) across the landscape and may move unpredictably among several roosts, several separate survey visits may be required. Surveys will be repeated at different times of year if deemed necessary by the bat biologist to determine the presence of seasonally active roosts (hibernacula, migratory stopovers, maternity roosts).Appropriate field methods will be employed to determine the species, type, and vulnerability of the roost to construction disturbance. Methods will follow best practices for roost surveys such that species are not disturbed and adequate temporal and spatial coverage is provided to increase likelihood of detection.

Roost surveys may consist of both daylight surveys for signs of bat use and evening/night visit(s) to conduct emergence surveys or evaluate the status of night roosts. Survey timing should be adequate to account for individual bats or species that might not emerge until well after dark.

Methods and approaches for determining roost occupancy status should include a combination of the following components as the biologist deems necessary for the particular roost site.

- Passive and/or active acoustic monitoring to assist with species identification.
- Guano traps to determine activity status.
- Night-vision equipment.
- Passive infrared camera traps.

At the completion of the roost surveys, a report will be prepared documenting areas surveyed, methods, results, and mapping of high-quality habitat or confirmed roost locations.

BIO-12b: Avoid removing or disturbing bat roosts

- Active bat roosts will not be disturbed, and will be provided a minimum buffer of 500 feet where preexisting disturbance is moderate or 750 feet where preexisting disturbance is minimal. Confirmation of buffer distances and determination of the need for a biological monitor for active maternity roosts or hibernacula will be obtained in consultation with CDFW. At a minimum, when an active maternity roost or hibernaculum is present within 750 feet of a construction site, a qualified biologist will conduct an initial assessment of the roost response to construction activities and will recommend buffer expansion if there are signs of disturbance from the roost.
- Structures (natural or artificial) showing evidence of significant bat use within the past year will be left in place as habitat wherever feasible. Should such a structure need to be removed or disturbed, CDFW will be consulted to determine appropriate buffers, timing and methods, and compensatory mitigation for the loss of the roost.
- All project proponents will provide environmental awareness training to construction personnel, establish buffers, and initiate consultation with CDFW if needed.
- Artificial night lighting within 500 feet of any roost will be shielded and angled such that bats may enter and exit the roost without artificial illumination and the roost does not receive artificial exposure to visual predators.
- Tree and vegetation removal will be conducted outside the maternity season (April 1–September 15) to avoid disturbance of maternity groups of foliage-roosting bats.

- If a maternity roost or hibernaculum is present within 500 feet of the construction site where pre-existing disturbance is moderate or within 750 feet where preexisting disturbance is minimal, a qualified biological monitor will be onsite during groundbreaking activities.

BIO-14a: Site and select turbines to minimize potential mortality of bats

For the text of Mitigation Measure BIO-14a, please refer to the discussion of Impact BIO-14 above.

Remaining Impacts: Remaining impacts related to the project impacts on the movement of any native resident or migratory wildlife species or established native resident or migratory wildlife corridors, and the use of native wildlife nursery sites will be significant and unavoidable.

Overriding Considerations: As more fully explained in the Statement of Overriding Considerations contained in Exhibit C to the Resolution to which these CEQA Findings are attached, the County finds that there are environmental, economic, or other benefits of the approved project that override the remaining significant and unavoidable impacts on biological resources. There are no other feasible mitigation measures, or changes to the project that would reduce this impact to a less-than-significant level.

Findings and Recommendations Regarding Significant Impacts that are Mitigated to a Less-Than-Significant Level

Aesthetics

Impact AES-1b: Temporary visual impacts caused by construction activities

APWRA Issues to Consider: Will construction or heavy equipment be visible from residences or recreation areas and trails?

Potential Impact: Construction associated with the Project will create temporary changes in views of and from the Project area. Construction is expected to last 8–12 months. Construction activities will create views of heavy equipment and associated vehicles into the viewshed of residents, businesses, recreational areas, state-designated scenic highways (I-580), and Alameda County–designated scenic routes. Construction will also require crane pads and laydown areas for offloading turbine components.

In addition, high-powered lighting used for nighttime construction will negatively affect nighttime views of and from the work area and may be a nuisance to nearby residents. Construction equipment is anticipated to operate for approximately 10 hours per day. Alameda County Noise Ordinance, Section 6.60.070, limits noise sources associated with construction to occur between 7 a.m. and 7 p.m. Monday thru Friday and between 8 a.m. and 5 p.m. on Saturday and Sunday. This will ensure the majority of project construction will not occur beyond these hours. If construction occurs after sunset, which varies by season, high-powered lighting will be required for construction operations. The presence of this lighting during construction will adversely affect nearby residents if high-powered lighting spills inside their homes or yards. High-powered lighting could also adversely affect views of sunsets and nighttime constellations for viewers in the Project area during the construction months.

Construction impacts will be temporary and short-term, and decommissioning and construction activities will occur in a manner consistent with Alameda County requirements for work days and hours. However, the highly sensitive viewers in the Project area (residents and recreationists) could perceive these impacts as significant. Therefore, construction impacts will be potentially significant on a temporary basis. Implementation of Mitigation Measure AES-1 will reduce this impact to a less-than-significant level.

Mitigation Measure: The following mitigation measure, discussed in Attachment A2: Checklist of Supporting Documents, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

AES-1: Limit construction to daylight hours.

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure AES-1 will ensure that the impacts associated with temporary visual impacts during construction will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

AES-1: Limit construction to daylight hours.

Major construction activities will not be undertaken between sunset and sunrise or on weekends. Construction activity is specifically prohibited from using high-wattage lighting sources to illuminate work sites after sunset and before sunrise, with the exception of nighttime deliveries under the approved transportation control plan or other construction activities that require nighttime work for safety considerations.

Remaining Impacts: Any remaining impact associated with temporary visual impacts during construction will be less than significant.

Impact AES-2: Have a substantial adverse effect on a scenic vista

APWRA Issues to Consider: Will new turbines be placed in areas where no turbines currently exist? (See Policies 105 and 106 for list of sensitive ridgelines, pg. 3.1-6)

Potential Impact: Turbines will be installed in areas bordering the Brushy Peak Regional Preserve on the Preserve's north, the east sides, and Vasco Road on the northwestern edge of the Project. New turbines (2, 18, 26, and 27a) will be located in areas not previously developed. However, under Policy 105 the County will be obligated to disallow new turbine structures from being located in these areas (see Final Program Environmental Impact Report [FPEIR], Section 3.1.2, "Regulatory Setting"). The installation of new turbines in such areas will conflict with Policy 105 and will constitute a significant impact on scenic routes identified in the Scenic Route Element. Implementation of Mitigation Measure AES-2a will reduce this impact to less than significant because the county will review the location of new turbines along ridgelines that have not previously been developed and potentially modify the location of structures.

A number of scenic vistas are available from local roadways out and over the Project area. In addition, scenic vistas exist as seen from local recreational trails and residences and businesses on hillsides in and near the Project area in the vicinity of Brushy Peak, Vasco Road, Altamont Pass Road, and as shown in Attachment A3. These areas consist of wide open views of the rolling, grass-covered, rural landscape dotted with existing turbines. The tower height of first-generation and second-generation turbines

range from 18 to 55 meters (approximately 59 to 180 feet), while the third-generation turbines range from 41 to 68 meters (approximately 134 to 223 feet). The proposed fourth-generation towers installed under the Project will be 80–96 meters (262–315 feet) tall; therefore, the proposed fourth-generation towers will be 28–62 meters (92–203 feet) taller than the existing turbines. Views of the proposed turbines may be dominant depending on a viewer's location within the landscape, if the viewer has more direct views of the turbines, or views that are partially or fully screened by topography.

Although the new, more efficient turbines are larger than the existing turbines, the new spaced out configuration detracts less from the natural landscape than the existing string configuration. There are several scenic vistas in the Project area. The newly consolidated configuration promotes views of the rolling, grassy terrain to become more prominent, as back-dropped by the sky, and less interrupted by developed features. While the larger turbines will draw viewers' attention toward them, the eye is also able to follow the natural undulation of the ridgeline in a more cohesive manner than under existing conditions without it being broken by multiple, jagged turbines. With existing conditions, the eye is drawn to and focuses on the numerous turbines cluttering the view by protruding from the hillsides and ridgelines.

Policies 170 and 215 of the East County Area Plan require the County to protect nearby existing uses from the visual impacts (among other effects) of windfarms' construction and operation, and to maintain and enhance scenic values in these areas through review of development and use of conservation policies (see FPEIR 3.1.2, "Existing Conditions", "Regulatory Setting"). For those areas with existing older turbines, the replacement of the many existing smaller and older turbines with proportionally far fewer and less intrusive fourth-generation turbines will serve Policies 170 and 215 of the East County Area Plan, and it serves to protect and enhance scenic values.

Due to the increased size and potential dominance of the new structures, impacts will potentially be significant. However, implementation of Mitigation Measures AES-2a through AES-2c will reduce this impact to a less-than-significant level.

Mitigation Measure: The following mitigation measure, discussed in Attachment A2: Checklist of Supporting Documents, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

AES-2a: Require site development review.

AES-2b: Maintain site free of debris and restore abandoned roadways.

AES-2c: Screen surplus parts and materials.

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure AES-2a, AES-2b, and AES-2c will ensure that the impacts associated with temporary visual impacts during construction will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

AES-2a: Require site development review.

New turbines along ridgelines or hilltops that have not previously been developed with commercial-scale wind turbines will not be allowed, unless a separate Site Development Review is completed that determines that the visual effects will be substantially avoided by distance from public view points (e.g., more than 2,000 feet), intervening terrain, screening landscaping, or compensatory improvements to equivalent and nearby (radius of 1 mile) scenic features, as approved by the Planning Director.

AES-2b: Maintain site free of debris and restore abandoned roadways.

Project sites will be cleaned of all derelict equipment, wind turbine components not required for the project, and litter and debris from old turbines and past turbine operations. Such litter and debris may include derelict turbines, obsolete anemometers, unused electrical poles, and broken turbine blades. In addition, abandoned roads that are no longer in use on such parcels will be restored and hydroseeded to reclaim the sites and remove their visual traces from the viewscape, except in cases where the resource agencies (United States Fish and Wildlife Service [USFWS] and California Department of Fish and Wildlife [CDFW]) recommend that the features be left in place for resource protection. All parcels with new turbines will be maintained in such a manner through the life of project operations and until the parcels are reclaimed in accordance with the approved reclamation plan.

AES-2c: Screen surplus parts and materials.

Surplus parts and materials that are kept onsite will be maintained in a neat and orderly fashion and screened from view. This can be accomplished by using a weatherproof camouflage material that can be draped over surplus parts and materials stockpiles. Draping materials will be changed out to accommodate for seasonal variations so that surplus materials are camouflaged in an effective manner when grasses are both green and brown.

Remaining Impacts: Any remaining impacts associated with adverse effects on a scenic vista will be less than significant.

Impact AES-5: Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area

APWRA Issues to Consider: Will turbine be located in a setback area? Are there residents nearby - i.e., within 500 meters [1,640 feet] in a generally east or west direction to account for all seasons? Could blades cause shadow flicker that will disturb sensitive viewers, especially residents?

Potential Impact: There are three existing substations within the Project area: Frick Substation, Dyer Substation, and a PG & E owned and operated substation. The Frick and the Dyer Substation will be reconstructed as part of the project. Safety and security requirements will necessitate substation lighting. The lighting will create a potential source of glare. Visual impacts created by lighting will be minimized by focusing the lighting downward to limit skyward illumination. Sodium vapor lamps and spotlights will not be used at any facility substations except when emergency maintenance is needed. Lighting at substations will be minimized using downcast lighting and motion-detection devices. Therefore, the impact created by substation lighting will be less than significant.

Generally, turbines are painted white. Because the existing turbines will be replaced with far fewer of the larger, more efficient turbines, the source of glare is expected to be reduced in areas where turbines currently exist. However, in areas where no turbines currently exist, their presence could be a new source of substantial glare. The color of towers and rotors on the new turbines will be neutral and non-reflective (i.e., dull white or light gray), and the Alameda County Windfarm Standard Conditions specify that the turbines be treated to blend with the surrounding environment.

Blade rotation could cause shadow flicker that could be a visual intrusion to viewers and could be especially disruptive to residents who will be exposed to these conditions for long periods of time. Alameda County has setback requirements for siting turbines within certain types of land uses, including residential, commercial, recreational, and infrastructure (public roads). Turbines will not be allowed to be located within these setback distances. The Alameda County Wind Farm Standard Conditions (Alameda County 1998: Appendix F) indicate that a turbine may not be within 300 feet of a Building Site upon which a wind farm has not been approved and within 500 feet of a dwelling unit. The Alameda

County Wind Farm Standard Conditions (Alameda County 1998: Appendix F) indicate that noise setbacks specify generators are not allowed within 1,000 feet upwind or a 300 feet circumference of any existing dwelling or building site. However, these setbacks may not be sufficient to prevent shadow flicker with the new, taller turbines.

Mitigation Measure: The following mitigation measure, discussed in Attachment A2: Checklist of Supporting Documents, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

AES-5: Analyze shadow flicker distance and mitigate effects or incorporate changes into project design to address shadow flicker

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following

Effects of Mitigation: Implementation of the mitigation recommended by Mitigation Measure AES-5 will ensure that the impacts associated with new sources of substantial light and glare will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

AES-5: Analyze shadow flicker distance and mitigate effects or incorporate changes into project design to address shadow flicker

Where shadow flicker could result from the installation of wind turbines proposed near residences (i.e., within 500 meters [1,640 feet] in a generally east or west direction to account for seasonal variations), the project applicant will prepare a graphic model and study to evaluate shadow flicker impacts on nearby residences. No shadow flicker in excess of 30 minutes in a given day or 30 hours in a given year will be permitted. If it is determined that existing setback requirements as established by the County are not sufficient to prevent shadow flicker impacts on residences, Alameda County will require an increase in the required setback distances to ensure that residences are not affected. If any residence is affected by shadow flicker within the 30-minute/30-hour thresholds, the applicant will implement measures to minimize the effect, such as relocating the turbine; providing opaque window coverings, window awnings, landscape buffers, or a combination of these features to reduce flicker to acceptable limits for the affected receptor; or shutting down the turbine during the period shadow flicker would occur. Such measures may be undertaken in consultation with owner of the affected residence. If the shadow flicker study indicates that any given turbine would result in shadow flicker exceeding the 30-minute/30-hour thresholds and the property owner is not amenable to window coverings, window awnings, or landscaping and the turbine cannot be shut down during the period of shadow flicker, then the turbine will be relocated to reduce the effect to acceptable limits.

Remaining Impacts: Any remaining impact associated with new sources of light or glare will be less than significant.

Impact AES-6b: Consistency with state and local policies

APWRA Issues to Consider: Will the project comply with measures set forth to protect visual resources along scenic roadways and open space areas identified for protection (Alameda County 1966) and comply with measures set forth in the ECAP to protect visual resources such as sensitive viewsheds, streets and highways, scenic highways, and areas affected by windfarms (Alameda County 2000)?

Potential Impact: Under the Patterson Pass Project (see Introduction-Section 1.3), the County will be obligated to comply with measures set forth to protect visual resources along scenic roadways and open space areas identified for protection, as detailed in the Scenic Route and Open Space Elements of the Alameda County General Plan (Alameda County 1966). In addition, the County is obligated to comply with measures set forth in the ECAP to protect visual resources such as sensitive viewsheds, streets and highways, scenic highways, and areas affected by windfarms (Alameda County 2000). The turbines will be neutral and non-reflective (i.e., dull white or light gray) so as to blend in with the surroundings. However, the proposed Project will still introduce large, visually obtrusive turbines within existing viewsheds of scenic viewsheds in proximity to sensitive viewers and residences. Implementation of Mitigation Measures AES-2a, AES-2b, AES-2c, and AES-5 will reduce this impact to a less-than-significant level.

Mitigation Measures: The following mitigation measures, discussed in Attachment A2: Checklist of Supporting Documents, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

AES-2a: Require site development review

AES-2b: Maintain site free of debris and restore abandoned roadways

AES-2c: Screen surplus parts and materials

AES-5: Analyze shadow flicker distance and mitigate effects or incorporate changes into project design to address shadow flicker

Findings: Based on the Checklist of Supporting Documents, and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures AES-2a, AES-2b, AES-2c, and AES-5 will ensure that the impacts associated with new sources of substantial light and glare will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

AES-2a: Require site development review

For the text of Mitigation Measure AES-2a, please refer to the discussion of Impact AES-2 above.

AES-2b: Maintain site free of debris and restore abandoned roadways

For the text of Mitigation Measure AES-2b, please refer to the discussion of Impact AES-2 above.

AES-2c: Screen surplus parts and materials

For the text of Mitigation Measure AES-2c, please refer to the discussion of Impact AES-2 above.

AES-5: Analyze shadow flicker distance and mitigate effects or incorporate changes into project design to address shadow flicker

For the text of Mitigation Measure AES-5, please refer to the discussion of Impact AES-5 above.

Remaining Impacts: Any remaining impact associated with consistency with state and local polices will be less than significant.

Air Quality

Impact AQ-4: Expose sensitive receptors to substantial pollutant concentrations

APWRA Issues to Consider: Will the project be located near sensitive receptors? The closest sensitive receptors to the program area are a community of single-family residences in the city of Livermore located approximately 4,500 feet to the west of the program area boundary and the Mountain House community located approximately 5,000 feet to the east of the program area boundary.

Potential Impact: The Project is located near the northeast side of Livermore within approximately 6,400 feet of sensitive receptors. While the Project is located in the rural setting of the Altamont Pass, sensitive receptors in the area vicinity include scattered residences throughout and adjacent to the program area. The impact for the Project is the same as for overall program as discussed in the FPEIR, Section 3.3.2, "Environmental Impacts", "Impacts and Mitigation Measures". Construction activities are anticipated to last for 10 months, and associated emissions will be spatially dispersed over the approximately 3,469-acre Project area. With implementation of Mitigation Measures AQ-2a and AQ-2b, which will reduce both criteria pollutants and toxic air contaminant emissions from construction equipment and reduce the potential health risks to sensitive receptors, this impact will be less than significant.

Mitigation Measures: The following mitigation measures, discussed in Attachment A2: Checklist of Supporting Documents, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

AQ-2a: Reduce construction-related air pollutant emissions by implementing applicable BAAQMD Basic Construction Mitigation Measures

AQ-2b: Reduce construction-related air pollutant emissions by implementing measures based on BAAQMD's Additional Construction Mitigation Measures

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures AQ-2a and AQ-2b will ensure that the impacts associated with the exposure of sensitive receptors to substantial pollutant concentrations will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

AQ-2a: Reduce construction-related air pollutant emissions by implementing applicable BAAQMD Basic Construction Mitigation Measures

For the text of Mitigation Measure AQ-2a, please refer to the discussion of Impact AQ-2 above.

AQ-2b: Reduce construction-related air pollutant emissions by implementing measures based on BAAQMD's Additional Construction Mitigation Measures

For the text of Mitigation Measure AQ-2b, please refer to the discussion of Impact AQ-2 above.

Remaining Impacts: Any remaining impact associated with exposure of sensitive receptors to pollutant concentrations will be less than significant.

Biological Resources

Impact BIO-1: Potential for ground-disturbing activities to result in adverse effects on special-status plants or habitat occupied by special-status plants

APWRA Issues to Consider: Will project construction affect special-status plants or habitat occupied by special-status plants?

Potential Impact: There is a potential for ground-disturbing activities to result in adverse effects on special-status plants or occupied by special-status plants. Ground-disturbing activities associated with the project could result in adverse effects on special-status plants or their habitat. Direct effects include those effects where plants may be removed, damaged, or crushed by ground-disturbing activities, general vehicle usage, and the placement of equipment and supplies. Ground disturbance can kill or damage mature individuals or eliminate their habitat. Excavation alters soil properties and may create conditions unsuitable for the growth of some species or favor their replacement by other species. The roots of shrubs and other perennial species are susceptible to damage from soil compaction by equipment or construction materials. Possible indirect effects on plants could result from erosion that degrades habitat or accidental ignition of a fire that damages or kills individuals. Because these ground-disturbing activities could have substantial adverse effects on special-status plant species, this impact is significant.

Mitigation Measures: The following mitigation measures, discussed in Attachment A2: Checklist of Supporting Documents, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-1a: Conduct surveys to determine the presence or absence of special-status plant species

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

BIO-1c: Avoid and minimize impacts on special-status plant species by establishing activity exclusion zones

BIO-1d: Compensate for impacts on special-status plant species

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-1a, BIO-1b, BIO-1c, BIO-1d, and BIO-1e will ensure that the impacts associated with the potential for ground-disturbing activities to result in adverse effects on special-status plants or habitat occupied by special-status plants will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-1a: Conduct surveys to determine the presence or absence of special-status plant species

Project proponents will conduct surveys for the special-status plant species within and adjacent to all project sites. All surveys will be conducted by qualified biologists in accordance with the appropriate protocols.

Special-status plant surveys will be conducted in accordance with Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (California Department of Fish and Game 2009) during the season that special-status plant species would be evident and identifiable—i.e., during their blooming season. No more than 3 years prior to ground-disturbing repowering activities and during the appropriate identification periods for special-status plants, a qualified biologist (as determined by Alameda County) will conduct field surveys within decommissioning work areas, proposed construction areas, and the immediately adjacent areas to determine the presence of habitat for special-status plant species. The project proponent will submit a report documenting the survey results to Alameda County for review and approval prior to conducting any repowering activities. The report will include the location and description of all proposed work areas, the location and description of all suitable habitat for special-status plant species, and the location and description of other sensitive habitats (e.g., vernal pools, wetlands, and riparian areas). Additionally, the report will outline where additional species and/or habitat-specific mitigation measures are required. This report will provide the basis for any applicable permit applications where incidental take of listed species may occur.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

For the text of Mitigation Measure BIO-1b, please refer to the discussion of Impact BIO-19b above.

BIO-1c: Avoid and minimize impacts on special-status plant species by establishing activity exclusion zones

Where surveys determine that a special-status plant species is present in or adjacent to a project area, direct and indirect impacts of the project on the species will be avoided through the establishment of activity exclusion zones, within which no ground-disturbing activities will take place, including construction of new facilities, construction staging, or other temporary work areas. Activity exclusion zones for special-status plant species will be established around each occupied habitat site, the boundaries of which will be clearly marked with standard orange plastic construction exclusion fencing or its equivalent. The establishment of activity exclusion zones will not be required if no construction-related disturbances will occur within 250 feet of the occupied habitat. The size of activity exclusion zones may be reduced through consultation with a qualified biologist and with concurrence from CDFW based on site-specific conditions.

BIO-1d: Compensate for impacts on special-status plant species

All project proponents will avoid or minimize temporary and permanent impacts on special-status plants that occur on project sites and will compensate for impacts on special-status plant species. Although all impacts on large-flowered fiddleneck, diamond-petaled California poppy, and caper-fruited tropidocarpum will be avoided, impacts on other special-status plant species will be avoided to the extent feasible, and any unavoidable impacts will be addressed through compensatory mitigation.

Where avoidance of impacts on a special-status plant species is infeasible, loss of individuals or occupied habitat of a special-status plant species occurrence will be compensated for through the acquisition, protection, and subsequent management in perpetuity of other existing occurrences at a 2:1 ratio (occurrences impacted: occurrences preserved). The project proponent will provide detailed

information to the County and CDFW on the location of the preserved occurrences, quality of the preserved habitat, feasibility of protecting and managing the areas in-perpetuity, responsibility parties, and other pertinent information. If suitable occurrences of a special-status plant species are not available for preservation, then the project will be redesigned to remove features that would result in impacts on that species.

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

All project proponents will retain a qualified biologist (as determined by Alameda County) to conduct periodic monitoring of decommissioning, repowering, and reclamation activities that occur adjacent to sensitive biological resources (e.g., special-status species, sensitive vegetation communities, wetlands). Monitoring will occur during initial ground disturbance where sensitive biological resources are present and weekly thereafter or as determined by the County in coordination with a qualified biologist. The biologist will assist the crew, as needed, to comply with all project implementation restrictions and guidelines. In addition, the biologist will be responsible for ensuring that the project proponent or its contractors maintain exclusion areas adjacent to sensitive biological resources, and for documenting compliance with all biological resources– related mitigation measures.

Remaining Impacts: Any remaining impact associated with special-status plants will be less than significant.

Impact BIO-2b: Adverse effects on special-status plants and natural communities resulting from the introduction and spread of invasive plant species

APWRA Issues to Consider: Will construction vehicles have the potential to introduce invasive plant species into the project area?

Potential Impact: Construction activities have the potential to facilitate the introduction and spread of invasive non-native plant species by removing vegetation and disturbing soils. Construction vehicles and machinery are known to spread invasive species, which then compete with native species for resources and can alter natural communities by influencing fire regimes, hydrology (e.g., changes in sedimentation and erosion rates), light availability, nutrient cycling, and soil. Invasive species also have the potential to harm human health and the economy by adversely affecting natural ecosystems, recreation, agricultural lands, and developed areas.

Mitigation Measure: The following mitigation measures, discussed in Attachment A2: Checklist of Supporting Documents, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

BIO-2: Prevent introduction, spread, and establishment of invasive plant species

BIO-5c: Restore disturbed annual grasslands

WQ-1: Comply with NPDES requirements

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-1b, BIO-2, BIO-5c, and WQ-1 will ensure that the impacts associated with the potential for the introduction and spread of invasive plant species to result in adverse effects on special-status plants or habitat occupied by special-status plants will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

For the text of Mitigation Measure BIO-1b, please refer to the discussion of Impact BIO-19b above.

BIO-2: Prevent introduction, spread, and establishment of invasive plant species

To avoid and minimize the introduction and spread of invasive non-native plant species, all project proponents will implement the following BMPs.

- Construction vehicles and machinery will be cleaned prior to entering the construction area. Cleaning stations will be established at the perimeter of the construction area along all construction routes or immediately offsite.
- Vehicles will be washed only at approved areas. No washing of vehicles will occur at job sites.
- To discourage the introduction and establishment of invasive plant species, seed mixtures and straw used within natural vegetation will be either rice straw or weed-free straw, as allowed by state and federal regulation of stormwater runoff.

In addition, the project proponents will prepare and implement erosion and sediment control plans to control short-term and long-term erosion and sedimentation effects and to restore soils and vegetation in areas affected by construction activities (Mitigation Measures BIO-1b and WQ- 1). Prior to initiating any construction activities that will result in temporary impacts on natural communities, a restoration and monitoring plan will be developed for temporarily affected habitats in each project area (Mitigation Measure BIO-5c). Restoration and monitoring plans will be submitted to the County and CDFW for approval. These plans will include methods for restoring soil conditions and revegetating disturbed areas, seed mixes, monitoring and maintenance schedules, adaptive management strategies, reporting requirements, and success criteria. Following completion of project construction, the project proponents will implement the revegetation plans to restore areas disturbed by project activities to a condition of equal or greater habitat function than occurred prior to the disturbance.

Mitigation Measure BIO-5c: Restore disturbed annual grasslands

For the text of Mitigation Measure BIO-5c, please refer to the discussion of Impact BIO-19b above.

WQ-1: Comply with NPDES requirements

Project contractors will obtain coverage under the General Construction Permit before the onset of any construction activities, because all projects will entail disturbance of 1 acre or more. A Stormwater Pollution Prevention Plan (SWPPP) will be developed by a qualified engineer or erosion control specialist in accordance with the appropriate Board's requirements for System NPDES compliance and implemented prior to the issuance of any grading permit before construction. The SWPPP will be kept onsite during construction activity and will be made available upon request to representatives of the Regional Water Boards.

Compliance and coverage with the Storm Water Management Program and General Construction Permit will require controls of pollutant discharges that utilize BMPs and technology to reduce erosion and sediments to meet water quality standards. BMPs may consist of a wide variety of measures taken to

reduce pollutants in stormwater and other nonpoint-source runoff. Measures range from source control, such as reduced surface disturbance, to the treatment of polluted runoff, such as detention basins.

BMPs to be implemented as part of the Storm Water Management Program and General Construction Permit (and SWPPP) may include the following practices.

- Temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) will be employed to control erosion from disturbed areas.
- Use a dry detention basin (which is typically dry except after a major rainstorm, when it will temporarily fill with stormwater), designed to decrease runoff during storm events, prevent flooding, and allow for off-peak discharge. Basin features will include maintenance schedules for the periodic removal of sediments, excessive vegetation, and debris that may clog basin inlets and outlets.
- Cover or apply nontoxic soil stabilizers to inactive construction areas (previously graded areas inactive for 10 days or more) that could contribute sediment to waterways.
- Enclose and cover exposed stockpiles of dirt or other loose, granular construction materials that could contribute sediment to waterways.
- Ensure that no earth or organic material will be deposited or placed where it may be directly carried into a stream, marsh, slough, lagoon, or body of standing water.
- Prohibit the following types of materials from being rinsed or washed into the streets, shoulder areas, or gutters: concrete, solvents and adhesives, thinners, paints, fuels, sawdust, dirt, gasoline, asphalt and concrete saw slurry, and heavily chlorinated water.
- Ensure that grass or other vegetative cover will be established on the construction site as soon as possible after disturbance.

The contractor will select a combination of BMPs (consistent with Section A of the Construction General Permit) that is expected to minimize runoff and remove contaminants from stormwater discharges. The final selection of BMPs will be subject to approval by the San Francisco Bay Regional Water Board and the Central Valley Water Board.

The contractor will verify that a Notice of Intent has been filed with the State Water Board and that a SWPPP has been developed before allowing construction to begin. The contractor will perform inspections of the construction area, to verify that the BMPs specified in the SWPPP are properly implemented and maintained. The contractor will notify the appropriate Regional Water Board immediately if there is a noncompliance issue and will require compliance. If necessary, the contractor or their agent will require that additional BMPs be designed and implemented if those originally constructed do not achieve the identified performance standard.

Remaining Impacts: Any remaining impact associated with the potential for the introduction of invasive plant species to result in adverse effects on special-status plants or habitat occupied by special-status plants will be less than significant.

Impact BIO-3b: Potential mortality of or loss of habitat for vernal pool branchiopods and curved-footed hygrotus diving beetle

APWRA Issues to Consider: Will the project occur in or near vernal pool habitat or drainages?

Will the project involve road construction or widening?

Will the project alter the hydrology or sedimentation?

Will herbicides be used during operation or maintenance near or upstream of suitable habitat for curved-footed hygrotus diving beetle?

Will the project involve road or firebreak maintenance?

Potential Impact: There is potential for mortality of or loss of habitat for vernal pool branchiopods and curved-footed hygrotus diving beetle. A portion of the project area occurs within designated critical habitat for longhorn fairy shrimp. The Project, including access roads, will potentially occur in or near vernal pool habitat, which could directly impact habitat and water quality. Road construction and widening will occur as a part of the Project, potentially crossing or adjacent to water features such as drainages or vernal pools. There is a potential for the Project to alter local hydrology or sedimentation. Herbicides will potentially be utilized during operation and maintenance of the project near or upstream of suitable habitat for curved-footed hygrotus diving beetle, which could result in mortality or reduced fitness for these species. The Project will involve road maintenance and potentially firebreak maintenance. Estimated permanent and temporary impacts on wetland, ponds, and drainages that may provide habitat for vernal pool branchiopods and curved-footed hygrotus diving beetle cannot be estimated because these features have not yet been delineated.

Mitigation Measures: The following mitigation measures, discussed in Attachment A2: Checklist of Supporting Documents, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

BIO-3b: Implement measures to avoid, minimize, and mitigate impacts on vernal pool branchiopods and curved-footed hygrotus diving beetle

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-1b, BIO-1e, BIO-3a, and BIO-3b will ensure that the impacts associated with the potential mortality of or loss of habitat for vernal pool branchiopods and curved-footed hygrotus diving beetle will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

For the text of Mitigation Measure BIO-1b, please refer to the discussion of Impact BIO-19b above.

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

For the text of Mitigation Measure BIO-1e, please refer to the discussion of Impact BIO-19b above.

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

For the text of Mitigation Measure BIO-3a, please refer to the discussion of Impact BIO-19b above.

BIO-3b: Implement measures to avoid, minimize, and mitigate impacts on vernal pool branchiopods and curved-footed hygrotus diving beetle

Where suitable habitat for listed vernal pool branchiopods and curved-footed hygrotus diving beetle are identified within 250 feet (or another distance as determined by a qualified biologist based on topography and other site conditions) of proposed work areas, the following measures will be implemented to ensure that the repowering projects do not have adverse impacts on listed vernal pool branchiopods or curved-footed hygrotus diving beetle. These measures are based on measures from the EACCS, with some modifications and additions. Additional conservation measures or conditions of approval may be required in applicable project permits (e.g., Endangered Species Act [ESA] incidental take permit).

- Avoid all direct impacts on sandstone rock outcrop vernal pools.
- Ground disturbance will be avoided from the first day of the first significant rain (1 inch or more) until June 1, or until pools remain dry for 72 hours and no significant rain is forecast on the day of such ground disturbance.
- If vernal pools, clay flats, alkaline pools, ephemeral stock tanks (or ponds), sandstone pools, or roadside ditches are present within 250 feet of the work area (or another appropriate distance as determined by a qualified biologist on the basis of topography and other site conditions), the biologist will stake and flag an exclusion zone prior to construction activities. The width of the exclusion zone will be based on site conditions and will be the maximum practicable distance that ensures protection of the feature from direct and indirect effects of the project. Exclusion zones will be established around features whether they are wet or dry at the time. The exclusion zone will be fenced with orange construction zone and erosion control fencing (to be installed by construction crew).
- No herbicide will be applied within 100 feet of exclusion zones, except when applied to cut stumps or frilled stems or injected into stems. No broadcast applications will be allowed.
- Avoid modifying or changing the hydrology of aquatic habitats.
- Minimize the work area for stream crossings and conduct work during the dry season (June 1 through the first significant rain of the fall/winter).
- Install utility collection lines across perennial creeks by boring under the creek. Where impacts cannot be avoided or minimized, compensatory mitigation will be undertaken in accordance with mitigation ratios and requirements developed under the EACCS (Appendix C2). In the event that an incidental take permit is required, compensatory mitigation will be undertaken in accordance with the terms of the permit in consultation with USFWS.

Remaining Impacts: Any remaining impact associated with the potential mortality of or loss of habitat for vernal pool branchiopods and curved-footed hygrotus diving beetle will be less than significant.

Impact BIO-4b: Potential disturbance or mortality of and loss of suitable habitat for valley elderberry longhorn beetle

APWRA Issues to Consider: Will the project cause the removal of elderberry shrubs during construction or operation?

Will the project cause the trimming of elderberry shrubs during construction or operation?

Will the project cause disturbance of elderberry roots within the shrub dripline?

Will the project cause changes in topography or compaction of soil from construction in the vicinity of elderberry shrubs?

Potential Impact: There is a potential for disturbance or mortality of and loss of suitable habitat for the valley elderberry longhorn beetle. Removal of habitat (elderberry shrubs) and potential injury or mortality of valley elderberry longhorn beetle associated with removal of elderberry shrubs will be considered direct effects on the species. Trimming of elderberry branches 1 inch or more in diameter could also result in injury or mortality of valley elderberry longhorn beetle. Valley elderberry longhorn beetle larvae may feed on the roots of elderberries, making disturbance of elderberry roots within the shrub dripline a direct affect that could result in injury or mortality of individuals. Reduction of water infiltration to elderberry shrubs caused by changes in topography or compaction of soil from construction could result in reduced shrub vigor/vitality and an associated decrease in shoot, leaf, and flower production and could ultimately reduce the suitability of the shrubs to provide habitat for valley elderberry longhorn beetle.

Mitigation Measures: The following mitigation measures, discussed in Attachment A2: Checklist of Supporting Documents, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

BIO-4a: Implement measures to avoid or protect habitat for valley elderberry longhorn beetle

BIO-4b: Compensate for direct and indirect effects on valley elderberry longhorn beetle

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-1b, BIO-1e, BIO-3a, BIO-4a, and BIO-4b will ensure that the impacts associated with the potential disturbance or mortality of and loss of suitable habitat for valley elderberry longhorn beetle will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

For the text of Mitigation Measure BIO-1b, please refer to the discussion of Impact BIO-19b above.

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

For the text of Mitigation Measure BIO-1e, please refer to the discussion of Impact BIO-19b above.

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

For the text of Mitigation Measure BIO-3a, please refer to the discussion of Impact BIO-19b above.

BIO-4a: Implement measures to avoid or protect habitat for valley elderberry longhorn beetle

For the text of Mitigation Measure BIO-4a, please refer to the discussion of Impact BIO-19b above.

BIO-4b: Compensate for direct and indirect effects on valley elderberry longhorn beetle

If elderberry shrubs cannot be avoided and protected as outlined in Mitigation Measure 4a, the project proponent will obtain an incidental take permit from USFWS and compensate for the loss of any elderberry shrubs. Surveys of elderberry shrubs to be transplanted will be conducted by a qualified biologist prior to transplantation. Surveys will be conducted in accordance with the Conservation Guidelines for the Valley Elderberry Longhorn Beetle (U.S. Fish and Wildlife Service 1999). Survey results and an analysis of the number of elderberry seedlings/cuttings and associated native plants based on the survey results will be submitted to USFWS in a biological assessment or an HCP. After receipt of an incidental take permit and before construction begins, the project proponent will compensate for direct effects on elderberry shrubs by transplanting shrubs that cannot be avoided to an USFWS-approved conservation area. Elderberry seedlings or cuttings and associated native species will also be planted in the conservation area. Each elderberry stem measuring 1 inch or more in diameter at ground level that is adversely affected (i.e., transplanted or destroyed) will be replaced, in the conservation area, with elderberry seedlings or cuttings at a ratio ranging from 1:1 to 8:1 (new plantings to affected stems). The numbers of elderberry seedlings/cuttings and associated riparian native trees/shrubs to be planted as replacement habitat are determined by stem size class of affected elderberry shrubs, presence or absence of exit holes, and whether the shrub lies in a riparian or non-riparian area. Stock of either seedlings or cuttings would be obtained from local sources.

At the discretion of USFWS, shrubs that are unlikely to survive transplantation because of poor condition or location, or a plant that would be extremely difficult to move because of access problems, may be exempted from transplantation. In cases where transplantation is not possible, minimization ratios would be increased to offset the additional habitat loss.

The relocation of the elderberry shrubs will be conducted according to USFWS-approved procedures outlined in the Conservation Guidelines (U.S. Fish and Wildlife Service 1999). Elderberry shrubs within the project construction area that cannot be avoided will be transplanted during the plant's dormant phase (November through the first 2 weeks of February). A qualified biological monitor will remain onsite while the shrubs are being transplanted. Evidence of valley elderberry longhorn beetle occurrence in the conservation area, the condition of the elderberry shrubs in the conservation area, and the general condition of the conservation area itself will be monitored over a period of 10 consecutive years or for 7 years over a 15-year period from the date of transplanting. The project proponent will be responsible for funding and providing monitoring reports to USFWS in each of the years in which a monitoring report is required. As specified in the Conservation Guidelines, the report will include information on timing and rate of irrigation, growth rates, and survival rates and mortality.

Remaining Impacts: Any remaining impact associated with potential disturbance or mortality of and loss of suitable habitat for valley elderberry longhorn beetle will be less than significant.

Impact BIO-5: Potential disturbance or mortality of and loss of suitable habitat for California tiger salamander, western spadefoot, California red-legged frog, and foothill yellow-legged frog

APWRA Issues to Consider Will the project include any of the following activities?

- *Excavation, grading, or stockpiling of soil*
- *Removal or disturbance of upland habitat*
- *Installation of power collection and communication systems*

- *Turbine construction*
- *Road infrastructure construction/maintenance and upgrades*
- *Meteorological tower installation and removal*
- *Temporary staging area set-up*
- *Reclamation*
- *Operation and maintenance*
- *Travel on maintenance roads*

Potential Impact: There is a potential for disturbance or mortality of and loss of suitable habitat for California tiger salamander, western spadefoot toad, California red-legged frog, and foothill yellow-legged frog. The Project area is completely within designated critical habitat for California red-legged frog. Estimated permanent and temporary impacts on seasonal wetland, freshwater marsh, mixed willow riparian scrub, ponds, and drainages that may provide habitat for amphibians cannot be estimated because these features have not yet been delineated. The majority of construction activities will take place on suitable upland grassland dispersal and aestivation habitat for California tiger salamander, western spadefoot, and California red-legged frog. Aquatic habitats for specials-status amphibians will generally be avoided; however, direct impacts on habitat and impacts on water quality could result from road construction or widening activities. The Project will consist of various activities that may potentially disturb habitat for these species, including excavation, grading, and stockpiling of soil, removal or disturbance of upland habitat, installation of power collection and communications systems, turbine construction, road infrastructure construction/maintenance and upgrades, meteorological tower installation and removal, temporary staging area set-up, site reclamation, travel on maintenance access roads, and general operation and maintenance activities. Changes in hydrology or sedimentation of habitat from erosion associated with project construction could alter the suitability of their habitat or cause mortality.

Mitigation Measures: The following mitigation measures, discussed in Attachment A2: Checklist of Supporting Documents, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

BIO-5a: Implement best management practices to avoid and minimize effects on special-status amphibians

BIO-5b: Compensate for loss of habitat for special-status amphibians

BIO-5c: Restore disturbed annual grasslands

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-1b, BIO-1e, BIO-3a, BIO-5a, BIO-5b, and BIO-5c will ensure that the impacts associated with the potential disturbance or mortality of and loss of suitable habitat for California tiger salamander, western spadefoot, California red-legged frog, and foothill yellow-legged frog will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

For the text of Mitigation Measure BIO-1b, please refer to the discussion of Impact BIO-19b above.

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

For the text of Mitigation Measure BIO-1e, please refer to the discussion of Impact BIO-19b above.

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

For the text of Mitigation Measure BIO-3a, please refer to the discussion of Impact BIO-19b above.

BIO-5a: Implement best management practices to avoid and minimize effects on special-status amphibians

For the text of Mitigation Measure BIO-5a, please refer to the discussion of Impact BIO-19b above.

BIO-5b: Compensate for loss of habitat for special-status amphibians

Where impacts on aquatic and upland habitat for special-status amphibians cannot be avoided or minimized, compensatory mitigation will be undertaken in accordance with mitigation ratios and requirements developed under the EACCS (Appendix C2). In the event that take authorization is required, compensatory mitigation will be undertaken in accordance with the terms of the authorization in consultation with USFWS and/or CDFW.

BIO-5c: Restore disturbed annual grasslands

For the text of Mitigation Measure BIO-5c, please refer to the discussion of Impact BIO-19b above.

Remaining Impacts: Any remaining impact associated with potential disturbance or mortality of and loss of suitable habitat for California tiger salamander, western spadefoot, California red-legged frog, and foothill yellow-legged frog will be less than significant.

Impact BIO-6: Potential disturbance or mortality of and loss of suitable habitat for western pond turtle

APWRA Issues to Consider: Will the project involve construction activities in or near ponds, reservoirs, drainages, or surrounding riparian and grassland areas? Will the project involve road construction or widening activities?

Potential Impact: Estimated permanent and temporary impacts on ponds, reservoirs, and drainages that may provide habitat for western pond turtle cannot be estimated because these features have not yet been delineated. The Project will include construction activities, such as road construction and widening, in or near ponds, reservoirs, drainages, or surrounding riparian and grasslands areas. Aquatic and upland (overwintering and nesting) habitat for western pond turtle may be removed or temporarily disturbed by construction activities. Potential direct impacts include mortality or injury by equipment, entrapment in open trenches or other project facilities, and removal or disturbance of aquatic or upland nesting habitat. Western pond turtles could also be injured or killed if gasoline, oil, or other contaminants enter habitat. Because the majority of construction activities will take place on grassland habitat along ridgelines, suitable aquatic habitat will generally be avoided; however, direct impacts on habitat and impacts on water quality could result from road construction or widening activities.

Mitigation Measures: The following mitigation measures, discussed in Attachment A2: Checklist of Supporting Documents, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

BIO-6: Conduct preconstruction surveys for western pond turtle and monitor construction activities if turtles are observed

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-1b, BIO-1e, BIO-3a, and BIO-6 will ensure that the impacts associated with the potential disturbance or mortality of and loss of suitable habitat for western pond turtle will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

For the text of Mitigation Measure BIO-1b, please refer to the discussion of Impact BIO-19b above.

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

For the text of Mitigation Measure BIO-1e, please refer to the discussion of Impact BIO-19b above.

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

For the text of Mitigation Measure BIO-3a, please refer to the discussion of Impact BIO-19b above.

BIO-6: Conduct preconstruction surveys for western pond turtle and monitor construction activities if turtles are observed

If it is determined through preconstruction surveys conducted pursuant to Mitigation Measure BIO-3a that suitable aquatic or upland habitat for western pond turtle is present within proposed work areas, the following measures, consistent with measures developed for the EACCS, will be implemented to ensure that the proposed project does not have a significant impact on western pond turtle.

- One week before and within 24 hours of beginning work in suitable aquatic habitat, a qualified biologist (one who is familiar with different species of turtles) will conduct surveys for western pond turtle. The surveys should be timed to coincide with the time of day and year when turtles are most likely to be active (during the cooler part of the day between 8 a.m. and 12 p.m. during spring and summer). Prior to conducting the surveys, the biologist should locate the microhabitats for turtle basking (logs, rocks, brush thickets) and determine a location to quietly observe turtles. Each survey should include a 30-minute wait time after arriving onsite to allow startled turtles to return to open basking areas. The survey should consist of a minimum 15-minute observation period for each area where turtles could be observed.
- If western pond turtles are observed during either survey, a biological monitor will be present during construction activities in the aquatic habitat where the turtle was observed. The biological monitor also will be mindful of suitable nesting and overwintering areas in proximity to suitable aquatic habitat and will periodically inspect these areas for nests and turtles.

If one or more western pond turtles are found in the work area during construction and cannot or do not move offsite on their own, a qualified biologist will remove and relocate the turtle to appropriate aquatic habitat outside and away from the construction area. Relocation of western pond turtle requires a letter from CDFW authorizing this activity.

Remaining Impacts: Any remaining impact associated with potential disturbance or mortality of and loss of suitable habitat for western pond turtle will be less than significant.

Impact BIO-7: Potential disturbance or mortality of and loss of suitable habitat for Blainville's horned lizard, Alameda whipsnake, and San Joaquin coachwhip

APWRA Issues to Consider: Will the project involve construction activities in grassland, chaparral, oak woodland, or scrub? Will the project involve road and firebreak maintenance activities in grassland, chaparral, oak woodland, or scrub?

Potential Impact: There is a potential for mortality of and loss of suitable habitat for Blainville's horned lizard, Alameda whipsnake, and San Joaquin coachwhip. The Project will include construction activities, including road and firebreak maintenance activities, in grassland, chaparral, oak woodland, and scrub habitats, which may result in injury or mortality due to equipment usage, entrapment in open trenches or other project facilities, and removal or disturbance of habitat.

Mitigation Measures: The following mitigation measures, discussed in Attachment A2: Checklist of Supporting Documents, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

BIO-5c: Restore disturbed annual grasslands

BIO-7a: Implement best management practices to avoid and minimize effects on special-status reptiles

BIO-7b: Compensate for loss of habitat for special-status reptiles

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-1b, BIO-1e, BIO-3a, BIO-5c, BIO-7a, and BIO-7b will ensure that the impacts associated with the potential disturbance or mortality of and loss of suitable habitat for Blainville's horned lizard, Alameda whipsnake, and San Joaquin coachwhip will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

For the text of Mitigation Measure BIO-1b, please refer to the discussion of Impact BIO-19b above.

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

For the text of Mitigation Measure BIO-1e, please refer to the discussion of Impact BIO-19b above.

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

For the text of Mitigation Measure BIO-3a, please refer to the discussion of Impact BIO-19b above.

BIO-5c: Restore disturbed annual grasslands

For the text of Mitigation Measure BIO-5c, please refer to the discussion of Impact BIO-19b above.

BIO-7a: Implement best management practices to avoid and minimize effects on special-status reptiles

Where suitable habitat for Blainville's horned lizard, Alameda whipsnake, or San Joaquin coachwhip is identified in proposed work areas, all project proponents will ensure that BMPs and other appropriate measures, in accordance with measures developed for the EACCS, be incorporated into the appropriate design and construction documents. Implementation of some of these measures will require that the project proponent obtain incidental take permits from USFWS and CDFW (Alameda whipsnake) before construction begins. Additional conservation measures or conditions of approval may be required in applicable project permits (i.e., ESA incidental take permit).

- A qualified biologist will conduct preconstruction surveys immediately prior to ground-disturbing activities (e.g., equipment staging, vegetation removal, grading) associated with the program. If any Blainville's horned lizards, Alameda whipsnakes, or San Joaquin coachwhips are found, work will not begin until they are moved out of the work area to a USFWS- and/or CDFW-approved relocation site. Incidental take permits from USFWS and CDFW are required for relocation of Alameda whipsnake. Relocation of Blainville's horned lizard and San Joaquin coachwhip requires a letter from CDFW authorizing this activity.
- No monofilament plastic will be used for erosion control.

- Where applicable, barrier fencing will be used to exclude Blainville's horned lizard, Alameda whipsnake, and San Joaquin coachwhip. Barrier fencing will be removed within 72 hours of completion of work.
- Work crews or an onsite biological monitor will inspect open trenches and pits and under construction equipment and materials left onsite for special-status reptiles each morning and evening during construction.
- Ground disturbance in suitable habitat will be minimized.
- Vegetation within the proposed work area will be removed prior to grading. Prior to clearing and grubbing operations, a qualified biologist will clearly mark vegetation within the work area that will be avoided. Vegetation outside the work area will not be removed. Where possible hand tools (e.g., trimmer, chain saw) will be used to trim or remove vegetation. All vegetation removal will be monitored by the qualified biologist to minimize impacts on special-status reptiles.

If special-status reptiles are found in the work area during construction and cannot or do not move offsite on their own, a qualified biologist who is USFWS- and/or CDFW-approved under an incidental take permit for the specific project will trap and move the animal(s) to a USFWS and/or CDFW-approved relocation area. Incidental take permits from USFWS and CDFW are required for relocation of Alameda whipsnake. Relocation of Blainville's horned lizard and San Joaquin coachwhip requires a letter from CDFW authorizing this activity.

BIO-7b: Compensate for loss of habitat for special-status reptiles

Where impacts on habitat for special-status reptiles cannot be avoided or minimized, compensatory mitigation will be undertaken in accordance with mitigation ratios and requirements developed under the EACCS (Appendix C2). In the event that incidental take permits are required for Alameda whipsnake, compensatory mitigation will be undertaken in accordance with the terms of permits in consultation with USFWS and CDFW.

Remaining Impacts: Any remaining impact associated with potential disturbance or mortality of and loss of suitable habitat for Blainville's horned lizard, Alameda whipsnake, and San Joaquin coachwhip will be less than significant.

Impact BIO-8: Potential construction-related disturbance or mortality of special-status and non-special-status migratory birds

APWRA Issues to Consider: Will construction occur during nesting season (generally February 1–August 31)?

Potential Impact: The project has a potential to incur construction related disturbance or mortality of special-status and non-special-status migratory birds. The exact dates of construction activities are not yet known; it is currently assumed that construction may occur during the bird nesting season (generally February 1–August 31). Construction activities during the nesting season of white-tailed kite, bald eagle, northern harrier, Swainson's hawk, golden eagle, western burrowing owl, loggerhead shrike, and tricolored blackbird could result in direct effects on these species, as well as on non–special-status migratory birds, if they are nesting in the program area. Suitable nesting habitat may be present in nearly all land cover types in the program area. Removal of grassland, burrows, wetland and marsh vegetation, and trees or shrubs with active nests and construction disturbance during the breeding season may result in nest abandonment and subsequent loss of eggs or young. Because the placement of wind turbines will generally be on the tops of hills and ridgelines in the program area where trees are not generally present, the number of trees to be removed is expected to be very low. Exclusion of burrowing owls from their burrows during the non-nesting season as part of efforts to avoid or minimize some forms of direct take could result in harm of burrowing owls. Nest disturbance and/or

destruction could affect the local population of special-status and non–special-status birds. This will be a significant impact.

Mitigation Measures: The following mitigation measures, discussed in Attachment A2: Checklist of Supporting Documents, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

BIO-5c: Restore disturbed annual grasslands

BIO-8a: Implement measures to avoid and minimize potential impacts on special-status and non–special-status nesting birds

BIO-8b: Implement measures to avoid and minimize potential impacts on western burrowing owl

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-1b, BIO-1e, BIO-3a, BIO-5c, BIO-8a, and BIO-8b will ensure that the impacts associated with the potential construction-related disturbance or mortality of special status and non-special-status migratory birds will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

For the text of Mitigation Measure BIO-1b, please refer to the discussion of Impact BIO-19b above.

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

For the text of Mitigation Measure BIO-1e, please refer to the discussion of Impact BIO-19b above.

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

For the text of Mitigation Measure BIO-3a, please refer to the discussion of Impact BIO-19b above.

BIO-5c: Restore disturbed annual grasslands

For the text of Mitigation Measure BIO-5c, please refer to the discussion of Impact BIO-19b above.

BIO-8a: Implement measures to avoid and minimize potential impacts on special-status and non–special-status nesting birds

For the text of Mitigation Measure BIO-8a, please refer to the discussion of Impact BIO-19b above.

BIO-8b: Implement measures to avoid and minimize potential impacts on western burrowing owl

For the text of Mitigation Measure BIO-8b, please refer to the discussion of Impact BIO-19b above.

Remaining Impacts: Any remaining impact associated with construction-related disturbance or mortality of special status and non-special-status migratory birds will be less than significant.

Impact BIO-9: Permanent and temporary loss of occupied habitat for western burrowing owl and foraging habitat for tricolored blackbird and other special-status and non–special-status birds

APWRA Issues to Consider: Will the project result in the temporary or permanent loss of grassland?

Potential Impact: The Project will potentially result in the temporary and permanent loss of grassland that provides suitable foraging habitat for burrowing owl and a number of other special-status and non–special-status migratory birds. Because of the limited use of the program area by Swainson's hawks for foraging, no compensation was proposed in the PEIR for the loss of foraging habitat for Swainson's hawk.

The loss of grassland foraging habitat for special-status and non–special-status birds will be compensated through implementation of Mitigation Measure BIO-5b (for special-status amphibians) and/or through the standardized mitigation ratios for non-listed species developed for the EACCS.

CDFW has determined that compensation is required for permanent loss of occupied burrowing owl habitat (i.e., where burrowing owls have been documented to occupy burrows in the preceding 3 years). Permanent loss of occupied burrowing owl habitat could affect the local population and will be a significant impact

Mitigation Measures: The following mitigation measures, discussed in Attachment A2: Checklist of Supporting Documents, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-5b: Compensate for the loss of habitat for special-status amphibians

BIO-5c: Restore disturbed annual grasslands

BIO-9: Compensate for the permanent loss of occupied habitat for western burrowing owl

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-5b, BIO-5c, and BIO-9 will ensure that the impacts associated with the potential for permanent and temporary loss of occupied habitat for western burrowing owl and foraging habitat for tricolored blackbird and other special-status and non–special-status birds will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-5b: Compensate for the loss of habitat for special-status amphibians

For the text of Mitigation Measure BIO-5b, please refer to the discussion of Impact BIO-5b above.

BIO-5c: Restore disturbed annual grasslands

For the text of Mitigation Measure BIO-5c, please refer to the discussion of Impact BIO-19b above.

BIO-9: Compensate for the permanent loss of occupied habitat for western burrowing owl

If construction activities would result in the removal of occupied burrowing owl habitat (determined during preconstruction surveys described in Mitigation Measure BIO-8a), this habitat loss will be mitigated by permanently protecting mitigation land through a conservation easement or by implementing alternative mitigation determined through consultation with CDFW as described in its Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game 2012:11–13). The project proponent will work with CDFW to develop the compensation plan, which will be subject to County review and approval. Remaining Impacts: Any remaining impact associated with permanent and temporary loss of occupied habitat for western burrowing owl and foraging habitat for tricolored blackbird and other special-status and non–special-status birds will be less than significant.

Impact BIO-10: Potential injury or mortality of and loss of habitat for San Joaquin kit fox and American badger

APWRA Issues to Consider: Will the project result in temporary or permanent impacts on grassland? Will the project use vehicles that could hit San Joaquin kit fox or American badger?

Will the project have exposed pipes, large excavated holes, or trenches that could entrap San Joaquin kit foxes or American badgers?

Will the project have operation or maintenance activities, such as road and firebreak maintenance?

Potential Impact: There is a potential for mortality of and loss of suitable habitat for San Joaquin kit fox and American badger. The Project will result in temporary and permanent impacts to grasslands. Mortality to these species could occur due to vehicle usage during construction activities, and operations and maintenance activities. The installation of culverts, and excavation of holes and trenches, will occur during the course of the project that could possibly entrap these species.

Mitigation Measures: The following mitigation measures, discussed in Attachment A2: Checklist of Supporting Documents, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

BIO-5c: Restore disturbed annual grasslands

BIO-10a: Implement measures to avoid and minimize potential impacts on San Joaquin kit fox and American badger

BIO-10b: Compensate for loss of suitable habitat for San Joaquin kit fox and American badger

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-1b, BIO-1e, BIO-3a, BIO-5c, BIO-10a, and BIO-10b will ensure that the impacts associated with the potential for injury or mortality of and loss of habitat for San Joaquin kit fox and American badger will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

For the text of Mitigation Measure BIO-1b, please refer to the discussion of Impact BIO-19b above.

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

For the text of Mitigation Measure BIO-1e, please refer to the discussion of Impact BIO-19b above.

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

For the text of Mitigation Measure BIO-3a, please refer to the discussion of Impact BIO-19b above.

BIO-5c: Restore disturbed annual grasslands

For the text of Mitigation Measure BIO-5c, please refer to the discussion of Impact BIO-19b above.

BIO-10a: Implement measures to avoid and minimize potential impacts on San Joaquin kit fox and American badger

Where suitable habitat is present for San Joaquin fit fox and American badger in and adjacent to proposed work areas, the following measures, consistent with measures developed in the EACCS, will be implemented to ensure that proposed projects do not have a significant impact on San Joaquin kit fox or American badger. Implementation of some of these measures will require that the project proponent obtain incidental take permits from USFWS and CDFW (San Joaquin kit fox) before construction begins. Implementation of state and federal requirements contained in such authorization may constitute compliance with corresponding measures in the PEIR.

- To the maximum extent feasible, suitable dens for San Joaquin kit fox and American badger will be avoided.
- All project proponents will retain qualified approved biologists (as determined by USFWS) to conduct a preconstruction survey for potential San Joaquin kit fox dens (U.S. Fish and Wildlife Service 2011). Resumes of biologists will be submitted to USFWS for review and approval prior to the start of the survey.
- Preconstruction surveys for American badgers will be conducted in conjunction with San Joaquin kit fox preconstruction surveys.
- As described in U.S. Fish and Wildlife Service 2011, the preconstruction survey will be conducted no less than 14 days and no more than 30 days before the beginning of ground disturbance, or any activity likely to affect San Joaquin kit fox. The biologists will conduct den searches by systematically walking transects through the project area and a buffer area to be determined in coordination with USFWS and CDFW. Transect distance should be based on the height of vegetation such that 100% visual coverage of the project area is achieved. If a potential

or known den is found during the survey, the biologist will measure the size of the den; evaluate the shape of the den entrances, and note tracks, scat, prey remains, and recent excavations at the den site. The biologists will also determine the status of the dens and map the features. Dens will be classified in one of the following four den status categories defined by USFWS (U.S. Fish and Wildlife Service 2011).

- Potential den: Any subterranean hole within the species' range that has entrances of appropriate dimensions and for which available evidence is sufficient to conclude that it is being used or has been used by a kit fox. Potential dens include (1) any suitable subterranean hole; or (2) any den or burrow of another species (e.g., coyote, badger, red fox, ground squirrel) that otherwise has appropriate characteristics for kit fox use; or an artificial structure that otherwise has appropriate characteristics for kit fox use.
- Known den: Any existing natural den or artificial structure that is used or has been used at any time in the past by a San Joaquin kit fox. Evidence of use may include historical records; past or current radiotelemetry or spotlighting data; kit fox sign such as tracks, scat, and/or prey remains; or other reasonable proof that a given den is being or has been used by a kit fox (USFWS discourages use of the terms active and inactive when referring to any kit fox den because a great percentage of occupied dens show no evidence of use, and because kit foxes change dens often, with the result that the status of a given den may change frequently and abruptly).
- Known natal or pupping den: Any den that is used, or has been used at any time in the past, by kit foxes to whelp and/or rear their pups. Natal/pupping dens may be larger with more numerous entrances than dens occupied exclusively by adults. These dens typically have more kit fox tracks, scat, and prey remains in the vicinity of the den, and may have a broader apron of matted dirt or vegetation at one or more entrances. A natal den, defined as a den in which kit fox pups are actually whelped but not necessarily reared, is a more restrictive version of the pupping den. In practice, however, it is difficult to distinguish between the two; therefore, for purposes of this definition either term applies.
- Known atypical den: Any artificial structure that has been or is being occupied by a San Joaquin kit fox. Atypical dens may include pipes, culverts, and diggings beneath concrete slabs and buildings.

Written results of the survey including the locations of any potential or known San Joaquin kit fox dens will be submitted to USFWS within 5 days following completion of the survey and prior to the start of ground disturbance or construction activities.

- After preconstruction den searches and before the commencement of repowering activities, exclusion zones will be established as measured in a radius outward from the entrance or cluster of entrances of each den. Repowering activities will be prohibited or greatly restricted within these exclusion zones. Only essential vehicular operation on existing roads and foot traffic will be permitted. All other repowering activities, vehicle operation, material and equipment storage, and other surface-disturbing activities will be prohibited in the exclusion zones. Barrier fencing will be removed within 72 hours of completion of work. Exclusion zones will be established using the following parameters.
- Potential and atypical dens: A total of four or five flagged stakes will be placed 50 feet from the den entrance to identify the den location.
- Known den: Orange construction barrier fencing will be installed between the work area and the known den site at a minimum distance of 100 feet from the den. The fencing will be maintained until construction-related disturbances have ceased. At that time, all fencing will be removed to avoid attracting subsequent attention to the den.
- Natal/pupping den: USFWS will be contacted immediately if a natal or pupping den is discovered in or within 200 feet of the work area.

    - Any occupied or potentially occupied badger den will be avoided by establishing an exclusion zone consistent with a San Joaquin kit fox potential burrow (i.e., four or five flagged stakes will be placed 50 feet from the den entrance).
- In cases where avoidance is not a reasonable alternative, limited destruction of potential San Joaquin kit fox dens may be allowed as follows.
    - Natal/pupping dens: Natal or pupping dens that are occupied will not be destroyed until the adults and pups have vacated the dens and then only after consultation with USFWS. Removal of natal/pupping dens requires incidental take authorization from USFWS and CDFW.
    - Known dens: Known dens within the footprint of the activity must be monitored for 3 days with tracking medium or an infrared camera to determine current use. If no kit fox activity is observed during this period, the den should be destroyed immediately to preclude subsequent use. If kit fox activity is observed during this period, the den will be monitored for at least 5 consecutive days from the time of observation to allow any resident animal to move to another den during its normal activity. Use of the den can be discouraged by partially plugging its entrance(s) with soil in such a manner that any resident animal can escape easily. Only when the den is determined to be unoccupied will the den be excavated under the direction of a biologist. If the fox is still present after 5 or more consecutive days of monitoring, the den may be excavated when, in the judgment of the biologist, it is temporarily vacant, such as during the fox's normal foraging activities. Removal of known dens requires incidental take authorization from USFWS and CDFW.
    - Potential dens: If incidental take permits have been received (from USFWS and CDFW), potential dens can be removed (preferably by hand excavation) by biologist or under the supervision of a biologist without monitoring, unless other restrictions were issued with the incidental take permits. If no take authorizations have been issued, the potential dens will be monitored as if they are known dens. If any den was considered a potential den but was later determined during monitoring or destruction to be currently or previously used by kit foxes (e.g., kit fox sign is found inside), then all construction activities will cease and USFWS and CDFW will be notified immediately.
- Nighttime work will be minimized to the extent possible. The vehicular speed limit will be reduced to 10 miles per hour during nighttime work.
- Pipes, culverts, and similar materials greater than 4 inches in diameter will be stored so as to prevent wildlife species from using these as temporary refuges, and these materials will be inspected each morning for the presence of animals prior to being moved.
- A representative appointed by the project proponent will be the contact for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured, or entrapped kit fox. The representative will be identified during environmental sensitivity training (Mitigation Measure BIO-1b) and his/her name and phone number will be provided to USFWS and CDFW. Upon such incident or finding, the representative will immediately contact USFWS and CDFW.

The Sacramento USFWS office and CDFW will be notified in writing within 3 working days of the accidental death or injury of a San Joaquin kit fox during project-related activities. Notification must include the date, time, and location of the incident, and any other pertinent information.

BIO-10b: Compensate for loss of suitable habitat for San Joaquin kit fox and American badger

Where permanent impacts on habitat for San Joaquin kit fox and American badger cannot be avoided or minimized, compensatory mitigation will be undertaken in accordance with mitigation ratios and requirements developed under the EACCS (Appendix C2). In the event that incidental take permits are required for San Joaquin kit fox, compensatory mitigation will be undertaken in accordance with the terms of permits in consultation with USFWS and CDFW.

Remaining Impacts: Any remaining impact associated with potential injury or mortality of and loss of habitat for San Joaquin kit fox and American badger will be less than significant.

Impact BIO-12: Potential mortality or disturbance of bats from roost removal or disturbance

APWRA Issues to Consider: Will the project construction or decommissioning involve any of the following activities?

- ***Increased traffic, noise, lighting, or human access***
- ***Removal or disturbance of trees, rock outcrops, debris piles, outbuildings, or other artificial structures***
- ***Removal of special-status species' roost structures***

Potential Impact: The project has the potential to incur mortality or disturbance of bats from roost removal or disturbance. Several species of both common (myotis spp.) and special-status (pallid bat, Townsend's big-eared bat) bats could occur in or around the project area, and could use the area for foraging, dispersal, and migration. Bats may use rock outcrops, trees, buildings, bridges, and other structures in the vicinity of the Project area as maternity or migratory stopover roosts. Permanent water bodies and stock tanks in and adjacent to the program area provide sources of fresh water for both resident and migratory bats. Construction and decommissioning of turbines could result in disturbance or loss of active bat roosts through increased traffic, noise, lighting, and human access. Removal or disturbance of trees, rock outcrops, debris piles, outbuildings, or other artificial structures is not anticipated to occur, but if it does it could result in removal of roost habitat and mortality of bats using the structure as a roost. Several species of bat are sensitive to disturbance and may abandon flightless young, or they may simply not return to the roost once disturbed, resulting in the loss of that roost as habitat for the local population. Because some bats roost colonially, removal of special-status species' roost structures in a roost-limited habitat could result in the loss of a significant portion of the local bat population.

Mitigation Measures: The following mitigation measures, discussed in Attachment A2: Checklist of Supporting Documents, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

BIO-3a: Conduct preconstruction surveys for habitat for special status wildlife species

BIO-12a: Conduct bat roost surveys

BIO-12b: Avoid removing or disturbing bat roosts

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-1b, BIO-3a, BIO-12a, and BIO-12b will ensure that the impacts associated with the potential for mortality or disturbance of bats from roost removal or disturbance will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

For the text of Mitigation Measure BIO-1b, please refer to the discussion of Impact BIO-19b above.

BIO-3a: Conduct preconstruction surveys for habitat for special-status wildlife species

For the text of Mitigation Measure BIO-3a, please refer to the discussion of Impact BIO-19b above.

BIO-12a: Conduct bat roost surveys

For the text of Mitigation Measure BIO-12a, please refer to the discussion of Impact BIO-19b above.

BIO-12b: Avoid removing or disturbing bat roosts

For the text of Mitigation Measure BIO-12a, please refer to the discussion of Impact BIO-19b above.

Remaining Impacts: Any remaining impact associated with potential mortality or disturbance of bats from roost removal or disturbance will be less than significant.

Impact BIO-15: Potential for road infrastructure upgrades to result in adverse effects on alkali meadow

APWRA Issues to Consider: Will the project involve grading, widening, or regravelling of existing roads or construction of new roads in alkali meadow habitat?

Will existing culverts be upgraded or new culverts installed in alkali meadow habitat?

Potential Impact: There is a potential for road infrastructure upgrades to result in adverse effects on alkali meadow. The project will include grading, widening, regravelling existing roads, construction of new roads through habitat that may contain alkali meadow. Additionally, upgrading of and installation of new culverts will occur, also in habitat that may contain alkali meadow.

Mitigation Measure: The following mitigation measure, discussed in Attachment A2: Checklist of Supporting Documents, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-15: Compensate for the loss of alkali meadow habitat

Findings: Based on the Checklist of Supporting Documents, and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure BIO-15 will ensure that the impacts associated with the potential for road infrastructure upgrades to result in adverse effects on alkali meadow will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-15: Compensate for the loss of alkali meadow habitat

If alkali meadow habitat is filled or disturbed as part of a repowering project, the project proponent will compensate for the loss of this habitat to ensure no net loss of habitat functions and values.

Compensation ratios will be based on site-specific information and determined through coordination with state and federal agencies (CDFW, USFWS, and United States Army Corps of Engineers [USACE]). Unless specified otherwise by a resource agency, the compensation will be at a minimum 1:1 ratio (1 acre restored or created for every 1 acre filled) and may be a combination of onsite restoration/creation, offsite restoration, and mitigation credits. A restoration and monitoring plan will be developed and implemented. The plan will describe how alkali meadow habitat will be created and monitored.

Remaining Impacts: Any remaining impact associated with the potential for road infrastructure upgrades to result in adverse effects on alkali meadow will be less than significant.

Impact BIO-16: Potential for road infrastructure upgrades to result in adverse effects on riparian habitat

APWRA Issues to Consider: Will the project involve grading, widening, or regravelling of existing roads or construction of new roads in riparian habitat?

Will existing culverts be upgraded or new culverts installed in riparian habitat?

Potential Impact: Although natural communities have been generally mapped, riparian habitat can occur in small patches, easily overlooked and unrecorded during a general habitat assessment. Based on findings of the FPEIR, there is a potential for road infrastructure upgrades to result in adverse effects on riparian habitat. The project will include grading, widening, regravelling existing roads, construction of new roads through habitat that may contain alkali meadow. Additionally, upgrading of and installation of new culverts will occur, also in habitat that may contain riparian habitat.

Mitigation Measure: The following mitigation measure, discussed in Attachment A2: Checklist of Supporting Documents, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-16: Compensate for the loss of riparian habitat

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure BIO-16 will ensure that the impacts associated with the potential for road infrastructure upgrades to result in adverse effects on riparian habitat will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-16: Compensate for the loss of riparian habitat

If riparian habitat is filled or removed as part of a project, the project proponent will compensate for the loss of riparian habitat to ensure no net loss of habitat functions and values. Compensation ratios will be based on site-specific information and determined through coordination with state and federal agencies (CDFW, USFWS, and USACE). The compensation will be at a minimum 1:1 ratio (1 acre restored or created for every 1 acre filled) and may be a combination of onsite restoration/creation, offsite restoration, and mitigation credits. A restoration and monitoring plan will be developed and implemented. The plan will describe how riparian habitat will be created and monitored.

Remaining Impacts: Any remaining impact associated with the potential for road infrastructure upgrades to result in adverse effects on riparian habitat will be less than significant.

Impact BIO-18b: Potential for road infrastructure upgrades to result in adverse effects on wetlands

APWRA Issues to Consider: Will the project involve grading, widening, or regravelling of existing roads or construction of new roads in wetlands?

Will existing culverts be upgraded or new culverts installed in wetlands?

Potential Impact: Wetlands are present in the project area. The project may potentially require road infrastructure upgrades that could result in adverse effects on wetlands, based on findings of the Habitat Assessment and the FPEIR. The project will include grading, widening, regravelling existing roads, construction of new roads through habitat that may contain wetlands. Additionally, upgrading of and installation of new culverts will occur, also in habitat that may contain wetlands.

Mitigation Measure: The following mitigation measure, discussed in Attachment A2: Checklist of Supporting Documents, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-18: Compensate for the loss of wetlands

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure BIO-18 will ensure that the impacts associated with the potential for road infrastructure upgrades to result in adverse effects on wetlands will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-18: Compensate for the loss of wetlands

If wetlands are filled or disturbed as part of a project, the project proponent will compensate for the loss to ensure no net loss of habitat functions and values. Compensation ratios will be based on site-specific information and determined through coordination with state and federal agencies (CDFW, USFWS, and USACE). The compensation will be at a minimum 1:1 ratio (1 acre restored or created for every 1 acre filled) and may be a combination of onsite restoration/creation, offsite restoration, and mitigation credits. A restoration and monitoring plan will be developed and implemented. The plan will describe how wetlands will be created and monitored.

Remaining Impacts: Any remaining impact associated with the potential for road infrastructure upgrades to result in adverse effects on wetlands will be less than significant.

Impact BIO-20: Conflict with local plans or policies

APWRA Issues to Consider: Will project construction or operation cause the loss of special-status species or their habitat, loss of alkali meadow, loss of riparian habitat, or loss of existing wetlands?

Potential Impact: The Project will potentially cause the loss of special-status species or their habitat, loss of alkali meadow, loss of riparian habitat, and loss of existing wetlands, based on findings of the Habitat Assessment and the FPEIR, which will conflict with local plans or policies. The East County Area Plan (ECAP) encourages the preservation of areas known to support special-status species, no net loss of riparian and seasonal wetlands, and protection of existing riparian woodland habitat. ECAP has several

policies related to windfarms, including establishing a mitigation program to minimize the impacts of wind turbine operations on bird populations. Loss of special-status species and their habitat, loss of alkali meadow, loss of riparian habitat, and loss of existing wetlands as a result of implementing the project will be in conflict with these policies.

Mitigation Measures: The following mitigation measures, discussed in Attachment A2: Checklist of Supporting Documents, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

BIO-1a: Conduct surveys to determine the presence or absence of special-status species

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

BIO-1c: Avoid and minimize impacts on special-status plant species by establishing activity exclusion zones

BIO-1d: Compensate for impacts on special-status plant species

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

BIO-3a: Implement measures to avoid, minimize, and mitigate impacts on vernal pool branchiopods and curved-footed hygrotus diving beetle

BIO-4a: Implement measures to avoid or protect habitat for valley elderberry longhorn beetle

BIO-4b: Compensate for direct and indirect effects on valley elderberry longhorn beetle

BIO-5a: Implement best management practices to avoid and minimize effects on special-status amphibians

BIO-5b: Compensate for loss of habitat for special-status amphibians

BIO-5c: Restore disturbed annual grasslands

BIO-7a: Implement best management practices to avoid and minimize effects on special-status reptiles

BIO-7b: Compensate for loss of habitat for special-status reptiles

BIO-8a: Implement measures to avoid and minimize potential impacts on special-status and non-special-status nesting birds

BIO-8b: Implement measures to avoid and minimize potential impacts on western burrowing owl

BIO-9: Compensate for the permanent loss of foraging habitat for western burrowing owl

BIO-10a: Implement measures to avoid and minimize potential impacts on San Joaquin kit fox and American badger

BIO-10b: Compensate for loss of suitable habitat for San Joaquin kit fox and American badger

BIO-15: Compensate for the loss of alkali meadow habitat

BIO-16: Compensate for the loss of riparian habitat

BIO-18: Compensate for the loss of wetlands

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures BIO-1a, BIO-1b, BIO-1c, BIO-1d, BIO-1e, BIO-3a, BIO-4a, BIO-4b, BIO-5a, BIO-5b, BIO-5c, BIO-7a, BIO-7b, BIO-8a, BIO-8b, BIO-9, BIO-10a, BIO-10b, BIO-15, BIO-16, and BIO-18 will ensure that the impacts associated with conflict with local plans or policies will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

BIO-1a: Conduct surveys to determine the presence or absence of special-status species

For the text of Mitigation Measure BIO-1a, please refer to the discussion of Impact BIO-1b above.

BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

For the text of Mitigation Measure BIO-1a, please refer to the discussion of Impact BIO-19b above.

BIO-1c: Avoid and minimize impacts on special-status plant species by establishing activity exclusion zones

For the text of Mitigation Measure BIO-1a, please refer to the discussion of Impact BIO-1b above.

BIO-1d: Compensate for impacts on special-status plant species

For the text of Mitigation Measure BIO-1a, please refer to the discussion of Impact BIO-19b above.

BIO-1e: Retain a biological monitor during ground-disturbing activities in environmentally sensitive areas

For the text of Mitigation Measure BIO-1a, please refer to the discussion of Impact BIO-19b above.

BIO-3a: Implement measures to avoid, minimize, and mitigate impacts on vernal pool branchiopods and curved-footed hygrotus diving beetle

For the text of Mitigation Measure BIO-1a, please refer to the discussion of Impact BIO-19b above.

BIO-4a: Implement measures to avoid or protect habitat for valley elderberry longhorn beetle

For the text of Mitigation Measure BIO-1a, please refer to the discussion of Impact BIO-19b above.

BIO-4b: Compensate for direct and indirect effects on valley elderberry longhorn beetle

For the text of Mitigation Measure BIO-1a, please refer to the discussion of Impact BIO-4b above.

BIO-5a: Implement best management practices to avoid and minimize effects on special-status amphibians

For the text of Mitigation Measure BIO-1a, please refer to the discussion of Impact BIO-19b above.

BIO-5b: Compensate for loss of habitat for special-status amphibians

For the text of Mitigation Measure BIO-1a, please refer to the discussion of Impact BIO-5b above.

BIO-5c: Restore disturbed annual grasslands

For the text of Mitigation Measure BIO-1a, please refer to the discussion of Impact BIO-19b above.

BIO-7a: Implement best management practices to avoid and minimize effects on special-status reptiles

For the text of Mitigation Measure BIO-1a, please refer to the discussion of Impact BIO-19b above.

BIO-7b: Compensate for loss of habitat for special-status reptiles

For the text of Mitigation Measure BIO-1a, please refer to the discussion of Impact BIO-7b above.

BIO-8a: Implement measures to avoid and minimize potential impacts on special-status and non-special-status nesting birds

For the text of Mitigation Measure BIO-1a, please refer to the discussion of Impact BIO-19b above.

BIO-8b: Implement measures to avoid and minimize potential impacts on western burrowing owl

For the text of Mitigation Measure BIO-1a, please refer to the discussion of Impact BIO-19b above.

BIO-9: Compensate for the permanent loss of foraging habitat for western burrowing owl

For the text of Mitigation Measure BIO-1a, please refer to the discussion of Impact BIO-9b above.

BIO-10a: Implement measures to avoid and minimize potential impacts on San Joaquin kit fox and American badger

For the text of Mitigation Measure BIO-1a, please refer to the discussion of Impact BIO-10b above.

BIO-10b: Compensate for loss of suitable habitat for San Joaquin kit fox and American badger

For the text of Mitigation Measure BIO-1a, please refer to the discussion of Impact BIO-10b above.

BIO-15: Compensate for the loss of alkali meadow habitat

For the text of Mitigation Measure BIO-1a, please refer to the discussion of Impact BIO-15b above.

BIO-16: Compensate for the loss of riparian habitat

For the text of Mitigation Measure BIO-1a, please refer to the discussion of Impact BIO-16b above.

BIO-18: Compensate for the loss of wetlands

For the text of Mitigation Measure BIO-1a, please refer to the discussion of Impact BIO-18b above.

Remaining Impacts: Any remaining impact associated with conflict with local plans or policies will be less than significant.

Cultural Resources

Impact CUL-1: Cause a substantial adverse change in the significance of a historical resource

APWRA Issues to Consider: Are any historic architectural resources located in the project area?

Potential Impact: If historic-era resources are present in the project area, they could be adversely affected during Project-related earth-disturbing activities, such as excavation of tower foundations, cutting and filling of soils at and near the tower pad, trenching for power collection systems, and grading for roads and staging areas.

The results of the archaeological records search and survey showed that there are no historic-era resources that will be directly impacted by project construction, and that one historic-era resource is known near the area of direct Project impact.

A qualified Project Archaeologist should design a Cultural Resource Mitigation-monitoring Plan (CRMP) that guides how avoidance measures, application of Cultural BMP's, and the process for evaluating or avoiding resources uncovered without an archaeologist present will take place during construction. The CRMP must be written and submitted to the County prior to the start of the construction phase. Active construction monitoring is not recommended for this Project because the potential for impacting historic-era resources during construction is considered "low" because the field Survey showed that no cultural resource sites are located in the footprint of the current Project construction zone.

The historic-era resources that exist near the area of direct Project impact (site ARI#1) can be avoided by constructing a temporary fence (a Cultural BMP) that separates the resource's features from any grading areas.

Implementation of these measures will reduce this impact to a less-than-significant level because the site will be avoided and no ground disturbing activities will not occur in the area of the site.

Mitigation Measures: The following mitigation measures, discussed in Attachment A2: Checklist of Supporting Documents, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

CUL-1a: Avoid historic resources

CUL-1b: Appropriate recording of historic resources

CUL-

Findings: Based on the ,: Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures CUL-1a and CUL-1b will ensure that the impacts with the potential to cause a substantial adverse change in the significance of a historical resource will be mitigated to a less-than-significant level. Implementation of Mitigation Measure CUL-1a would reduce this impact to a less-than-significant level by amending project design to avoid a significant impact on the historic resource. If avoidance is not feasible, then the impact would be significant. Mitigation Measure CUL-1b would reduce such an impact to a less-than-significant level by recording the historic resource following the documentation standards and guidelines of the National Park Service's (NPS) Historic American Building Survey (HABS) or Historic American Engineering Record (HAER).The project applicant will be required to implement the following actions.

CUL-1a: Avoid historic resources

Where feasible, avoid historic resources in design and layout of a proposed project in the program area.

CUL-1b: Appropriate recording of historic resources

If Mitigation Measure CUL-1a is determined to be infeasible, the significantly affected historic resource should be recorded following the guidelines of National Park Service (NPS), Historic American Buildings Survey (HABS), or Historic American Engineering Record (HAER). The recordation documentation must be provided to NPS, the State Historic Preservation Officer, and local repositories as determined by Alameda County. The documentation with a HABS or HAER report will include written data, a photography record with large-format rectified photography, and, depending on the level of significance of the resource, an architectural drawing set. The standards for these recordation components are defined in NPS guidance, and the level of recordation is determined by Alameda County in consultation with other lead agencies, if required. There are three standard levels of HABS and HAER recordation defined by the NPS.

Remaining Impacts: Any remaining impact associated with a substantial adverse change in the significance of a historical resource will be less than significant.

Impact CUL-2: Cause a substantial adverse change in the significance of an archaeological resource

APWRA Issues to Consider: Will the project involve ground-disturbing activities?

Potential Impact: If archaeological resources are located in the Project area, they could be adversely affected during Project-related earth-disturbing activities such as: excavation of tower foundations, cutting and filling of soils at and near the tower pad, trenching for power collection systems, and grading for roads and staging areas.

The results of the survey (see Attachment A5) show there are no archaeological resources that will be directly impacted by project construction, but one resource (ALA-54) could be located near the Project footprint. This resource can be avoided by constructing a temporary fence that separates the resource's features from any grading or trenching areas.

A qualified Project Archaeologist should design a Cultural Resource Mitigation-monitoring Plan (CRMP) that guides how avoidance measures, application of Cultural BMP's, and the process for evaluating or avoiding resources uncovered without an archaeologist present shall take place. This must be written and submitted to the County prior to the start of the construction phase. Active construction monitoring is not

recommended for this project because the potential for impacting archaeological resources during construction is considered "low."

Implementation of these measures will reduce this impact to a less-than-significant level because appropriate avoidance measures, BMPs and procedures will be identified and implemented to avoid resource impacts.

Mitigation Measures: The following mitigation measures, discussed in Attachment A2: Checklist of Supporting Documents, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

CUL-2a: Conduct a preconstruction cultural field survey and cultural resources inventory and evaluation

CUL-2b: Develop a treatment plan for any identified significant cultural resources

CUL-2c: Conduct worker awareness training for archaeological resources prior to construction

CUL-2d: Stop work if cultural resources are encountered during ground-disturbing activities

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures CUL-2a, CUL-2b, CUL-2c, and CUL-2d will ensure that the impacts with the potential to cause a substantial adverse change in the significance of an archaeological resource will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

CUL-2a: Conduct a preconstruction cultural field survey and cultural resources inventory and evaluation

Alameda County will require applicants to retain qualified personnel to conduct an archaeological field survey of the program area to determine whether significant resources exist within the program area. The inventory and evaluation will include the documentation and result of these efforts, the evaluation of any cultural resources identified during the survey, and cultural resources monitoring, if the survey identifies that it is necessary.

CUL-2b: Develop a treatment plan for any identified significant cultural resources

If any significant resources are identified through the preconstruction survey, a treatment plan that could include site avoidance, capping, or data recovery will be developed and implemented.

CUL-2c: Conduct worker awareness training for archaeological resources prior to construction

Prior to the initiation of any site preparation and/or the start of construction, the project applicant will ensure that all construction workers receive training overseen by a qualified professional archaeologist who is experienced in teaching non-specialists, to ensure that forepersons and field supervisors can recognize archaeological resources (e.g., areas of shellfish remains, chipped stone or ground-stone, historic debris, building foundations, human bone) in the event that any are discovered during construction.

CUL-2d: Stop work if cultural resources are encountered during ground-disturbing activities

The project applicant will ensure that construction specifications include a stop-work order if prehistoric or historic-era cultural resources are unearthed during ground-disturbing activities. If such resources are encountered, the project applicant will immediately halt all activity within 100 feet of the find until a qualified archaeologist can assess the significance of the find. Prehistoric materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or tool-making debris; culturally darkened soil ("midden") containing heat-affected rocks and artifacts; stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered-stone tools, such as hammerstones and pitted stones. Historic period materials might include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. If the find is determined to be potentially significant, the archaeologist, in consultation with the Native American representative (if appropriate), will develop a treatment plan that could include site avoidance, capping, or data recovery.

Remaining Impacts: Any remaining impact associated with a substantial adverse change in the significance of an archaeological resource will be less than significant.

Impact CUL-3: Disturb any human remains, including those interred outside of formal cemeteries

APWRA Issues to Consider: Will the project involve ground-disturbing activities

Potential Impact: The results of the survey show there are no known human remains that will be directly impacted by Project construction. However, it is possible that human remains could be uncovered during Project construction.

Mitigation Measure: The following mitigation measure discussed in Attachment A2: Checklist of Supporting Documents, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

CUL-3: Stop work if human remains are encountered during ground-disturbing activities

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure CUL-3 will ensure that the impacts with the potential to disturb human remains will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

CUL-3: Stop work if human remains are encountered during ground-disturbing activities

The project applicant will ensure the construction specifications include a stop-work order if human remains are discovered during construction or demolition. There will be no further excavation or disturbance of the site within a 100-foot radius of the location of such discovery, or any nearby area reasonably suspected to overlie adjacent remains. The Alameda County Coroner will be notified and will make a determination as to whether the remains are Native American. If the Coroner determines that the remains are not subject to his authority, he will notify the Native American Heritage Commission (NAHC), who will attempt to identify descendants of the deceased Native American. If no satisfactory agreement can be reached as to the disposition of the remains pursuant to this state law, then the landowner will re-inter the human remains and items associated with Native American burials on the property in a location not subject to further subsurface disturbance. A final report will be submitted to Alameda County. This report will contain a description of the mitigation program and its results, including a description of the monitoring and testing resources analysis methodology and conclusions and a description of the disposition/curation of the resources.

Remaining Impacts: Any remaining impact associated with disturbance of human remains will be less than significant.

Geology, Soils, Mineral Resources, and Paleontological Resources

Impact GEO-1b: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, as a result of rupture of a known earthquake fault

APWRA Issues to Consider: Will the project involve construction activities?

Potential Impact: Placement of a turbine or power collection system on or near a fault could result in damage or destruction of the turbine. If a turbine were constructed on or near a fault, rupture of that fault could damage a turbine or cause harm to personnel on the site. The turbine could be damaged or collapse and possibly injure personnel or property in the immediate area. The daily operation and periodic maintenance of the facility does not require continuous occupation of the site by workers. Thus, the risk of injury to personnel is minimized.

Detailed, site-specific geotechnical investigations will reveal the location of fault traces in the area. Turbine foundation and power collection system design and construction details will be developed and implemented based on the investigation so that chance of damage to or collapse of the turbines or collection system resulting from a seismic event will be minimized.

Mitigation Measures: The following mitigation measure, discussed in Attachment A2: Checklist of Supporting Documents, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

GEO-1: Conduct site-specific geotechnical investigation and implement design recommendations in subsequent geotechnical report

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure GEO-1 will ensure that the impacts with the potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, as a result of rupture of a known earthquake fault will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

GEO-1: Conduct site-specific geotechnical investigation and implement design recommendations in subsequent geotechnical report

Prior to construction activities at any site, the project proponent will retain a geotechnical firm with local expertise in geotechnical investigation and design to prepare a site-specific geotechnical report. This report will be prepared by a licensed geotechnical engineer or engineering geologist and will be submitted to the County building department as part of the approval process. This report will be based on data collected from subsurface exploration, laboratory testing of samples, and surface mapping and will address the following issues.

- Potential for surface fault rupture and turbine site location: The geotechnical report will investigate the Greenville, Corral Hollow-Carnegie, and the Midway faults (as appropriate to the

location) and determine whether they pose a risk of surface rupture. Turbine foundations and power collection systems will be sited according to recommendations in this report.

- Strong ground shaking: The geotechnical report will analyze the potential for strong ground shaking in project area and provide turbine foundation design recommendations, as well as recommendations for power collection systems.
- Slope failure: The geotechnical report will investigate the potential for slope failure (both seismically and non-seismically induced) and develop site-specific turbine foundation and power collection system plans engineered for the terrain, rock and soil types, and other conditions present at the program area in order to provide long-term stability.
- Expansive soils: The geotechnical report will assess the soil types in the program area and determine the best engineering designs to accommodate the soil conditions.

Unstable cut or fill slopes: The geotechnical report will address geologic hazards related to the potential for grading to create unstable cut or fill slopes and make site-specific recommendations related to design and engineering.

Remaining Impacts: Any remaining impact associated with the exposure of people or structures to potential substantial adverse effects will be less than significant.

Impact GEO-2b: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, as a result of strong seismic ground shaking

APWRA Issues to Consider: Will the project involve construction activities?

Potential Impact: Construction of turbines or power collection systems in areas with potential to experience strong ground shaking could expose people or structures to potential substantial adverse effects. As noted above, detailed site-specific geotechnical investigations will reveal the location of fault traces in the area to inform design details which will minimize potential harm to personnel or property.

The range of potential shaking intensity resulting from a seismic event in the Project is identical to those intensities potentially experienced in the program area, from low to high. The potential damage and harm that could result from moderately strong ground shaking will be a significant impact.

Both the State of California and Alameda County have stringent building safety requirements, and all construction will have to comply with the CBSC. However, this may not address all seismic-related safety issues. If the turbine foundation and power collection system design and construction were not based on rigorous, detailed, site-specific geotechnical investigation, the foundation or collection system could fail during strong ground shaking and cause damage to or collapse of the turbine or collection system.

Mitigation Measures: The following mitigation measure, discussed in Attachment A2: Checklist of Supporting Documents, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

GEO-1: Conduct site-specific geotechnical investigation and implement design recommendations in subsequent geotechnical report

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure GEO-1 will ensure that the impacts with the potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, as a result of strong seismic ground shaking

will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

GEO-1: Conduct site-specific geotechnical investigation and implement design recommendations in subsequent geotechnical report

For the text of Mitigation Measure GEO-1, please refer to the discussion of Impact GEO-1 above.

Remaining Impacts: Any remaining impact associated with the exposure of people or structures to potential substantial adverse effects will be less than significant.

Impact GEO-3: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, as a result of seismic-related ground failure, including landsliding and liquefaction

APWRA Issues to Consider: Will the project involve construction activities?

Potential Impact: Construction of turbines or power collection systems in areas with potential to experience seismic- related ground failure, such as landsliding, liquefaction, lateral spread, and differential settlement, could expose people or structures to potential substantial adverse effects. If turbine foundations or power collection systems are not properly designed and sited for the earthquake-induced ground failure conditions present at the project area, they could fail and cause damage to or collapse of the turbine towers or collection system. This damage or collapse could cause harm to personnel or property in the immediate area.

Both the State of California and Alameda County have stringent building safety requirements, and all construction will have to comply with the CBSC. However, this may not address all seismic-related ground failure issues.

Mitigation Measure: The following mitigation measure, discussed in Attachment A2: Checklist of Supporting Documents, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

GEO-1: Conduct site-specific geotechnical investigation and implement design recommendations in subsequent geotechnical report

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure GEO-1 will ensure that the impacts with the potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, as a result of seismic-related ground failure, including landsliding and liquefaction will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

GEO-1: Conduct site-specific geotechnical investigation and implement design recommendations in subsequent geotechnical report

For the text of Mitigation Measure GEO-1, please refer to the discussion of Impact GEO-1 above.

Remaining Impacts: Any remaining impact associated with the exposure of people or structures to potential substantial adverse effects will be less than significant.

Impact GEO-4: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, as a result of landsliding

APWRA Issues to Consider: Will the project involve construction activities?

Potential Impact: In addition to the seismic-related ground failure described in impact GEO-3, construction of turbines or power collection systems in areas with potential to experience non-seismic-related landsliding caused by heavy precipitation could also expose people or structures to potential substantial adverse effects. If turbine foundations or power collection systems were not properly designed and sited for the landsliding conditions present at the project area, they could fail and cause damage to or collapse of the turbine towers or collection system. This damage or collapse could cause harm to personnel or property in the immediate area. The program area, including the Summit project area, is in steep, hilly terrain in an area known to be susceptible to landsliding. The potential damage and harm that could result from landsliding will be a significant impact.

Both the State of California and Alameda County have stringent building safety requirements, and all construction will have to comply with the CBSC. However, this may not address all seismic-related landsliding issues. If the turbine foundation and power collection system design and construction are not based on rigorous, detailed, site-specific geotechnical investigation, the foundation or collection system could fail as a result of landsliding and cause damage to or collapse of the turbine or collection system.

Mitigation Measure: The following mitigation measure, discussed in Attachment A2: Checklist of Supporting Documents, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

GEO-1: Conduct site-specific geotechnical investigation and implement design recommendations in subsequent geotechnical report

Findings: Based on the Checklist of Supporting Documents, and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure GEO-1 will ensure that the impacts with the potential to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, as a result of landsliding will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

GEO-1: Conduct site-specific geotechnical investigation and implement design recommendations in subsequent geotechnical report

For the text of Mitigation Measure GEO-1, please refer to the discussion of Impact GEO-1b above.

Remaining Impacts: Any remaining impact associated with the exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, as a result of landsliding, will be less than significant.

Impact GEO-6: Be located on expansive soil, creating substantial risks to life or property

APWRA Issues to Consider: Will the project involve construction activities?

Potential Impact: There is potential for the Project to be located on expansive soils. Turbine foundations built on expansive soils will be subject to the expansion and contraction of these soils, which could cause damage to structures if the subsoil, drainage, and foundation are not properly engineered. A Geotechnical Investigation will be completed for the Project and submitted to Alameda County Building Department prior to construction, and the results will be incorporated into the design of the turbines as detailed in Mitigation Measure GEO-1. Soil sampling and treatment procedures are addressed by state and local building codes. Compliance with these codes and implementation of Mitigation Measure GEO-1 will ensure that this is a less-than-significant impact.

Mitigation Measure: The following mitigation measure, discussed in Attachment A2: Checklist of Supporting Documents, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

GEO-1: Conduct site-specific geotechnical investigation and implement design recommendations in subsequent geotechnical report

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure GEO-1 will ensure that the impacts associated with being located on expansive soil, including risks to life and property, as a result of landsliding will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

GEO-1: Conduct site-specific geotechnical investigation and implement design recommendations in subsequent geotechnical report

For the text of Mitigation Measure GEO-1, please refer to the discussion of Impact GEO-1b above.

Remaining Impacts: Any remaining impact associated with being located on expansive soil will be less than significant.

Impact GEO-7: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature

APWRA Issues to Consider: Will the project involve ground-disturbing earthwork associated with construction?

Potential Impact: If fossils are present in the project area, they could be damaged by during earth-disturbing activities during construction activities, such as excavation for foundations, placement of fills, trenching for power collection systems, and grading for roads and staging areas. Paleontological resource damage is dependent on potential occurrence within geologic units and the extent to which earth disturbing activities occur.

The archaeological survey report (see Attachment A5) included an analysis of the fossil bearing rock formations in and near the Project area. In addition, fossils were observed during the survey. The results of the analysis showed that there are paleontologic resources that are likely to be directly impacted by Project construction, but only in relatively undisturbed areas. The implementation of a Paleontologic Resource Mitigation-monitoring Plan (PRMP) will reduce the potential impacts to a less-than-significant level.

Implementation of Mitigation Measure PAL-5 (see Attachment A5) will reduce this impact to a less-than-significant level because areas of "high potential' for paleontological resources will be identified and monitoring measure will be identified and implemented.

Mitigation Measures: The following mitigation measures, discussed in Attachment A2: Checklist of Supporting Documents, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

GEO-7a: Retain a qualified professional paleontologist to monitor significant ground-disturbing activities

GEO-7b: Educate construction personnel in recognizing fossil material

GEO-7c: Stop work if substantial fossil remains are encountered during construction

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures GEO-7a, GEO-7b, and GEO-7c will ensure that the impacts associated with directly or indirectly destroying a unique paleontological resource or site or unique geologic feature will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

GEO-7a: Retain a qualified professional paleontologist to monitor significant ground-disturbing activities

The applicant will retain a qualified professional paleontologist as defined by the Society of Vertebrate Paleontology's Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (2010) to monitor activities with the potential to disturb sensitive paleontological resources. Data gathered during detailed project design will be used to determine the activities that will require the presence of a monitor. In general, these activities include any ground-disturbing activities involving excavation deeper than 3 feet in areas with high potential to contain sensitive paleontological resources. Recovered fossils will be prepared so that they can be properly documented. Recovered fossils will then be curated at a facility that will properly house and label them, maintain the association between the fossils and field data about the fossils' provenance, and make the information available to the scientific community.

GEO-7b: Educate construction personnel in recognizing fossil material

The applicant will ensure that all construction personnel receive training provided by a qualified professional paleontologist experienced in teaching non-specialists to ensure that they can recognize fossil materials in the event any are discovered during construction.

GEO-7c: Stop work if substantial fossil remains are encountered during construction

If substantial fossil remains (particularly vertebrate remains) are discovered during earth disturbing activities, activities within 100 feet of the find will stop immediately until a state-registered professional geologist or qualified professional paleontologist can assess the nature and importance of the find and a qualified professional paleontologist can recommend appropriate treatment. Treatment may include preparation and recovery of fossil materials so that they can be housed in an appropriate museum or university collection and may also include preparation of a report for publication describing the finds.

The applicant will be responsible for ensuring that recommendations regarding treatment and reporting are implemented.

Remaining Impacts: Any remaining impact associated with destruction of paleontological resources will be less than significant.

Greenhouse Gas Emissions

Impact GHG-2b: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases

APWRA Issues to Consider: Will the project use vehicles that emit greenhouse gases?

Potential Impact: The Project will use vehicles that emit greenhouse gasses, causing conflicts with certain GHG reduction goals set forth in AB 32, including the 39 Recommended Actions identified by the Air Resource Board (ARB) in its Climate Change Scoping Plan (California Air Resources Board 2008b). These potential conflicts are the same as the program presented in the FPEIR, Section 3.7.2, "Environmental Impacts", "Scoping Plan Measures T-7, E-3, and H-6". Consistency of the Project with these measures is reflected in the evaluation of the program by each source-type measure above. Implementation of Mitigation Measure GHG-2a will ensure that the Project will not conflict with implementation of Measure T-7.

The Project could also conflict with GHG reduction goals set forth in the Alameda County Final Draft Climate Action Plan, including the 39 Recommended Actions identified by ARB in its Climate Change Scoping Plan. These potential conflicts are the same as presented for the program (see FPEIR, Section 3.7.2, "Environmental Impacts", "Impacts and Mitigation Measures"). Consistency of the Project with these measures is reflected in the evaluation of the program by each source-type measured in the FPEIR. Implementation of Mitigation Measure GHG-2c will ensure that the Project will not conflict with implementation of CCAP Measure E-10.

Mitigation Measures: The following mitigation measures, discussed in Attachment A2: Checklist of Supporting Documents, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

GHG-2a: Implement best available control technology for heavy-duty vehicles

GHG-2b: Install low SF6 leak rate circuit breakers and monitoring

GHG-2c: Require new construction to use building materials containing recycled content

GHG-2d: Comply with construction and demolition debris management ordinance

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures GHG-2a, GHG-2b, GHG-2c, and GHG-2d will ensure that the impacts associated with a conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

GHG-2a: Implement best available control technology for heavy-duty vehicles

The applicant will require existing trucks/trailers to be retrofitted with the best available technology and/or ARB-approved technology consistent with the ARB Truck and Bus Regulation (California Air Resources Board 2011). The ARB Truck and Bus Regulation applies to all diesel-fueled trucks and buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds.

Starting January 1, 2015, the applicant must replace lighter trucks (GVWR of 14,001 to 26,000 pounds) with engines that are 20 years or older with newer trucks. The Applicant has the option to install a PM filter retrofit on a lighter truck by 2014 to make the truck exempt from replacement until January 1, 2020, and any lighter truck equipped with a PM filter retrofit prior to July 2011 would receive credit toward the compliance requirements for a heavier truck or bus in the same fleet.

Starting January 1, 2012, the applicant is required to meet the engine model year schedule shown below for heavier trucks (GVWR greater than 26,000 pounds). To comply with the schedule, the applicant will install the best available PM filter on 1996 model year and newer engines and would replace the vehicle 8 years later. The Applicant will replace trucks with 1995 model year and older engines starting in 2015. Replacements with 2010 model year or newer engines meets the final requirements, but the applicant could also replace trucks with used trucks that would have a future compliance date on the schedule. For example, a replacement with a 2007 model year engine complies until 2023. By 2023 all trucks and buses must have 2010 model year engines with few exceptions.

Engine Model Year Schedule for Heavier Trucks

Engine Year	Requirement from January 1
Pre-1994	No requirements until 2015, then 2010 engine
1994–1995	No requirements until 2016, then 2010 engine
1996–1999	PM filter from 2012 to 2020, then 2010 engine
2000–2004	PM filter from 2013 to 2021, then 2010 engine
2005–2006	PM filter from 2014 to 2022, then 2010 engine
2007–2009	No requirements until 2023, then 2010 engine
2010	Meets final requirements

Phase-In Option for Heavier Trucks

Compliance Date	Vehicles with PM Filters
1-Jan-12	30%
1-Jan-13	60%
1-Jan-14	90%
1-Jan-15	90%
1-Jan-16	100%

In addition, the applicant could comply with a phase-in option that would allow the applicant to decide which vehicles to retrofit or replace, regardless of engine model year. The applicant must report information about all heavier trucks starting January 31, 2012, to use this option.

The Applicant could comply by demonstrating that trucks have met the percentage requirement each year as shown in the table below. For example, by 2012 the applicant's fleet would need to have PM filters on 30% of the heavier trucks in the fleet. This option counts 2007 model year and newer engines originally equipped with PM filters toward compliance and would reduce the overall number of retrofit PM filters needed. Any engine with a PM filter regardless of model year would be compliant until at least 2020. Beginning January 1, 2020, all heavier trucks would need to meet the requirements specified in the Compliance Schedule for Heavier Trucks.

GHG-2b: Install low SF6 leak rate circuit breakers and monitoring

The applicant will ensure that any new circuit breaker installed at a substation has a guaranteed SF6 leak rate of 0.5% by volume or less. The applicant will provide Alameda County with documentation of compliance, such as specification sheets, prior to installation of the circuit breaker. In addition, the applicant will monitor the SF6-containing circuit breakers at the substation consistent with Scoping Plan Measure H-6 for the detection and repair of leaks.

GHG-2c: Require new construction to use building materials containing recycled content

The applicant will require the construction of all new substation and other permanent buildings to incorporate materials for which the sum of post-consumer recycled content plus one-half of the post-industrial content constitutes at least 10% of the total value of the materials in the project.

GHG-2d: Comply with construction and demolition debris management ordinance

The applicant will comply with the County's revised Green Building Ordinance regarding construction and demolition debris as follows: (1) 100% of inert waste and 50% wood/vegetative/scrap metal, not including Alternative Daily Cover and unsalvageable material, will be put to other beneficial uses at landfills, and (2) 100% of inert materials (concrete and asphalt) will be recycled or put to beneficial reuse.

Remaining Impacts: Any remaining impact associated with conflict with applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases will be less than significant.

Hazards and Hazardous Materials

Impact HAZ-4b Location on a hazardous materials site, creating a significant hazard to the public or the environment

APWRA Issues to Consider: Will the project involve soil disturbance?

Potential Impact: Based upon review of database search of regulatory agency lists, a hazardous materials site is located within the Project area. The reported site is a closed Spill; Leak, Investigation, and Cleanup (SLIC) case of mineral oil used as a coolant for transformers described as a light napththenic hydrotreated distillate and is reportedly considered to have low toxicity (Alameda County Environmental Health 2014).

A review of the mapped locations in California for the occurrence of ultramafic rocks, which have the highest potential for serpentine, revealed that the Project site is not near these mapped locations, and therefore, the potential for encountering naturally occurring asbestos during construction is considered very low (Churchill & Hill 2000).

Land uses in the Project area include agriculture, grazing, riding and hiking trails, and windfarms. Some of these land uses involve the use of potentially hazardous materials (e.g., fertilizer). Because soil disturbance will be involved in construction activities for both decommissioning activities and construction of the proposed Project, any contaminated soil found could represent a significant risk to human health and the environment. This impact will be significant, but implementation of Mitigation Measure HAZ-4 will reduce this impact to a less-than-significant level.

All projects requiring a Conditional Use Permit (CUP) from the County will be bound by the program, see FPEIR. Therefore, future repowering projects will require County permit approval of new CUPs, and Mitigation Measure HAZ-4 will become a standard condition of approval for the CUP.

Mitigation Measure: The following mitigation measure, discussed in Attachment A2: Checklist of Supporting Documents, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

HAZ-4: Perform a Phase I Environmental Site Assessment prior to construction activities and remediate if necessary

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure HAZ-4 will ensure that the impacts associated with locating on a hazardous materials site creating a significant hazard to the public or the environment will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

HAZ-4: Perform a Phase I Environmental Site Assessment prior to construction activities and remediate if necessary

Prior to construction, the project proponent will conduct a Phase I environmental site assessment in conformance with the American Society for Testing and Materials Standard Practice E1527-05. All environmental investigation, sampling, and remediation activities associated with properties in the project area will be conducted under a work plan approved by the regulatory oversight agency and will be conducted by the appropriate environmental professional consistent with Phase I site assessment requirements as detailed below. The results of any investigation and/or remediation activities conducted in the project area will be included in the project-level EIR.

- A Phase I environmental site assessment should, at a minimum, include the components listed below.
- An onsite visit to identify current conditions (e.g., vegetative dieback, chemical spill residue, presence of above- or underground storage tanks).
- An evaluation of possible risks posed by neighboring properties.
- Interviews with persons knowledgeable about the site's history (e.g., current or previous property owners, property managers).
- An examination of local planning files to check prior land uses and any permits granted.
- File searches with appropriate agencies (e.g., State Water Resources Control Board, fire department, County health department) having oversight authority relative to water quality and groundwater and soil contamination.
- Examination of historical aerial photography of the site and adjacent properties.
- A review of current and historic topographic maps of the site to determine drainage patterns.
- An examination of chain-of-title for environmental liens and/or activity and land use limitations.

If the Phase I environmental site assessment indicates likely site contamination, a Phase II environmental site assessment will be performed (also by an environmental professional).

A Phase II environmental site assessment would comprise the following.

- Collection of original surface and/or subsurface samples of soil, groundwater, and building materials to analyze for quantities of various contaminants.
- An analysis to determine the vertical and horizontal extent of contamination (if the evidence from sampling shows contamination).

If contamination is uncovered as part of Phase I or II environmental site assessments, remediation will be required. If materials such as asbestos-containing materials, lead-based paint, or PCB-containing equipment are identified, these materials will be properly managed and disposed of prior to or during the demolition process.

Any contaminated soil identified on a project site must be properly disposed of in accordance with Department of Toxic Substances Control regulations in effect at the time.

Hazardous wastes generated by the proposed project will be managed in accordance with the California Hazardous Waste Control Law (HSC, Division 20, Chapter 6.5) and the Hazardous Waste Control Regulation (Title 22, CCR, Division 4.5).

If, during construction/demolition of structures, soil or groundwater contamination is suspected, the construction/demolition activities will cease and appropriate health and safety procedures will be implemented, including the use of appropriate personal protective equipment (e.g., respiratory protection, protective clothing, helmets, and goggles).

Remaining Impacts: Any remaining impact associated with location on a hazardous materials site creating a significant hazard to the public or the environment will be less than significant.

Impact HAZ-5: Location within an airport land use plan area or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, resulting in a safety hazard for people residing or working in the project area

APWRA Issues to Consider: Will the project be located in the Byron Airport influence area?

Potential Impact: The closest public airport to the proposed Project is the Byron Airport which is located approximately 3.72 miles northeast of the Project area. Because the Project area is not within 2 miles of a public airport, implementing the proposed Project will not result in a safety hazard for people residing or working in the Project area because turbines will not impede into the anticipated glide path approach of an airport. Also, as discussed in FPEIR, Chapter 2, "Project Description", Section 2.5.3, "Repowering Activities", "Lighting", all repower wind turbines will require FAA lighting as they are all more than 200 feet tall and must be individually lit with obstruction lighting. Through its Notice of Proposed Construction or Alteration (Form 7460.1), the FAA will review the proposed Project prior to construction (14 CFR Part 77). The FAA analysis will include a review of proposed marking (paint scheme) and nighttime lighting to ensure that aircraft could readily identify and avoid the wind turbines. Compliance with FAA requirements will reduce the Project's potential aviation safety impacts to an acceptable level of risk and therefore to a less-than-significant level.

Mitigation Measure: The following mitigation measure, discussed in Attachment A2: Checklist of Supporting Documents, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

HAZ-5: Coordinate with the Contra Costa ALUC prior to final design

Findings: Based on the Checklist of Supporting Documents, and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure HAZ-5 will ensure that the impacts associated with locating within an airport land use plan area or within 2 miles of a public airport or public use airport and any resultant safety hazard for people residing or working in the project area will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

HAZ-5: Coordinate with the Contra Costa ALUC prior to final design

If wind turbines are proposed to be constructed within the Byron Airport influence area zones, the project proponent will coordinate and consult with the Contra Costa County Airport Land Use Commission (ALUC) and request review and obtain approval of the final design and placement of wind turbines. In addition, the project proponent will incorporate any ALUC recommendations in to the final design.

Remaining Impacts: Any remaining impact associated with an airport-related safety hazard will be less than significant.

Impact HAZ-7b: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan

APWRA Issues to Consider: Will the project increase vehicular traffic?

Potential Impact: Existing vehicular traffic is associated with operations and maintenance of project facilities and is not anticipated to change under the proposed Project. Accordingly, operation of the Project will have no impact. During construction, there will be an increase in vehicular traffic transporting work crews, equipment, and materials. A Traffic Management Plan (TMP) has been prepared for the proposed Project to reduce hazards that could result from the increased truck traffic and to ensure that traffic flow on local public roads and highways will not be adversely affected (See Attachment A9). This plan will incorporate measures such as informational signs, traffic cones, and flashing lights to identify any necessary changes in temporary land configuration. Flaggers with two-way radios will be used to control construction traffic and reduce the potential for accidents along roads. Speed limits will be set commensurate with road type, traffic volume, vehicle type, and site-specific conditions as necessary to ensure safe and efficient traffic flow. Any part of the Project proposed within the unincorporated area of the county are reviewed by the Alameda County Fire Department during the building permit process to ensure that they are consistent with adopted emergency response plans and emergency evacuation plans. Consequently, the proposed Project will not conflict with any adopted emergency response plan or emergency evacuation plan. Finally, conveyance of decommissioned turbines, towers and other components on public roads will occur at an irregular, infrequent rate, and will be subject to standard Caltrans regulations. Such conveyance will not hinder emergency access to the Project area.

Mitigation Measures: The following mitigation measure, discussed in Attachment A2: Checklist of Supporting Documents, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

TRA-1: Develop and implement a construction traffic control plan

Findings: Based on the Checklist of Supporting Documents, and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure TRA-1will ensure that any impacts that would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

TRA-1: Develop and implement a construction traffic control plan

Prior to starting construction-related activities, the Applicant shall prepare and implement a Traffic Control Plan (TCP) that will reduce or eliminate impacts associated with the proposed program. The TCP shall adhere to Alameda County and Caltrans requirements, and must be submitted for review and approval of the County Public Works Department prior to implementation. The TCP shall include the following elements. The County and Caltrans may require additional elements to be identified during their review and approval of the TCP.

- Schedule construction hours to minimize concentrations of construction workers commuting to/from the project site during typical peak commute hours (7 a.m. to 9 a.m. and 4 p.m. to 6 p.m.).
- Limit truck access to the project site during typical peak commute hours (7 a.m. to 9 a.m. and 4 p.m. to 6 p.m.).
- Require that written notification be provided to contractors regarding appropriate haul routes to and from the program area, as well as the weight and speed limits on local county roads used to access the program area.
- Provide access for emergency vehicles to and through the program area at all times.
- When lane/road closures occur during delivery of oversized loads, provide advance notice to local fire, police, and emergency service providers to ensure that alternative evacuation and emergency routes are designated to maintain service response times.
- Provide adequate onsite parking for construction trucks and worker vehicles.
- Require suitable public safety measures in the program area and at the entrance roads, including fences, barriers, lights, flagging, guards, and signs, to give adequate warning to the public of the construction and of any dangerous conditions that could be encountered as a result thereof.
- Complete road repairs on local public roads as needed during construction to prevent excessive deterioration. This work may include construction of temporary roadway shoulders to support any necessary detour lanes.
- Repair or restore the road right-of-way to its original condition or better upon completion of the work.
- Coordinate program-related construction activities, including schedule, truck traffic, haul routes, and the delivery of oversized or overweight materials, with Alameda County, Caltrans, and affected cities to identify and minimize overlap with other area construction projects.

Remaining Impacts: Any remaining impact associated with interference with an adopted emergency response plan or emergency evacuation plan will be less than significant.

Hydrology and Water Quality

Impact WQ-1b: Violate any water quality standards or waste discharge requirements

APWRA Issues to Consider: Will the project involve earth-disturbing activities?

Potential Impact: Construction-related, earth-disturbing activities associated with the Project will introduce the potential for increased erosion and sedimentation, with subsequent effects on drainage

and water quality. During construction, trenching and other construction activities create areas of bare soil that can be exposed to erosive forces for extended periods of time. Bare soils are much more likely to erode than vegetated areas because of the lack of dispersion, infiltration, and retention properties created by covering vegetation. Construction activities involving soil disturbance, excavation, cutting/filling, stockpiling, and grading could result in increased erosion and sedimentation to surface waters, if proper best management practices (BMPs) are not used.

While existing activities at the Project area may already result in the release of sediment, the extent of earth disturbance resulting from construction of the Project is anticipated to result in a new and intensified potential for the release of sediments due to staging areas and turbine construction sites. If precautions are not taken to contain or capture sedimentation, earth-disturbing construction activities could result in substantial sedimentation in stormwater runoff and result in a significant impact on existing surface water quality.

Mitigation Measure: The following mitigation measure, discussed in Attachment A2: Checklist of Supporting Documents, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

WQ-1: Comply with NPDES requirements

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure WQ-1 will ensure that any impacts that would violate any water quality standards or waste discharge requirements will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

WQ-1: Comply with NPDES requirements

For the text of Mitigation Measure WQ-1, please refer to the discussion of Impact BIO-2b above.

Remaining Impacts: Any remaining impact associated with violation of any water quality standards or waste discharge requirements will be less than significant.

Impact WQ-3b: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite

APWRA Issues to Consider: Will the project involve construction activities?

Potential Impact: The Project will not construct any turbines within existing drainage areas and the Project footprints will be designed to not cause any downstream erosion during the storm season. In addition, the proposed Project will be required to adhere to the NPDES Construction General Permit.

Although road improvements will result in a roughly 30 percent increase in the extent of graveled surfaces (which can result in increased runoff) from the extent of existing graveled roads, the soils underlying the Project area are predominantly high runoff soils (i.e., Hydrologic Soil Group D) (Soil Conservation Service 1966, 1977). Compacted gravel roads have runoff potential similar to that of Hydrologic Soil Group D soils. Consequently, the expanded graveled roads will not result in a net increase in runoff potential than presently exists in the native soils where the new gravel will be placed. Accordingly, because the runoff will not increase as a result of the widened gravel roads, there will not

be an increase in flooding onsite or offsite. In addition, the Project will be required to adhere to the NPDES stormwater Construction General Permit, which requires that post construction runoff management measures be implemented in the event that the Project's SWPPP determines that the Project could cause an increase in peak runoff flows from the Project area.

Mitigation Measure: The following mitigation measure, discussed in Attachment A2: Checklist of Supporting Documents, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

WQ-1: Comply with NPDES requirements

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure WQ-1 will ensure that any impacts that would substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

WQ-1: Comply with NPDES requirements

For the text of Mitigation Measure WQ-1, please refer to the discussion of Impact BIO-2b above.

Remaining Impacts: Any remaining impact associated with substantially altering the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite will be less than significant.

Impact WQ-4b: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite

***APWRA Issues to Consider: Will the project involve construction activities*?**

Potential Impact: Project turbine construction will not result in the substantial alteration of drainage patterns or the course of any stream. New turbines will occupy a maximum of approximately 6 acres of impervious surfaces. 511 existing turbine foundations will be removed and replaced by a maximum of 33 turbines, resulting in a net reduction of impervious surface.

Mitigation Measure: The following mitigation measure, discussed in Attachment A2: Checklist of Supporting Documents, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

WQ-1: Comply with NPDES requirements

Findings: Based on the Checklist of Supporting Documents, and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure WQ-1 will ensure that any impacts that would substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate

or amount of surface runoff in a manner that would result in flooding onsite or offsite will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

WQ-1: Comply with NPDES requirements

For the text of Mitigation Measure WQ-1, please refer to the discussion of Impact BIO-2b above.

Remaining Impacts: Any remaining impact associated with substantial alteration of the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite will be less than significant.

Impact WQ-5b: Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff

APWRA Issues to Consider: Will the project be constructed in an area with stormwater drainage facilities? Will the project involve construction activities?

Potential Impact: The Project area does not currently have existing or planned stormwater drainage facilities and construction of the proposed Project will not exceed capacities or increase the rate of polluted runoff. However, construction could generate polluted runoff as soil will be stripped, bare areas will be exposed, and stormwater could cause sedimentation.

Mitigation Measure: The following mitigation measure, discussed in Attachment A2: Checklist of Supporting Documents, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

WQ-1: Comply with NPDES requirements

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure WQ-1 will ensure that any impacts that would create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

WQ-1: Comply with NPDES requirements

For the text of Mitigation Measure WQ-1, please refer to the discussion of Impact BIO-2b above.

Remaining Impacts: Any remaining impact that would create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff will be less than significant.

Impact WQ-6a-1: Otherwise substantially degrade water quality

APWRA Issues to Consider: Will the project involve construction activities?

Potential Impact: Although Mountain House Creek, a tributary of Old River, is listed as impaired for chloride and salinity, and Old River is impaired for chlorpyrifos, electrical conductivity, total dissolved solids, and low dissolved oxygen (State Water Resources Control Board 2010), the Project area does not currently have any substantial water quality issues or drainages that could carry a substantial amount of polluted runoff to receiving waters (see page 3.9-5 of the FPEIR). In addition, the operation of the Project is not anticipated to result in a substantial amount of additional runoff that could affect water quality. However, construction could generate polluted runoff as soil will be stripped, bare areas will be exposed, and stormwater could cause sedimentation.

Mitigation Measure: The following mitigation measure, discussed in Attachment A2: Checklist of Supporting Documents, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

WQ-1: Comply with NPDES requirements

Findings: Based on the in Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure WQ-1 will ensure that any impacts that would otherwise substantially degrade water quality will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

WQ-1: Comply with NPDES requirements

For the text of Mitigation Measure WQ-1, please refer to the discussion of Impact BIO-2b above.

Remaining Impacts: Any remaining impact that would otherwise substantially degrade water quality will be less than significant.

Impact WQ-10: Contribute to inundation by seiche, tsunami, or mudflow

APWRA Issues to Consider: Will the project involve construction activities?

Potential Impact: Because the Project is located in upland areas characterized by elevated, sloping topography and is located far from the ocean, the likelihood of a seiche or tsunami occurring is considered minimal. In addition, a mudflow is also highly unlikely, but could be possible in rolling hills if proper BMPs are not used during the construction process. Mudflows may occur if substantial areas of bare soil are exposed and saturated, the implementation of soil stabilizing measures will reduce the risk these mudflows by reducing runoff velocities and preventing soil displacement.

Mitigation Measure: The following mitigation measure, discussed in Attachment A2: Checklist of Supporting Documents, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

WQ-1: Comply with NPDES requirements

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure WQ-1 will ensure that any impacts that would contribute to inundation by seiche, tsunami, or mudflow will be

mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

WQ-1: Comply with NPDES requirements

For the text of Mitigation Measure WQ-1, please refer to the discussion of Impact BIO-2b above.

Remaining Impacts: Any remaining impact that would contribute to inundation by seiche, tsunami, or mudflow will be less than significant.

Noise

Impact NOI-1b: Exposure of residences to noise from new wind turbines

APWRA Issues to Consider: Will the project be located with approximately 2,000 feet of residences?

Potential Impact: Scattered, single-family rural residences are located within the Project boundary, including homes on both very large parcels (more than 100 acres) and comparatively small lots (less than 5 acres). Refer to Attachment A10 for the Project specific Noise Study. Single-family rural residences are mostly located along the west side of the Project area. Within the Project boundary, several residences along Altamont Pass Road are located as close as 600 feet from existing turbines. Several residences located along Dyer Road are within about 1,100 feet of existing turbines. No other residences are located within 1,500 feet of the existing turbines in the Project boundary.

As discussed in the FPEIR, Section 3.11.1, "Environmental Setting", "Existing Noise Conditions", there are no documented instances of wind turbines causing exceedance of noise standards in the existing CUPs. In addition, proposed modern turbines have several characteristics that reduce aerodynamic sound levels and make for quieter operations than the existing turbines. The modern turbines have relatively low rotational speeds and pitch control on the rotors, both of which reduce sound levels.

The noise prediction results in the FPEIR, Section 3.11-5, Table 3.11-5, however, indicate that residences located within about 1,750 feet of a group of turbines could be exposed to noise that exceeds 55 dBA (Ldn) or increases in noise greater than 5 dB. The noise prediction results in the FPEIR, Section 3.11.2, Table 3.11-6 also indicate that residences located within about 800 feet of a group of turbines could be exposed to noise that exceeds 70 decibels relative to the carrier (dBC) (Ldn). Because of the possibility that daily Ldn value caused by wind turbines could increase by more than 5 dB at locations where noise currently exceeds 55 dBA (Ldn), exposure of residences to noise in excess of 55 dBA (Ldn) where noise is currently less than 55 dBA (Ldn), or exposure of residences to noise in excess of 70 dBC (Ldn), this impact is considered to be significant.

Mitigation Measure: The following mitigation measure, discussed in Attachment A2: Checklist of Supporting Documents, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

NOI-1: Perform project-specific noise studies and implement measures to comply with County noise standards

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure NOI-1 will ensure that any impacts that would contribute exposure of residences to noise from new wind turbines will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

NOI-1: Perform project-specific noise studies and implement measures to comply with County noise standards

The applicant for any proposed repowering project will retain a qualified acoustic consultant to prepare a report that evaluates noise impacts associated with operation of the proposed wind turbines. This evaluation will include a noise monitoring survey to quantify existing noise conditions at noise sensitive receptors located within 2,000 feet of any proposed turbine location. This survey will include measurement of the daily A-weighted Ldn values over a 1-week period and concurrent logging of wind speeds at the nearest meteorological station. The study will include a site-specific evaluation of predicted operational noise levels at nearby noise sensitive uses. If operation of the project is predicted to result in noise in excess of 55 dBA (Ldn) where noise is currently less than 55 dBA (Ldn) or result in a 5 dB increase where noise is currently greater than 55 dBA (Ldn), the applicant will modify the project, including selecting new specific installation sites within the program area, to ensure that these performance standards will not be exceeded.

Methods that can be used to ensure compliance with these performance standards include but not limited to increasing the distance between proposed turbines and noise sensitive uses and the use of alternative turbine operational modes to reduce noise. Upon completion of the evaluation, the project applicant will submit a report to the County demonstrating how the project will comply with these performance standards. After review and approval of the report by County staff, the applicant will incorporate measures as necessary into the project to ensure compliance with these performance standards.

Remaining Impacts: Any remaining impact that would contribute to exposure of residences to noise from new wind turbines will be less than significant.

Impact NOI-2b: Exposure of residences to noise during decommissioning and new turbine construction

APWRA Issues to Consider: Will construction equipment be used within 800 feet of residences?

Potential Impact: In a number of instances, there are residences located within 800 feet of where turbine removal and restoration activities could occur. The results in the FPEIR, Section 3.11.2, Table 3.11-10, indicate that these activities could result in noise that exceeds Alameda County noise ordinance standards during nonexempt hours. This impact is therefore considered to be significant.

Mitigation Measure: The following mitigation measure, discussed in the Attachment A2: Checklist of Supporting Documents, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

NOI-2: Employ noise-reducing practices during decommissioning and new turbine construction

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure NOI-2 will ensure that any impacts that would contribute exposure of residences to noise during

decommissioning and new turbine construction will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

NOI-2: Employ noise-reducing practices during decommissioning and new turbine construction

Project applicants will employ noise-reducing construction practices so that construction noise does not exceed Alameda County noise ordinance standards. Measures to limit noise may include the following:

- Prohibit noise-generating activities before 7 a.m. and after 7 p.m. on any day except Saturday or Sunday, and before 8 a.m. and after 5 p.m. on Saturday or Sunday.
- Locate equipment as far as practical from noise sensitive uses.
- Require that all construction equipment powered by gasoline or diesel engines have sound-control devices that are at least as effective as those originally provided by the manufacturer and that all equipment be operated and maintained to minimize noise generation.
- Use noise-reducing enclosures around noise-generating equipment where practicable.
- Implement other measures with demonstrated practicability in reducing equipment noise upon prior approval by the County.

In no case will the applicant be allowed to use gasoline or diesel engines without muffled exhausts.

Remaining Impacts: Any remaining impact that would contribute to exposure of residences to noise during decommissioning and new turbine construction will be less than significant.

Transportation/Traffic

Impact TRA-1b: Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit or conflict with an applicable congestion management program, including, but not limited to, level-of-service standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways

APWRA Issues to Consider: Will the project construction or operation increase traffic? Will the project involve activities beyond those described in the PEIR?

Potential Impact: Construction traffic could cause a substantial traffic increase on the local county roads that provide direct access to the Project —e.g., Altamont Pass Road, Vasco Road, and Dyer Road— as these roads generally have low traffic volumes. The increase in traffic due to Project construction trips will range from 2 to 3 percent of AADT and from 5 to 8 percent of peak hour volumes on Altamont Pass Road. The substantial increase in traffic due to construction, especially during the AM and PM peak commute hours, could potentially cause degradation of traffic operation on these local Project access routes. The impact from increased traffic due to construction trips on the local roadway traffic operation is considered a significant impact.

Mitigation Measure: The following mitigation measure, discussed in the Attachment A2: Checklist of Supporting Documents, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

TRA-1: Develop and implement a construction traffic control plan

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure TRA-1 will ensure that any impacts that would conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

TRA-1: Develop and implement a construction traffic control plan

For the text of Mitigation Measure TRA-1, please refer to the discussion of Impact HAZ-7b above.

Remaining Impacts: Any remaining impact that would conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system will be less than significant.

Impact TRA-4b: Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) due to construction-generated traffic

APWRA Issues to Consider: Will the project involve large, slow-moving construction-related vehicles and equipment among the general-purpose traffic on roadways?

Potential Impact: Proposed Project ingress/egress to the Project area will be via Altamont Pass Road, Dyer Road, and Vasco Road. Minor intersection improvements will be implemented along these roads, as necessary, to allow for safe passage of the oversized vehicles and facilitate ingress/egress from local roads. Following road construction, all roads will be inspected to determine if and where any additional grading or additional gravel will be necessary to meet Alameda County road standards.

Regardless, the presence of large, slow-moving construction-related vehicles and equipment among the general-purpose traffic on roadways that provide access to the Project area could cause other drivers to act impatiently and create traffic safety hazards. In addition, the slow-moving trucks entering or exiting the Project area from public roads could pose a traffic hazard to other vehicles and increase the potential for turning movement collisions at the Project area entrance intersections. The creation of potential traffic safety hazards as a result of construction trucks will be a significant impact.

Mitigation Measure: The following mitigation measure, discussed in Attachment A2: Checklist of Supporting Documents, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

TRA-1: Develop and implement a construction traffic control plan

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure TRA-1 will ensure that any impacts that would substantially increase hazards because of a design feature or incompatible uses due to construction-generated traffic will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

TRA-1: Develop and implement a construction traffic control plan

For the text of Mitigation Measure TRA-1, please refer to the discussion of Impact HAZ-7b above.

Remaining Impacts: Any remaining impact that would substantially increase hazards because of a design feature or incompatible uses due to construction-generated traffic will be less than significant.

Impact TRA-5: Result in inadequate emergency access due to construction-generated traffic

APWRA Issues to Consider: Will the project involve large, slow-moving construction-related vehicles and equipment among the general-purpose traffic on roadways? Will the project involve lane/road closures occurring during delivery of oversized loads?

Potential Impact: Slow-moving construction trucks could delay or obstruct the movement of emergency vehicles on Project area haul routes. In addition, lane/road closures occurring during delivery of oversized loads could impair roadway capacity and increase the response time for emergency vehicles traveling through the closure area. Therefore, construction will have the potential to significantly affect emergency vehicle access.

Mitigation Measure: The following mitigation measure, discussed in Attachment A2: Checklist of Supporting Documents, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

TRA-1: Develop and implement a construction traffic control plan

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure TRA-1 will ensure that any impacts that would result in inadequate emergency access due to construction-generated traffic will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

TRA-1: Develop and implement a construction traffic control plan

For the text of Mitigation Measure TRA-1, please refer to the discussion of Impact HAZ-7b above.

Remaining Impacts: Any remaining impact that would result in inadequate emergency access due to construction-generated traffic will be less than significant.

Impact TRA-6: Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities

APWRA Issues to Consider: Will the project involve large, slow-moving construction-related vehicles and equipment among the general-purpose traffic on roadways? Will the project involve lane/road closures occurring during delivery of oversized loads?

Potential Impact: Most of the maintenance and construction activities associated with the Project will be contained within the Project work site and are not expected to result in the long-term closures of travel lanes or roadway segments, permanently alter the public access roadways, and create new public roadways that could substantially change the travel patterns of vehicles and bicycles on the surrounding roadway facilities and conflict with the policies and plans regarding bicycle facilities.

However, during the construction, slow-moving oversized trucks could potentially disrupt the movement of bicycles traveling on the shoulders along Altamont Pass Road, Dyer Road, and Vasco Road in the Project area and increase the safety concerns for any bicyclists who use the routes. These roadways are not the County classified bikeways, but are used as recreational and inter-regional access routes. In addition, lane/road closures occurring during delivery of oversized loads near the work site access points could temporarily disrupt the bicycle access on the roads. Therefore, construction will have the potential to significantly affect bicycle access.

Mitigation Measure: The following mitigation measure, discussed in Attachment A2: Checklist of Supporting Documents, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

TRA-1: Develop and implement a construction traffic control plan

Findings: Based on the Checklist of Supporting Documents and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure TRA-1 will ensure that any impacts that would conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities will be mitigated to a less-than-significant level. The project applicant will be required to implement the following actions.

TRA-1: Develop and implement a construction traffic control plan

For the text of Mitigation Measure TRA-1, please refer to the discussion of Impact HAZ-7b above.

Remaining Impacts: Any remaining impact that would conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities will be less than significant.

Findings for Cumulative Impacts

State CEQA Guidelines Section 15130 requires the consideration of cumulative impacts in an EIR when a project's incremental effects are cumulatively considerable. Cumulatively considerable "means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects the effects of other current projects and the effects of probable future projects." (CEQA Guidelines Section 15065(a)(3).) In identifying projects that may contribute to cumulative impacts, the State CEQA Guidelines allow the use of a list of past, present, and reasonably anticipated future projects, producing related or cumulative impacts, including those that are outside of the control of the lead agency. The proposed Summit Wind Project's cumulative contribution to various impacts was considered in conjunction with other proposed and approved projects, as set forth in Chapter 5 of the PEIR.

Based on analysis in the Attachment A2: Checklist of Supporting Documents and the entire record before the County, the County makes the following findings with respect to the project's cumulatively considerable potential cumulative impacts of the proposed Summit Wind Project.

Cumulatively Considerable Contributions to Potentially Significant Impacts that Cannot Mitigated to a Less-Than-Significant Level

Aesthetics

Based on the discussion in the Attachment A2: Checklist of Supporting Documents and the entire record before the County, the County finds that the proposed Summit Wind Repower Project's contributions to cumulative impacts on existing scenic resources and visual will be reduced but not rendered less than considerable by Alameda County Policy ECAP 170 and 215, together with Mitigation Measures AES-2a, AES-2b, and AES-2c, and that therefore the proposed project's contributions to cumulative impacts are significant and unavoidable. There are no other feasible mitigation measures that can reduce these impacts to a less-than-significant level. As more fully explained in the Statement of Overriding Considerations contained in Exhibit C to the Resolution to which these CEQA Findings are attached, the County finds that there are environmental, economic, or other benefits of the project that override these cumulatively considerable impacts.

Air Quality

Construction emissions of NO_x for the Summit Wind Repower Project are greater than the BAAQMD thresholds after implementation of Mitigation Measures AQ-1 and AQ-2, and therefore the proposed project's contributions to cumulative construction impacts are significant and unavoidable. There are no other feasible mitigation measures that can reduce these impacts to a less-than-significant level. As more fully explained in the Statement of Overriding Considerations contained in Exhibit C to the Resolution to which these CEQA Findings are attached, the County finds that there are environmental, economic, or other benefits of the project that override these cumulatively considerable impacts.

Biological Resources

Construction of multiple repowering projects simultaneously in the program area and other development and infrastructure projects in the vicinity of the Summit Wind Repower Project area could potentially result in cumulative biological resource impacts. The cumulative construction impacts on turbine related fatalities constitute a substantial adverse effect on avian species because the rates for some or all of the species could be greater than the baseline rates; therefore, impacts related to avian mortality are considered to be significant and unavoidable. Implementation of Mitigation Measures BIO-11a through BIO-11i will reduce this impact, but not to a less-than-significant level.

The Summit Wind Repower Project involves turbines and has the potential to incur turbine-related fatalities of special-status and other bats. Resident and migratory bats flying in and through the program area may be killed by collision with wind turbine blades or other interaction with the wind turbine generators. It is anticipated that the Project could result an increase from approximately 10 bat fatalities per year to 90-212 bat fatalities per year. Implementation of Mitigation Measures BIO-14a through BIO-14e will reduce this impact, but not to a less-than significant level. Therefore, impacts to special-status and other bats are considered to be significant and unavoidable.

The Summit Wind Repower Project could potentially have an impact on the movement of native resident or migratory wildlife species or established native resident or migratory wildlife corridors, and the use of native wildlife nursery sites. Upon completion of the project, the new wind turbines will be spaced apart and will not be a barrier to on-the-ground wildlife movement. Additionally, there will be fewer

turbines on the ground, and a net increase in the amount of natural area will result from the restoration of decommissioned turbine pads and foundations. This removal of turbines and increase of natural area will partially compensate for this impact. The project has the potential to affect native wildlife nursery sites (i.e., breeding areas). Because common species may also use these breeding areas, they may also be affected by the project. Mitigation Measures BIO-1b, BIO-1e, BIO-3a, BIO-4a, BIO-5a, BIO-5c, BIO-7a, BIO-8a, BIO-8b, BIO-10a, BIO-11b, BIO-11c, BIO-11d, BIO-11e, BIO-11i, BIO-12a, BIO-12b, BIO-14a, will reduce the project's impacts on native resident or migratory wildlife corridors, and the use of native wildlife nursery sites**,** but will not mitigate this impact to a less**-**than**-**significant level. Therefore, impacts to native resident or migratory wildlife corridors are considered to be significant and unavoidable.

There are no other feasible mitigation measures that can reduce these impacts to a less**-**than**-**significant level. As more fully explained in the Statement of Overriding Considerations contained in Exhibit C to the Resolution to which these CEQA Findings are attached, the County finds that there are environmental, economic, or other benefits of the project that override these cumulatively considerable impacts.

Contributions to Cumulative Impacts that Can be Mitigated to a Less-Than-Significant Level

Cultural Resources

Simultaneous construction of multiple repowering projects in the program area and other development and infrastructure projects in the vicinity of the Summit Wind Repower Project could potentially result in significant impacts on historic resources, archaeological resources, and human remains, should they be present within the proposed project area or the vicinity of the proposed project area. Based on the discussion in Attachment A2: Checklist of Supporting Documents and the entire record before the County, implementation of the mitigation measures identified in this Checklist of Supporting Documents will ensure that the proposed Summit Wind Repower Project's contributions would not be such that they would result in or contribute to a cumulative impact. The contributions are therefore less than significant.

Geology, Soils, Mineral Resources, and Paleontological Resources

Construction in a seismically active region puts people and structures at risk from a range of earthquake-related effects, particularly seismic ground shaking and landsliding in the program area. Based on the discussion in Attachment A2: Checklist of Supporting Documents and the entire record before the County, various mechanisms are in place to reduce seismic-related risk, including mitigation measures identified in the Checklist of Support Documents and project-specific geotechnical investigation and seismic design standards promulgated by the county building codes. The proposed Summit Wind Repower Project would not contribute considerably to the existing cumulative impact related to seismic hazards. The geographic scope of potential cumulative effects with respect to paleontological resources is usually limited to areas within the physical footprint of a proposed project. With the implementation of the mitigation measures presented in Attachment A2: Checklist of Supporting Documents, the proposed project could have a less-than-significant contribution to the cumulative impact on paleontological resources.

Hazards and Hazardous Materials

The proposed Summit Wind Repower Project, as well as other contributing projects, would be required to adhere to regulations that govern hazardous materials storage and handling, water quality BMPs, FAA

regulations related to airspace, and fire prevention and management. Based on the discussion in Attachment A2: Checklist of Supporting Documents and the entire record before the County, these measures would ensure that impacts related to exposure to hazardous materials would be minimized and/or avoided. Therefore, the Summit Wind Repower Project's incremental, less-than-significant impacts in these areas would not be cumulatively considerable.

Hydrology and Water Quality

Based on the discussion in Attachment A2: Checklist of Supporting Documents and the entire record before the County, including compliance with NPDES requirements and the mitigation measures for hydrology and water quality, impacts associated with implementation of the proposed project would be less than significant. Other projects in the same watersheds would also be required to comply with NPDES requirements, ensuring that significant impacts would not occur.

Noise

The analysis in the Attachment A2: Checklist of Supporting Documents indicates that there is potential for the proposed Summit Wind Repower Project to result in noise that exceeds County noise standards which would result in significant cumulative operational noise impacts. Implementation of Mitigation Measure NOI-1, however, would ensure compliance with County noise standards and would avoid significant cumulative operational noise impacts.

Construction of multiple repowering projects simultaneously in the program area could potentially result in a cumulative construction noise impact at residences located near the construction activities. However, the impact would be temporary and localized and implementation of Mitigation Measure NOI-2 would reduce cumulative impacts to a less-than-significant level.

Based on the discussion in the Attachment A2: Checklist of Supporting Documents and the entire record before the County, the County finds that the proposed Summit Wind Repower Project's contributions to cumulative noise impacts on residences in the area would be less than significant.

No Contribution to a Cumulative Impact

Based on the discussion in Attachment A2: Checklist of Supporting Documents and the entire record before the County, the County finds that the proposed Summit Wind Repower Project will not have a cumulatively considerable contribution to the following impact areas.

- Agricultural and forestry resources.
- Greenhouse gases (the Summit Wind Repower Project would result in a long-term net reduction of approximately 8,284 metric tons of CO_2e per year).
- Land use and planning.
- Population and housing.
- Public services.
- Recreation.
- Utilities and service systems.

Findings and Recommendations Regarding Significant Irreversible Changes

CEQA Section 21100(b)(2)(B) requires that an EIR identify any significant effect on the environment that would be irreversible if the Summit Wind Repower Project were implemented. Section 15126.2(c) of the State CEQA Guidelines characterizes irreversible environmental changes as those involving a large commitment of nonrenewable resources or irreversible damage resulting from environmental accidents. The State CEQA Guidelines describe three distinct categories of significant irreversible changes: changes in land use that would commit future generations to specific uses, irreversible changes from environmental actions, and consumption of nonrenewable resources. The Summit Wind Repower Project's significant and irreversible changes are discussed in Attachment A2: Checklist of Supporting Documents.

Findings: Based on the Attachment A2: Checklist of Supporting Documents and the entire record before the County, the County finds that the Summit Wind Repower Project would not result in any significant irreversible effect on the environment.

Explanation: The Summit Wind Repower Project area extends over approximately 3,469 acres of grassland north of I-580 in Alameda County, and it consists of cattle-grazed land on which operating wind turbines are currently, or previously have been, installed. The project site is designated by the East County Area Plan (ECAP, 2002) as Large Parcel Agriculture (LPA), which permits one single-family residence per parcel, agricultural uses, agricultural processing facilities, public and quasi-public uses, quarries, landfills and related facilities, wind farms and related facilities, utility corridors, and similar uses compatible with agriculture.

Lands in the project area are zoned A-BE-160 (Agricultural District, with minimum building site areas of 160 acres), which allows for agricultural and other non-urban uses. Within the A District, privately owned wind-electric generators are a conditionally permitted use subject to approval by the East County Board of Zoning Adjustments (EBZA).

The Summit Wind Repower Project will repower the decommissioned site of an existing wind energy facility. Within the Project footprint, 569 wind turbine generators and foundations will be removed. Up to 33 new wind turbine generators are proposed to be installed, with an alternate location for one wind turbine generator (20a) for a total of 34 proposed wind turbine generator sites. The proposed Project would result in a net reduction of 536 wind turbine generators and foundations. The Project will continue transmitting energy from the site to the regional power grid and will maximize renewable energy production by replacing the aging infrastructure with newer, more efficient wind turbine generators.

These activities are not expected to alter or affect the agricultural uses, nor are they expected to result in environmental accidents that would cause irreversible damage. Compliance with required plans, such as the Altamont Pass Wind Farms Fire Requirements, will minimize the potential for accidents that could result in environmental damage. No irreversible changes to the Summit Wind Repower Project area would occur as a result of the proposed project.

Construction of repowered windfarms would require the consumption of nonrenewable resources, such as fuel for construction vehicles and equipment. However, such use would be limited to the short-term construction period. Operation and maintenance of the proposed project would not increase the use of nonrenewable resources relative to existing conditions. The temporary, construction-related increase would not result in significant use of nonrenewable resources and would not commit future generations to similar uses. Moreover, a primary objective of the proposed project is to provide an economically viable source of clean, renewable electricity generation that meets California's growing demand for power and fulfills numerous state and national renewable energy policies. The intent is to specifically reduce net consumption of nonrenewable sources of energy such as coal, natural gas, and other hydrocarbon-based fuels.

Findings and Recommendations Regarding Growth-Inducing Impacts

Section 15126.2(d) of the State CEQA Guidelines states that an EIR should discuss "…the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." The State CEQA Guidelines do not provide specific criteria for evaluating growth inducement and state that growth in any area is not "necessarily beneficial, detrimental, or of little significance to the environment" (State CEQA Guidelines Section 15126.2[d]). CEQA does not require separate mitigation for growth inducement, as it is assumed that these impacts are already captured in the analysis of environmental impacts. Furthermore, Section 15126.2(d) of the State CEQA Guidelines requires that an EIR "discuss the ways" a project could be growth inducing and to "discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment."

Growth can be induced in a number of ways, such as elimination of obstacles to growth, stimulation of economic activity within the region, and precedent-setting action such as the provision of new access to an area or a change in a restrictive zoning or general plan land use designation. In general, a project could be considered growth-inducing if it directly or indirectly affects the ability of agencies to provide needed public services, or if it can be demonstrated that the potential growth significantly affects the environment in some other way. However, the State CEQA Guidelines do not require a prediction or speculation of where, when, and in what form such growth would occur (State CEQA Guidelines, Section 15145).

Findings: Based on the Attachment A2: Checklist of Supporting Documents and the entire record before the County, the County finds that the proposed project would not induce growth for the following reasons.

Although the proposed project involves the construction of new wind turbines, there would be a commensurate removal of old turbines. Consequently, it would not substantially change the installed electrical generation capacity of the APWRA. Therefore, the project would not be expected to indirectly induce population growth through the provision of substantial new supplies of electrical energy.

Typically, the growth-inducing potential of a project is considered significant if it fosters growth or a concentration of population in a different location or in excess of what is assumed in relevant general plans or land use plans, or projections made by regional planning agencies, such as the Association of Bay Area Governments. As discussed Attachment A2: Checklist of Supporting Documents Section 12.0, *Population and Housing*, the Summit Wind Repower Project does not include the construction or demolition of any housing, and so would not have a direct impact on population or housing growth. Furthermore, the nature of the facilities is such that there would be no direct customers and no incentive for other residences or businesses to locate nearby. Production of electricity from the project facilities is ongoing and would not create additional availability of energy resources beyond those already permitted for the facilities.

Decommissioning and construction activities would result in a short-term increase in construction-related job opportunities in the Alameda County region. However, construction workers can be expected to be drawn from the existing construction employment labor force. The limited, short-term opportunities provided by decommissioning and construction would be unlikely to result in the relocation of construction workers to the project region. Therefore, the employment opportunities provided by construction are not anticipated to induce indirect growth in the region.