Exhibit A

Sand Hill Wind Project
Written Findings of Significant Effects

The California Environmental Quality Act (CEQA) Public Resources Code Sections 21000 et seq., state that if a project would result in significant environmental impacts it may be approved, if feasible mitigation measures or feasible alternatives can avoid or substantially lessen the impact or if there are specific economic, social, or other considerations which make it infeasible to substantially lessen or avoid the impacts. Therefore, when an environmental impact report (" EIR") has been completed which identifies one or more potentially significant environmental impacts, the approving agency must make one or more of the following findings for each identified significant impact:

a) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR.

b) Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

c) Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

In accordance with CEQA Guidelines Section 15091, the following findings and supporting facts summarize each significant environmental impact and the mitigation measures adopted to avoid or substantially reduce the magnitude of the effect, as identified in the Final Supplemental EIR (SEIR) prepared pursuant to CEQA Guidelines Section 15162 as a supplement to the Altamont Pass Wind Resource Area Repowering Program EIR (PEIR), which the County of Alameda (County) certified in November 2014. Also set forth in these Findings are those impacts that the County, as the Lead Agency, finds cannot with certainty be avoided or reduced to a less-than-significant level even with the adoption of all feasible mitigation measures proposed in the SEIR. In adopting these findings and mitigation measures, the County also adopts a Statement of Overriding Considerations. The Statement of Overriding Considerations describes the economic, social, and other benefits of the Project that will render these significant unavoidable environmental impacts acceptable.

The findings described below are organized by resource issue, in the same order as the effects are discussed in the SEIR. The Lead Agency's findings regarding the Project follow the individual effect findings. The findings reference the final SEIR (part of the record upon which the East County Board of Zoning Adjustments [EBZA] bases its decision on the Project) and mitigation measures in support of the findings. For specific resource mitigation measures, the section number where the full text of the mitigation measure occurs is noted in the finding.

Introduction

The Project area is located in the Altamont Hills of eastern Alameda County near the San Joaquin County line, north and south of Interstate (I-) 580 and approximately 56 miles east of San Francisco.

The Altamont Hills are at the geographical interface between the Coast Ranges and the Central Valley. Existing predominant uses of the area are windfarms and cattle grazing.

The proposed Project would entail installation of up to 40 new wind turbines and is expected to utilize turbines with generating capacities of 2.3 to 4.0 megawatts (MW), all generally similar in size and appearance, to generate up to 144.5 MW. Three conceptual alternative layouts are proposed, each using up to 40 wind turbines. The layouts are substantially similar, mainly varying according to the location of 11 turbines in the center of the Project area, south and west of Bethany Reservoir, and their relative distance from the primary access road for the Project. The final layout would be selected based on site constraints (e.g., avian siting considerations), data obtained from meteorological monitoring of the wind resources, and turbine availability. Existing roads would be used where possible, and temporary widening and some new roads would be necessary. The Project would also require three generation-tie (gen-tie) lines connecting the Project to two substations.

The proposed Project characteristics are listed below.

- A total nameplate generation capacity of up to 144.5 MW.
- Removal of old wind turbine foundations where they conflict with new Project components.
- Installation of up to 40 new wind turbine generators, towers, foundations, and pad-mounted transformers.
- Development of Project roads and installation of a power collection system.
- Use of existing roads to the extent possible.
- Use of existing substations (with upgrades to the equipment).
- Use of an existing operations and maintenance (O&M) facility.
- Installation of three permanent meteorological towers.

The SEIR is intended to identify the anticipated environmental impacts of the Project that may be approved by Alameda County (County) for installation of up to 40 new wind turbines in the Alameda County portion of the APWRA.

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 SEIR and all documents referenced in or relied upon by the SEIR.
- All information (including written evidence and testimony) provided by County staff to the EBZA relating to the SEIR, the approvals, and the project.
- All information (including written evidence and testimony) presented to the EBZA by the environmental consultants who prepared the SEIR 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 SEIR.

- 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 SEIR.
- 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 Andrew Young, Senior Planner, or his 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 certifies that the SEIR has been completed in compliance with CEQA. The EBZA has independently reviewed the record and the SEIR prior to certifying the SEIR and approving the Project. By these findings, the EBZA confirms, ratifies, and adopts the findings and conclusions of the SEIR as supplemented and modified by these findings. The SEIR and these findings represent the independent judgment and analysis of the County and the EBZA. The EBZA recognizes that the SEIR may contain clerical errors. The EBZA reviewed the entirety of the SEIR and bases its determination on the substance of the information it contains. The EBZA certifies that the SEIR is 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 SEIR is adequate to support approval of the proposed Project described in the staff report, each component and phase of the Project described in the SEIR, any alternative 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 Final SEIR incorporates information obtained and produced after the Draft SEIR was completed, and that the Final SEIR contains additions, clarifications, and modifications. The EBZA has reviewed and considered the Final SEIR and all of this information. The Final SEIR does not add significant new information to the Draft SEIR that would require recirculation of the SEIR pursuant to CEQA Guidelines Section 15088.5. More specifically, the new information added to the SEIR 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 Draft SEIR was inadequate or conclusory or that the public was deprived of a meaningful opportunity to review and comment on the Draft SEIR. Thus, recirculation of the SEIR is not required. The EBZA finds that the changes and modifications made to the SEIR after the Draft SEIR 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

Biological Resources

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

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. Although repowering is intended to reduce fatalities, enough uncertainty remains in light of project- and site-specific data to warrant a conservative approach in the impact analysis. Accordingly, the continued or increased loss of birds (including special-status species) at a rate exceeding the baseline rate would be a significant adverse impact.

The PEIR concluded that repowering would result in significant and unavoidable impacts associated with avian mortality, although it anticipated that overall mortality rates may decrease with the transition from old-generation to new-generation turbines. The PEIR acknowledged, however, that the avian mortality estimates were uncertain, stating that: "… while repowering is intended to reduce fatalities, enough uncertainty remains in light of project- and site-specific data to warrant a conservative approach in the impact analysis. Accordingly, the continued or increased loss of birds (including special-status species) *at a rate potentially greater than the existing baseline fatality rates* is considered a significant and unavoidable impact" [emphasis added] (Alameda County Community Development Agency 2014:3.4-103).[1]

[1] Similar statements are repeated throughout the PEIR; see page 3.4-121:
As described above, for all avian focal species analyzed, a fully repowered program area would be expected to reduce estimated fatality rates. However, fatalities would 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. This

While the PEIR set forth multiple measures to address avian mortality, it concluded that these measures would not reduce the impact to a less-than-significant level. This conclusion holds true for the Project. The Project's impact on protected and special-status avian species would be a significant and unavoidable impact.

Mitigation Measures: The following mitigation measures, discussed in Section 3.4.2 of the SEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

PEIR Mitigation Measure BIO-11a: Prepare a Project-specific avian protection plan

All project proponents will prepare a project-specific 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 postconstruction 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 2019 Updated PEIR 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 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

PEIR Mitigation Measure 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 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

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impact would be significant. Implementation of Mitigation Measures BIO-11a through BIO-11i would reduce this impact, but not to a less-than-significant level; accordingly, this impact is considered significant and unavoidable.

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 2019 Updated 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.

PEIR 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 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 2012a). 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 2012a). Duration between flashes will be the longest allowable by the FAA.

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

The Project proponent 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 with 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.

PEIR Mitigation Measure 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 PEIR Mitigation Measure BIO-11c prior to repowered turbine operation.

PEIR Mitigation Measure BIO-11f: Discourage prey for raptors

The Project proponent 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.

PEIR Mitigation Measure BIO-11g: Implement postconstruction avian fatality monitoring for all repowering projects

A postconstruction 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., nonrepowered 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 technical advisory committee (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 this 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 this 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 CUPs. 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 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.

2019 Updated PEIR Mitigation Measure BIO-11h: Compensate for the loss of raptors and other avian species, including golden eagles, by contributing to conservation efforts

Discussion

Several options to compensate for impacts on raptors are currently available. Some are targeted to benefit certain species, but they may also have benefits for other species. For example, USFWS's Eagle Conservation Plan (ECP) Guidelines currently outline a compensatory mitigation strategy for golden eagles using the retrofit of high-risk power poles (poles known or suspected to electrocute and kill eagles). The goal of this strategy is to eliminate hazards for golden eagles. However, because the poles are also dangerous for other large raptors (e.g., red-tailed hawk, Swainson's hawk), retrofitting them can benefit such species as well as eagles.

Similarly, although the retrofitting of electrical poles may have benefits for large raptors, such an approach may provide minimal benefits for smaller raptors such as American kestrel and burrowing owl. Consequently, additional measures would be required components of an overall mitigation package to compensate for impacts on raptors in general.

The Secretary of the Interior in the prior federal administration issued Order 3330 in October2013, outlining a "landscape-scale" approach to mitigation policies and practices of the Department of the Interior to provide for mutual benefit to multiple species when adopting strategies aimed at individual species, thereby benefitting the ecological landscape as a whole. The Order was intended for use by federal agencies, and thus the County was not required to take any particular action; however, the PEIR indicated confidence that such an approach would

likely have the greatest mitigation benefits, especially when considering ongoing and long-term impacts from wind energy projects. In 2017, Secretary of the Interior Ryan Zinke, acting on a presidential executive order, revoked Order 3330 and several other related environmental directives, primarily to ensure that federal policy did not burden the development or use of domestic oil, natural gas, coal, or nuclear energy resources. However, the County still considers it to be in its interest to promote policies that benefit one species that also have high potential for benefit to additional species, or to a whole ecological system or habitat.

With these considerations in mind, the PEIR outlined several options that are currently available to compensate for impacts on raptors. The options discussed below are currently considered acceptable approaches to compensation for impacts on raptors. Although not every option is appropriate for all species, it is hoped that as time proceeds, a more comprehensive approach to mitigation will be adopted to benefit a broader suite of species than might benefit from more species-specific measures. The County recognizes that the science of raptor conservation and the understanding of wind-wildlife impacts are continuing to evolve and that the suite of available compensation options may consequently change over the life of the proposed projects.

Conservation Measures

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 this PEIR for the Vasco Winds Project (Table 3.4-8) 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 postconstruction 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 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 C4) 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 2013) 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 PEIR 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 eagle incidental take permits from USFWS. The eagle incidental take permit process currently involves preparation of an 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 eagle incidental 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 an amount equal to 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.) – per 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. 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 postconstruction 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. In the event of such an adjustment, and on each ten-year anniversary, projected costs shall be adjusted for inflation (from the base amount described above) according to the CPI through the remainder of the ten-year term or the subsequent ten-year term. Review shall occur at the time that monitoring reports are accepted by the Planning Director showing a change in total raptor fatalities for the project. All eight raptor species listed in Table 3.4-4 shall be accounted for in estimating the payment.

- **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 C4). 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.

PEIR Mitigation Measure 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 nonrepowered turbines as described in this 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 will 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, antiperching 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 postconstruction 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 will 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.

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures PEIR BIO-11a, PEIR BIO-11b, PEIR BIO-11c, PEIR BIO-11d, PEIR BIO-11e, PEIR BIO-11f, PEIR BIO-11g, 2019 Updated PEIR BIO-11h, and PEIR 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.

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

Potential Impact: Resident and migratory bats flying in and through the Project area may be killed by collision with wind turbine blades or other interaction with the wind turbine generators. 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 would primarily be associated with wind speeds of less than 5-6 m/s; that fatalities would occur predominantly in the late summer to mid-fall migration period; that fatalities would consist mostly of migratory bats, particularly Mexican free-tailed bat and hoary bat; that fatalities would occur sporadically at other times of year; and that fatalities of one or more other species would occur in smaller numbers. Despite the high level of uncertainty in estimates of bat fatality rates, all available data suggest that implementation of the Project would result in a substantial increase in bat fatalities.

Mitigation Measures: The following mitigation measures, discussed in Section 3.4.2 of the SEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

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

The Project proponent 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 PEIR Mitigation Measure BIO-12a.

2019 Updated PEIR Mitigation Measure BIO-14b: Implement postconstruction bat fatality monitoring program for all repowering projects

A scientifically defensible, postconstruction 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 postconstruction monitoring program described in PEIR Mitigation Measure BIO-11g, developed in accordance with CEC 2007 and with appropriate recommendations from California Bat Working Group guidelines (2006), will be implemented.

In addition to the requirements outlined in PEIR Mitigation Measure BIO-11g, the following three 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.
- Perform postconstruction bat fatality monitoring using trained dogs with handlers. In order to optimize monitoring success, these efforts should also include searching to a maximum radius around wind turbines that includes all deposited carcasses, searching along transects spaced closely together, and searching frequently. Recognizing that most bat fatalities in the APWRA are recorded from September through November, it is appropriate to concentrate search efforts during that period, while still maintaining some level of search effort throughout the year.
- 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 acoustic bat activity 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 (California Energy Commission guidelines, 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 bet 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 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.

PEIR Mitigation Measure 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.

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

In concert with 2019 Updated PEIR Mitigation Measure BIO-14b, the Project proponent 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. 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 postconstruction 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 of 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). A recent study in the APWRA documented significant reductions in fatalities using curtailment during the peak migration period (Smallwood and Bell 2019). Work at a site in Wisconsin has shown that a site-specific, real-time curtailment algorithm using wind speed and bat activity information can yield 74-92% fatality reductions at a 3.2% cost in revenue from the turbines (Hayes et al. 2019).

Other curtailment studies, also performed in sites outside the APWRA, have shown comparable effectiveness (e.g. Hein et al. 2014). 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. However, although strategies for curtailing turbines hold great promise, developing thresholds is difficult. This is especially true when supporting data are limited or unreliable (Arnett et al. 2013). Accordingly it will be necessary to develop and test a curtailment strategy appropriate for the proposed project.

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 postconstruction 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 shorter nightly periods of cut-in speed increases with substantial evidence from defensible onsite, long-term postconstruction 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.

PEIR Mitigation Measure 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.

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures PEIR BIO-14a, 2019 Updated PEIR BIO-14b, PEIR BIO-14c, PEIR BIO-14d, ADMM-7, ADMM-8, and PEIR 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.

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

Potential Impact: Construction activities associated with the program 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. Because the construction period for the Project would be up to 9 months, it would likely 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 would be greater than for larger animals, could be more severely affected. The operation of wind turbines after repowering would adversely affect raptors, other birds, and bats migrating through and wintering in the program area because they could be injured or killed if they fly through the rotor plane of operating wind turbines. This would be a significant and unavoidable impact.

Mitigation Measures: The following mitigation measures, discussed in Section 3.4.2 of the SEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

2019 Updated PEIR Mitigation Measure BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

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

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

2019 Updated PEIR Mitigation Measure BIO-5a: Implement best management practices to avoid and minimize effects on special-status amphibians

PEIR Mitigation Measure BIO-5c: Restore disturbed annual grasslands

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

2019 Updated PEIR Mitigation Measure BIO-8a: Implement measures to avoid and minimize potential impacts on special-status and non–special-status nesting birds

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

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

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

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

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

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

PEIR Mitigation Measure BIO-11i: Implement an avian adaptive management program

PEIR Mitigation Measure BIO-12a: Conduct bat roost surveys

PEIR Mitigation Measure BIO-12b: Avoid removing or disturbing bat roosts

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

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

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures 2019 Updated PEIR BIO-1b, PEIR BIO-1e, PEIR BIO-3a, 2019 Updated PEIR BIO-5a, PEIR BIO-5c, PEIR BIO-7a, 2019 Updated PEIR BIO-8a, PEIR BIO-8b, PEIR BIO-10a, PEIR BIO-11b, PEIR BIO-11c, PEIR BIO-11d, PEIR BIO-11e, PEIR BIO-11i, PEIR BIO-12a, PEIR BIO-12b, PEIR BIO-14a, and PEIR BIO-14d 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.

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-1: Potential to have a substantial adverse effect on a scenic vista

Potential Impact: Temporary visual impacts would be caused by construction activities. The PEIR also concluded that construction activities associated with the repowering program could result in a significant impact, particularly for highly sensitive viewers such as residents and recreationists. The analysis specifically called out Bethany Reservoir, which is surrounded by the Project area, as well as scenic roadways and recreation trails such as the California Aqueduct Bikeway. Construction of the proposed Project is expected to last approximately 8 months. In general, views of construction activities and equipment, though temporary, could be adverse and disturbing to residents and the users of the recreational facilities in the Project area, and high-powered construction nighttime lighting could be perceived as significant and adverse by area residents.

Although there are no formally designated scenic vistas in the Project area or vicinity, the PEIR analysis of the repowering program and the two projects evaluated at the project level (the Golden Hills and Patterson Pass projects) addressed scenic vistas available from local roadways and recreational trails. The analysis of the program indicated that new turbine structures located on ridges in the program area that were specifically identified for protection in the ECAP by Policy 105 would constitute a significant adverse visual impact, especially if they were located in areas that had not previously been developed with wind turbines or where they did not exist at the time the PEIR was being prepared (formally when the PEIR Notice of Preparation was circulated in 2010).

The analysis of program impacts on scenic vistas in the PEIR concluded that where no turbines currently exist the impact would be significant, but that in 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 would be less than significant because it would serve ECAP Policies 170 and 215, and otherwise serve to protect and enhance scenic values. Analysis for the Project as comparable to the project-level analysis provided in the PEIR of the Golden Hills project, it is recognized that within the Sand Hill Wind Project vicinity the majority of views, as shown in the existing conditions views in Figures 3.1-4 through 3.1-9 of the SEIR (most of which show conditions prior to the recent turbine removal after 2016), are of dense turbine walls. For views towards the old generation turbines, the impact would be less than significant.

Consistent with the PEIR analysis, the new, less-cluttered configuration of turbines 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 would draw viewers' attention toward them, the eye is also able to follow the ridgeline of the hills in a more cohesive manner than when the previously existing turbines were in place. These include views from local roads including scenic routes, Bethany Reservoir State Recreational Area, and the California Aqueduct Bikeway, of wide-open panoramic views of rolling, grass-covered, rural landscapes that for most of the past 30 years were dominated by the pre-existing old generation turbines.

Views of the proposed turbines may be more or less prevalent depending on a viewer's location within the landscape and if the viewer has more direct views of the turbines or views that are partially or fully screened by topography. Some of the turbines are proposed to be as close as 600 feet from viewers. Seven turbines, at less than 2,000 feet from scenic routes, recreation areas and trails, and within views that did not have turbines in place since 1998 or at the time the PEIR began preparation in 2010, would therefore have potentially significant impacts on a scenic vista.

Therefore, with respect to ECAP Policies 170 and 215, the replacement of the many previously existing smaller and older turbines with proportionally far fewer fourth-generation turbines with broader spacing would serve these policies and help to protect and enhance scenic values. For areas where no turbines currently exist, the conflict with Policies 170 and 215 and the visual impact itself would be significant. In the Project area, such conditions exist only on certain parcels east and south of Bethany Reservoir.

Mitigation Measures: The following mitigation measures, discussed in Section 3.1.3 of the SEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

PEIR Mitigation Measure 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.

2019 Updated PEIR Mitigation Measure AES-2a: Require site development review

New turbines along ridgelines or hilltops that have not previously been developed with commercial-scale wind turbines or where wind turbines were not part of the visual baseline as of 2010 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.

PEIR Mitigation Measure 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 (USFWS and 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.

PEIR Mitigation Measure 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.

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures PEIR AES-1, 2019 Updated PEIR AES-2a, PEIR AES-2b, and PEIR AES-2c will ensure that the impacts associated with adverse effect on a scenic vista will be mitigated to a less-than-significant level.

Remaining Impacts: Any remaining impact associated with scenic vistas will be less than significant.

Impact AES-2: Potential to substantially damage scenic resources along a scenic highway

Potential Impact: County-designated scenic roads and highways in the Project area are shown on Figure 3.1-2 of the SEIR and include Grant Line Road, Mountain House Road, Altamont Pass Road, as well as I-580. Because these routes were lined with previously existing turbines until those turbines were recently removed, motorists on these routes are accustomed to views of turbines. Although the new turbines would be substantially taller than the previously existing turbines, the new widely spaced configuration would detract less from the natural landscape. This would allow 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 would draw viewers' attention toward them, the eye would be able to follow the ridgeline of the hills in a more cohesive manner.

The Project is identified as having potentially significant impacts due to the placement of 17 of its 40 new turbines (about two-fifths) in areas that have not had turbines in place for over 20 years. These two turbines would therefore have potentially significant impacts on scenic resources along a local scenic highway. For those areas that were occupied with older turbines, the replacement of the many previously existing smaller and older turbines with proportionally far fewer and less intrusive fourth-generation turbines would serve Policies 170 and 215 of the ECAP, and serve to protect and enhance scenic values. Where the new turbines would replace old generation turbines such as on the east side of Mountain House Road and along Altamont Pass Road, therefore, the impact would be less than significant.

The PEIR discusses scenic routes identified in the County's Scenic Route Element of its General Plan, including for example, Byron-Bethany Road, Mountain House Road, Tesla Road and Vasco Road, and views from recreation areas and trails as sensitive to new development of wind turbines. Although the emphasis of the PEIR discussion was on the potentially significant adverse impacts of new turbines on ridgelines and hilltops, it is evident that views towards such ridgelines and hilltops from scenic routes where no turbines are present, or views generally from recreation areas and trails, may be potentially and adversely impacted by the construction of new turbines.

Mitigation Measures: The following mitigation measures, discussed in Section 3.1.3 of the SEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

2019 Updated PEIR Mitigation Measure AES-2a: Require site development review

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

PEIR Mitigation Measure AES-2c: Screen surplus parts and materials

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures 2019 Updated PEIR AES-2a, PEIR AES-2b, and PEIR AES-2c will ensure that the impacts associated with adverse effect on a scenic vista will be mitigated to a less-than-significant level.

Remaining Impacts: Any remaining impact associated with scenic vistas will be less than significant.

Impact AES-3: In non-urbanized areas, degradation of the existing visual character or quality of public views of the site and its surroundings; in urbanized areas, conflict with zoning or other regulations governing scenic quality

Potential Impact: As described above, I-580, Mountain House Road, and Altamont Pass Road are considered scenic routes. As stated in the PEIR, there are portions of these roads where no turbines currently exist, but, because motorists are accustomed to seeing wind turbines along these routes, motorists would not be adversely affected. However, recreationists using Bethany Reservoir and the associated California Aqueduct Bikeway would be highly sensitive to changes in the visual character that the addition of new turbines would result in, especially where no turbines were part of the 2010 viewshed baseline. Turbine sites 24 and 25 south of the Bikeway, sites 27 and 28 east of the Bikeway, and site 30 northeast of the Reservoir would be within 2,000 feet of public views where no turbines have been in place for over 20 years. These five turbines therefore would have potentially significant impacts on visual character in a non-urbanized area. Although the Project would add 17 of its 40 new turbines (about two-fifths) in areas that have not had turbines in place for this length of time, the majority of these would be sufficiently distant from public views, or in areas where the existing viewshed contained many old turbines. These include turbine sites 17 through 23 and 26 south of the Bikeway, and sites 29 and 31 through 34 north and east of the Reservoir. These turbines are assessed as having a less than significant impact on visual character or quality in public views in this non-urbanized area of Alameda County.

The County would 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 proposed Project is similarly subject to these requirements.

Mitigation Measure: The following mitigation measures, discussed in Section 3.1.3 of the SEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

2019 Updated PEIR Mitigation Measure AES-2a: Require site development review

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

PEIR Mitigation Measure AES-2c: Screen surplus parts and materials

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigation recommended by Mitigation Measures 2019 Updated AES-2a, PEIR AES-2b, and PEIR AES-2c will ensure that the impacts associated with visual quality in urbanized areas and conflicts with zoning will be mitigated to a less-than-significant level.

Remaining Impacts: Any remaining impact associated with visual quality in urbanized areas and conflicts with zoning will be less than significant.

Impact AES-4: Introduction of a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area

Potential Impact: The PEIR concluded that lighting required by the FAA in the Project area and vicinity and lighting associated with the substations would be shielded and directed downward to reduce glare, and that the color of new towers and rotors would be neutral and non-reflective.

Since the preparation of the PEIR, the County has noted that lighting associated with the turbines may have effects beyond those described in the PEIR. First- and second-generation turbines were all under 200 feet in height, and, for this reason, almost no FAA lighting was required. With the addition of FAA-required lighting for the fourth-generation turbines which were taller, nighttime lighting would be highly noticeable. Because the County does not have the ability to limit the placement of required FAA lighting, and the PEIR established that such lighting at a program level would have a less-than-significant impact, and that conclusion is not subject to change because information about FAA lighting could have been known with reasonable diligence prior to certification of the PEIR, the impacts of FAA lighting requirements at a program level have already been considered and are not further analyzed in this SEIR.

Blade rotation could cause shadow flicker that could be a visual intrusion to viewers and could be especially disruptive to residents who would be exposed to these conditions for long periods of time. Existing setback requirements may not be sufficient to prevent shadow flicker with the new, taller turbines.

Mitigation Measure: The following mitigation measures, discussed in Section 3.1.3 of the SEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

2019 Updated PEIR Mitigation Measure AES-2a: Require site development review

PEIR Mitigation Measure 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 the 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.

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigation recommended by Mitigation Measures 2019 Updated PEIR AES-2a and PEIR AES-5 will ensure that the impacts associated with shadow flicker will be mitigated to a less-than-significant level.

Remaining Impacts: Any remaining impact associated with new sources of shadow flicker will be less than significant.

Air Quality

Impact AQ-2: 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

Potential Impact: The PEIR concluded that maximum daily unmitigated ROG and NO_X from construction of repowering projects would exceed BAAQMD's significance thresholds, resulting in a significant impact. Fugitive dust would also constitute a significant impact without application of best management practices (BMPs). Implementation of PEIR Mitigation Measures AQ-2a, *Reduce construction-related air pollutant emissions by implementing applicable BAAQMD Basic Construction Mitigation Measures*, and AQ-2b, *Reduce construction-related air pollutant emissions by implementing measures based on BAAQMD's Additional Construction Mitigation Measures*, would ensure that impacts related to fugitive dust would be less than significant. However, implementation of these measures would not reduce NO_X emissions to a less-than-significant level.

Neither long-term operation of the Project nor material hauling in SJVAPCD during construction would exceed any air district thresholds, and impacts would be less than significant.

Mitigation Measures: The following mitigation measures, discussed in in Section 3.3.2 of the SEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

PEIR Mitigation Measure 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 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.

PEIR Mitigation Measure 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 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 offroad 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% NO_X reduction and 45% PM reduction compared to the most recent 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 VOC (i.e., 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 BACT for emission reductions of NO_X and PM.
- All contractors will use equipment that meets ARB's most recent certification standard for offroad heavy duty diesel engines.

2019 NEW Mitigation Measure AQ-2c: Reduce construction-related air pollutant emissions to below BAAQMD NO_x thresholds

The Project proponents will ensure construction-related emissions do not exceed BAAQMD's construction NO_X threshold of 54 pounds per day. In addition to implementing PEIR Mitigation Measures AQ-2a and AQ-2b, the Project proponents will coordinate with BAAQMD (or other governmental entity) to purchase NO_X credits to offset remaining NO_X construction and operations emissions exceeding BAAQMD thresholds.

The Project proponents will track construction activity, estimate emissions, and enter into a construction mitigation contract with BAAQMD or other governmental entity to offset NO_X emissions that exceed BAAQMD NO_X maximum daily threshold of 54 pounds per day.

The maximum daily emissions will be calculated on a daily basis by determining total construction-related NO_X emissions for each calendar day. BAAQMD (or other government entity) will use the mitigation fees provided by the Project proponents to implement emissions reduction efforts that offset Project NO_X emissions that exceed the BAAQMD threshold.

This mitigation includes the following specific requirements:

- The Project proponents will require construction contractors to provide daily construction activity monitoring data for all construction activities associated with the Project to estimate actual construction emissions, including the effect of equipment emissions reduction measures. The Project proponents will submit the daily construction activity monitoring data and an estimate of actual daily construction emissions to the lead agency and BAAQMD (or other governmental entity) for review by the 15th day of each month for the prior construction month. The lead agency will examine the construction and operational activity monitoring to ensure it is representative, and BAAQMD (or other government entity) will examine the emissions estimate to ensure it is calculated properly.
- After acceptance of the emissions estimates by BAAQMD (or other governmental entity) for the prior month, the Project proponents will submit mitigation fees to BAAQMD (or other governmental entity) to fund offsets for the portion of daily emissions that exceed the maximum daily NO_X threshold. The mitigation fees will be based on the mitigation contract with BAAQMD (see discussion below) but will not exceed the emissions-reduction Project

cost-effectiveness limit set for the Carl Moyer Program for the year in which mitigation fees are paid. The current Carl Moyer Program cost-effectiveness limit is $30,000 per weighted ton of criteria pollutants (NO_X + ROG + [20*PM]). An administrative fee of 5% will be paid by the Project proponents to BAAQMD (or other governmental entity) to implement the program.

- The mitigation fees will be used by BAAQMD (or other governmental entity) to fund projects that are eligible for funding under the Carl Moyer Program guidelines or other BAAQMD (or other governmental entity) emissions-reduction incentive programs that meet the Carl Moyer Program cost-effectiveness threshold and are real, surplus, quantifiable, and enforceable.
- The Project proponents will enter into a mitigation contract with BAAQMD (or other governmental entity) for the emissions-reduction incentive program. The mitigation contract will include the following:
  - Identification of appropriate offsite mitigation fees required for the Project.
  - Timing for submission of mitigation fees.
  - Processing of mitigation fees paid by the Project proponents.
  - Verification of emissions estimates submitted by the Project proponents.
  - Verification that offsite fees are applied to appropriate mitigation programs within the SFBAAB.

The mitigation fees will be submitted within 4 weeks of BAAQMD (or other governmental entity) acceptance of an emissions estimate provided by the Project proponents showing that the maximum daily NO_X threshold was exceeded (when measured on a daily basis).

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures PEIR AQ-2a, PEIR AQ-2b, and 2019 NEW AQ-2c will ensure that the impacts associated with a cumulatively considerable net increase of criteria pollutants that exceed BAAQMD's thresholds will be mitigated to a less-than-significant level.

Remaining Impacts: Any remaining impact associated with exceeding BAAQMD's significance thresholds will be less than significant.

Impact AQ-3: Exposure of sensitive receptors to substantial pollutant concentrations

Potential Impact: Long-term operation of the proposed Project would not result in a significant new source of emissions. Offsite truck trips during construction would be transitory and would use multiple roads over a widespread area, thereby helping to disperse toxic pollutants and minimize exposure. Onsite construction activities would generate DPM, but these activities would occur over a relatively short period—approximately 1 year, and be spatially dispersed throughout the Project area and at multiple turbine locations. While exposure to DPM emissions would be of short duration, two receptors are within 1,000 feet of turbine work areas. These receptors may be exposed to increased health risks during construction at these individual locations. Accordingly, this impact is conservatively concluded to be potentially significant.

Mitigation Measures: The following mitigation measures, discussed in Section 3.3.2 of the SEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

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

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

2019 NEW Mitigation Measure AQ-2c: Reduce construction-related air pollutant emissions to below BAAQMD NOx thresholds

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures PEIR AQ-2a, AQ-2b, and 2019 NEW AQ-2c 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.

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

Potential Impact: 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 (seedlings) by ground-disturbing activities, the movement or parking of vehicles, and/or 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.

Mitigation Measures: The following mitigation measures, discussed in Section 3.4.2 of the SEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

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

The Project proponent 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 (Table 3.4-2), 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, 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.

2019 Updated PEIR Mitigation Measure BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

The Project proponent will ensure that the following BMPs, in accordance with practices established in the EACCS, will be incorporated into the final Project design and construction documents.

- Employees and contractors performing ground-disturbing activities, including construction, decommissioning and reclamation functions 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 and sensitive habitats 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 outside the Project footprint will be avoided, and minimized to the extent possible within the Project footprint.
- 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).

PEIR Mitigation Measure 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.

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

The Project proponent will avoid or minimize temporary and permanent impacts on special-status plants that occur on the Project site 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. The preserved habitat will be confirmed to support populations of the impacted species and will be preserved in perpetuity via deed restriction, establishment of a conservation easement, or similar preservation mechanism. A qualified botanist or plant ecologist will prepare a Preservation Plan or Long-Term Management Plan for the site containing at a minimum: a monitoring plan and

performance criteria for the preserved plant population; a description of remedial measures to be performed in the event that performance criteria are not met; a description of maintenance activities to be conducted on the site, including weed control, trash removal, irrigation, and control of herbivory by livestock and wildlife; and an adequate funding mechanism to ensure long-term management of the preserved habitat. 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.

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

The 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 resource–related mitigation measures.

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures PEIR BIO-1a, 2019 Updated PEIR BIO-1b, PEIR BIO-1c, PEIR BIO-1d, and PEIR 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.

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

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

Potential Impact: Construction activities have the potential to facilitate the introduction and spread of invasive nonnative plant species by removing vegetation and disturbing soils. Invasive species compete with native species for resources and can alter natural communities by influencing fire regimes, hydrology (e.g., sedimentation and erosion), light availability, nutrient cycling, and soil chemistry. 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 Section 3.4.2 of the PEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

2019 Updated PEIR Mitigation Measure BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

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

To avoid and minimize the introduction and spread of invasive nonnative plant species, the Project proponent 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 proponent 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 (2019 Updated PEIR Mitigation Measure BIO-1b and PEIR Mitigation Measure 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 (PEIR 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.

PEIR Mitigation Measure 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.

PEIR Mitigation Measure WQ-1: Comply with NPDES requirements

Project contractors will obtain coverage under the Construction General Permit before the onset of any construction activities, because the Project would disturb 1 acre or more. A SWPPP will be developed by a qualified engineer or erosion control specialist in accordance with the appropriate Water Board's requirements for NPDES compliance and implemented prior to the issuance of any grading permit before construction. The SWPPP will be kept onsite during construction activities 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 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 Construction General 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.

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures 2019 Updated PEIR BIO-1b, PEIR BIO-2, PEIR BIO-5c, and PEIR 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.

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

Potential Impact: Construction activities in the Project area could result in direct effects on longhorn fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp (vernal pool branchiopods), and curved-footed hygrotus diving beetle or their habitats.

Project features have been designed to avoid direct impacts on suitable habitat for vernal pool branchiopods (i.e., one vernal pool, five small seasonal ponds, and three small alkali wetlands). However, because some ground-disturbing activities associated with widening of access roads and installation of new turbine foundations and ancillary structures would be necessary near some of these aquatic features, such activities could indirectly affect vernal pool branchiopods by altering

suitable habitat. Changes in hydrology or sedimentation of habitat from erosion associated with project construction could alter the suitability of habitat for vernal pool branchiopods and curved-footed hygrotus diving beetle and could also cause mortality.

Mitigation Measures: The following mitigation measures, discussed in Section 3.4.2 of the SEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

2019 Updated PEIR Mitigation Measure BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

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

PEIR Mitigation Measure 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. Additional conservation measures or conditions of approval may be required in applicable project permits (e.g., 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 East Alameda County

Conservation Strategy. 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.

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures 2019 Updated PEIR BIO-1b, PEIR BIO-1e, PEIR 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.

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-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

Potential Impact: Construction activities such as excavation, grading, and stockpiling of soil and materials could remove or otherwise alter suitable habitat for or result in injury or mortality of California tiger salamanders, California red-legged frogs, and western spadefoots. Potential direct effects include mortality or injury by equipment, entrapment in open trenches or other Project facilities, and entombment of animals in occupied burrows that are covered or filled in.

Based on the proximity of potential aquatic breeding habitat, all Project activities would be conducted within the dispersal range for California tiger salamanders, California red-legged frogs and western spadefoots, and would result in modification of potential upland habitat where new facilities, including access roads, are constructed.

While construction activities would affect alkali wetlands/drainages and ephemeral drainages where California red-legged frogs may forage and disperse, their potential breeding habitat is primarily found in permanent and semi-permanent ponds and perennial wetland drainages. The Project would result in only a small amount (less than 1 acre) of permanent and temporary impacts on alkali wetland/drainage, ephemeral drainages, and perennial wetland drainage habitat as listed in Table 3.4-5. No permanent or temporary direct impacts on aquatic habitat for California tiger salamander (ponds and a vernal pool) are anticipated.

Indirect effects on California tiger salamander, California red-legged frog, and western spadefoot could result from construction-related ground-disturbing activities that degrade nearby aquatic breeding habitat. Exposed soil surfaces left unvegetated have the potential to lead to sedimentation of adjacent aquatic resources that may provide suitable breeding, foraging, and dispersal habitat for these species. Construction activities also have the potential to result in degradation of water quality in these habitats from runoff of petroleum-based products associated with equipment and vehicles used during construction.

Mitigation Measures: The following mitigation measures, discussed in Section 3.4.2 of the SEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

2019 Updated PEIR Mitigation Measure BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

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

2019 Updated PEIR Mitigation Measure 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 CESA incidental take authorization). The applicant will comply with the State of California State Water Resources Control Board 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. The need and location of barrier fencing will be identified by a qualified biologist in cooperation with the County and/or any applicable resource agencies with the purpose of protecting dispersing special-status amphibians.
- 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 review a minimum of 2 weeks prior to the start of construction.
- A qualified biologist will conduct preconstruction surveys (i.e., visual surveys of the ground surface and areas within burrows visible from the surface) 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 offroad 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.

PEIR Mitigation Measure 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 East Alameda County Conservation Strategy. 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.

PEIR Mitigation Measure BIO-5c: Restore disturbed annual grasslands

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures 2019 Updated PEIR BIO-1b, BIO-1e, 2019 Updated PEIR BIO-5a, PEIR BIO-5b, and PEIR 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.

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

Potential Impact: According to current Project design, all turbine components and work areas would be located outside suitable aquatic habitat for western pond turtle identified in the Project area (perennial wetland drainage and large perennial ponds). However, culvert replacement activities and installation of collection lines may affect a small amount of suitable aquatic habitat (approximately 0.1 acre of perennial wetland drainage). It is expected that if pond turtles are present in these habitats, they would voluntarily retreat from areas of human disturbance. Although impacts on pond turtles within aquatic habitats would likely be avoided, pond turtles or pond turtle nests in grasslands in proposed work areas near aquatic habitats could be affected by Project activities. Nests containing pond turtle eggs could be crushed or individuals could be injured or killed during movement of equipment or excavation and grading activities.

Indirect effects on western pond turtle could result from construction-related ground-disturbing activities that degrade nearby aquatic habitat. Direct and indirect impacts on western pond turtle would be significant because the proposed Project could diminish the local population of western pond turtles and lower reproductive potential, contributing to the further decline of the species.

Mitigation Measures: The following mitigation measures, discussed in Section 3.4.2 of the SEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

2019 Updated PEIR Mitigation Measure BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

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

PEIR Mitigation Measure 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.

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures 2019 Updated PEIR BIO-1b, PEIR BIO-1e, 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.

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

Potential Impact: San Joaquin coachwhips or Blainville's horned lizards could occur within grassland habitats throughout the Project area. Construction activities that involve excavation and grading in grassland habitat could crush San Joaquin coachwhips or Blainville's horned lizards if they are present. Individuals could also become entrapped in pits or trenches if these features are left open overnight, or they could be inadvertently injured or killed during the movement of equipment or materials that the reptiles use for shade and refuge.

Direct impacts on San Joaquin coachwhips or Blainville's horned lizards would be significant because the proposed Project could diminish the local population of these species and lower reproductive potential, contributing to the further decline of the species.

Mitigation Measures: The following mitigation measures, discussed in Section 3.4.2 of the SEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

2019 Updated PEIR Mitigation Measure BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

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

PEIR Mitigation Measure BIO-5c: Restore disturbed annual grasslands

PEIR Mitigation Measure 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

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures 2019 Updated PEIR BIO-1b, PEIR BIO-1e, PEIR BIO-5c, and PEIR BIO-7a 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.

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

Potential Impact: The Project would result in the permanent loss and temporary disturbance of annual grassland that provides nesting and foraging habitat for many species of migratory birds, including several special-status species such as Swainson's hawk, white-tailed kite, northern harrier, loggerhead shrike, tricolored blackbird, and burrowing owl. Vegetation removal, including initial site grubbing, has the potential to remove active migratory bird nests. Few if any trees or shrubs would be removed by the Project; however, grasslands and wetland vegetation have the potential to support ground-nesting bird species, including tricolored blackbird. Destruction or disturbance of active bird nests could result in the incidental loss of fertile eggs or nestlings. Human presence and noise generated during construction could also disturb birds and raptors nesting near construction activities, potentially leading to nest abandonment, disruption of feeding patterns, or forced fledging of young. Nearby nesting habitat could include ground vegetation, shrubs, trees, and existing structures (e.g., transmission towers/poles, buildings, and abandoned or non-working turbine parts).

Direct and indirect impacts on special-status and non-special-status migratory birds would be significant because the Project could diminish the local population of these species and lower reproductive potential, contributing to the further decline of the species. Loss of migratory bird eggs, young, or adults that results from construction activities could also violate the MBTA and provisions of the California Fish and Game Code.

Mitigation Measures: The following mitigation measures, discussed in Section 3.4.2 of the SEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

2019 Updated PEIR Mitigation Measure BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

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

PEIR Mitigation Measure BIO-5c: Restore disturbed annual grasslands

2019 Updated PEIR Mitigation Measure 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 (1,300 feet for tricolored blackbird) 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 (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 a preconstruction 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), a 500-foot buffer will be surveyed for northern harrier, and a 1,300-foot buffer will be surveyed for tricolored blackbird if potential tricolored blackbird nesting substrates are present (i.e., flooded, thorny, or spiny vegetation such as cattails, tules, willows, blackberries, thistles, or nettles), 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.

PEIR Mitigation Measure 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), which 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.

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures 2019 Updated PEIR BIO-1b, PEIR BIO-1e, PEIR BIO-5c, 2019 Updated PEIR BIO-8a, and PEIR 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.

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

Potential Impact: Implementation of the Project would result in the temporary and permanent loss of grassland that provides suitable foraging habitat for burrowing owl, tricolored blackbird, and other special-status and non–special-status birds. Overall, the Project will permanently remove approximately 23 acres of annual grassland, which is less than 1 percent of the 2,600 acres of annual grassland in the entire Project area. The loss of less than 1 percent of available foraging habitat in the Project area is not expected to substantially reduce the availability of foraging habitat in the

Project region and will not adversely affect special-status bird species. Up to 223 acres of annual grassland would be temporarily disturbed during Project construction. Permanent loss of occupied burrowing owl habitat could affect the local population and would be a significant impact

Mitigation Measures: The following mitigation measures, discussed in Section 3.4.2 of the SEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

2019 Updated PEIR Mitigation Measure BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

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

PEIR Mitigation Measure BIO-5c: Restore disturbed annual grasslands

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

PEIR Mitigation Measure 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 PEIR Mitigation Measure BIO-8b), 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 the CDFW to develop the compensation plan, which will be subject to County review and approval.

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures 2019 Updated PEIR BIO-5b, PEIR BIO-1e, PEIR BIO-5c, PEIR BIO-8b, and PEIR BIO-9 will ensure that the impacts associated with the potential for permanent and temporary loss of occupied habitat for western burrowing owl and tricolored blackbird and other special-status and non–special-status birds will be mitigated to a less-than-significant level.

Remaining Impacts: Any remaining impact associated with permanent and temporary loss of occupied habitat for western burrowing owl and 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

Potential Impact: Construction activities in the program area could result in direct effects on San Joaquin kit fox and American badger or their grassland habitat. In addition to the permanent and temporary removal of habitat, other potential direct impacts include mortality or injury of individuals from construction vehicles or heavy equipment, direct mortality or injury of individuals from den collapse and subsequent suffocation, temporary disturbance from noise and human presence associated with construction activities, and harassment of individuals by construction

personnel. Additionally, exposed pipes, large excavated holes, or trenches that are left open after construction has finished for the day could entrap San Joaquin kit foxes or American badgers. Operation and maintenance activities, such as road and firebreak maintenance, may also result in injury or mortality of individuals. Loss of individuals in the program area could diminish the local populations of these species and reduce reproductive potential, contributing to the further decline of these species.

Mitigation Measures: The following mitigation measures, discussed in Section 3.4.2 of the SEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

2019 Updated PEIR Mitigation Measure BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

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

PEIR Mitigation Measure BIO-5c: Restore disturbed annual grasslands

PEIR Mitigation Measure 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 Project does 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 (2019 Updated PEIR 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.

PEIR Mitigation Measure 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 C4). 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.

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures 2019 Updated PEIR BIO-1b, PEIR BIO-1e, PEIR BIO-5c, PEIR BIO-10a, and PEIR 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.

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

Potential Impact: Several species of both common (*Myotis* spp.) and special-status (western red bat, pallid bat, Townsend's big-eared bat) bats are known to occur or could occur in or around the program area, and could use the area for foraging, dispersal, and migration. Bats may use rock outcrops, trees, buildings, bridges, and other structures in the program 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 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 Section 3.4.2 of the SEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

2019 Updated PEIR Mitigation Measure BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

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

PEIR Mitigation Measure 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.

PEIR Mitigation Measure 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 preexisting disturbance is moderate or within 750 feet where preexisting disturbance is minimal, a qualified biological monitor will be onsite during groundbreaking activities.

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures 2019 Updated PEIR BIO-1b, PEIR BIO-3a, PEIR BIO-12a, and PEIR 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.

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 and installation of electrical collection lines to result in adverse effects on alkali wetlands/drainages

Potential Impact: Construction activities that result in ground disturbance (including temporary fill and extension of culverts and installation of electrical collection lines) could directly or indirectly affect alkali wetlands/drainages that qualify as waters of the United States and waters of the State.

Access road expansion and installation of the electrical collection lines have the potential to permanently affect up to 0.04 acre of alkali wetland/drainage. Temporary impacts could occur in up to 0.42 acre of alkali wetland/drainage. Horizontal directional drilling (HDD) may be used to avoid the surface disturbance of some aquatic habitats; however, the exact locations where HDD may be used are not currently known. Consequently, impacts on alkali wetlands/drainages are assumed to occur, but may ultimately be less than those described.

Additionally, some activities would have indirect effects (not quantified) on some alkali wetland/drainage habitats through potential changes in hydrology and water quality if the activities are conducted near these habitats. Indirect effects could involve altered hydrology or runoff of sediment and other substances during road construction activities. Some effects, such as those due to runoff, would be avoided and minimized through implementation of erosion control BMPs and postconstruction reclamation. Installation of new and upgraded culverts would maintain existing hydrology.

Mitigation Measure: The following mitigation measure, discussed in Section 3.4.2 of the SEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

2019 Updated PEIR Mitigation Measure BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

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

2019 Updated PEIR Mitigation Measure BIO-15: Compensate for the loss of alkali wetland/drainage habitat

If alkali wetland/drainage habitat is filled or disturbed as part of the 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, 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 wetland/drainage habitat will be created and monitored.

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures 2019 Updated PEIR BIO-1b, PEIR BIO-1e, and 2019 Updated PEIR BIO-15 will ensure that the impacts associated with the potential for road infrastructure upgrades to result in adverse effects on alkali wetlands/drainage habitat will be mitigated to a less-than-significant level.

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

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

Potential Impact: Aquatic resources, including vernal pool, perennial wetland drainages, ponds, and ephemeral drainages, occur within the Project area. Existing facilities, particularly the access roads, may cross or occur adjacent to these aquatic resources, and decommissioning or construction activities that result in ground disturbance (including temporary fill and extension of culverts and installation of electrical collection lines) could directly or indirectly affect aquatic resources that qualify as waters of the United States and waters of the State.

Access road expansion and installation of the electrical collection lines have the potential to permanently affect up to 0.01 acre of perennial wetland drainage and up to 0.01 acre of ephemeral drainage habitats. Temporary impacts could occur in up to 0.09 acre of perennial wetland drainage and up to 0.17 acre of ephemeral drainage. Horizontal directional drilling (HDD) may be used to avoid the surface disturbance of some aquatic habitats; however, the exact locations where HDD

may be used are not currently known. Consequently, impacts on perennial wetland drainages and ephemeral drainages are assumed to occur, but may ultimately be less than those described.

Additionally, some activities would have indirect effects (not quantified) on some aquatic habitats through potential changes in hydrology and water quality if the activities are conducted near aquatic habitats. Indirect effects could involve altered hydrology or runoff of sediment and other substances during road construction activities. Some effects, such as those due to runoff, would be avoided and minimized through implementation of erosion control BMPs and postconstruction reclamation. Installation of new and upgraded culverts would maintain existing hydrology.

Mitigation Measure: The following mitigation measures, discussed in Section 3.4.2 of the SEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

2019 Updated PEIR Mitigation Measure BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

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

2019 Updated PEIR Mitigation Measure BIO-18: Compensate for the loss of wetlands and non-wetland waters

If wetlands or non-wetland waters 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, 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.

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure 2019 Updated PEIR BIO-1b, PEIR BIO-1e, and 2019 Updated PEIR 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.

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

Potential Impact: The ECAP encourages the preservation of areas known to support special-status species and no net loss of riparian and seasonal wetlands. Loss of special-status species and their habitat, loss of alkali wetland/drainage habitat and loss of existing wetlands and drainages as a result of implementing the Project would be in conflict with these policies.

Mitigation Measures: The following mitigation measures, discussed in Section 3.4.2 of the SEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

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

2019 Updated PEIR Mitigation Measure BIO-1b: Implement best management practices to avoid and minimize impacts on special-status species

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

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

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

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

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

2019 Updated PEIR Mitigation Measure BIO-5a: Implement best management practices to avoid and minimize effects on special-status amphibians

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

PEIR Mitigation Measure BIO-5c: Restore disturbed annual grasslands

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

2019 Updated PEIR Mitigation Measure BIO-8a: Implement measures to avoid and minimize potential impacts on special-status and non-special-status nesting birds

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

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

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

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

PEIR Mitigation Measure BIO-11a: Prepare a Project-specific avian protection plan

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

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

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

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

PEIR Mitigation Measure BIO-11f: Discourage prey for raptors

PEIR Mitigation Measure BIO-11g: Implement postconstruction avian fatality monitoring for all repowering projects

2019 Updated PEIR Mitigation Measure BIO-11h: Compensate for the loss of raptors and other avian species, including golden eagles, by contributing to conservation efforts

PEIR Mitigation Measure BIO-11i: Implement an avian adaptive management program

PEIR Mitigation Measure BIO-12a: Conduct bat roost surveys

PEIR Mitigation Measure BIO-12b: Avoid removing or disturbing bat roosts

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

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

2019 Updated PEIR Mitigation Measure BIO-15: Compensate for the loss of alkali wetland/drainage habitat

2019 Updated PEIR Mitigation Measure BIO-18: Compensate for the loss of wetlands and non-wetland waters

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures PEIR BIO-1a, 2019 Updated PEIR BIO-1b, PEIR BIO-1c, PEIR BIO-1d, PEIR BIO-1e, PEIR BIO-2, PEIR BIO-3a, 2019 Updated PEIR BIO-5a, PEIR BIO-5b, PEIR BIO-5c, PEIR BIO-7, 2019 Updated PEIR BIO-8a, PEIR BIO-8b, PEIR BIO-9, PEIR BIO-10a, PEIR BIO-10b, PEIR BIO-11a, PEIR BIO-11b, PEIR BIO-11c, PEIR BIO-11d, PEIR BIO-11e, PEIR BIO-11f, PEIR BIO-11g, 2019 Updated PEIR BIO-11h, PEIR BIO-11i, PEIR BIO-12, PEIR BIO-12b, PEIR BIO-14, PEIR BIO-14d, 2019 Updated PEIR BIO-15, and 2019 Updated PEIR BIO-18 will ensure that the impacts associated with conflict with local plans or policies will be mitigated to a less-than-significant level.

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

Cultural Resources

Impact CUL-2: Potential to cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5

Potential Impact: No previously undocumented archaeological resources were identified within the Project area during the pedestrian survey. Although the area could have been used for upland resource collection activities, the Project area is located far from permanent water sources and is, therefore, expected to have moderate to low potential to contain prehistoric archaeological resources. However, if archaeological resources are inadvertently uncovered during Project construction, damage to the cultural deposits could occur.

Mitigation Measures: The following mitigation measures, discussed in Section 3.5.2 of the SEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

PEIR Mitigation Measure 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 nonspecialists, to ensure that forepersons and field supervisors can recognize archaeological resources (e.g., areas of shellfish remains, chipped stone or groundstone, historic debris, building foundations, human bone) in the event that any are discovered during construction.

PEIR Mitigation Measure 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

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures PEIR 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.

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: Disturbance of any human remains, including those interred outside of dedicated cemeteries

Potential Impact: Although there is no indication that the Project area has been used for human burials, because prehistoric sites are known to be present in the vicinity, the possibility cannot be discounted entirely. Although the possibility is unlikely, human remains could be discovered during ground-disturbing activities.

Mitigation Measure: The following mitigation measure, discussed in Section 3.5.2 of the PEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

PEIR Mitigation Measure 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, 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

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure PEIR CUL-3 will ensure that the impacts with the potential to disturb human remains will be mitigated to a less-than-significant level.

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

Energy

Impact EN-1: Wasteful, inefficient, or unnecessary consumption of energy resources during Project construction or operation

Potential Impact: Project construction would require use a variety of construction equipment, including heavy equipment, excavator, trucks, graders, and a track-mounted crane. The Project encompasses up to six phases. Most of the energy would be consumed during road construction, foundation and electrical installation, and turbine delivery and installation. Substantial amounts of energy would be used in construction of the Project.

Mitigation Measures: The following mitigation measures, discussed in the SEIR in Section 3.6.2, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

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

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

2019 NEW Mitigation Measure AQ-2c: Reduce construction-related air pollutant emissions to below BAAQMD NO_x thresholds

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigation recommended by Mitigation Measures PEIR AQ-2a, PEIR AQ2b, and 2019 NEW AQ-2c will ensure that the impacts relating to wasteful, inefficient, or unnecessary consumption of energy resources during Project construction will be mitigated to a less-than-significant level.

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-1: Potential substantial adverse effects involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides

Potential Impact: A small portion of the Midway fault occurs on the southeastern edge of the Project area. The Midway fault is designated as a potentially active fault (i.e., active during the last 130,000 years). 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.

Construction of turbines or power collection systems in areas with the potential to experience strong ground shaking could expose people or structures to potential substantial adverse effects. Strong ground shaking could also result in earthquake-induced ground failure liquefaction, landsliding, lateral spread, or differential settlement. Turbines could be damaged or collapse and

possibly injure personnel or damage property in the immediate area. In addition to seismic-related ground failure discussed in preceding impacts, 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. Damage or collapse resulting from landsliding could cause harm to personnel or property in the immediate area.

Although the Project must comply with existing building safety requirements, these requirements may not address all ground failure issues.

Mitigation Measures: The following mitigation measure, discussed in the SEIR in Section 3.7.2, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

PEIR Mitigation Measure 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 nonseismically 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 Project area in order to provide long-term stability.
- Expansive soils: The geotechnical report will assess the soil types in the Project 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.

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure PEIR 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, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides will be mitigated to a less-than-significant level.

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: Placement of Project-related facilities on a geologic unit or soil that is unstable or that would become unstable as a result of the Project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse

Potential Impact: 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. Damage or collapse resulting from landsliding could cause harm to personnel or property in the immediate area. Although the Project must comply with existing building safety requirements, these requirements may not address all ground failure issues.

Mitigation Measure: The following mitigation measure, discussed in Section 3.7.2 of the SEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

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

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigation recommended by Mitigation Measure PEIR 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.

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

Impact GEO-4: Placement of Project-related facilities on expansive soil, creating substantial direct or indirect risks to life or property

Potential Impact: Expansive soils occur in much of the program area, particularly in the Fontana-Diablo-Altamont soil association, which is the dominant soil association in the Project area. Turbine foundations built on expansive soils would be subject to the shrink and swell of these soils, which could damage structures if the subsoil, drainage, and foundation are not properly engineered. However, soil sampling and treatment procedures are addressed by state and local building codes. Treatment of expansive soil may include removing the expansive soil and replacing it with non-expansive soil, incorporating additives, and installing specially designed foundations.

Mitigation Measure: The following mitigation measure, discussed in Section 3.7.2 of the SEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

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

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure PEIR 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.

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

Impact GEO-5: Direct or indirect destruction of a unique paleontological resource or site or unique geologic feature

Potential Impact: If fossils are present in the Project area, they could be damaged by during earth-disturbing activities during construction, such as excavation for foundations, placement of fills, trenching for power collection systems, and grading for roads and staging areas. The more extensive and deeper the earth-disturbing activity, the greater the potential for damage to paleontological resources. Because most geologic units in the Project area are likely to be sensitive for paleontological resources, excavation in these units could damage paleontological resources.

Mitigation Measures: The following mitigation measures, discussed in Section 3.7.2 of the SEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

PEIR Mitigation Measure 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 SVP'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.

PEIR Mitigation Measure 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.

PEIR Mitigation Measure 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.

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures PEIR GEO-7a, PEIR GEO-7b, and PEIR 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.

Remaining Impacts: Any remaining impact associated with destruction of paleontological resources will be less than significant.

Greenhouse Gas Emissions

Impact GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases

Potential Impact: In concept, the proposed Project is being pursued to promote sustainability and further alternative energy. Although the measures included in the AB 32 Scoping Plan, 2017 Climate Change Scoping Plan, and Alameda County CCAP are necessarily broad, the Project is generally consistent with the goals and desired outcomes of the plans. The additional wind energy generated by the Project would directly support the decarbonization of the electric power sector, helping California to meet the GHG goals contained in SB 32, SB 100, and EO B-55-18. Nevertheless, emissions generated by the Project could potentially conflict with applicable measures in the AB 32 Scoping Plan, 2017 Climate Change Scoping Plan, and Alameda County CAP.

Mitigation Measures: The following mitigation measures, discussed in Section 3.8.2 of the SEIR, are hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

2019 Updated PEIR Mitigation Measure 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 2018c). 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.

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 Project 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.

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.

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 Model	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

PEIR Mitigation Measure 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 SF_6 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 SF_6-containing circuit breakers at the substation consistent with Scoping Plan Measure H-6 for the detection and repair of leaks.

PEIR Mitigation Measure 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.

PEIR Mitigation Measure 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 (ADC) 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.

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measures 2019 Updated PEIR GHG-2a, PEIR GHG-2b, PEIR GHG-2c, and PEIR 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.

Hazards and Hazardous Materials

Impact HAZ-4: Placement of Project-related facilities on a site that is included on a list of hazardous materials sites, and resulting creation of a significant hazard to the public or the environment

Potential Impact: A preliminary records check conducted for the Project and 0.25-radius around the Project area identified two facilities – one located approximately 0.18 miles north of the Project area involved groundwater contamination of petroleum hydrocarbons (i.e., diesel). Remediation of the site commenced and the case closed on May 20, 2014. Soil contamination of an unknown substance was reported on March 1, 2011 at Aquachlor, located approximately 0.16 miles south of the Project area near Altamont Pass Road. The case was closed as of September 13, 2016. No other hazardous materials properties were identified within 0.25 miles of the Project area. Although these sites are outside the Project area, the Project would involve soil disturbance. And, as outlined in the PEIR, a Phase I Environmental Site Assessment (and remediation, if necessary) is required for all projects requiring a Conditional Use Permit (CUP) prior to construction activities as a standard condition of approval for the CUP.

Mitigation Measure: The following mitigation measure, discussed in Section 3.9.2 of the SEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

2019 Updated PEIR Mitigation Measure 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 E1527-13. 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 DTSC 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, goggles).

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure 2019 Updated PEIR 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.

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-6: Impairment of implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan

Potential Impact: Vehicular traffic associated with operations and maintenance of legacy facilities is not anticipated to change under the proposed Project except that it may be reduced due to fewer, newer turbines that will require less maintenance. Accordingly, operation of the Project would have no impact.

During construction, there would be an increase in vehicular traffic transporting work crews, equipment, and materials. Construction traffic routing would be established in a Construction Traffic

Control Plan as described in Section 3.16 *Transportation* and would include a traffic safety and signing plan prepared by the Project engineers in coordination with Alameda County and other related agencies. The plan would define hours, routes, and safety and management requirements. The Project would therefore not conflict with any adopted emergency response plan or emergency evacuation plan.

Mitigation Measures: The following mitigation measure, discussed in Section 3.9.2 of the SEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

PEIR Mitigation Measure 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.

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure PEIR TRA-1 will 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.

Remaining Impacts: Any remaining impact associated with interference with an adopted emergency response plan or emergency evacuation plan will be less than significant.

Impact HAZ-8: During normal operation, the effects of bending and stress on rotor blades over time could lead to blade failure and become a potential blade throw hazard

Potential Impact: There is no ordinance dictating setback conditions in Alameda County; rather, setbacks are determined on a project-by-project basis in accordance with the standard conditions of approval for a CUP. Setback requirements are described in Table 2-8 *Alameda County Turbine Setback Requirements* in Chapter 2, *Project Description.* These requirements have two setback options (standard minimum setback and reduced optional setback with conditions) for turbine siting relative to certain land uses. Table 2-8 has been updated by the County as described and presented in Chapter 2, *Project Description*. The table below shows the minimum setback distances for both setback options and the approximate distances between land uses and proposed turbines.

Distances between Proposed Turbines and Land Uses

	Standard Minimum Setback	Reduced Optional Setback with Conditions	Distance from Closest Proposed Turbine
Residence	3 times TTH (456 m)	1.5 times TTH (228 m)	305 m
Recreation Area – Bethany Reservoir	1.25 times TTH (190 m)	1.0 times TTH (152 m)	229 m
Public Road – Interstate 580	2.5 times TTH (380 m)	1.25 times TTH (190 m)	195 m

Persons, structures, and facilities within the blade throw hazard zone could be at risk of damage, injury, or death if struck by a falling blade. People potentially within the hazard zone include motorists travelling along I-580 and county roads and those occupying residences. The important infrastructure in and adjacent to the project area potentially susceptible to damage from blade throw includes PG&E transmission lines and windfarm substations. Overall, the strict control of public access would reduce the risk of potential blade strike in the project area.

Turbines being considered would have a maximum total turbine height (TTH) of 152 meters. The closest proposed turbine to a residence is approximately 305 meters. Although that distance is less than the Standard Minimum Setback, it would be allowed under the Reduced Optional Setback with Conditions if a notarized agreement or easement was secured. Notarized agreements have been obtained from homeowners in the proposed project area.

The closest recreational area (Bethany Reservoir) to a proposed turbine is approximately 229 meters in distance. This distance is considered an adequate setback distance under both setback options and potential blade throw impacts would be less than significant.

For public roads, the minimum distance to ensure safety from blade throw hazard would be approximately 190 meters. The closest proposed turbine is approximately 195 meters from I-580. Although that distance is less than the Standard Minimum Setback, it would be allowed under the Reduced Optional Setback with Conditions. A turbine sited this close to a major highway could, in the event of a blade throw incident, endanger highway drivers. This is considered a significant impact. Implementation of New Mitigation Measure HAZ-8, however, would reduce potential blade throw impacts to a less-than-significant level by ensuring turbines are sited a safe distance from public roads.

Mitigation Measure: The following mitigation measure, discussed in Section 3.9.2 of the SEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

2019 NEW Mitigation Measure HAZ-8: Site Turbines at least 1.25 times TTH from Public Roads and Prepare a Blade Throw Study if Necessary

The Project proponent will re-site or remove any proposed turbines that are less than 1.25 times TTH. Turbines re-sited at least 2.5 times TTH from public roads would meet standard setback requirements and no further action would be necessary. Turbines re-sited less than 2.5 times TTH from public roads, would require preparation of a blade throw study. The blade throw study must be prepared by a qualified professional engineer, subject to approval by the Planning Director.

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigation recommended by Mitigation Measure 2019 NEW HAZ-8 will ensure that any impacts related to potential blade throw will be mitigated to a less-than-significant level.

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-1: Violation of any water quality standards or waste discharge requirements or other degradation of surface water or groundwater quality

Potential Impact: Construction-related earth-disturbing activities associated with the Project would introduce the potential for increased erosion and sedimentation, with subsequent effects on drainage and water quality. During construction, trenching, site preparation, and other construction activities would create areas of bare soil that can be exposed to erosive forces. 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 that can increase sediment discharge to surface waters, if proper BMPs are not used.

Existing activities in the Project area may already result in the release of sediment, and 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 from 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.

Project operation is not anticipated to result in a substantial amount of additional runoff that would degrade surface or groundwater quality.

Mitigation Measure: The following mitigation measure, discussed in Section 3.10.2 of the SEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

PEIR Mitigation Measure WQ-1: Comply with NPDES requirements

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

Compliance and coverage with the local stormwater management programs and Construction General 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 Construction General 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 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.

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure PEIR WQ-1 will ensure that any impacts that would violate water quality standards or waste discharge requirements or other degradation of surface water or groundwater quality will be mitigated to a less-than-significant level.

Remaining Impacts: Any remaining impact associated with violation of any water quality standards or waste discharge requirements will be less than significant.

Impact WQ-3: Substantial alteration of existing drainage patterns in a manner that would result in substantial erosion or siltation onsite or offsite

Potential Impact: The Project would not construct any turbines within existing drainage areas and the Project footprint would be designed to not cause any downstream erosion during the storm season. In addition, the proposed program would be required to adhere to the NPDES Construction General Permit.

Mitigation Measure: The following mitigation measure, discussed in Section 3.10.2 of the SEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

PEIR Mitigation Measure WQ-1: Comply with NPDES requirements

Findings: Based on the SEIR 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.

Remaining Impacts: Any remaining impact associated with substantially altering the existing drainage pattern of the site or area resulting in substantial erosion or siltation onsite or offsite will be less than significant.

Impact WQ-4: Substantial increase in the amount of surface runoff in a manner that would result in flooding onsite or offsite

Potential Impact: Changes in impervious cover associated with Project construction would not cause a substantial increase in the amount of surface runoff that would result in flooding. New and expanded roads would be constructed to accommodate the new, larger turbines. However, new and expanded roads would be gravel, and would not introduce new impervious surfaces. Although this would result in an increase in the extent of graveled surfaces (which can result in increased runoff), the soils underlying the Project area are predominantly high runoff soils (i.e., Hydrologic Soil Group D). Compacted gravel roads have runoff potential similar to that of Hydrologic Soil Group D soils. Consequently, the additional graveled roads would not result in a net increase in runoff potential compared with existing native soils where the new gravel would be placed. Project construction would be required to comply with the NPDES stormwater Construction General Permit.

Mitigation Measure: The following mitigation measure, discussed in Section 3.10.2 of the SEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

PEIR Mitigation Measure WQ-1: Comply with NPDES requirements

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigation recommended by Mitigation Measure PEIR WQ-1 will ensure that any impacts that would substantially increase surface runoff resulting in flooding onsite or offsite will be mitigated to a less-than-significant level.

Remaining Impacts: Any remaining impact associated with a substantial increase in surface runoff resulting in flooding onsite or offsite will be less than significant.

Impact WQ-5: Creation of or contribution to runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff

Potential Impact: The Project area does not have existing or planned stormwater drainage facilities. Construction of the Project would not increase the rate of polluted runoff. However, construction could generate polluted runoff because soil would be stripped, bare areas exposed, and sedimentation from stormwater could result.

Mitigation Measure: The following mitigation measure, discussed in Section 3.10.2 of the SEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

PEIR Mitigation Measure WQ-1: Comply with NPDES requirements

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigation recommended by Mitigation Measure PEIR 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.

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-7: In flood hazard, tsunami, or seiche zones, risk of release of pollutants as a result of Project inundation

Potential Impact: The Project is not near a large body of water capable of producing a seiche event, and is approximately 50 miles east of the Pacific Ocean and not subject to a tsunami event. If the Bethany Reservoir Dam were to fail, the likelihood of significant flood risk is considered minimal. Potential release of pollutants as a result of Project inundation could occur during construction involving sediment- or contaminated runoff from disturbed work areas or potential spills that could result in temporary impacts on water resources. However, BMPs such as runoff control measures, including stabilizing construction areas, and sediment controls and filtration, would be implemented to minimize impacts on water resources. Furthermore, the SWPPP, which includes provisions to reduce and control discharges other than stormwater, would be implemented.

Due to the minimal change in impervious area, there would be no substantial reduction of water infiltration into the ground, and risk of release of pollutants as a result of Project inundation would be minimal during Project operation.

Mitigation Measure: The following mitigation measure, discussed in Section 3.10.2 of the SEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

PEIR Mitigation Measure WQ-1: Comply with NPDES requirements

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigation recommended by Mitigation Measure PEIR WQ-1 will ensure that any impacts that would risk the release of pollutants via inundation by seiche, tsunami, or mudflow will be mitigated to a less-than-significant level.

Remaining Impacts: Any remaining impact that would risk release of pollutants via inundation by seiche, tsunami, or mudflow will be less than significant.

Impact WQ-8: Conflict with or obstruction of implementation of a water quality control plan or sustainable groundwater management plan

Potential Impact: The Project area is within the jurisdiction of the Central Valley Water Board, and subject to the boards' basin plan. The Project would include stormwater BMPs, as required by PEIR Mitigation Measure WQ-1, to protect water quality and beneficial uses, as defined in the basin plan. Implementation of the Project SWPPP would also regulate discharges to ensure compliance with the basin plan's water quality standards, and would not conflict with or obstruct implementation of a water quality control plan. Adequate water supply is available to meet the needs of the Project for both construction and operation activities, and would not decrease groundwater supplies. The

Project would only minimally affect groundwater resources because excavation would be temporary and short-term during the construction period. Due to the minimal change in impervious area, there would be no substantial reduction or interference of water infiltration into the ground and associated groundwater recharge or depletion of groundwater supplies that would conflict with implementation of sustainable groundwater management would not occur.

Mitigation Measure: The following mitigation measure, discussed in Section 3.10.2 of the SEIR, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

PEIR Mitigation Measure WQ-1: Comply with NPDES requirements

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigation recommended by Mitigation Measure PEIR WQ-1 will ensure that any impacts that would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan will be mitigated to a less-than-significant level.

Remaining Impacts: Any remaining impact that would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan will be less than significant.

Noise

Impact NOI-1: Generation of increased ambient noise levels in the Project vicinity in excess of applicable standards

Potential Impact: Construction activities may potentially result in noise levels that exceed Alameda County noise ordinance standards during nonexempt hours.

Modeled sound levels at sensitive receptor locations under each of the three alternative turbine layouts are described in the *Sound Technical Report* in terms of L_{eq} and L_{dn} using A-weighting (ICF 2018). A total of 76 receptor locations representing single-family residences in the Project area were evaluated in the model and assessed for noise impacts based on the County standard. The analysis concluded that wind turbine noise levels would exceed the County 55 L_{dn} noise standard at a total two residential receptors. The impact of sound levels from wind turbines exceeding local standards would be significant.

Mitigation Measures: The following mitigation measure, discussed in the SEIR in Section 3.12.2, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

PEIR Mitigation Measure 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 L_{dn} 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 (L_{dn}) where noise is currently less than 55 dBA (L_{dn}) or result in a 5 dB increase where noise is currently greater than 55 dBA(L_{dn}), 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.

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigations recommended by Mitigation Measure PEIR 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.

Remaining Impacts: Any remaining impact that would contribute to exposure of residences to noise from new wind turbines will be less than significant.

Transportation/Traffic

Impact TRA-1: Conflict with a program, plan, ordinance, or policy addressing the circulation system including transit, roadway, bicycle, and pedestrian facilities

Potential Impact: Construction traffic could cause a substantial traffic increase on the local county roads that provide direct access to the project construction sites as these roads generally have low traffic volumes.

There are no public transit services, or pedestrian or bicycle facilities in the Project access routes in the program area. However, oversized construction vehicles could potentially disrupt the movement of bicycles traveling on the shoulders of some local access roads (e.g., Altamont Pass Road, West Grant Line Road, Mountain House Road), and lane or road closures associated with material deliveries could temporarily disrupt bicycle access.

Mitigation Measure: The following mitigation measure, discussed in the SEIR in Section 3.16.2, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

PEIR Mitigation Measure 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 Project. The TCP shall adhere to Alameda County, San Joaquin 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 Project area, as well as the weight and speed limits on local county roads used to access the Project area.
- Provide access for emergency vehicles to and through the Project 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 Project 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 Project-related construction activities, including schedule, truck traffic, haul routes, and the delivery of oversized or overweight materials, with Alameda County, Caltrans, and affected cities and counties to identify and minimize overlap with other area construction projects.

Findings: Based on the PEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigation recommended by Mitigation Measure PEIR TRA-1 will ensure that any impacts that would conflict with a program, plan, ordinance, or policy addressing the circulation system including transit, roadway, bicycle, and pedestrian facilities will be mitigated to a less-than-significant level.

Remaining Impacts: Any remaining impact that would conflict with a program, plan, ordinance, or policy addressing the circulation system including transit, roadway, bicycle, and pedestrian facilities will be less than significant.

Impact TRA-3: Substantial increase in hazards because of a geometric design feature (e.g., sharp curves, dangerous intersections) or incompatible uses (e.g., farm equipment)

Potential Impact: The presence of large, slow-moving construction-related vehicles and equipment among the general-purpose traffic on roadways that provide access to the program area could cause other drivers to act impatiently and create traffic safety hazards. In addition, the slow-moving trucks entering or exiting the program area from public roads could pose a traffic hazard to other vehicles and increase the potential for turning movement collisions at the program area entrance intersection. Permits from Caltrans District 4 and other relevant jurisdictions would be required for such vehicles.

Mitigation Measure: The following mitigation measure, discussed in the SEIR in Section 3.16.2, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

> **PEIR Mitigation Measure TRA-1: Develop and implement a construction traffic control plan**

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

> **Effects of Mitigation**: Implementation of the mitigations recommended by Mitigation Measure PEIR 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.
>
> **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-4: Potential to cause inadequate emergency access

Potential Impact: Slow-moving construction trucks could delay or obstruct the movement of emergency vehicles on program 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 would have the potential to significantly affect emergency vehicle access.

Mitigation Measure: The following mitigation measure, discussed in the SEIR in Section 3.16.2, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

> **PEIR Mitigation Measure TRA-1: Develop and implement a construction traffic control plan**

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

> **Effects of Mitigation**: Implementation of the mitigation recommended by Mitigation Measure PEIR 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.
>
> **Remaining Impacts**: Any remaining impact that would result in inadequate emergency access due to construction-generated traffic will be less than significant.

Wildfire

Impact WF-1: Substantial impairment of an adopted emergency response plan or emergency evacuation plan

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 would have no impact.

Large, slow-moving construction and delivery vehicles and temporary road and lane closures could delay or obstruct roadways used for emergency evacuation. Construction traffic routing would be established in a Construction Traffic Plan, which would include a traffic safety and signing plan prepared by the Project engineers in coordination with Alameda County and other related agencies to ensure adequate emergency route access at all times. All required permits from the County and/or Caltrans would be acquired before the construction of the Project.

Mitigation Measure: The following mitigation measure, discussed in the SEIR in Section 3.19.2, is hereby adopted and will be implemented as provided in the Mitigation Monitoring and Reporting Program.

PEIR Mitigation Measure TRA-1: Develop and implement a construction traffic control plan

Findings: Based on the SEIR and the entire record before the County, the County finds the following.

Effects of Mitigation: Implementation of the mitigation recommended by Mitigation Measure PEIR TRA-1 will ensure that any impacts that would substantially impair an adopted emergency response plan or emergency evacuation plan will be mitigated to a less-than-significant level.

Remaining Impacts: Any remaining impact that would substantially impair an adopted emergency response plan or emergency evacuation plan will be less than significant.

Findings and Recommendations Regarding Impacts that are Less Than Significant

Air Quality

Impact AQ-1: Conflict with or obstruction of implementation of the applicable air quality plan

Implementation of the proposed Project would result in no new permanent employees relative to existing conditions, nor would it increase population projections. Therefore, the proposed Project would not induce population or employment growth and would result in no net increase in vehicle miles traveled in the San Francisco Bay Area Air Basin (SFBAAB).

Short-term mitigated emissions resulting from proposed Project construction would not exceed the BAAQMD significance thresholds. Operational activities would be minimal and primarily include routine maintenance and monitoring. As such, operational emissions resulting from proposed Project operation would also not exceed the BAAQMD significance thresholds. The proposed Project

would result in long-term benefits from new renewable wind-generated energy, including reduction of criteria pollutants relative to the production of comparable energy from fossil fuel sources. Thus, the proposed Project would be consistent with the Clean Air Plan. It is assumed that trucks transporting some components and aggregate would travel from the Port of Stockton and the city of Tracy through portions of the SJVAB to the program area. However, SJVAPCD rules and clean air plans would not be applicable to the proposed Project because the Project area is located in the SFBAAB. Therefore, no conflict with SJVAPCD's air quality attainment plans would occur.

This potential impact is determined to be less than significant.

Impact AQ-4: Generation of objectionable odors adversely affecting a substantial number of people

Odor emissions of the proposed Project would primarily limited to the construction period. Sources of odors during construction would be diesel-powered trucks and vehicles. Potential odors from these sources would be temporary (1 year) and spatially dispersed over the Project area. Accordingly, the proposed Project is not anticipated to create objectionable odors that would violate air district nuisance rules.

This potential impact is determined to be less than significant.

Biological Resources

Impact BIO-13: Potential for construction activities to temporarily remove or alter bat foraging habitat

Construction of the repowering project could degrade bat foraging habitat by replacing vegetation with nonvegetated land cover types. Project construction would create a temporary increase in traffic, noise, and artificial night lighting in the program area, reducing the extent of landscape available for foraging. However, the amount of landscape returned to foraging habitat in the process of decommissioning the first- and second-generation turbines would offset the amount of foraging habitat lost to repowering activities. This potential impact is determined to be less than significant.

Impact BIO-17: Potential for ground-disturbing activities to result in direct adverse effects on common habitats

Ground-disturbing activities would result in the permanent loss of common habitats as a result of constructing new permanent facilities and the temporary loss of common habitats as a result of constructing temporary facilities and landscape reclamation. These activities would create minor changes in total acreage of common habitats in the program area, primarily in the annual grassland plant community.

All lands disturbed by infrastructure installation or removal would be returned to pre-project conditions. At each reclamation site, the topography would be contour graded (if necessary and if environmentally beneficial), stabilized, and reseeded with an appropriate seed mixture to maintain slope stability. Reclamation activities would be guided by a reclamation plan developed in coordination with the County and other applicable agencies. This potential impact is determined to be less than significant.

Geology, Soils, Mineral Resources, and Paleontological Resources

Impact GEO-2: Result in substantial soil erosion or the loss of topsoil

As disclosed in the PEIR, decommissioning and Project construction could cause surface disturbance and vegetation removal resulting in soil erosion. However, compliance with federal and local erosion-related regulations (e.g., the SWPPP developed for the Project, requirements of the county's Stormwater Management Plan) would ensure that ground-disturbing activities do not result in significant erosion. Typical erosion-prevention 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 would be used. Moreover, the PEIR requires a reclamation plan with specific measures taken to ensure that repowering sites are regraded and seeded to pre-Project conditions. These requirements would ensure that potential impacts of soil erosion would be less than significant, and no mitigation is required.

Greenhouse Gas Emissions

Impact GHG-1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment

The PEIR concluded that while repowering the Altamont Pass Wind Resource Area (an aggregate of all the anticipated repowering projects proposed within the program area) would result in short-term emissions of GHGs, primarily associated with construction activities, and the potential operational emission of SF_6, the repowering projects collectively would result in an annual net reduction of more than 100,000 tons of CO_2e. This beneficial impact would be less than significant.

Hazards and Hazardous Materials

Impact HAZ-1: Creation of a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials

Construction of the Project would involve small quantities of commonly used materials, such as fuels and oils, to operate construction equipment. Because standard construction BMPs would be implemented to reduce pollutant emissions during construction, this impact is considered less than significant.

The majority of hazardous materials to be used during operations, decommissioning, and removal and reclamation activities—fuels, oils, and lubricants—are of low toxicity. As these materials are required for operation of construction vehicles and equipment, BMPs would be implemented to reduce the potential for or exposure to accidental spills involving the use of hazardous materials. In addition, a Hazardous Materials Business Plan (HMBP) would be developed for the proposed Project.

Lubricants used in the turbine gearbox are potentially hazardous. The gearbox would be sealed to prevent lubricant leakage and would be periodically tested. When the lubricants have degraded to the point where they are no longer adequate, the gearbox would be drained, new lubricant added, and the used lubricants disposed of at an appropriate facility in accordance with all applicable laws and regulations. Dielectric fluid to be used in transformers is biodegradable, contains no PCBs, and

is not considered a hazardous material. This potential impact is determined to be less than significant.

Impact HAZ-2: Creation of a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment

Site workers, the public, and the environment could be inadvertently exposed to preexisting onsite contaminants during project construction. Small quantities of potentially toxic substances (such as petroleum and other chemicals used to operate and maintain construction equipment) would be used in the program area and transported to and from the area during construction. During operation, larger quantities (more than 55 gallons of liquid, 500 pounds of solids, or 200 cubic feet of compressed gases) of fuel could be stored in individual project areas. In addition, fuel and other petroleum products could be stored onsite.

However, as previously discussed, an HMBP would be developed for the Project. The HMBP would contain specific information regarding the types and quantities of hazardous materials, as well as production, use, storage, spill response, transport, and disposal of such materials. The handling and disposal of these materials would be governed according to regulations enforced by CUPA, Cal/OSHA, and DTSC, as previously discussed. In addition, regulations under the federal Clean Water Act require contractors to avoid allowing the release of materials into surface waters as part of their SWPPP and National Pollutant Discharge Elimination System permit requirements (see Section 3.10, *Hydrology and Water Quality*, for a discussion of the Clean Water Act and SWPPPs). This regulatory scheme would ensure that safety measures and precautions are taken, thereby reducing any potential impacts associated with the accidental upset or release of hazardous materials. This potential impact is determined to be less than significant.

Impact HAZ-5: Placement of Project-related facilities 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 or excessive noise for people residing or working in the Project area

Because the Project area is not within 2 miles of a public airport, implementation of the Project would not normally result in a safety hazard for people residing or working in the Project area.

However, according to the PEIR, projects with facilities in the influence area zones of local airports are required to submit a Notice of Proposed Construction or Alteration form to the FAA for review and to implement all FAA requirements to reduce potential aviation impacts. A review of the Byron Airport influence area zone indicates that the Project area is outside all influence area zones. Also, wind turbines would require FAA lighting as most would be 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 would review the proposed Project prior to construction (14 CFR Part 77). The FAA analysis would include a review of proposed marking (paint scheme) and nighttime lighting to ensure that aircraft could readily identify and avoid the wind turbines. This potential impact is determined to be less than significant.

Impact HAZ-7: Exposure of people or structures, either directly or indirectly, to a significant risk involving wildland fires

As discussed in Section 3.19 *Wildfire*, the most likely source of an ignition from the Project would be hardware or conductor failures of power collection lines, dropping of collection lines, turbine malfunction or mechanical failure, and avian-related incidents. In addition, during construction, additional work crews would be required, temporarily increasing the number of vehicles in the Project area. Climate conditions together with the potential for vehicle-related ignitions increase the potential for ignition, especially during the summer months.

The potential for wildland fires already exists in the program area due to the presence of the wind energy facilities. Because CAL FIRE and ACFD already provide fire protection services to the program area, the fire protection facilities and The potential for wildland fires however, already exists in the Project area due to the presence of the existing wind energy facilities. Moreover, the improved safety of newer models associated with repowered projects are anticipated to result in a reduction of potential fire ignitions. Because CalFire and the Alameda County Fire Department already provide fire protection services to the Project area, the fire protection facilities and infrastructure required to protect the existing facilities are in place. During construction, temporary onsite water tanks and water trucks would be made available, in part, for fire water support. This potential impact is determined to be less than significant.

Hydrology and Water Quality

Impact WQ-2: Substantial decrease of groundwater supplies or substantial interference with groundwater recharge such that the Project may impede sustainable groundwater management of the basin

Project construction would involve relatively small footprints, compared with the size of the entire groundwater basin, and, therefore, would not result in blocking groundwater infiltration or interfere with groundwater recharge. The proposed Project would require a minimal amount of water, which would be trucked to the site, on a temporary basis during construction and an even smaller amount of water during Project operation. The water supply assessment (Appendix D of the SEIR) concludes that there is an adequate water supply available to meet the needs of the proposed Project for both construction and operation activities, and would not decrease groundwater supplies. This potential impact is determined to be less than significant.

Noise

Impact NOI-2: Generation of excessive groundborne vibration or groundborne noise levels

Construction of access roads, turbines, and associated facilities would involve the use of heavy equipment that may produce vibration that would be perceptible up to a distance of 50 feet away from the vibration source. No impact equipment such as pile drivers is expected to be used during construction. Rubber-tired vehicles such as heavy trucks are not a significant source of vibration. Consequently, proposed construction activities are not expected to result in perceptible levels of vibration in sensitive buildings. This potential impact is determined to be less than significant.

Tribal Cultural Resources

Impact TCR-1: Potential to cause a substantial adverse change in the significance of a tribal cultural resource with cultural value to a California Native American tribe and that is listed or eligible for listing in the California Register of Historical Resources or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)

The results from the search of the NAHC's Sacred Lands Files, and outreach efforts by the County pursuant to AB 52, as discussed in the *Methods for Analysis* section, did not identify any tribal cultural resources in or near the Project area. This potential impact is determined to be less than significant.

Impact TCR-2: Potential to cause a substantial adverse change in the significance of a tribal cultural resource with cultural value to a California Native American tribe and that is a resource determined by the lead agency to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.

The results from the search of the NAHC's Sacred Lands Files, and outreach efforts by the County pursuant to AB 52, as discussed in the *Methods for Analysis* section, did not identify any tribal cultural resources in or near the Project area. This potential impact is determined to be less than significant.

Utilities and Service Systems

Impact UT-1: Relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects

Increases in impermeable surfaces onsite would be primarily limited to tower foundations. Because the Project would disturb more than 1 acre, it would require coverage under the state's Construction General Permit. Impacts related to construction of new stormwater drainage facilities or expansion of existing facilities would be very minor.

The Project would not generate a significant amount of wastewater, and water for construction use at the Project area would be trucked in. A new onsite well will be constructed for operational use. A well drilling permit from ACPWA would be required. Compliance with ACPWA's Well Standards Program and Chapter 6.88 of the County General Ordinance Code would ensure impacts relating to well construction and operations would be minimal.

The Project itself would generate electric power through wind turbines. No new natural gas or telecommunication facilities would be required. This potential impact is determined to be less than significant.

Impact UT-2: Have sufficient water supply to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years

Water quantities used for the Project are expected to be minimal. The majority of water use would take place during construction. Water would be used for concrete mixing for the turbine tower and electrical substation foundations, as well as for dust control on roads and during grading and site work. Daily water use would vary. A minimal amount of water would be required for construction

worker needs (e.g., drinking water, sanitation facilities). The Project proponent plans to draw needed water for water trucks and drinking water from an offsite source for construction and from a new onsite well for operations. As discussed in Section 3.10, *Hydrology and Water Quality*, the water supply assessment prepared for the Project concluded that there is an adequate water supply available to meet the needs of the proposed Project and would not decrease groundwater supplies. This potential impact is determined to be less than significant.

Impact UT-4: Project-related exceedance of state or local solid waste standards or of the capacity of local infrastructure, or other impediments to attaining solid waste reduction goals

The majority of solid waste generated would be during construction and during the decommissioning of turbines. The Project is not anticipated to generate a substantial amount of solid waste because turbines and components would be sold or recycled, which would reduce the amount of solid waste taken to landfills. It is not anticipated that the construction or operation of the Project would generate enough solid waste to affect the capacity of any landfill. This potential impact is determined to be less than significant.

Wildfire

Impact WF-2: Exacerbation of wildfire risks associated with pollutant concentrations or uncontrolled spread of wildfire

The Project area is located in an area of moderate wildfire risk, not in areas classified as high or very high fire hazard severity zones (California Department of Forestry and Fire Protection 2007). Construction would be a temporary activity; an active working crew would control any potential combustible materials though standard OSHA worker protection requirements. Temporary onsite water tanks and water trucks would be made available for fire support.

As discussed above, wind energy facilities are prone to fire ignition from different sources. However, as described above in Chapter 2, *Project Description*, standard O&M procedures would be employed in the event of downed power lines. The turbines would be equipped with internal protective control mechanisms to safely shut them down in the event of a high-voltage grid outage or a turbine failure related to fire or mechanical problems.

The potential for wildland fires however, already exists in the Project area due to the presence of the existing wind energy facilities. Moreover, the improved safety of newer models associated with repowered projects are anticipated to result in a reduction of potential fire ignitions. Because CalFire and Alameda County Fire Department already provide fire protection services to the Project area, the fire protection facilities and infrastructure required to protect the existing facilities are in place. During construction, temporary onsite water tanks and water trucks would be made available, in part, for fire water support.

The PEIR concluded that the fire-related impact of individual repowering projects would be less than significant, and no mitigation is required. The proposed Project would comply with the Altamont Pass Wind Farms Fire Requirements as described in Exhibit C of the 2005 Conditional Use Permits. This potential impact is determined to be less than significant.

Impact WF-3: Project-related installation or maintenance of associated infrastructure that may exacerbate fire risk or result in temporary or ongoing environmental impacts

As discussed above Impact WF-2, implementation of the Project would carry with it a potential for fire ignition risks (e.g., turbine overload, bearing overheating, pendant cable failure; avian-related incidents). However, employing standard measures to reduce fire risks during construction and standard O&M procedures as described above during operation and maintenance, fire risks would be reduced.

The PEIR concluded that the fire-related impact of individual repowering projects would be less than significant, and no mitigation is required. The proposed Project would comply with the Altamont Pass Wind Farms Fire Requirements as described in Exhibit C of the 2005 Conditional Use Permits. This potential impact is determined to be less than significant.

Impact WF-4: Exposure of people or structures to significant risks such as downslope or downstream flooding or landslide as a result of runoff, post-fire slope instability, or drainage changes

The PEIR concluded that impacts related to flooding, landslides, runoff, and drainage changes would be less-than-significant with implementation of WQ-1: Comply with NPDES requirements. As discussed in more detail in Section 3.7, *Geology, Soils, and Paleontological Resources*, and Section 3.10, *Hydrology and Water Quality*, design requirements to minimize risk of exposure to geologic and hydrologic hazards, including flooding, landslides, runoff, and drainage changes would be required.

The Project area is within an area of sloping landscape. If a wildfire were to take place on these slopes, there could be an increase in risk of landslide or flooding due to post-fire slope instability, which occurs when a wildfire removes the vegetation that holds soils in place, making it more likely for soil to move downslope, especially in tandem with precipitation.

However, as discussed under Impact WF-2, the risk of wildfire within the inventory area would be minimized through compliance with all pertinent local, state, and federal policies and codes and Project BMPs. Post-wildfire risk also would be reduced with implementation of applicable policies and regulatory requirements. This potential impact is determined to 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 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 SEIR.

Based on analysis in the SEIR 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 project.

Cumulatively Considerable Contributions to Potentially Significant Impacts that Cannot Mitigated to a Less-Than-Significant Level

Air Quality

Construction of the Project would generate reactive organic gases (ROG) and nitrogen oxides (NO_X). Although the Project impact related to ROG would be less than significant (Impact AQ 2), and the Project impact related to NOx would be less than significant with mitigation (Impact AQ-2, PEIR Mitigation Measures AQ-2a and AQ-2b and 2019 Mitigation Measure AQ-2d), the ROG and NO_X generated by the project would contribute to the cumulative impact identified in the PEIR. Because the amounts of ROG and NO_X would be substantial, the contribution would be cumulatively considerable. 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

Avian and bat mortality associated with turbine collisions has been identified as a significant and unavoidable impact. By definition, and considered with other sources of avian mortality (e.g., the Contra Costa County portion of the APWRA and the neighboring Montezuma Hills Wind WRA), this would constitute a considerable contribution to a significant cumulative impact. Additional project-level information that has become available since the PEIR for golden eagle and bats is analyzed below.

The golden eagle within the APWRA has been the subject of extensive field studies and modeling to ascertain its population status and its likely long-term responses to fatalities caused by wind energy developments. This work was synthesized by Hunt et al. (2017), who estimated that an annual reproductive output of 216–255 breeding pairs would have been necessary to support published estimates of 55–65 turbine-caused fatalities per year in the APWRA, concluding that the area has "a stable breeding population, but one for which any further decrease in vital rates would require immigrant floaters [subadults and nonbreeding adults] to fill territory vacancies." This estimate would indicate that the 280 territorial pairs present in the Diablo Range (Wiens et al. 2015) would likely be adequate to maintain the region's golden eagle population, but with a long-term population reduction possible if fatalities were to exceed 55-65 eagles per year.

There are substantial uncertainties in this conclusion, however. USFWS (2019x), notes, for instance, that the severe drought that affected the Diablo Range during 2014-2016 monitoring resulted in average annual productivity of approximately half of that assumed by Hunt et al. (2017), indicating that during times of low productivity a much larger population would be needed to achieve a stable population size under the stress of wind project mortality. Also, the work of Hunt et al. (2017) assumes that the Diablo Range eagles are a discrete population, but they acknowledge that up to 17% of radio transmitter-tagged eagles used in their study left the Diablo Range area or may have

originated outside the area and migrated in. These "travelers" are predominately juvenile, subadult, or nonbreeding adult eagles, a group that also comprises a disproportionate fraction of the golden eagle mortalities in the APWRA. Thus, the eagles in the APWRA make up an anomalously small fraction of the reproductive eagles in the Diablo Range, as well as an anomalously large fraction of those eagles most likely to have come from or be migrant to areas outside the Diablo Range. It is also noteworthy that golden eagle fatalities attributable to wind energy development in the cumulative effects study area would remain substantially lower than 55-65 eagles per year, with estimated fatalities of 10.2 eagles per year for the Montezuma Hills Wind Resource Area (Solano County Department of Resource Management 2011) and 35.2 eagles per year for the APWRA (based on 0.06 eagles/year/MW with 587 MW of installed capacity, which includes the proposed project), totaling 45.4 eagles per year.

For these reasons, the expectation is that the Diablo Range population could support a substantial further increase in eagle fatalities before experiencing a substantial change in population demographics. The new data confirm the PEIR determination of a significant and unavoidable cumulative impact on golden eagles to which the contribution of the proposed project would be cumulatively considerable; however, the data provides no evidence of a substantial change in the magnitude of the cumulative impact, relative to the analysis within the PEIR.

The primary bats affected by wind energy development in the APWRA are Mexican free-tailed and hoary bats, which together account for more than 90% of the bat fatalities observed in Vasco Winds and Golden Hills monitoring; the two species make up approximately equal fractions of the observed mortality. The Mexican free-tailed bat is not a species of conservation concern, as it is extremely widespread and in most of its range is non-migratory. The hoary bat, however, is highly migratory, with a summer range that includes much of North America, and seasonal migrations to overwinter in southern California and Mexico (Cryan 2003). The species was early identified as the single most common bat fatality at wind farms at locations throughout the United States (Ellison 2012), both because it is a "tree bat" that is known to be attracted to forage at wind turbines (Arnett et al. 2016), and because it is highly migratory. Migrations in this species are not well understood, but at least some populations make very long migrations (Cryan et al. 2014). California is geographically positioned between hoary bat populations in western Canada and the Pacific Northwest, and overwintering habitat in southern California and Mexico. Most hoary bat fatalities detected in the APWRA have occurred in the fall, during the southward bat migration, so it is likely that most hoary bat fatalities in the area involve migratory rather than resident bats, and this may also indicate that their spring migration has less exposure in the APWRA. It is thus likely that many of the fatalities observed at APWRA are derived from a large migratory population that summers north of the area.

More recent studies shed additional light on cumulative impacts on hoary bats. Frick et al. (2017) developed population models of hoary bats in North America and showed that, due to high mortality rates and low reproductive rates, continuation of current mortality rates associated with wind power facilities could "pose a substantial threat to migratory bats in North America," with possible outcomes for the hoary bat including local extirpation. Data corroborating this proposition have been published by Rodhouse et al. (2019), who find evidence for region-wide summer declines of hoary bats in the Pacific Northwest (Washington and Oregon) between 2010 and 2018; they propose "the hypothesis that the longer duration and greater geographic extent of the wind energy stressor (collision and barotrauma) have impacted the species." It is thus possible that wind energy development in the APWRA, alone or in concert with the proposed Project, could cause or contribute to declines in regional hoary bat populations. This does not alter, but rather confirms and adds further detail to the PEIR determination of a significant and unavoidable cumulative impact on bats.

As discussed in analysis of Impact BIO-14, this analysis also finds that the number of bats likely to be killed by wind turbines is greater than was estimated in the PEIR. However, in the absence of any confident estimate of the size of the affected bat populations, it is not possible to conclude with confidence that the impact would be greater than as assessed in the PEIR analysis, as the PEIR itself anticipated when it acknowledged its estimates were uncertain and likely understated the actual effect (see, e.g., PEIR, 3.4-58, 3.4-133). This analysis confirms the PEIR determination of significant and unavoidable impact on bats to which the contribution of the proposed project would be cumulatively considerable, however there is no evidence of a substantial change in the magnitude of the cumulative impact, relative to the analysis in the PEIR.

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

Transportation/Traffic

Because the PEIR concluded that any proposed repowering projects with the construction activities taking place concurrently with construction of the a repowering project at the location of the Sand Hill project site would contribute to a significant and unavoidable cumulative impact on traffic operation, safety hazards, emergency access, and bicycle facilities on the roadway and bicycle facilities in the vicinity, the Sand Hill Project would be a contributor to the cumulative traffic impact identified in the PEIR. The project will make a cumulatively considerable contribution to the cumulative traffic impact identified in the PEIR.

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

Aesthetics

The geographic scope considered for potential cumulative impacts on visual/aesthetic resources is the viewshed of the public and recreational users common to the program area. The PEIR concluded that the program would not make a cumulatively considerable contribution to cumulative aesthetics impacts for the following reasons, which also apply to the Sand Hill Project.

Existing Alameda and Contra Costa County policies would prevent the program from contributing to a cumulatively significant impact. Alameda County Policy ECAP 105, together with Mitigation Measures AES-2a, AES-2b, AES-c, AES-3, and AES-5, would prevent the proposed program from contributing to a cumulatively considerable impact.

Agricultural and Forestry Resources

The program area contains 24.21 acres of Prime Farmland and 0.36 acre of Farmland of Statewide Importance. PEIR Mitigation Measure AG-1 would ensure that no Prime Farmland or Farmland of Statewide Importance is converted to nonagricultural use. This measure would also apply to the Project, and would ensure that the project would not result in any impacts on farmland or forestry resources, and therefore would not result in or contribute to a cumulatively considerable impact.

Cultural Resources

Simultaneous construction of multiple repowering projects in the program area and other development and infrastructure projects in the vicinity of the program area could potentially result in significant impacts on historic resources, archaeological resources, and human remains, should they be present within the program area or the vicinity of the program area. However, the PEIR found that implementation of mitigation measures identified in the PEIR will ensure that impacts would not be such that they would result in or contribute to a cumulative impact. These measures also apply to the project, and therefore, the project impacts would not be such that they would result in or contribute to a cumulative impact. The contributions are therefore less than significant.

Energy

As described in Section 3.06, Energy, the Project would have No Impact related to conflict with or obstruction of a state or local plan for renewable energy or energy efficiency. Project construction, which would be a short-term impact, would be reduced to less than significant by BACT and other construction-related mitigation measures. The residual impact related to energy use by construction equipment would be small. For these reasons, there would be no cumulative impact related to energy.

Paleontological Resources

Simultaneous construction of multiple repowering projects in the program area and other development and infrastructure projects in the vicinity of the program area could potentially result in significant impacts on paleontological resources, should they be present within the program area or the vicinity of the program area. However, the PEIR found that implementation of mitigation measures identified in the PEIR will ensure that impacts would not be such that they would result in or contribute to a cumulative impact. These measures also apply to the project, and therefore, the project impacts would not be such that they would result in or contribute to a cumulative impact.

Greenhouse Gas Emissions

GHG emissions are inherently a cumulative concern, in that the significance of GHG emissions is determined based on whether such emissions would have a cumulatively considerable impact on global climate change. Although the geographic scope of cumulative impacts related to GHG emissions is global, the PEIR analysis focused on the state, the region, and the program's direct and/or indirect generation or offset of GHG emissions. The PEIR found that the program, the Golden Hills Project, and the Patterson Pass Project would result in a long-term net reduction of approximately 96,049 metric tons of CO2e per year, 18,727 metric tons of CO2e per year, and 6,204 metric tons of CO2e per year, respectively, and would not conflict with the State's GHG reduction

goals. The project would contribute to this a long-term net reduction in CO2e, and therefore, the project-specific incremental impact on GHG emissions would not be cumulatively considerable.

Hazards and Hazardous Materials

The project 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. Together, these measures would ensure that impacts related to exposure to hazardous materials would be minimized and/or avoided. Therefore, the project's incremental, less-than-significant impacts in these areas would not be cumulatively considerable.

Noise

Implementation of PEIR Mitigation Measure NOI-1 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, as concluded in the PEIR, the impact would be temporary and localized and implementation of PEIR Mitigation Measure NOI-2 would reduce cumulative impacts to a less-than-significant level.

Wildfire

The project would be required to adhere to regulations that govern fire prevention and management. Together, these measures would ensure that impacts related to wildfire risks would be minimized and/or avoided. However, as concluded in the PEIR, the impact would be temporary and localized and implementation of PEIR Mitigation Measure TRA-1 would reduce cumulative impacts to a less-than-significant level.

No Contribution to a Cumulative Impact

Based on the discussion in Chapter 5 of the SEIR and the entire record before the County, the County finds that the proposed Project will not have a cumulatively considerable contribution to the following impact areas.

- Land Use and Planning
- Geology, Soils, and Mineral Resources
- Hydrology and Water Quality
- Population and Housing
- Public Services
- Recreation
- Tribal Cultural Resources
- Utilities and Service Systems

Findings for Alternatives Considered in the PEIR

Section 15091(a)(3) of the State CEQA Guidelines requires findings about the feasibility of project alternatives whenever a project within the responsibility and jurisdiction of the lead agency will have a significant environmental effect that has not been mitigated to a less-than-significant level.

Identification of Project Objectives

The State CEQA Guidelines state that the "range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic purposes of the project and could avoid or substantially lessen one of more of the significant effects" of the project (CEQA Guidelines Section 15126[d][2]). Thus, an evaluation of the project objectives is key to determining which alternatives should be assessed in the SEIR.

As explained in Section 4.1.2 of the SEIR, the two primary objectives of the proposed project are to "maximize wind energy production for Power Purchase Agreements obtained for the Project by siting up to forty new wind turbines on leased lands within the program area" and "maintain commercial viability." The secondary objectives of the proposed project, described in Section 4.1.2 of the SEIR, are listed below.

- To minimize environmental impacts by:
    - Limiting ground disturbance through the re-use of existing infrastructure (e.g., roads, transmission lines) where feasible.
    - Improving understanding of the effects of new generation turbines on birds and bats by applying the same avian mortality monitoring protocol across a large segment of the program area, rather than separate protocols for multiple separate projects.
- To increase local short-term and long-term employment opportunities.
- To provide economic benefits to Alameda County.
- To assist California in meeting its RPS, GHG reduction, and carbon neutrality goals.

Alternatives Analyzed in the SEIR

The State CEQA Guidelines state that the "range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic purposes of the project and could avoid or substantially lessen one or more of the significant effects" of the project. In addition, the SEIR must examine the No Project alternative. The County evaluated the alternatives listed below.

- No Project—Repowering by Others
- No Project—No Repowering
- Smaller Turbine—Pre-Micro-Sited Layout

No Project—Repowering by Others Alternative

Under the No Project – Repowering by Others alternative, sPower would not repower the Project site. However, because of the site's unique wind resources, location within the Program Area, and

proximity to existing transmission lines and substations, it is reasonable to expect, based on current plans and consistent with available infrastructure, that the Project sites would be repowered in the foreseeable future by one or more wind companies, using turbines described in the PEIR and made subject to the same regulatory regime as other repowering proposals and achieving roughly the same MW production capacity. Any remaining turbine foundations would be removed as required by County regulations and policies, and road improvements and equipment laydown requirements would be assumed to be comparable to the Project.

Finding: Based on the SEIR and the entire record before the County, the County rejects the No Project – Repowering by Others alternative as infeasible because it would not reduce any of the identified significant impacts and would not meet all of the objectives of the Project.

Explanation: The No Project – Repowering by Others alternative would not satisfy CEQA's requirement that alternatives reduce one or more significant impacts and would not necessarily meet the following fundamental project objectives, and is therefore rejected as infeasible.

- *Fundamental objective:* to maximize wind energy production for Power Purchase Agreements obtained for the Project by siting up to forty new wind turbines on leased lands within the program area.

  It is speculative to assume that repowering by others would result in the siting of a sufficient number of turbines to maximize energy production within this portion of the program area.

- *Fundamental objective:* to maintain commercial viability.

  As noted above, the amount of wind production that would be achieved by repowering by others is speculative at this time, given the uncertainty of the near and far term economic and political climate.

No Project—No Repowering Alternative

Under the No Project – No Repowering alternative, no repowering would occur, and the Project area would be restored to pre-permit conditions with restrictions against further installation of wind turbines on the Sand Hill Project sites for the foreseeable future.

Finding: Based on the SEIR and the entire record before the County, the County rejects the No Project—No Repowering alternative as infeasible because it would not meet most of the objectives of the project.

Explanation: The No Project—No Repowering alternative would fail to meet most of the following project objectives and is therefore rejected as infeasible.

- *Fundamental objective:* to maximize wind energy production for Power Purchase Agreements obtained for the Project by siting up to forty new wind turbines on leased lands within the program area.

  Because no repowering would occur under this alternative, it will not facilitate wind energy production through repowering.

- *Fundamental objective:* to maintain commercial viability.

  This fundamental objective relates to the first fundamental objective and cannot be met if repowering does not occur.

- *Secondary objective:* to minimize environmental impacts by:
    - Improving understanding of the effects of new generation turbines on birds and bats by applying the same avian mortality monitoring protocol across a large segment of the program area, rather than separate protocols for multiple separate projects.

      Because repowering would not occur under this alternative, there would be fewer opportunities for research on bird and bat mortality.
- *Secondary objective:* to increase local short-term and long-term employment opportunities.

  Without repowering, there would be no increase in employment opportunities associated with the construction and operation of wind facilities.
- *Secondary objective*: to provide economic benefits to Alameda County.

  Under this alternative, the County would not receive payments/fees from the Project.
- *Secondary objective*: to assist California in meeting its RPS, GHG reduction, and carbon neutrality goals.

  The annual GHG emissions reduction of approximately 50,000 metric tons of CO2e would not occur under this alternative and would eliminate this contribution toward the reduction of GHG emissions.

Smaller Turbine—Pre-Micro-Sited Layout Alternative

Under the Smaller Turbine – Pre-Micro-Sited Layout alternative, Sand Hill would install the same number of turbines as the Project – up to 40 – but would substitute the 35 proposed turbines of more than 3.0 MW in operating capacity (3.6-, 3.8- or potentially 4.0-MW-rated turbines) with moderately smaller, 2.8-MW turbines, and would place most of the turbines at locations determined through two sequential micro-siting studies that were conducted with the objective of potentially reducing bat and avian impacts.

Finding: Based on the SEIR and the entire record before the County, the County finds the Smaller Turbine – Pre-Micro-Sited Layout alternative is feasible because it would reduce the severity of some of the identified significant impacts and would meet most ofthe project's fundamental objectives.

Explanation: The Smaller Turbine – Pre-Micro-Sited Layout alternative would meet most of the following project objectives and is therefore not rejected as infeasible.

- *Fundamental objective:* to maximize wind energy production for Power Purchase Agreements obtained for the Project by siting up to forty new wind turbines on leased lands within the program area.

  Although this alternative would not allow for repowering to the full capacity requested by the applicant, it would meet this objective because it would allow for siting up to forty new wind turbines at a moderately lower capacity than that proposed under the project.
- *Fundamental objective:* to maintain commercial viability.

  Although this alternative would not allow for repowering to the capacity sought by the applicant, it would provide adequate commercial viability. Furthermore, the repowering capacity that would be enabled by this alternative (109.5 MW), represents nearly four times

more capacity than existed at the time of the Notices of Preparation for either the Program EIR or the Subsequent EIR (27.8 MW), and given that other approved and now operating or under construction repowering projects did not increase the capacity of previously existing turbines by more than double or in some instances decreased their capacity from pre-repowered conditions, the County expects the alternative will be commercially viable.

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 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 Project's significant and irreversible changes are discussed in Section 5.5 of the SEIR.

Findings: Based on the SEIR and the entire record before the County, the County finds that the Project would not result in any significant irreversible effect on the environment.

Explanation: The Project area is currently developed as a windfarm, with coexisting grazing activities that would continue. The *East County Area Plan* designates the entire program area as Large Parcel Agriculture, which carries a zoning designation of Agriculture. Chapter 17.06.040 of the Alameda County Code of Ordinances indicates that privately owned wind facilities are a conditionally permitted use on non-prime farmland within the Agriculture zoning district. The proposed Project would not commit future generations to, or introduce, changes in land use that would vary from the existing conditions.

The PEIR found that the program involved the construction and repowering of existing wind farms on approximately 50,000 acres in unincorporated eastern Alameda County, and that the commitment of nonrenewable resources, such as sand, gravel and other components of cement, metals and fossil fuels, necessary for construction and operation of the repowered wind farms would be irreversible. The Project would similarly commit such materials for construction and operation of the repowered wind farm, although on much a smaller scale, but which would also constitute an irreversible commitment of nonrenewable resources.

With regard to changes in populations over avian species related to turbine operations, the Project would contribute to increased mortality rates among certain species, as discussed in the SEIR and summarized above with regard to project-level and cumulative impacts on biological resources. In particular, the proposed Project, in combination with other past, present, reasonably foreseeable projects, would make a considerable contribution to a cumulative impact on golden eagles. However, it is important to recognize that there is substantial uncertainty regarding cumulative impacts to golden eagles. This uncertainty primarily stems from two sources: uncertainty regarding the magnitude of wind power development impacts on golden eagles, and uncertainty regarding the current and future population status of golden eagles. With regard to wind power development impacts, the existing repowered projects used to estimate the golden eagle fatality rate have monitored fatality rates ranging

from 0.01 to 0.15 fatalities per year, per megawatt. Overall fatality rates within the APWRA are likely to fall near the middle of this range, but that assumption is based on limited monitoring data. Continued fatality monitoring will be needed to achieve high confidence in the magnitude of wind turbine-caused fatalities. With regard to the golden eagle population, the analysis presented in the SEIR shows that total golden eagle fatalities in the cumulative context are still appreciably lower than the estimated annual productivity of the Diablo Range eagle population, but also notes that natural productivity could decline appreciably in the event of a prolonged drought event; such droughts recur in California with some regularity, at a timescale of years to decades. The conjunction of these uncertainties, in both wind power mortality rates and climatic conditions, creates a small risk of future irreversible changes to biological resources. However, given mortality rates similar to those now observed and climate conditions similar to those recorded in prior investigations, such an irreversible change would not occur.

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). The Project's growth-inducing impacts are discussed in Section 5.3 of the SEIR.

Findings: Based on the SEIR and the entire record before the County, the County finds that the proposed project would not induce growth for the following reasons.

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 in SEIR Section 3.13, *Population and Housing*, the 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 facility 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.

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 program region. Therefore, the employment opportunities provided by construction are not anticipated to induce indirect growth in the region.