Draft Environmental Impact Report
for the
Gonzaga Ridge Wind Repowering Project
SCH no. 2018101047

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OCTOBER 2019

Printed on 30% post-consumer recycled material.

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ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
AADT	average daily traffic volumes
ACOE	Army Corps of Engineers
AGL	above ground level
AO	Operations Zone
APLIC	Avian Power Line Interaction Committee
BBCS	Bird and Bat Conservation Strategy
BC	Backcountry
BGEPA	Bald and Golden Eagle Protection Act
BLM	Bureau of Land Management
BMP	best management practice
BOR	Bureau of Reclamation
CAISO	California Independent System Operator
CBC	California Building Code
CDFW	California Department of Fish and Wildlife
CDPR	California Department of Parks and Recreation
CEC	California Energy Commission
CEHC	California Essential Habitat Connectivity Project
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CF	compact flash drive
CHP	California Highway Patrol
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
EIR	Environmental Impact Report
ESA	Environmental Site Assessment
ESRI	Environmental Systems Research Institute
FAA	Federal Aviation Administration
FC	Front country Zone
FESA	federal Endangered Species Act
FPP	Fire Protection Plan
FSA	Farm Service Agency
GHG	greenhouse gas
GIS	Geographic Information System
GP/EIR	General Plan and Final EIR
GRWF	Gonzaga Ridge Wind Farm, LLC
HCM	Highway Capacity Manual
HSP	Health and Safety Plan
I-5	Interstate 5
IA	Index of Abundance
KOPs	Key Observation Points
LE	Lease Zone
LID	low impact design

Acronym/Abbreviation	Definition
LOS	Level of service
MCAG	Merced County Association of Governments
MMRP	Mitigation Monitoring and Reporting Program
MOEs	measures of effectiveness
MW	megawatt
NABA	North American Butterfly Association
NAHC	Native American Heritage Commission
NAIP	National Agriculture Imagery Program
NHD	National Hydrography Dataset
NOP	Notice of Preparation
OHV	off highway vehicle
OHWM	ordinary high water mark
OPR	Office of Planning and Research
POI	Point of Interconnection
PUC	Public Utilities Commission
RDAG	rotor diameter above ground
RES-S	Scenic/Aesthetic
RPS	Renewable Portfolio Standard
RSZ	rotor swept zone
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCADA	Supervisory Control and Data Acquisition
SCS	Sustainable Communities Strategy
SCVWD	Santa Clara Valley Water District
SODAR	Sonic Detection and Ranging
SR	State Route
SRA	San Luis Reservoir State Area
SWPPP	Stormwater Pollution Prevention Plan
TCRs	Transportation Concept Reports
TIS	traffic impact study
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VMT	vehicle miles traveled
ZCAIM	zero crossings analysis interface module

EXECUTIVE SUMMARY

This section provides a summary of the Draft Environmental Impact Report (EIR) for the proposed Gonzaga Ridge Wind Repowering Project (proposed Project). Included in this summary are areas of known controversy and issues to be resolved, a summary of project alternatives, a summary of all project impacts and associated mitigation measures, and a statement of the ultimate level of significance after mitigation is applied.

ES.1 DOCUMENT PURPOSE

This EIR was prepared by the California Department of Parks and Recreation (CDPR), as lead agency, to inform decision makers and the public of the potential significant environmental effects associated with the proposed Project. This EIR has been prepared in accordance with the California Environmental Quality Act (CEQA) of 1970 (California Public Resources Code, Section 21000 et seq.) and the Guidelines for Implementation of the California Environmental Quality Act (CEQA Guidelines; 14 CCR 15000 et seq.) published by the Public Resources Agency of the State of California.

The purpose of this EIR is to focus the discussion on those potential effects on the environment resulting from implementation of the proposed Project which the lead agency has determined may be significant. Feasible mitigation measures are recommended, when applicable, that could reduce significant environmental impacts or avoid significant environmental impacts.

ES.2 PROJECT LOCATION

The Project site is located in western Merced County and includes land leased from CDPR located in the eastern portion of Pacheco State Park (Park) on approximately 1,766 acres. The Park is located on State Route 152 (SR-152), that connects two major north-south arteries—Interstate 5 (I-5), which is 16 miles to the east, and U.S. Highway 101 (US 101), which is approximately 30 miles to the west. The Park is generally equidistant between the cities of Gilroy and Los Banos and is an approximate two- hour drive from San Francisco (see Figures 2-1 and 2-2 in Chapter 2, Project Description).

ES.3 PROJECT DESCRIPTION

Project Background

In 1992, 6,900-acres of former ranchland located along the south side of Pacheco Pass off SR-152 was bequeathed by the former owner, Paula Fatjo, to CDPR. Ms. Fatjo was a direct descendant of Francisco Pacheco, a holder of Mexican-period land grants in the area whose family held its lands through five generations. Fatjo’s ranch was a portion of El Rancho San Luis Gonzaga, originally granted in 1843 to Francisco Pacheco's son, Juan Perez Pacheco. Pacheco State Park was opened to the public in 1997 and honors the wishes of Ms. Fatjo as described in her will to advance State

Parks goals for resource protection, quality visitor experience, and education in the form of various types of recreation.[1] Prior to her death in 1992, Ms. Fatjo agreed to a 25-year lease to allow up to 200 wind turbines to be installed across the ridgelines in the eastern portion of the current Park to harvest and transform wind funneled through the pass into electrical energy to be sold to Pacific Gas & Electric with an income generated to be used for development of the Park (166 turbines were installed and presently 162 remain).

The CDPR selected Gonzaga Ridge Wind Farm, LLC (GRWF or Applicant) through a Request for Proposal process to replace the existing wind energy facility with more modern and efficient wind turbines. The Project would consist of the decommissioning and removal of the existing wind turbines and overhead energy collection system and the installation of modern wind turbines and associated infrastructure, with a generating capacity of up to approximately 100 MW. In contrast to the originally permitted 166 turbines, the Project would consist of up to only 40 turbines (see Figure 2-4, Project Site and Facilities Map in Chapter 2). Project components would also include ancillary facilities such as construction laydown areas, access roads, underground and overhead collector lines and associated equipment, an operations and maintenance (O&M) facility, meteorological or MET tower(s), relocation of a communications tower, relocation of existing transmission line poles, upgrades to the existing Dinosaur Point Tap or existing switchyard, upgrades to the Los Banos Substation, storage sheds, battery storage facility, and an electrical substation and associated substation components. The Project would also include the continued use of a 70 kV transmission line that follows a path from the current wind farm that is located west and north of the San Luis Reservoir, to the existing switchyard located to the northwest. An additional 70 kV transmission line (New Transmission Line) would also be constructed on land owned by the Bureau of Reclamation (BOR), Merced County property, as well as some privately- owned property connecting to the Los Banos Substation. Figure 2-3 in Chapter 2 depicts the proposed location of the New Transmission Line alignment, within the Project site, that connects to the Los Banos Substation. The New Transmission Line would be approximately 16 miles long with power poles up to approximately 120-feet tall.

ES.3.2 Project Objectives

Project objectives allow for the analysis of reasonable alternatives to the proposed Project. Reasonable alternatives must be analyzed in accordance with Section 15126.6 of the CEQA Guidelines.

1 Pacheco State Park General Plan and Environmental Impact Report SCH No. 2003121089. May 2006. Sacramento, California.

The project objectives are as follows:

- Assist California in meeting its target of 100 percent carbon-free electricity by 2045 (Senate Bill 100) and reducing greenhouse gas emissions to 1990 levels by 2020 (California Global Warming Solutions Act of 2006/Assembly Bill 32).
- Continue production of wind energy within Pacheco State Park to generate income to advance the goals of CDPR for resource protection, quality visitor experience, and education in the form of various types of recreation.
- Replace outdated wind turbine infrastructure and reduce the total number of turbines and overall Project footprint on CDPR lands with state-of-the-art facilities to achieve increased performance, lower cost, higher reliability, longer service life, and reduction in risk to avian species, especially raptors.
- Optimize the use of previously disturbed land within Pacheco State Park by replacing the existing wind turbines.

ES.3 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Table ES-1, Summary of Environmental Impacts and Mitigation Measures, provides a summary of the impact analysis and a summary of environmental impacts resulting from implementation of the Project pursuant to CEQA Guidelines Section 15123(b)(1). For a more detailed discussion of Project impacts, please see Chapter 2 of this EIR and the Initial Study included in Appendix B. Table ES-1 also lists the level of significance of an impact prior to mitigation and lists all applicable mitigation measures identified for significant impacts, as well as providing the level of significance after mitigation. The following topics were evaluated in the Initial Study and impacts were determined to be less than significant (or less than significant with mitigation): Air Quality, Agriculture and Forestry Resources, Cultural Resources, Land Use, Geology, Soils and Mineral Resources, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise and Vibration, Population and Housing, Public Services and Recreation, Public Utilities, and Tribal Cultural Resources. Therefore, these topics are not addressed in the EIR and not summarized in Table ES-1. Please see Chapter 4, Effects Found not to be Significant for a summary of the topics determined to not result in any significant effects.

ES.4 AREAS OF CONTROVERSY / ISSUES TO BE RESOLVED

Section 15123(b) (2) of the CEQA Guidelines requires that areas of controversy known to the lead agency must be stated in the executive summary prepared as part of the EIR. Issues of interest to the public and public agencies were identified during the 30-day public comment period for the Notice of Preparation (NOP).

Written comments in response to the NOP were received from the following agency and organizations:

- U.S. Fish and Wildlife Service
- Native American Heritage Commission

The NOP and comment letters received during the NOP review period are included in Appendix A of this EIR.

Section 15123(b)(3) of the CEQA Guidelines requires that an EIR identify issues to be resolved; this includes the choice among alternatives and whether or how to mitigate significant impacts. The major issues to be resolved for the Project include concerns regarding impacts to avian species.

Table ES-1
Summary of Environmental Impacts and Mitigation Measures

Environmental Impact	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		3.1 Aesthetics	
3.1-1: Implementation of the proposed Project may adversely affect a scenic vista.	LTS	None required.	LTS
3.1-2: Implementation of the proposed Project may damage scenic resources within a state scenic highway.	LTS	None required.	LTS
3.1-3: Implementation of the proposed Project may degrade the existing visual character or quality of the site and the surrounding area.	LTS	None required.	LTS
3.1-4: Implementation of the proposed Project may create a new source of substantial light or glare that could adversely affect day or nighttime views in the area.	LTS	None required.	LTS
3.1-5: The proposed Project could contribute to cumulative changes affecting a scenic resource, or to an existing viewshed and visual character of the area.	LTS	None required.	LTS
		3.2 Biological Resources	
3.2-1: Implementation of the proposed Project may have a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.	PS	Special-status plant species BIO-1: Special-status plant surveys. In those areas where ground disturbance activities associated with Phase II of the Project, including the New Transmission Line, will occur within habitat potentially supporting special-status plant species, focused surveys for special-status plant species shall be conducted by a qualified CDPR approved botanist according to the CNPS Botanical Survey Guidelines (CNPS 2001); and shall follow the Protocols for Surveying and Evaluating Impacts to Special Status Native Populations and Natural Communities (CDFG 2009); and the U.S. Fish and Wildlife Services General Rare Plant Survey Guidelines (Cypher 2002) prior to the commencement of grading/construction-related activities wherever areas that are suitable for occupation could be affected by direct or indirect impacts. The surveys shall be conducted in the blooming season prior to commencement of construction-related activities within suitable habitat areas, and the surveys shall be conducted at a time of year when the plants can be located and identified. BIO-2: Habitat and plant avoidance. Should special-status plant species be documented within proposed grading or other ground-disturbance areas associated with the New Transmission Line, avoidance measures shall be implemented to minimize indirect impacts to individual plants, wherever feasible. These measures can include the following: a. Adjustments to the limits of grading boundaries to confine work to avoid populations of special-status plants by at least 50 feet or as otherwise determined by a qualified botanist and in consideration of the type and extent of ground disturbance, potential for indirect impacts following ground disturbance activities, topography, and other factors. b. Prior to construction activities, a qualified botanist shall flag the location of special-status plant populations and the corresponding avoidance special-status plant setback. This flagging shall be in addition to, and distinguished apart from, any required construction boundary fencing. BIO-3: Biological Awareness Training. Prior to the initiation of construction activities associated with both phases of development within the Project site, a qualified CDRP approved biologist shall conduct an onsite biological awareness training session, as part of an overall project orientation program, with construction personnel to inform them of the special-status resources in the Project Area. As new construction personnel join the construction crews throughout the project construction phase, additional biological awareness training sessions shall be conducted by the biologist. The initial and subsequent training sessions shall include, at a minimum, the following: a. A discussion of the special-status species and resources potentially occurring within and adjacent to ground-disturbance areas; b. Dissemination of short handouts (including photos/depictions as appropriate) describing these species and resources, including protective status and penalties for violation of state and/or federal laws and regulations protecting certain species; c. Information regarding the types of microtrash that could be ingested by condors and the need to keep work areas free of microtrash. d. Avoidance measures being implemented on the Project site to avoid/minimize potential impacts to various species and biological resources. e. Steps to take should such special-status plant or wildlife species be observed by onsite construction personnel and contact information for communicating sightings or issues. All attendees shall fill out a sign-in sheet. The training program shall also be recorded and subsequently shown to any construction personnel who are not able to attend the initial or subsequent training programs.	LTS

Table ES-1
Summary of Environmental Impacts and Mitigation Measures

Environmental Impact	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		Special-Status Wildlife Species *Western pond turtle, California tiger salamander, California red-legged frog, western spadefoot* BIO-4: Species avoidance plan. Prior to ground disturbance associated with Phase I of the Project within or immediately adjacent to where each of these species could occur, a qualified biologist shall prepare a Species Avoidance Plan that addresses each of these four species. The plan shall include appropriate measures, activities, and best management practices to be implemented prior to and during construction and ground-disturbance activities that, when implemented, shall ensure that no direct or indirect impacts to these species will occur. The plan, which will also apply to Phase II of the Project, shall be submitted to the California Department of Fish and Wildlife and California State Parks and Recreation for review. Measures in the plan shall include, but not be limited to, the following: a. Conducting ground-disturbance activities as great a distance from breeding habitat as feasible. b. Conducting pre-construction surveys in upland habitat likely to support burrow habitat potentially utilized by these species. The surveys shall be conducted by a qualified biologist and all potential burrows shall be flagged and/or fenced to note areas to be avoided, at a setback distance determined by the biologist, during ground-disturbance activities. c. Conducting onsite monitoring by a qualified biologist during Project construction, maintenance, and decommissioning activities that disturb surface soils within upland habitat/burrows that could potentially be used by these species as determined by the biologist. d. Establishing exclusion fencing around construction sites to exclude individual animals within suitable upland habitat from entering active construction zones. e. Restricting vehicle traffic to established roads, staging areas, and parking areas. f. Capping construction pipes, culverts, conduits and similar structures stored onsite to prevent entrapment of any animals seeking shelter and covering trenches at night to prevent animals from being trapped in the trench. g. The use of Best Management Practices to prevent sediment, pollutants/chemicals, and erosion from construction activities from entering suitable aquatic habitats on the Project site. These can include, but are not limited to, silt fencing, sterile hay bales, and temporary sediment disposal. ***Northern California legless lizard, San Joaquin coachwhip, Blainville's h****orned lizard* BIO-5: Pre-construction surveys. Within 14 days of ground disturbance that will occur within suitable habitat for these species for both phases of Project development, pre-construction surveys shall be conducted by a qualified biologist to search for individuals within and immediately adjacent to the proposed disturbance area. Visual searches shall include overturning rocks, bark, and other debris. If more than 14 days lapse between the time of the pre-construction survey and the start of ground-disturbing activities, another pre-construction survey must be completed. If individual animals are found in the disturbance zone, individuals shall be captured and relocated to nearby suitable areas, as determined by the qualified biologist. If the animals cannot be captured, all trenches, bores, and other excavations shall be sloped at a 3:1 ratio at the ends to provide wildlife escape ramps, or covered completely at the end of each work day, or if not in use, to prevent wildlife access. Onsite monitoring by a qualified biologist shall be conducted during Project construction and ground disturbance activities that occur within upland habitat areas determined by the biologist to potentially support these species. If individuals of these species are observed by construction personnel within a trench or elsewhere within the construction area, the biologist shall be contacted and no vehicles or equipment shall be moved until the animal has left voluntarily or is removed by the biologist. *Golden and bald eagles* BIO-6: Golden eagle nest surveys and setbacks. The following measures associated with pre-construction surveys shall be implemented by a qualified eagle biologist with expertise in the identification and life history of eagles and the construction contractor. 1. Before construction-related activities begin on the Project site and during the golden eagle breeding season (January 15 through August 31), pre-construction surveys (ground, aerial, or both) shall be conducted within 0.50-mile of the disturbance area perimeter to ascertain the status of all known breeding territories and, through March 31, to search for potential new nesting activities within the relevant survey area. Such surveys shall be conducted by a qualified eagle biologist no more than 30 days before construction-related activity is scheduled to begin. As egg-laying occurs in the region in February and March (see, e.g., Dixon 1937; Hunt et al. 1995, 1999), after March 31, it can be assumed that no new nesting will occur, and no further pre-construction surveys shall be required, if the status of nesting activities in a relevant area has already been confidently ascertained to that point in time. 2. If pre-construction surveys reveal adult golden eagles actively tending a nest site between January 15 and March 31, or an active nest (eggs or young present) any time between January 15 and August 31, the following shall occur: a. A 0.25-mile no-activity setback shall be established around the nest site if the construction activity is within the viewshed of the nest. If the work area is not within direct view of the nest, the no-disturbance buffer can be closer, as determined by the biologist in consideration of existing conditions including ambient noise, topography, type and extent of the activity, and time of year. Nest buffer boundaries within the Project site shall be identified by the use of orange construction fencing or similar highly visible fencing/flagging material as approved by the eagle biologist. Once the no disturbance buffer is established, no further construction-related activity shall be allowed within that buffer area until the biologist determines that either no	

Table ES-1
Summary of Environmental Impacts and Mitigation Measures

Environmental Impact	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		nestlings will occur (i.e., no eggs laid as of March 31), the nest has failed, or the nesting cycle is complete and all fledglings have dispersed and no longer dependent upon the nest. If golden eagles decide to re-nest at the site in subsequent years, despite the proximity of the Project, they shall be allowed to do so and no additional mitigation shall be required. b. Construction-related activities that involve major landscape alterations (e.g., excavation, grading, or tree removal activities that encompass more than 5 acres), operation of heavy equipment (e.g., large excavators and dump trucks), or activities that otherwise result in frequent or repetitive loud noises (e.g., pile driving or use of chain saws) should preferentially occur outside of the breeding season (September 1 through January 14), if within visible range (up to 0.25 mile) of an occupied breeding territory. c. Following site-specific reviews by a qualified golden eagle biologist, the prescribed no-disturbance setbacks may be adjusted to reflect existing conditions, including ambient noise, topography and landscape screening, and the nature of disturbance. Such evaluations may, for example, support allowance of light construction-related activity closer than 0.25 mile out of the viewshed range of a nest. BIO-7: Management practices and measures to minimize onsite impacts and attractants to the site. The following practices and design measures shall be implemented to minimize elements that could serve to attract eagles (and condors and other raptors) to the Project site and to minimize the potential for turbine collisions: a. Turbine construction shall minimize cutting into hill slopes to achieve smooth rounded terrain, rather than sudden berms or cuts, to reduce prey abundance. b. Rocks unearthed during the excavation process shall be used during construction of foundations or hauled off site and disposed of properly, and not be left in piles near turbines to avoid providing cover for prey. c. Discourage small mammals and reptiles from burrowing under or near turbine bases by placing gravel at least 5 feet around each tower foundation. d. To avoid collisions with support wires, all meteorological towers shall be un-guyed, unless evidence is provided that topography, safety, access and/or climate conditions prohibit free standing towers. If guyed towers are necessary, appropriate bird deterrents on the wires shall be installed. e. Alter or reduce vegetative cover within 50 m (164 feet) of active turbines to reduce eagle/raptor predation near each turbine. Such vegetation alteration shall only occur where appropriate and feasible and with concurrence of a qualified biologist in order that such alteration/reduction shall not adversely affect other special-status species or resources. f. Remove any medium to large mammal carcasses (e.g., wild pig, domestic cattle, deer, elk) within the Project site, within 24 hours of discovery, to a designated burial location (or to the nearest County landfill site that accepts dead livestock) far enough from wind turbines so as not to present a risk to eagles and condors foraging on the carcasses. If the carcass is in a deteriorated condition or otherwise cannot be moved, it can be covered with soil or buried at the observed location. g. Immediately clean up all spills of ethylene glycol which can attract California condors. h. Ensure regular efforts are made to eliminate all microtrash (i.e., broken glass, paper and plastic waste, small pieces of metal such as screws, nuts, and bolts, bottle caps, pop-tops, PVC pipe fragments, etc.) at and near all construction as well as operations/maintenance work sites. i. Minimize night lighting during construction by using shielded directional lighting that is pointed downward thereby avoiding illumination to adjacent natural areas and the night sky. BIO-8: Post-construction mortality monitoring. After Phase I of the Project is operational, GRWF shall retain a qualified wildlife biologist to perform monthly mortality monitoring for one year to determine the level of incidental injury and mortality to populations of avian or bat species, particularly eagles and other raptors, associated with turbine collisions on the Project site. Based on a review of the monitoring data, GRWF shall consult with USFWS and CDFW to determine whether or not additional monitoring shall be necessary for Phase 1 and/or Phase II once those turbines become operational. The monitoring shall also include the following: a. A qualified wildlife biologist shall conduct mortality monitoring using a statistically significant sample size of operational turbines within the Project site. b. The mortality monitoring shall follow standardized guidelines outlined by the California Energy Commission and California Department of Fish and Wildlife (CEC and CDFG, 2007) and the United States Fish and Wildlife Service (USFWS 2016). c. At a minimum, the mortality monitoring shall include but not be limited to, the following: • species number, location, and distance from the turbine for each recovered bird or bat, availability of prey for raptor species found, and apparent cause of mortality; • number of annual avian and bat mortalities per turbine sampled; and • removal of dead carcasses to prevent carrion-consuming birds of prey from being attracted to the Project site. d. If a state- or federally-listed Threatened or Endangered species is found during any of the mortality monitoring periods, all appropriate information shall be collected, including photographs of the carcass, and the CDFW or USFWS shall be contacted as soon as possible to determine the appropriate course of action. e. An annual mortality monitoring report submitted to the USFWS and CDPR that documents all methods and results of the monitoring. After post-construction monitoring data have been obtained, GRWF shall review the data and, in consultation with the USFWS and the CDFW, determine which, if any, specific turbines generate disproportionately high levels of avian mortalities (based on evidence of statistically significant higher levels of mortality relative to other turbines). If specific turbines are found to	

Table ES-1
Summary of Environmental Impacts and Mitigation Measures

Environmental Impact	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		result in disproportionately high avian mortalities, GRWF shall consult with USFWS and CDFW to evaluate any feasible measures that can be implemented to reduce or avoid mortalities at those specific turbines. During the mortality monitoring, additional 800-meter avian use counts shall be conducted to identify avian use, particularly of eagles and raptors, potentially utilizing the re-powered Project site and to compare with pre-construction avian point counts. The point counts shall be conducted by a qualified avian biologist twice a month at the same point count stations and utilizing the same data methods as conducted during the pre-construction survey. An annual report shall be prepared that describes the methods and results of the avian use counts for that survey year. BIO-9: Avian Power Line Interaction Committee Standards for New Transmission Line. To minimize the potential for collision and electrocution to eagles, California condors, and other raptor species, the New Transmission Line shall incorporate the transmission line and tower component separation standards, as well as recommendations to reduce collision risk, included in these standards to minimize/avoid electrocution of eagles and other raptors (including California condors) attempting to perch or nest on the towers, and to avoid collisions with transmission lines between towers during low-level flights. These design standards typically address configuration and spacing of transmission lines, use of line marking devices/diverters, and appropriate spacing of electrical components affixed to towers/poles. The latest published Avian Power Line Interaction Committee standards and guidelines shall be used. BIO-10: Bird and Bat Conservation Strategy. The Project applicant, GRWF, shall retain a qualified avian and bat biologist to develop a Bird and Bat Conservation Strategy (BBCS) to address Project impacts to special-status avian and bat species and shall submit the plan to the USFWS for review prior to initiation of proposed construction associated with Phase I. The BBCS shall be prepared in accordance with the interim guidance provided by USFWS (2010) and shall include methods and results of avian and bat surveys conducted at the Project site; a risk assessment associated with potential collisions with proposed turbines and electrocution (associated with the proposed New Transmission Line); potential avoidance, minimization, and mitigation measures to address this risk; methods and protocols associated with post-construction monitoring; and adaptive management actions that can be taken based on the monitoring results.	
		White-tailed kite and northern harrier BIO-11: Pre-construction bird nest surveys. A nesting bird survey shall be completed by a qualified biologist if construction, ground disturbance, and/or vegetation trimming/removal activities are scheduled to occur during the breeding season (March 1-August 30 for most native bird species in this region) to determine if any native birds protected by the federal Migratory Bird Treaty Act and/or the California Fish and Game Code are nesting within the disturbance area or within 200 feet of the disturbance area. If any active nests are observed during surveys, a suitable avoidance buffer from the nests shall be determined by the qualified biologist. The avoidance buffer distance shall consider such factors as the species of bird, topographic features, intensity and extent of the disturbance, timing relative to the nesting cycle, and anticipated ground disturbance schedule. Limits of construction to avoid active nests shall be established in the field with flagging, fencing, or other appropriate barriers and shall be maintained until the chicks have fledged and the nests are no longer active, as determined by the qualified biologist. *California condor* Implementation of Mitigation Measures BIO-3, BIO-7, BIO-8, BIO-9, and BIO-10 *Pallid bat, western mastiff bat, and western red bat* BIO-12: Bat roost pre-construction surveys. The Project applicant, GRWF shall retain a qualified avian and bat biologist to implement the following measures to avoid and minimize impacts to bat day roosts, maternity roosts, and individuals of the pallid bat, western mastiff bat, and western red bat: 1. Surveys for roosting bats shall be conducted during the maternity season (March 1 to July 31) for any construction or ground disturbance that occurs within 300 feet of rocky outcrops or other habitat capable of supporting bat nursery colonies. These areas shall be surveyed by a qualified bat biologist and shall include a minimum of one (1) day and one (1) evening visit. 2. Should an active maternity roost be identified, the roost shall not be disturbed and vegetation- and/or ground-disturbing activities within 300-feet shall be postponed or halted until the roost is vacated and juveniles (if a maternity roost) have fledged, as determined by the qualified bat biologist. This avoidance measure shall be applied to all bat species, including special-status and non-special-status species. 3. No earlier than 30 days prior to the commencement of vegetation- and ground-disturbing activities associated with the Project site, a qualified biologist shall conduct pre-construction surveys of identified trees to be removed to determine if active day roosts of bats are present within the trees to avoid the potential of harm or mortality to individual bats. 4. If a day roost (or winter roost) is found in trees or in rock outcrop crevices within or immediately adjacent to the disturbance footprint, the individuals shall be safely evicted under the direction of the qualified bat biologist. If individuals cannot be safely evicted from a winter roost due to factors such as cold temperatures or lack of alternative roosting sites, as determined by the qualified bat biologist, vegetation- and/or ground-disturbing activities within 300-feet of the roost shall be postponed or halted until conditions are suitable for safe eviction or the roost is vacated naturally.	
		American badger BIO-13: Pre-construction surveys. GWRF shall implement the following measures to avoid and minimize impacts to American badgers and active dens. 1. No earlier than 30 days prior to the commencement of vegetation- and ground-disturbing activities, a qualified biologist shall conduct pre-construction surveys to determine if active American badger dens are present on or within 100-feet of the Project disturbance zone.	

Table ES-1
Summary of Environmental Impacts and Mitigation Measures

Environmental Impact	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
		2. If an active den, as determined by the qualified biologist, is located, the den shall be flagged and the biologist shall determine if the den is a maternity den or non-maternity den. If a non-maternity den, construction shall be halted within 50 feet of the den until the badger has left the den on its own accord, as determined by the biologist. At that point the den can be collapsed and construction can continue. If the den is determined by the biologist to be an active maternity den, then construction shall be halted and a no-disturbance buffer of 100 feet established around the den until all pups have matured to the point of leaving the den and the den is determined by the biologist to be vacated by both young and adults. At that point, the den can be collapsed and construction can continue. *San Joaquin kit fox* BIO-14: Pre-construction surveys. GWRF shall implement the following measures to avoid and minimize impacts to the San Joaquin kit fox and active dens. 1. No earlier than 90 days prior to the commencement of vegetation- and ground-disturbing activities, a qualified biologist shall conduct pre-construction den surveys within suitable habitat along the proposed New Transmission line alignment and within 200 feet of the alignment to determine if any burrows or dens potentially used by San Joaquin kit fox are present. 2. If likely dens are located, the den shall be flagged and the biologist shall determine the status of the den pursuant to USFWS protocols and definitions for San Joaquin kit fox (USFWS 1999) and appropriate avoidance measures taken pursuant to USFWS protocols (USFWS 2011). For dens determined to be “known” or “natal” dens (as defined by USFWS 1999), den avoidance measures include establishing construction exclusion zones around burrows/dens potentially used by kit foxes pursuant to the exclusion zone design and setback distances defined in USFWS 2011, shall be implemented. The exclusion zones shall be maintained until all construction related disturbances have been terminated. BIO-15: San Joaquin kit fox avoidance plan. Pursuant to a meeting with the USFWS in August 2018, GWRF shall retain a qualified biologist to prepare a San Joaquin kit fox take avoidance plan that shall include the following: (1) a description of the pre-construction surveys discussed above for burrow/dens within/immediately adjacent to the New Transmission Line alignment potentially used by San Joaquin kit fox, and (2) USFWS-documented avoidance measures (and any others that GRWF proposes) that minimizes/avoids the potential for take of this species in the unlikely event individual kit foxes do occur within the eastern-most portion of the New Transmission Line alignment during construction.	
3.2-2: Implementation of the proposed Project may have a substantial adverse effect on riparian habitat or other sensitive natural community identified in regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.	LTS	None required.	LTS
3.2-3: Implementation of the proposed Project may have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	LTS	None required.	LTS
3.2-4: Implementation of the proposed Project may have a cumulative adverse effect on biological resources when viewed in connection with the effects of other past, present or future projects.	LTS	None required.	LTS
		3.3 Transportation and Circulation	
3.3-1: Implementation of the proposed Project under Existing plus Project conditions could degrade operations at the SR-152/Dinosaur Point Road intersection.	S	None available.	SU
3.3-2: Implementation of the proposed Project could increase VMT throughout the duration of the project construction.	LTS	None required.	LTS
3.3-3: Delivery trucks associated with the proposed Project could increase hazards or result in incompatible uses along SR-152 and at the SR-152/Dinosaur Point Road intersection.	S	TRAFF 1: Prior to receiving an Encroachment Permit and a Transportation Permit from Caltrans, the applicant (GRWF), or their Delivery contractor, shall prepare an Oversized Vehicle Transportation and Delivery Plan that identifies the types of oversized vehicles required to transport wind turbine equipment, travel route(s) on state highways and local roadways, requirements for turning radii, height and weight requirements, and any other relevant information. This Plan shall be reviewed by Caltrans and affected local agencies, and approved by Caltrans and affected local agencies to ensure the safe transport of oversized Project materials. This Plan shall be used to obtain proper permits required by Caltrans and affected local agencies.	LTS

Table ES-1
Summary of Environmental Impacts and Mitigation Measures

Environmental Impact	Impact Before Mitigation	Mitigation Measure(s)	Level of Significance After Mitigation
3.1-4: Implementation of the proposed Project under Cumulative plus Project conditions could contribute to unsatisfactory operations at the SR-152/Dinosaur Point Road intersection under cumulative conditions.	S	None available.	SU
		Initial Study	
a. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5 (of the CEQA Guidelines)?	S	CUL-1 Prior to commencing construction activities, construction workers shall be alerted to the potential to encounter sensitive historic-era or prehistoric archaeological material. Information detailing what these resources could look like shall be provided as part of an environmental sensitivity training. This information can be provided as a handout or in person. In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the Project, all construction work occurring within 100 feet of the find shall immediately stop until a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, can evaluate the significance of the find and determine whether additional study is warranted. This work exclusion buffer may be adjusted by the qualified archaeologist in consultation with the lead agency. Depending upon the significance of the find under CEQA (14 CCR 15064.5(f); PRC Section 21082), the archaeologist may simply record the find and allow work to continue. Prior to any disturbing investigative techniques, the feasibility of resource avoidance shall be considered. If the discovery proves significant, additional work, such as preparation of an archaeological treatment plan, testing, or data recovery may be warranted. CUL-2 During ground disturbing activities associated with construction of the turbines, Operations & Maintenance building, substation, New Transmission Line, and any underground utilities within 300 feet of any waterways, caves, springs or known archaeological sites, the Project contractor shall coordinate with CDPR staff to contact the Amah Mutsun Tribal Band to provide on-site monitors during these activities. The Project contractor shall retain an archaeological consultant to provided Archaeological monitoring in these areas. Archaeological and Native American monitoring shall occur in these areas.	LTS
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	S	HAZ-1 The Health and Safety Plan (HSP) prepared by the Project (construction contractor) shall include procedures for identification and management of hazardous materials/wastes. The HSP shall include information on how to detect and identify potentially contaminated soils and groundwater (e.g., visual and olfactory) and health and safety measures that shall be implemented should contaminated materials be present and proper management and reporting procedures. Contaminated materials shall be managed and disposed of in accordance with federal, state and local regulations.	LTS

S=Significant LTS = Less than Significant SU = Significant and Unavoidable N/A = not applicable

ES.5 SUMMARY OF PROJECT ALTERNATIVES

Section 15126.6 of the CEQA Guidelines identifies the parameters within which consideration and discussion of alternatives to a project should occur. As stated in this section of the guidelines, alternatives must focus on those that are reasonably feasible and that attain most of the basic objectives of the project. Each alternative should be capable of avoiding or substantially lessening any significant effects of the project. The rationale for selecting the alternatives to be evaluated and a discussion of the No Project Alternative are also required, per Section 15126.6.

ES.5.1 Alternatives Evaluated

This EIR includes an evaluation of the following alternatives:

- Alternative 1 - No Project Alternative
- Alternative 2 – Smaller Footprint Alternative

Alternative 1 - No Project Alternative

The No Project Alternative assumes that the Project would not be developed and the current wind energy facility would remain and not be altered.

Although this alternative would not meet the objectives identified for the Project, CEQA requires an alternative that forgoes the Project be analyzed.

Alternative 2 – Smaller Footprint Alternative

Under Alternative 2, fewer, larger wind turbines could be installed for the Project. Using larger turbines would reduce the total number of wind turbines from 40 to the low 20s. Other components of the Project, such as roads and collection lines, could be reduced under this alternative. It is generally assumed that because fewer turbines would be installed there would be somewhat less site disturbance. However, decommissioning of the existing wind farm would still be required under this alternative so there would be site disturbance associated with these activities.

ES.6 Environmentally Superior Alternative

Table ES-2, Comparison of Impacts of the Alternatives, provides a summary of the alternatives impact analysis considered in the EIR and identifies the areas of potential environmental effects per CEQA, and ranks each alternative as better, the same, or worse than the Project with respect to each issue area.

Table ES-2
Comparison of Impacts of the Alternatives

Environmental Issue Area	Project	Alternative 1 – No Project	Alternative 2 – Smaller Footprint
Aesthetics	LTS	▼	▼
Biological Resources	LTS	▼	▼
Traffic and Circulation	SU	▼	▬

Δ Alternative is likely to result in greater impacts to issue when compared to Project.
▬ Alternative is likely to result in similar impacts to issue when compared to Project.
▼ Alternative is likely to result in reduced impacts to issue when compared to Project.
LTS/MM = Less than significant impact with mitigation, LTS = Less than significant impact, SU=Significant and Unavoidable

As indicated in Table ES-2, Alternative 1, the No Project Alternative would result in the fewest environmental impacts, and subsequently would be considered the environmentally superior alternative. However, Section 15126.6(e)(2) of the CEQA Guidelines states that if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.

Of the alternatives evaluated above, Alternative 2 was found to be the environmentally superior alternative because it is feasible and reduces impacts associated with biological resources. Alternative 2 was found to have a reduction in impacts related to aesthetics and biological resources. Alternative 2 also generally meets all of the Project objectives.

CHAPTER 1
INTRODUCTION

1.0 PROJECT BACKGROUND

The California Department of Parks and Recreation (CDPR) is the lead agency for preparation of an Environmental Impact Report (EIR) to evaluate potentially significant impacts that may result from construction and operation of the Gonzaga Ridge Wind Repowering project (proposed Project). The proposed Project is a renewable wind energy generation development to be constructed and operated in Pacheco State Park (Park) in Merced County, California, by Gonzaga Ridge Wind Farm, LLC (GRWF or Applicant).

In 1992, 6,900-acres of former ranchland located along the south side of Pacheco Pass off State Route (SR) 152 was bequeathed by the former owner, Paula Fatjo, to CDPR. Ms. Fatjo was a direct descendant of Francisco Pacheco, a holder of Mexican-period land grants in the area whose family held its lands through five generations. Fatjo's ranch was a portion of El Rancho San Luis Gonzaga, originally granted in 1843 to Francisco Pacheco's son, Juan Perez Pacheco. Pacheco State Park was opened to the public in 1997 and honors the wishes of Ms. Fatjo as described in her will to advance State Parks goals for resource protection, quality visitor experience, and education in the form of various types of recreation.[1] Prior to her death in 1992, Ms. Fatjo agreed to a 25-year lease to allow up to 200 wind turbines to be installed across the ridgelines in the eastern portion of the current Park to harvest and transform wind funneled through the pass into electrical energy to be sold to Pacific Gas & Electric with all income generated to be used for development of the Park (166 turbines were installed and presently 162 remain).

1.1 PROJECT OBJECTIVES AND PURPOSE

Maintaining wind energy production on the property is consistent with the agreement that Ms. Fatjo created prior to her transfer of the land to CDPR and continues to generate income for the Park.

Specific objectives of the proposed Project include:

- Assist California in meeting its target of 100 percent carbon-free electricity by 2045 (Senate Bill 100) and reducing greenhouse gas emissions to 1990 levels by 2020 (California Global Warming Solutions Act of 2006/Assembly Bill 32).
- Continue production of wind energy within Pacheco State Park to generate income to advance the goals of CDPR for resource protection, quality visitor experience, and education in the form of various types of recreation.

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1 Pacheco State Park General Plan and Environmental Impact Report SCH No. 2003121089. May 2006. Sacramento, California.

- Replace outdated wind turbine infrastructure and reduce the total number of turbines and overall Project footprint on CDPR lands with state-of-the art facilities to achieve increased performance, lower cost, higher reliability, longer service life, and reduction in risk to avian species, especially raptors.
- Optimize the use of previously disturbed land within Pacheco State Park by replacing the existing wind turbines.

1.2 ENVIRONMENTAL PROCEDURES

1.2.1 California Environmental Quality Act Compliance

The California Environmental Quality Act (CEQA; California Public Resources Code, Section 21000 et seq.) and the CEQA Guidelines (Cal. Code Regs, Title 14, Section 15000 et seq.) require the preparation and certification of an EIR for any project that a lead agency determines may have a significant effect on the environment. This EIR has been prepared in compliance with all criteria, standards, and procedures of CEQA and the CEQA Guidelines. This document has been prepared as a project EIR (pursuant to Section 15161 of the CEQA Guidelines) and represents the independent judgment of CDPR as lead agency (Section 15050 of the CEQA Guidelines).

1.2.2 Notice of Preparation and Scoping Process

CEQA establishes mechanisms to inform the public and responsible trustee agencies about the nature of the project being proposed and the extent and types of potential impacts that the project and its alternatives could have on the environment, should the project or alternatives be implemented. CDPR determined that an EIR was required for the Project, and circulated a Notice of Preparation (NOP) dated October 19, 2018, to interested agencies, organizations, and individuals. The NOP was also sent to the State Clearinghouse at the California Governor's Office of Planning and Research. The NOP is intended to encourage interagency communication regarding the proposed action so that agencies, organizations, and individuals are afforded an opportunity to respond with specific comments and/or questions regarding the scope and content of the EIR. The 30-day public scoping period ended on November 19, 2018. Two comment letters were received in response to the NOP from the U.S. Fish and Wildlife Service and the Native American Heritage Commission and are included in Appendix A.

The scoping process provided an opportunity for governmental agencies and the public to provide comments on the issues and scope of the Draft EIR. Written comments received during the NOP scoping process became part of the public record and were reviewed and considered by CDPR in preparing the Draft EIR. In addition, as part of the scoping process, CDPR as a courtesy reached out to environmental organizations, including the Sierra Club, Center for Biological Diversity, Audobon Society, and the California Wildlife Foundation to meet informally to review the Project. The

California Wildlife Foundation and the Audubon Society responded to the invitation and CDPR staff, along with representatives from GRWF and the environmental consultant met with both of these groups to hear their concerns and issues related to the Project and to answer any general questions. Further, as part of the Assembly Bill 52 (AB 52) process, CDPR sent letters to four tribes identified by the Native American Heritage Commission as having traditional or cultural places within Merced County.

The NOP and comments received thereon are included in Appendix A to this EIR. Based on the scope of the proposed action as described in the NOP (see Appendix A) and the Initial Study (see Appendix B) and comments received from the public agencies, the following issues were determined to be potentially significant and are therefore addressed in Chapter 3, Environmental Analysis, of this document:

- 3.1 Aesthetics
- 3.2 Biological Resources
- 3.3 Transportation and Circulation

Additional CEQA-mandated environmental areas, which include air quality, agricultural and forestry resources, cultural and paleontological resources, geology and soils, greenhouse gases and climate change, hazards and hazardous materials, hydrology and water quality, land use, mineral resources, noise, population and housing, and public services, energy and recreation, tribal cultural resources, and utilities are evaluated in the Initial Study Checklist found in Appendix B and summarized in Chapter 4 Effects Found Not to be Significant of this EIR. As described in Chapter 4, these topics were found to either not be significant or could be reduced to a less-than-significant level with mitigation or compliance with existing state requirements.

This EIR will also address the cumulative environmental effects of the Project in combination with other closely related past, present, and reasonably foreseeable probable future projects in the area. This will serve to satisfy CEQA's requirements that a project's potential cumulative impacts be analyzed in the EIR. It should be noted that the intent of CEQA is not to evaluate the impacts of the cumulative projects on the Project, but instead to evaluate the potential impacts on the environment resulting from implementation of the Project in conjunction with the cumulative projects.

In compliance with CEQA Guidelines Section 15126.6, this EIR also describes and evaluates the comparative merits of a reasonable range of alternatives to the proposed Project, including the required No Project Alternative, and also identifies the environmentally superior alternative. This EIR also describes alternatives that were considered but rejected by the lead agency as infeasible and explains the reasons why.

1.2.3 Overview of the Environmental Impact Report Process

This Draft EIR has been made available to members of the public, agencies, and interested parties for a 45-day public review period in accordance with CEQA Guidelines Section 15105. Pursuant to CEQA Guidelines Section 15204(a), public review of the Draft EIR is intended to focus "on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated." CDPR has published the Notice of Availability to provide notice that the document is available for public review from October 11, 2019 to November 25, 2019. Table 1-1 lists where this Draft EIR is available for reviw during the 45-day public review period.

Table 1-1
Repository Sites

Site	Address	Telephone
California State Parks, Northern Service Center	One Capitol Mall, Suite 410, Sacramento, CA 95814	916-653-6995
California State Parks, Central Valley District	22708 Broadway, Columbia, CA 95310	209-536-5930
California State Parks, Four Rivers Sector Office	31426 Gonzaga Rd, Gustine, CA 95322	209-826-1197
Santa Nella Library	29188W. Centinella Ave., Santa Nella, CA 95322	209-826-6059
Gilroy Library	350 W 6th St, Gilroy, CA 95020	408-842-8207

In addition, the Draft EIR will be available for public review online at the following website: https://www.parks.ca.gov/?page_id=982.

Once the 45-day public review period for the Draft EIR has concluded, CDPR will review all public comments, prepare written responses to comments received, and propose revisions to the Draft EIR text, if necessary. Please note that a public hearing will not regarding this Draft EIR. Please submit all comments in writing. The written responses to comments and the revisions to the Draft EIR will constitute the Final EIR. The Mitigation Monitoring and Reporting Program (MMRP) will be incorporated into the Final EIR, and it will include monitoring team qualifications, specific monitoring activities, a reporting system, and criteria for evaluating the success of the mitigation measures. Mitigation measures contained in the EIR and the Initial Study Checklist (Appendix B) will be developed in consideration of future monitoring requirements and will be written in sufficient detail to address impacts of the proposed Project, referencing the appropriate implementing permits and plans.

1.3 SCOPE OF THE ENVIRONMENTAL IMPACT REPORT

This EIR evaluates the potential short-term (construction) and long-term (post-construction operation/management), direct, indirect, and cumulative environmental impacts of the proposed Project. The Project consists of decommissioning the existing wind turbines and associated infrastructure and installing up to 40 new wind turbines. The maximum of 40 turbines that would be installed reduces the number of turbines required to generate electricity from this site. The final decision on which turbines to purchase has not yet been made by GRWF, so the individual size of the turbines is not known; however, the Project is committed to installing no more than 40 turbines. In addition to the new wind turbines, Project components include ancillary facilities such as construction laydown areas, access roads, underground and overhead collector lines andassociated equipment, underground and overhead communications system, an operations and maintenance (O&M) facility, meteorological or MET tower(s), relocation of a communications tower, a New Transmission Line connecting the Project site to the Los Banos Substation, relocation of existing transmission line poles, upgrades to the Dinosaur Point Tap (existing switchyard), upgrades to the Los Banos Substation, storage sheds, battery storage facility, and an electrical substation and associated substation components.

The degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity which is described in the EIR pursuant to Section 15146 of the CEQA Guidelines. Note that the EIR is evaluating only the direct physical change and reasonably foreseeable indirect physical change potentially occurring from the new wind turbines and anciallary uses, meaning any activities that are existing and would not be modified would not be evaluated in this EIR.

1.4 INTENDED USES OF THE ENVIRONMENTAL IMPACT REPORT

According to CEQA (Public Resources Code Section 21002.1(a)), "The purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided." This EIR provides relevant information concerning the potential environmental effects associated with construction and operation of the proposed Project, and this EIR identifies and evaluates potentially significant effects that may result from implementation of the Project. It is intended for use by CDPR (decision maker) and the public.

As the designated lead agency, CDPR has assumed responsibility for preparing this document. The decision to implement the proposed action is within the purview of CDPR. When deciding whether to approve the proposed action, CDPR will use the information provided in this EIR to consider potential impacts to the physical environment associated with Project implementation. CDPR will consider all written comments received on the Draft EIR during the 45-day public review period in making its decision to certify the EIR as complete and in compliance with CEQA and in making its determination whether to approve or deny the Project. CDPR will evaluate and weigh the environmental considerations and economic and social factors to determine the most appropriate course of action.

Subsequent to certification of the Final EIR, agencies with permitting authority over all or portions of the Project will use the Final EIR as the basis for their evaluation of environmental effects related to the Project and approval or denial of applicable permits. This EIR will be used in considering the approval of the following discretionary actions necessary for the implementation of the Project, which include but are not limited to the following:

- Caltrans could use this EIR to evaluate and issue an Encroachment Permit and Transportation Permit for oversized trucks delivering turbine equipment to the site.
- San Joaquin Valley Air Pollution Control District may require an Authority to Construct or Modify permit for construction activities if any stationary source equipment would be required.
- California Public Utilities Commission may require a Notice of Construction for any work to upgrade the Los Banos Substation.

Additional information regarding agency permits and approvals is provided in Chapter 2, Project Description, of this EIR.

1.5 ORGANIZATION AND CONTENT OF THE ENVIRONMENTAL IMPACT REPORT

To describe the direct, indirect, and cumulative impacts as well as mitigation measures and alternatives for the proposed action, this EIR is organized as follows:

- An Executive Summary is provided at the beginning of this document, which outlines the conclusions of the environmental analysis. This chapter also includes a table summarizing all environmental impacts identified in this EIR along with the associated mitigation measures proposed to reduce or avoid each potentially significant impact.
- Chapter 1, Introduction, serves as a foreword to the EIR, introducing the Project background, the applicable environmental review procedures, and format of the EIR.
- Chapter 2, Project Description, provides a thorough description of the proposed Project components and required discretionary approvals.
- Chapter 3, Environmental Analysis, provides an overview of the section format and the different levels of significance used to determine the impact significance included in Sections 3.1 through 3.3. The environmental impacts, including cumulative impacts are evaluated in the technical Sections included in Chapter 3.
- Chapter 4, Effects Found Not to be Significant, includes a summary of potential environmental topics that have been found to have a less-than-significant or no effect on the environment.

- Chapter 5, Significant Irreversible Environmental Changes and Growth Inducement, addresses environmental areas where significant environmental effects cannot be avoided and any significant irreversible environmental changes that would result from implementation of the Project. In addition, any growth-inducing impacts associated with the addition of more wind energy is addressed in this chapter.
- Chapter 6, Project Alternatives, discusses alternatives to the Project.
- Chapter 7, List of Preparers.
- Appendices include the Initial Study Checklist plus various technical studies prepared for the Project, as listed in the table of contents.

1.6 MITIGATION MONITORING AND REPORTING PROGRAM

As mandated by CEQA Guidelines Sections 15091 and 15097, CDPR will prepare a MMRP prior to project approval. The MMRP will include all mitigation measures outlined in the EIR and the IS, the responsible entity for implementation, implementation timing (e.g., prior to construction, during construction, after construction), and any follow-up reporting requirements (such as submittal of materials to regulatory agencies). CDPR, as the designated lead agency, is responsible for enforcing and verifying that each mitigation measure is implemented.

1.7 REFERENCES

Cal. Code Regs., Title 14, Sections 15000–15387 and Appendices A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.

California Public Resources Code, Sections 21000–21177. California Environmental Quality Act (CEQA), as amended.

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CHAPTER 2
PROJECT DESCRIPTION

2.0 INTRODUCTION

The proposed Gonzaga Ridge Wind Repowering Project (proposed Project), is a renewable wind energy generation development to be constructed and operated in Pacheco State Park (Park) in Merced County, California, by Gonzaga Ridge Wind Farm, LLC (GRWF or Applicant). The Project would replace the existing 16.5 megawatt (MW) wind energy facility that was constructed starting in 1988 (Historical Project). The Historical Project created rights to 18.4 MWs of interconnection capacity which would be used for the Project as well as a new transmission line to Los Banos that will create 80 MWs of interconnection capacity. The Project would consist of wind turbines and associated infrastructure, with a nameplate generating capacity[1] of up to approximately 100 MW on an approximately 1,766-acre non-public portion of the Park site.[2] The Project would also utilize land owned by the Bureau of Reclamation (BOR), Merced County property, and privately owned property for transmission line siting (Figure 2-1, Vicinity Map).

The Park consists of 6,900 acres of former ranchland along State Route (SR) 152 known as Pacheco Pass, at the edge of the Diablo Range. The Park is located on SR-152, that connects two major north-south arteries—Interstate 5 (I-5), which is 16 miles to the east, and U.S. Highway 101 (US 101), which is approximately 30 miles to the west. The Park is generally equidistant between the cities of Gilroy and Los Banos and is an approximate two-hour drive from San Francisco. The Park lies adjacent to the San Luis Reservoir State Recreation Area (SRA), which is under BOR ownership and managed by the California Department of Parks and Recreation (CDPR), as shown on Figure 2-2, Project Location. The Project site occupies portions of Township 10 South, Range 7 East, projected Sections 13, 14, 16, 17, 21, 22, 23, 24, 25, 26, 27, and 28 on the Pacheco Pass U.S. Geological Survey (USGS) 7.5-minute quadrangle maps. The new 70 kV transmission line alignment (New Transmission Line) occupies portions of Township 10 South, Range 7 East, projected Sections 25, 26, 27; Township 10 South, Range 8 East, projected Sections 13, 14, 23, 24, 26, 27, 28, 30, 31, 32, 33, and 34; Township 10 South, Range 9 East, projected Section 19; and Township 11 South, Range 8 East, projected Sections 4, 5 and 6 on the Pacheco Pass and San Luis Dam U.S. Geological Survey (USGS) 7.5-minute quadrangle maps.

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1 The nameplate generating capacity for a wind energy generation project is the sum of the total capacity rating of the turbines and should be considered a project's total potential generation output. A project's capacity factor refers to the percentage of the nameplate capacity actually generated over time.

2 A majority of the 1,766 acres is included within the non-public portion of the Park, with the exception of a small area located in the western portion that falls outside of the non-public boundary.

The Park property was bequeathed by the former owner, Paula Fatjo, to CDPR. Prior to her death in 1992, Ms. Fatjo had a wind farm developed in the eastern portion of the Park starting in 1988. The wind farm included 166 wind turbines and associated infrastructure and has been in operation for the past 33 years. Currently, there are 162 wind turbines remaining on the site. The Project honors the wishes of Ms. Fatjo, as described in her will to advance the Parks goals for resource protection, quality visitor experience, and education in the form of various types of recreation.[3] The Project's lease area consists of approximately 1,766 acres which is primarily located within the area designated in the Park as the Lease Zone, which the Park's General Plan states is to maintain windmills and associated power production and operation infrastructure and is not open to the public.

An important component of Ms. Fatjo's bequest is that all income which may accrue to CDPR from the wind project is to be used for the development of the Park and shall not be used in the State's general fund. To accomplish this, a public benefit non-profit corporation was created and known as the "Fatjo ES-2 Pacheco State Park General Plan Corporation." The corporation consists of a seven-member Board of Directors and is responsible for receiving and managing the financial assets of the Park and distributing these to CDPR to "support, foster, and promote the maintenance, protection and supervision, extension improvement and interpretation of the Fatjo Project." Revenue from the wind energy generated by the Project would provide income to the Fatjo ES-2 Pacheco State Park General Plan Corporation.

For the purposes of this EIR, the Project site is defined as the 1,766-acre lease area within the Park boundaries (Figure 2-2). The Project site includes the proposed wind turbines and associated infrastructure, including a portion of the existing transmission line, Dinosaur Point Tap (existing switchyard), and the New Transmission Line within the Park boundaries. Elements of the Project outside of the Project site are included within the larger Project Area, which includes the New Transmission Line and associated infrastructure (including temporary roads for construction and permanent roads for maintenance access), as shown on Figure 2-3, Project Site and Proposed Transmission Line Alignment. The proposed Project would consist of the decommissioning and removal of the existing wind turbines and overhead energy collection system and the installation of up to 40 modern wind turbines in two phases. Phase I includes construction of up to nine turbines and associated infrastructure along with the decommissioning and removal of approximately 47 existing turbines, while Phase II would construct the remaining up to 31 turbines and other various Project components. The decommissioning and removal of the remaining 115 turbines would occur after construction of Phase I is complete and prior to commencing construction of Phase II. Figure 2-4, Project Site and Facilities, illustrates the proposed Project phasing which is also discussed in more detail under subsections 2.3.3, 2.3.4 and 2.5. Due to the dynamic nature of wind

3 Pacheco State Park General Plan and Environmental Impact Report SCH No. 2003121089. May 2006. Sacramento, California.

energy technology development the actual make, model, size and specifications of the turbines selected for the proposed Project will be determined closer to the start of construction. This impact analysis uses a range of turbine types to capture the envelope of potential impacts representing the smallest and largest machines that GRWF would use in this Project. The use of the smallest and largest turbine parameters provides an impact envelope that identifies possible equipment heights, blade lengths, and rotor swept areas that are used in the resource impact analyses. For example, the assessment of impacts to biological resources, the rotor swept area and the height above ground of the rotor swept area is more important than the blade height. For the analysis of aesthetics, the largest possible machines were used in the development of visual simulations and impact analyses, which includes a maximum blade height of up to 650 feet. Noise and vibration analyses utilized a set of turbine design and operation values that would generate the greatest noise and vibration, within the range of turbine models considered. Figure 2-5 provides an illustration of the overall turbine height to the top of the blade, hub height, and rotor sweep of turbines that are under consideration. The Project would also include the continued use of the existing 70 kV transmission line that follows a path from the current wind farm that is located east and north of San Luis Reservoir, linking the Project site to the existing switchyard. An additional transmission line would also be constructed on land owned by the BOR and Merced County property, as well as some privately-owned property for the 70 kV New Transmission Line connecting to the Los Banos Substation. The Project also includes ancillary Project facilities such as construction laydown areas, access roads, underground and overhead collector lines and associated equipment, underground and overhead communications system, an operations and maintenance (O&M) facility, meteorological or MET tower(s), relocation of a communications tower, New Transmission Line, relocation of existing transmission line poles, upgrades to the existing switchyard, upgrades to the Los Banos Substation, storage sheds, battery storage facility, and an electrical substation and associated substation components. The overhead New Transmission Line would be up to approximately 16 miles long and would be comprised of up to approximately 120-foot tall power poles. The specific number and location of the poles has not yet been determined. The Los Banos Substation is owned by PG&E and minor upgrades to the substation would be required to accommodate electricity generated by the Project.

The Project layout presented in Figure 2-3 represents indicative locations of Project infrastructure based on information available at the time of the preparation of this Project Description. Information gained from further design work, as well as wind resource studies and turbine performance tests would be used to further refine the Project layout and turbine size.

2.1 PROJECT OBJECTIVES

The following Project objectives have been identified.

- Assist California in meeting its target of 100 percent carbon-free electricity by 2045 (Senate Bill 100) and reducing greenhouse gas emissions to 1990 levels by 2020 (California Global Warming Solutions Act of 2006/Assembly Bill 32).
- Continue production of wind energy within Pacheco State Park to generate income to advance the goals of CDPR for resource protection, quality visitor experience, and education in the form of various types of recreation.
- Replace outdated wind turbine infrastructure and reduce the total number of turbines and overall Project footprint on CDPR lands with state-of-the art facilities to achieve increased performance, lower cost, higher reliability, longer service life, and reduction in risk to avian species, especially raptors.
- Optimize the use of previously disturbed land within Pacheco State Park by replacing the existing wind turbines.

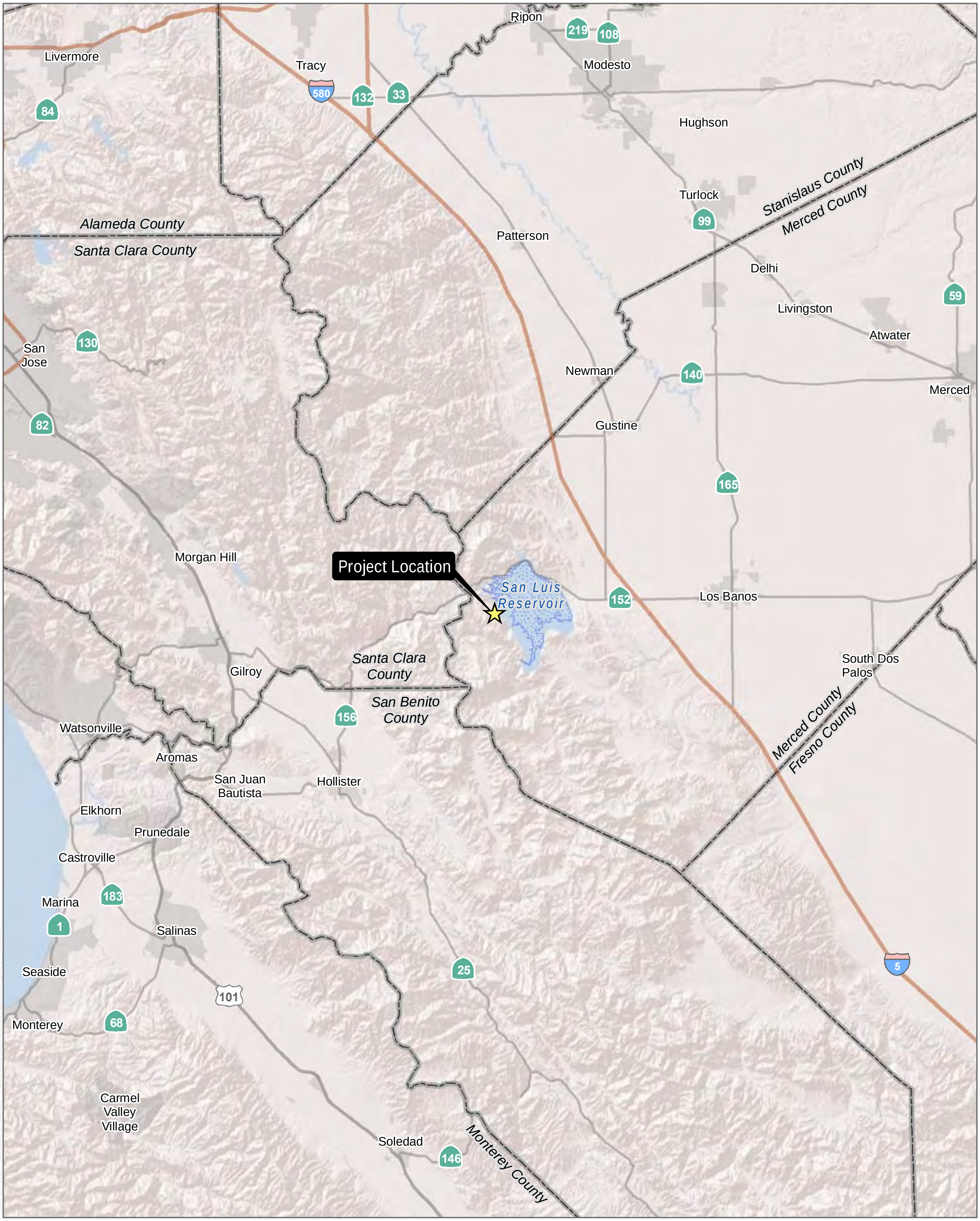
2.2 PROJECT DESCRIPTION

2.2.1 Description of Project Location and Existing Site Conditions

GRWF has a long-term (maximum 35-year) lease on approximately 1,766 acres with the State of California for development, construction and operation of the Project. The Project would include additional public and/or private lands required to construct and operate transmission lines to transmit the electricity generated by the Project to the Los Banos Substation, located south of the O'Neill Forebay (New Transmission Line) (Figure 2-3). The Project would also continue to use the existing 70 kV transmission line to transmit up to 18.4 MW of energy north from the Project site to the existing switchyard.

The Project Area is near the latitudinal center of the State of California. SR-152 borders the Project Area to the north and Interstate Highway 5 (I-5), is approximately 3 miles east of the Project Area. The unincorporated community of Santa Nella is 2 miles northeast of the San Luis Reservoir SRA. Other nearby cities are Los Banos, approximately 8 miles east of the Project Area, and Gilroy, 17 miles to the west. The Project Area is in the oak woodland savanna habitats of the foothills of the Diablo Range and is bordered on the west by the hilly terrain that separates the range from the San Joaquin Valley. Adjacent ranches include a small number of both permanent residences and periodically used dwellings. The Project Area is within a CAL FIRE State Responsibility Area (SRA). CAL FIRE has a legal responsibility to provide fire protection on all SRA lands.

Land ownership within the Project Area is comprised of Pacheco State Park lands, U.S. Department of the Interior, BOR lands, Merced County lands, and private land holdings, as shown on Figure 2-6, Land Ownership.



SOURCE: ESRI 2018

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0 5 10 Miles

FIGURE 2-1

Vicinity

Gonzaga Ridge Wind Repowering Project

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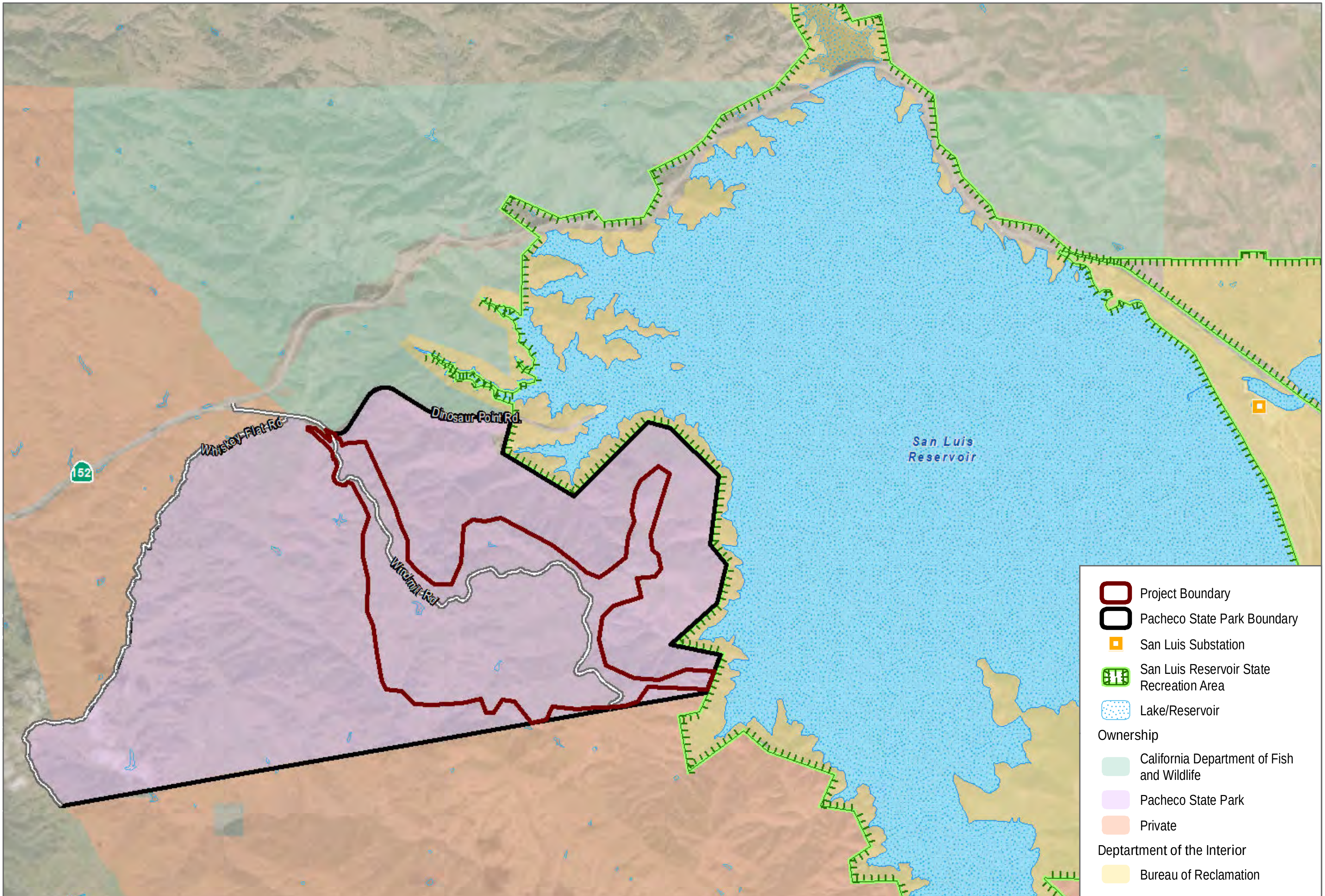

SOURCE: Merced County 2018, Bing Maps 2018

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FIGURE 2-2

Project Location

Gonzaga Ridge Wind Repowering Project

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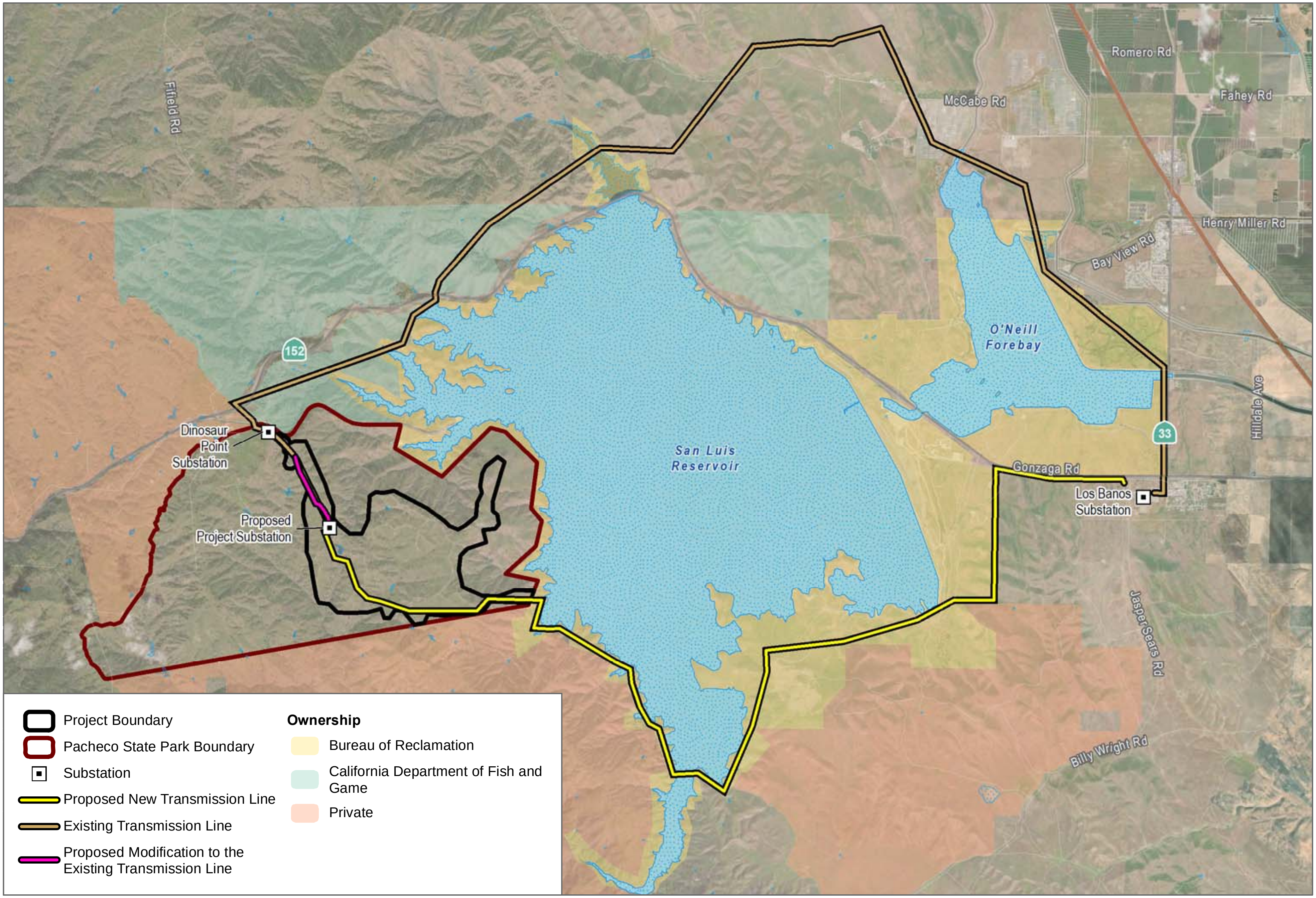

SOURCE: Bing Maps 2018; Scout Energy 2018

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FIGURE 2-3

Project Site and Proposed Transmission Line Alignment

Gonzaga Ridge Wind Repowering Project

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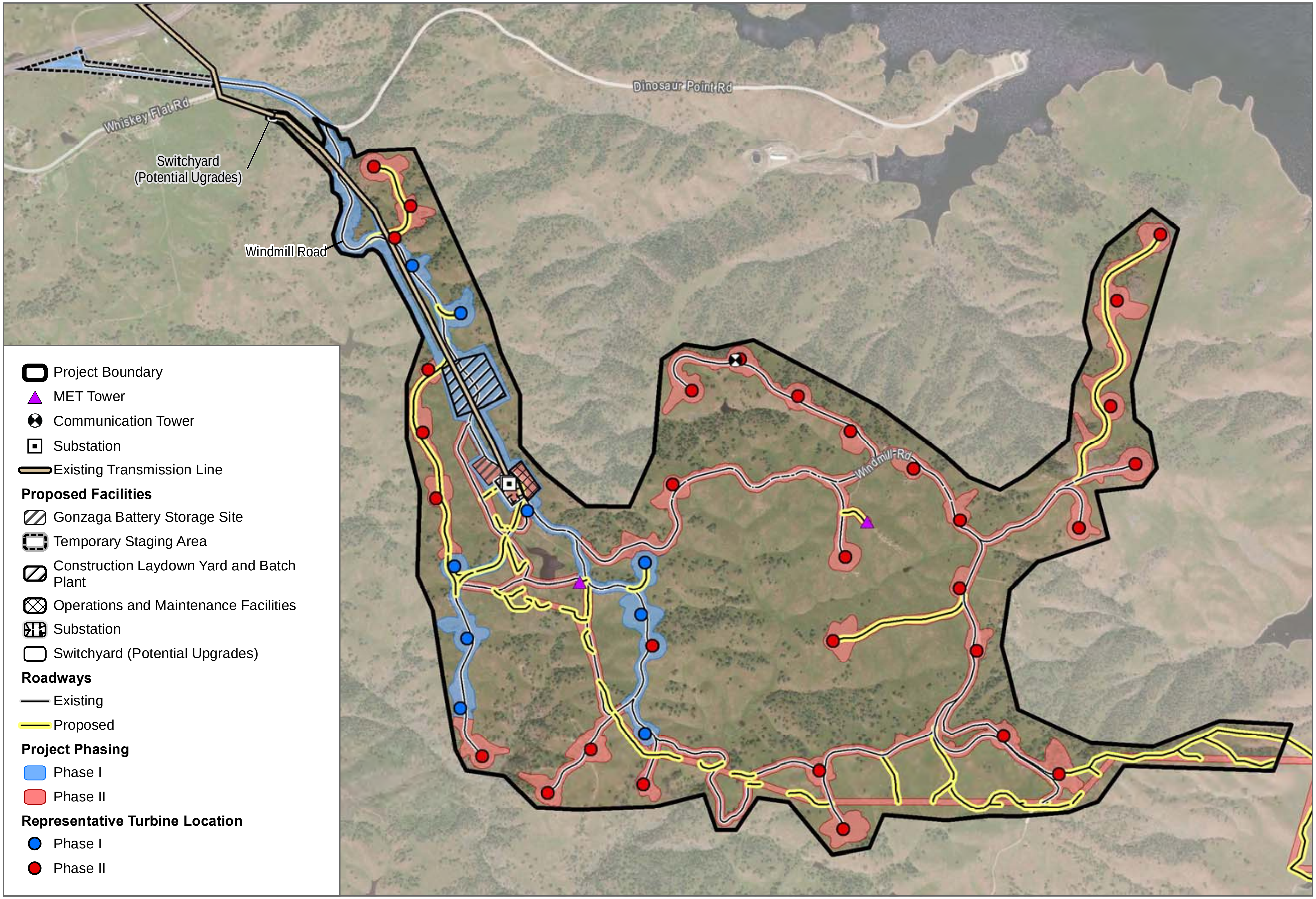

SOURCE: USDA 2016; Scout Energy 2019

Note: Graphic depicts conceptual proposed turbine locations

DUDEK

0 1,050 2,100 Feet

FIGURE 2-4

Project Site and Facilities

Gonzaga Ridge Wind Repowering Project

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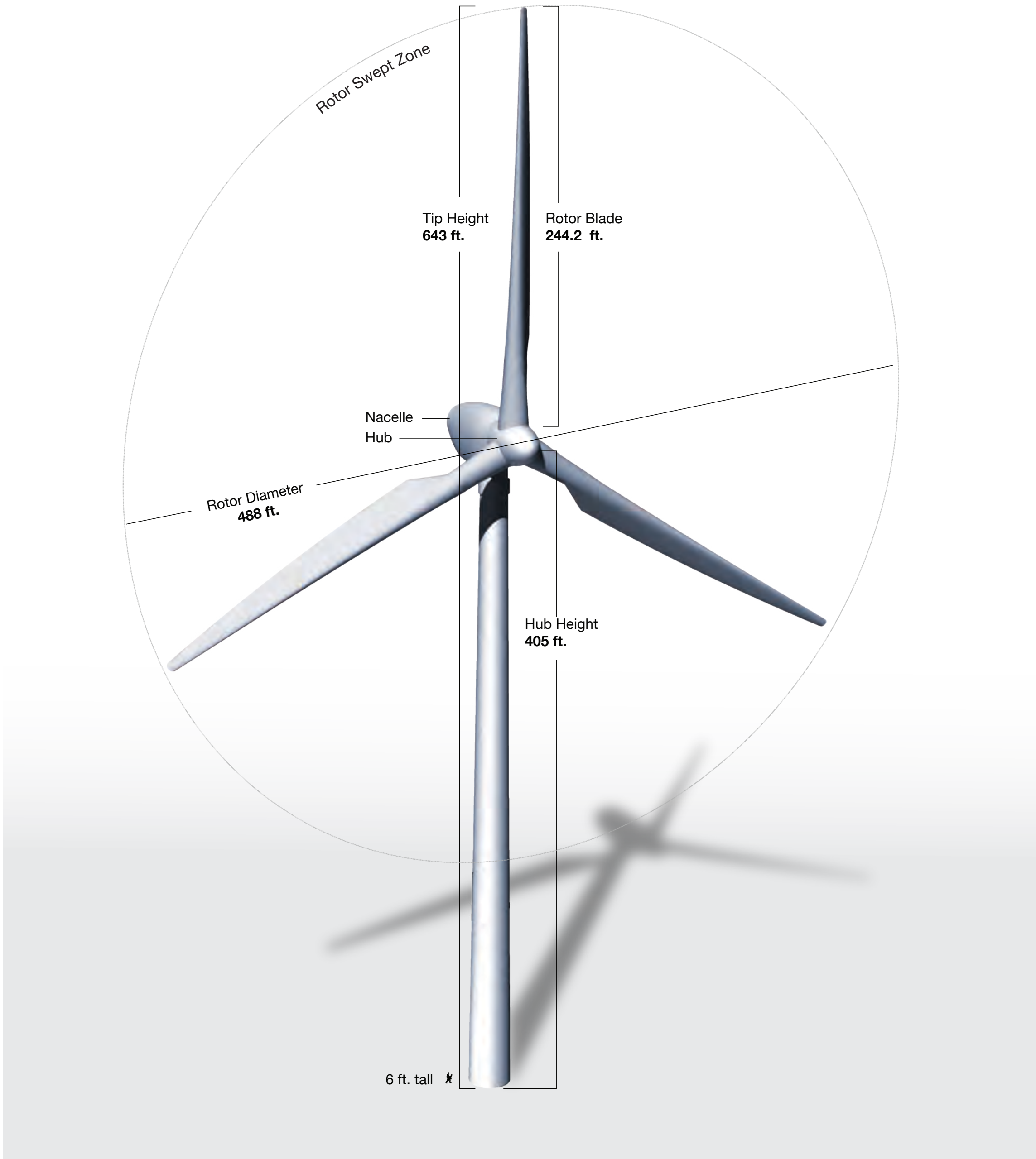
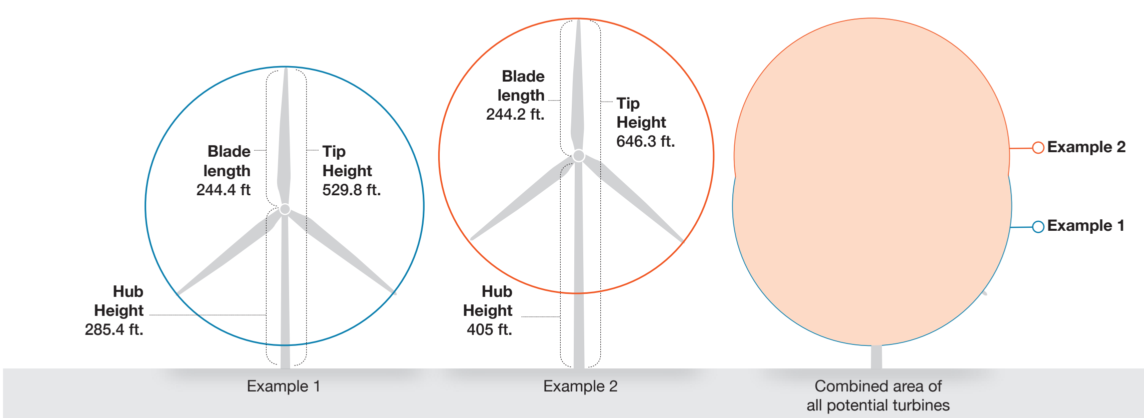

Rotor Swept Zone
Tip Height
643 ft.
Rotor Blade
244.2 ft.
Nacelle
Hub
Rotor Diameter
488 ft.
Hub Height
405 ft.
6 ft. tall


Blade length 244.4 ft
Tip Height 529.8 ft.
Hub Height 285.4 ft.
Blade length 244.2 ft.
Tip Height 646.3 ft.
Hub Height 405 ft.
Example 2
Example 1
Example 1
Example 2
Combined area of all potential turbines

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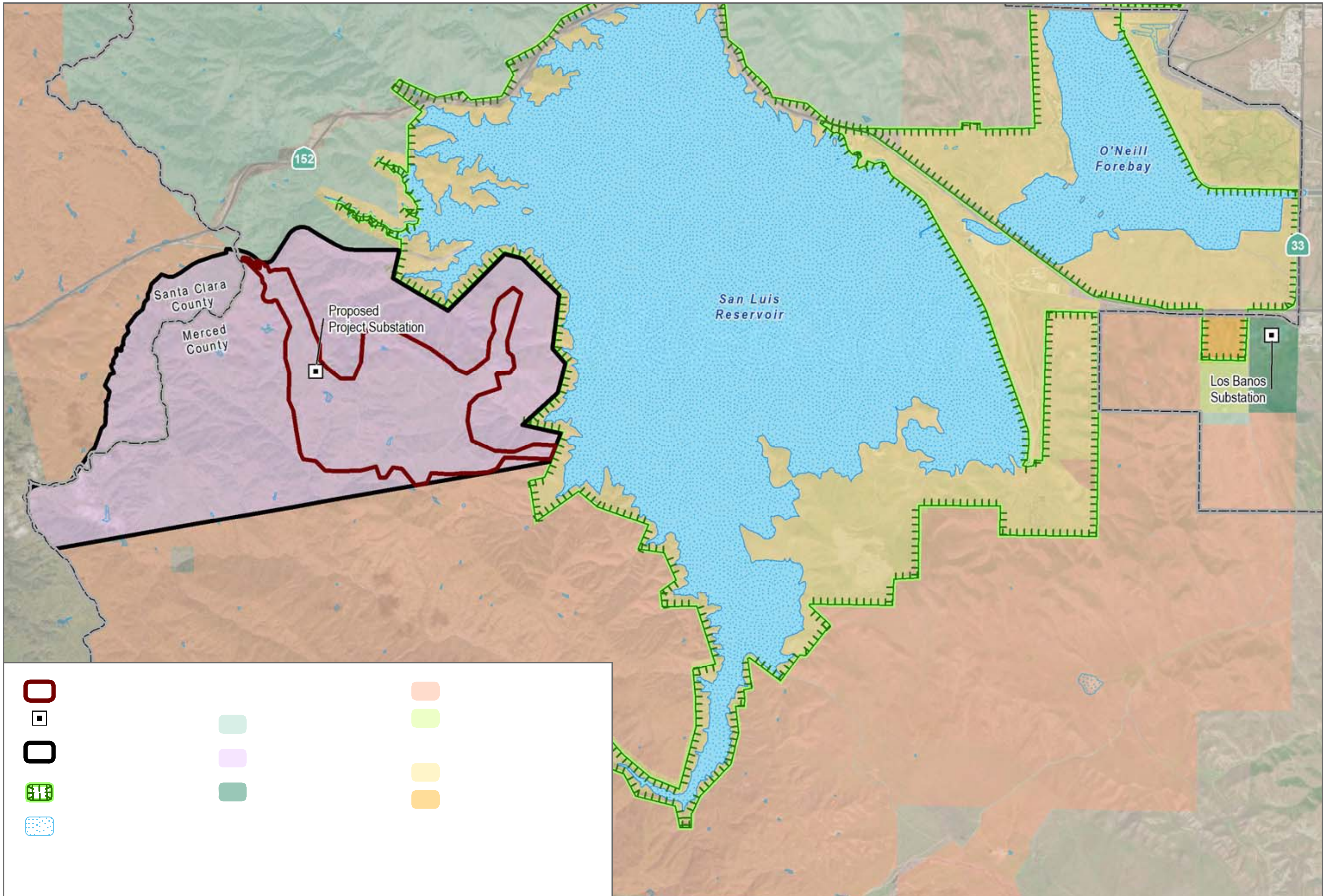

SOURCE: Merced County 2018, Bing Maps 2018

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FIGURE 2-6

Project Area Land Ownership

Gonzaga Ridge Wind Repowering Project

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The portion of Pacheco State Park within the Project site is currently home to 162 wind turbines. The existing turbines range from Micon 108s and similar machines installed in 1988 to a NegMicon installed in 2002. The turbines built around 1988 are generally on 80 to 90 -foot tall conical steel tube towers with 22 to 33 -foot three-blade rotors. The NEG Micon, built in 2002, has a 240-foot tall tower with 85-foot long blades on lattice steel towers with three-blade rotors. In addition, a small substation is located on the Project site along with a trailer that provides office space for the on-site maintenance person, and five temporary MET towers recently installed to gather information on meteorological and wind conditions on the site. The existing MET towers do not require, nor do they have lights as they are less than 200 feet tall. One existing turbine includes lights, consistent with Federal Aviation Administration (FAA) requirements. An existing 70 kV transmission line is also located on the north side of the Project site connecting to the existing Dinosaur Point Tap (existing switchyard) and would be retained and used as part of the proposed Project. Currently, there are sixteen microwave paths[4] that bisect the Project site according to a report prepared by ComSearch (Wind Power GeoPlanner Microwave Study, September 2018). The microwave paths are associated with the following licensee's: AT&T/New Cingular Wireless, T-Mobile, and the Santa Clara Valley Water District. There is a small area adjacent to the western boundary that is outside of the closed area of the Park and overlaps an existing public trail (Dinosaur Lake Trail). To accommodate the Project a small portion of Dinosaur Lake Trail adjacent to the western boundary of the Project site would be relocated (see discussion below under subsection 2.2.2.8). The terminus of the New Transmission Line is the Los Banos Substation, owned by PG&E, located at the intersection of Jasper Sears Road and Gonzaga Road just west of the City of Los Banos. The PG&E property is approximately 300 acres with approximately 48-acres containing the actual substation facilities surrounded by a concrete wall. There are currently several overhead transmission lines connecting to the Los Banos Substation, ranging from 70 kV to 500 kV in voltage.

2.2.2 Project Overview

This section provides an overview of each of the Project facilities and their related activities. These include:

- Decommissioning, removal and recycling of the existing turbines and associated infrastructure, with the exception of the existing 70 kV transmission line that links the existing wind farm to the existing switchyard and the existing switchyard. The existing O&M building and existing substation may also be used for Phase I and decommissioned in Phase II;
- Up to 40 turbines erected on tubular steel towers set on concrete foundations, with associated turbine pads, laydown areas, and pad mounted transformers;

[4] Microwave signal transmission needs a clear path between antennas to transmit a signal. If an obstruction is placed in that microwave path, it can significantly deteriorate or even eliminate that communication path. Specifically the "Fresnel zone", which is an oval shaped area that surrounds the path of the visual line of sight between two point-to-point antennas. The microwave paths that bisect the site are primarily for cell phone providers.

- A 34.5-kilovolt (kV) overhead and underground electrical collector system linking each turbine to the next and to the on-site collector substation;
- An overhead and underground communication system (fiber optic cabling);
- One on-site collector substation that may contain two parts. One part would be focused on sending electricity on the existing transmission line and the other part would be focused on sending electricity on the New Transmission Line;
- A new overhead approximately 16-mile 70 kV transmission line (including portions located outside of Park boundaries) for connecting the Project site to the Los Banos Substation (New Transmission Line);
- Access roads, consisting of utilizing and upgrading existing roads and installing new roads;
- Relocation of the Dinosaur Lake Trail;
- A temporary, approximately 15-acre construction and equipment laydown area, construction trailer area, and associated parking area;
- A temporary, approximately 15 acre construction and equipment laydown and staging area for the New Transmission Line;
- An O&M facility including an operations building and outdoor storage area;
- Permanent and temporary MET towers and wind measurement equipment;
- Upgrades to the Los Banos Substation and existing switchyard;
- Battery storage facility;
- Storage sheds; and,
- A temporary staging area for deliveries.

Typical dimensions and disturbance areas for each Project component under each phase of construction are provided in Table 2-1. Only those components where there would be either temporary or permanent disturbance associated with construction is included. In some instances, land disturbance of a specific Project component is already captured as part of another component (e.g., construction of the underground communication system would be within new access roads and temporary disturbance of turbine decommissioning would be within the temporary turbine disturbance area). The proposed Project layout is shown in Figure 2-4.

Table 2-1
Project Facilities and Disturbance Areas – by Phase

Project Component	Quantity	Typical Area of Temporary Soil Disturbance (Total)[1]	Typical Area of Permanent Disturbance (Non-Restoration Areas)[2]
Phase I			
Turbines and pads (including construction laydown areas)	Up to 9	5 acres per turbine	less than 0.1 acres per turbine
Access roads (includes crane roads)[5]	Up to 4+/- miles of new and existing roads	150-foot-wide per linear foot	35 –foot-wide per linear foot
Temporary construction laydown area, construction trailer area, and associated parking area	1	15 acres	0 acres
Temporary construction staging area for deliveries	1	12 acres	0 acres
Relocation of approximately 20 existing transmission line poles and access road	Approximately 1 mile	10 acres	Less than 0.1 acres
Phase II			
Turbines and pads (including construction laydown areas)	Up to 31	5 acres per turbine	less than 0.1 acres per turbine
Communications system	Up to 45 miles	None – uses same area as collection system and transmission lines	None – uses same area as collection system and transmission lines
Overhead electrical collector system (including roads for construction, pull points, and pole construction) and 2-track road to access during operations [4]	Up to 5 miles	100-foot-wide per linear foot	Large vegetation would not be planted above the collection lines. Trimming of large vegetation would be done in accordance with the Fire Protection Plan
Underground electrical collector system[5]	Up to 16 miles	50-foot-wide per linear foot	5-foot-wide corridor maintained clear of large vegetation where it deviates from paralleling access roads
New Transmission Line	Up to 16 Miles	50 acres	Less than 0.1 acres
New Substation	1	5 acres	3 acres
Existing Switchyard (potentially upgraded)	1	0.3 acre	0.15 acre
Access roads (includes crane roads)[6]	Up to 10 miles of new and existing roads to access turbines	150-foot-wide per linear foot	35–foot-wide per linear foot
O&M facility	1	5 acres	3 acres, with 5,000-square foot O&M Building
Battery storage	1	5 acres	3 acres

Table 2-1
Project Facilities and Disturbance Areas – by Phase

Project Component	Quantity	Typical Area of Temporary Soil Disturbance (Total)[1]	Typical Area of Permanent Disturbance (Non-Restoration Areas)[2]
Storage sheds	Multiple	None – located in same area as O&M, substation and laydown yard	None – located in same area as O&M, substation and laydown yard
Permanent MET towers (Fall Radius & Tower Radius)	2	2.1 acres per structure	42 feet x 42 feet
Temporary MET towers (Fall Radius &Tower Radius)	3	2.1 acres per structure	0 acres
Temporary laydown yards for New Transmission Line	1	15 acres	0 acres
New 150-foot tall communications tower	1	0.25 acre	20- foot x 20- foot area
Upgrades to the Los Banos Substation			
Anticipated Total Temporary Construction Disturbance:			740.0 acres
Anticipated Total Permanent Disturbance:			161.4 acres

Notes:

1 Permanent impact acreages are a subset of total impacts.
2 Temporary disturbances are typical and may be more or less in some areas.
3 Portions of the electrical collector system would be within the access road construction buffer; no additional permanent impacts would occur in these areas. Note that acreage includes co-located underground communications system (cabling).
4 For impact calculations assumed a 7-foot-wide corridor centered on the transmission line; actual impacts would be less and limited to pole and pull site locations. Note that acreage includes co-located overhead communications system (cabling).
5 Portions of the electrical collector system would be within the access road construction buffer; no additional permanent impacts would occur in these areas. Note that acreage includes co-located underground communications system (cabling).[6] Acreage includes both existing and new road segments.

GRWF plans to decommission (remove) approximately 47 existing wind turbines prior to starting construction of Phase I. Once construction of Phase I is complete, the remaining 115 turbines would be decommissioned and removed from the site. Prior to their removal, all fluids would be drained from the nacelles[5] and the towers would be dismantled on the ground. The turbine components would be removed from the site, below grade infrastructure (e.g., cables, pipes, conduit or equipment) buried within two feet of the surface would be removed; infrastructure greater than two feet below grade would remain on-site. The concrete foundations would be demolished down at least one foot below grade and the remaining materials would be reused, recycled, or sold for scrap. The remaining materials that are not recyclable would be removed from the site to be disposed and an approved facility (i.e., Billy Wright Landfill located in Los Banos).

5 A nacelle is a unit that houses all of the generating components in a wind turbine, including the generator, gearbox, drive train, and brake assembly.

A Phase 1 Environmental Site Assessment (ESA) was prepared for the Project site as part of the initial site evaluation and is included in Appendix B to the Initial Study (see EIR Appendix B for the Initial Study). There were a few areas where minor soil staining was observed around some of the turbines. These areas have all been remediated and based on the Phase 1 ESA no additional areas of potential contamination were identified that required remediation.

GRWF would be replacing 162 existing wind turbines with up to 40 new wind turbines. To determine the turbine location and type of turbines the wind speed and wind direction data acquired by MET towers and ground-based remote sensors, Sonic Detection and Ranging (SODAR) and Light Imaging Detection and Ranging (LiDAR), are used to help select the wind turbine ideally suited for the wind regime at the Project site. Furthermore, meteorological data is also used to help optimize turbine locations. Wind speed characteristics such as annual average wind speed, peak gust, shape of wind speed frequency, distribution, and turbulence intensity are used to aid in the selection of a turbine, which is best suited for the observed wind regime. SODAR and LiDAR acquire vertical wind speed and wind direction profile data up to approximately 660 feet (200 meters). Meteorological data from the Project site show maximum wind speeds about 200 feet to 330 feet (60 to 100 meters) above ground level before decreasing with height. Thus, the optimum turbine hub height would be in this range to maximize the wind speed. The wind speed and wind direction data are also used in developing a turbine array, which is designed to maximum turbine production while minimizing wake impact[6] from one turbine to another. In addition, the turbines are sited to avoid the existing microwave paths that bisect the Project site, specifically the "Fresnel zone", which is an oval shaped area that surrounds the path of the visual line of sight between two point-to-point antennas. GRWF has indicated the turbine array would account for the existing microwave paths and the turbines would avoid the Fresnel zones. In one case, the path may be relocated to allow for this avoidance.

Near the terminus of the New Transmission Line at the Los Banos Substation is an existing CDPR off highway vehicle (OHV) recreation area. CDPR has indicated if the New Transmission line is located within this OHV area GRWF would be required to install a fence to ensure no recreational vehicles would have access to the transmission poles and may also require relocating an existing trail located adjacent to the northern boundary of the recreation area, adjacent to the highway.

2.2.2.1 Wind Turbines

GRWF is currently considering a range of turbine models from leading manufacturers, ranging in generating capacity and dimensions, to meet the desired approximately 100 MW nameplate generating capacity of the Project. The final turbine model and specific number of turbines would

6 Wind turbines extract energy from the wind and downstream there is a wake from the wind turbine, where wind speed is reduced.

be selected based on availability at time of construction, conformance with power grid requirements, on-site wind resources, and other project-specific factors.

The turbines would be three-bladed, horizontal-axis models. Turbine towers would be mounted on a permanent concrete foundation. Turbine models being considered range in height; however, none would exceed a maximum height at the top of the blade of 650 feet above ground level. A turbine depiction representative of models under consideration is shown in Figure 2-5. Each turbine would require a step-up transformer which would either be housed within the turbine nacelle or at the base of the turbine.

Obstruction lighting consisting of red flashing, or strobe lights would be located at the top of the turbine nacelle, in accordance with Federal Aviation Administration (FAA) requirements. A FAA approved Lighting Plan would be developed for the Project. This Lighting Plan would specify the installation of lights on designated turbines and MET towers (if required).

A temporary construction work area would be cleared and graded for each turbine, as shown in Figure 2-7, Turbine Foundation Construction Process. Work areas vary in size and would be constructed differently in keeping with the topography of each turbine location. Although turbine construction area and configuration would vary depending on terrain, each turbine construction area would require an approximately 5-acre area that is cleared and leveled to approximately 2 percent slope or less. The cleared area is necessary for foundation excavation and construction, assembling the turbine, and to stage the construction crane which would hoist turbine sections into place. The turbine construction area would not be paved. A compacted-soil crane pad would be located within the 5-acre construction area. The crane pad would provide a soil bearing capacity designed to provide a stable area for the crane. The crane pad area would be re-vegetated post construction.

Turbine foundations would likely be spread footing and specifically designed as determined by geotechnical investigations. Spread footings, would be primarily buried underground to a depth of approximately 10 to 15 feet with a pedestal extending approximately 6 inches above ground. The base would be approximately 50 to 80 feet in diameter, depending on the turbine model selected, as shown in Figure 2-7. Prior to finalizing the size and location of each turbine, soil borings would be collected to verify soil and rock characteristics to an approximately 50-foot depth to ensure sufficient soil strength and bearing capacity to provide a stable foundation for the turbine.

Once construction is completed, a permanent 35-foot radius gravel ring would be placed around the base of the foundation. The gravel would provide a stable surface area for maintenance vehicles and would minimize surface erosion and runoff. All temporarily impacted areas would be replanted with non-aggressive resident species that are compatible with wind farm operations. Revegetation would be conducted in accordance with CAL FIRE, State Parks Natural Resources program, and the Merced County Fire Department, per a project-specific Fire Protection Plan developed in concert with CAL FIRE.

2.2.2.2 Electrical Collector System and Communications System

Power generated by the turbines would be collected by an above ground and underground 34.5 kV electrical collector system. This system would feed into an on-site collector substation, which would step up the voltage and transmit the power to the points of interconnect (POIs) with PG&E and California Independent System Operator (CAISO). The majority of the collector system would be located underground. Where necessary, portions of the collector system would be above ground to transmit power that would otherwise require multiple underground cables, respond to construction challenges or to avoid environmental impacts. These include:

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

For the underground portions of the electrical collector system, cables would be directly buried in trenches and would terminate at individual turbines, at locations where they connect to junction boxes, overhead power lines, or at the on-site substation. Depending on the subsurface conditions, blasting may be required to install the trenches. Each trench would contain power cables, a ground wire, a fiber optic communication cable for the Supervisory Control and Data Acquisition (SCADA) system (to transmit data from the turbine controllers to the on-site substation and O&M facility) and a marker tape above the cables to alert anyone digging in the area. Although designs have not been finalized, GRWF anticipates that the underground collector cable system would be placed within a 36-inch-deep and approximately 12-inch-wide cable trench. Typical cable trench details used for construction of the underground electrical system are shown in Figure 2-8.

Each underground collection circuit would have a temporary 50-foot wide disturbance area during construction. There would be no permanent impacts; however, the collection lines would be maintained in accordance with the Fire Protection Plan.

Above ground portions of the electrical collector system would have a maximum pole height of up to approximately 70 feet and wire heights ranging from 20 to 30 feet above the ground unless special circumstances warrant different clearances. Any portions of above ground electrical collector cable will not be known until final construction drawings are completed. The location of the 70 kV New Transmission Line connecting the Project site to the Los Banos Substation would be up to approximately 16 miles long and would primarily be located within lands owned by the BOR, as shown on Figure 2-4, Project site and Proposed Transmission Line Alignment. Clearing for installation of the overhead collector line would require a temporary workspace consisting of an approximately 75-foot by 75-foot construction area centered on the structures. In addition, a 15-foot wide unimproved road would be needed to access the structure locations. Permanent impacts would be small and limited to individual pole and guy wire locations. GRWF would build the New Transmission Line in accordance with the Avian Protection Plan Guidelines prepared by the U.S. Fish and Wildlife Service (USFWS; USFWS 2005) and the Edison Electric Institute's Avian Power Line Interaction Committee (APLIC 2012). A typical overhead electrical transmission pole design is shown in Figure 2-9.

GRWF would continue to use the existing transmission line to transmit up to 18.4 MW of energy north from the Project site to the existing switchyard. Phase I of the Project would use the existing transmission line to generate energy. Minor modifications may be required to the existing transmission line, to relocate approximately 20 poles, and to the existing switchyard to upgrade some on-site equipment and possibly relocate the fence to slightly enlarge the secure area. Once the New Transmission Line is operational approximately 80 MWs of the electricity would be transmitted through this line in addition to the existing transmission line.

All temporarily impacted areas would be replanted with non-aggressive resident plant species that are compatible with wind farm operations, such as short, native, slow-growing shrubs. A Habitat Restoration Plan (Restoration Plan) would be developed prior to construction which would include requirements to ensure the plants survive and adapt to the environment (e.g., irrigation requirements) and would include the methods and planting ratios provided by CDPR for the replanting of trees removed to accommodate the Project.

2.2.2.3 On-site Collector Substation

The existing on-site substation would remain in-place and service Phase I. Additionally, a new on-site 34.5 kV collector substation would be constructed to collect power generated by the turbines into the collector substation that would convert the voltage to 70 kV for transmission. Approximately 5 acres would be needed for construction of the substation. The final permanent footprint of the substation site would be approximately 3 acres and consist of a graveled area, fence, and parking area for maintenance vehicles. This new collector substation would be constructed as part of Phase II.

2.2.2.4 Access Roads

Access to the Project site is currently provided from SR-152 onto Dinosaur Point Road at an existing uncontrolled intersection. Internal Project access is primarily from Windmill Road, an existing park road closed to public vehicular access that intersects with Dinosaur Point Road. Project access would prioritize utilization of the existing internal network of roads created for the existing wind farm although some new roads would need to be constructed, in addition to improving and widening others to meet construction and maintenance activity requirements. Road modifications made for construction purposes would be restored at the completion of project construction, per terms of the lease and with a CDPR approved Restoration Plan. For the purpose of estimating maximum potential impacts, this discussion assumes the same level of disturbance for all Project access roads. Figure 2-10 shows an example of a typical access road design. Access roads would be either improved or constructed as part of Phase I, with the exception of internal roads required to access turbines constructed as part of Phase II.

During construction, select portions of existing roads within the Project site would be widened, including Windmill Road, and new access roads would be constructed to an approximately 35-foot-wide drivable surface with an additional 6 feet for drainage and typically 22 feet on each side for cut, fill, and construction, for a nominal 90-foot wide total disturbance area. An additional 30 feet of construction disturbance on either side for a nominal 150-foot wide total disturbance area may be needed depending on existing terrain. The road surface would be a graded and graveled surface. After construction is complete, the shoulders would be reclaimed and the permanent road would be approximately 20 to 35-feet wide, including shoulders and potential drainage.

Based on the preliminary layout shown in Figure 2-4, GRWF anticipates road modifications would be needed for portions of roads off Dinosaur Point Road that provide access to the Project site and within the Project site, to accommodate turbine component delivery and other large delivery trucks, including cranes and other heavy construction equipment. The road layout may be modified as the Project design is refined.

As required, existing culverts would be replaced with wider or stronger culverts. For both new and existing roads, drainage improvements would be made in accordance with the Construction General Permit's post-construction runoff management requirements (Order No. 2012-0006-DWQ – NPDES No. CAS000002) and Merced County's Stormwater Ordinance (Ordinance No. 1923). For more information on cut and fill, grading, blasting and culvert locations see Section 2.3, Construction.

During operation, service vehicles and equipment would continue to use Project access roads for routine maintenance activities. In areas where significant cuts and fills, and grading are required to construct the road, permanent disturbance may be 200 feet wide or more to accommodate stormwater controls and road design. Permanent access roads would be maintained through periodic grading and compacting to minimize naturally occurring erosion.

Catch basins, roadway ditches, and culverts would be cleaned and maintained regularly.

2.2.2.5 Temporary Construction and Equipment Area, Construction Trailer Area, Associated Parking Area, and O&M Facility

The temporary construction and equipment area, construction trailer area, and associated parking area would consist of an approximately 15-acre compacted gravel pad on a cleared and graded footprint. During construction, this area would be used to store large equipment and materials, to refuel equipment, and to collect and temporarily store construction waste. It would also serve to provide temporary parking, construction office space, and temporary (portable) sanitary facilities. Refueling of construction vehicles would be accomplished by a vendor supplied fuel truck making daily or weekly deliveries to approved storage tanks. It would not be practical to remove construction equipment from the Project site for refueling and general maintenance such as changing fluids and lubricating parts; therefore, these activities would take place on-site and fuel would need to be transported to the site via truck. Fuel may be stored on-site in approved storage tanks. Following construction, portions of the construction- staging and equipment laydown area would be restored to pre-construction conditions consistent with the Restoration Plan.

The O&M facility and its associated storage yard and parking area would consist of a permanent 3-acre area. Construction of the O&M facility would occur as part of Phase II. Figure 2-11 provides a typical plan and profile of the O&M building. During Project operation, large equipment required for maintenance could be staged in the O&M storage yard.

Water for the O&M facility would be trucked to the site and stored in a water storage tank installed at the building. It is anticipated potable water would be provided from either the City or County of Merced. In addition, a septic system may also be installed to provide wastewater services. The installation of a domestic well may also be considered. If a domestic well is pursued it would be conducted in accordance with the rules and regulations of the State Water Resources Control Board. Wastewater from the O&M facility would be processed using an on-site septic system. This septic system would conform to all County design standards and specifications to avoid impacts on ground- or surface waters.

It is anticipated an off-site batch plant would provide the concrete for construction of the turbine bases and the foundation for the O&M building. There is a possibility a temporary batch plant would be installed on-site; however, for the purposes of the EIR analysis an off-site batch plant is assumed. Approximately 340 cubic yards of concrete would be required for each turbine base resulting in 38 concrete truck trips per turbine.

Figure A: Excavation to install turbine foundation

Figure B: Completed turbine foundation site

Figure C: Installation of concrete turbine foundation

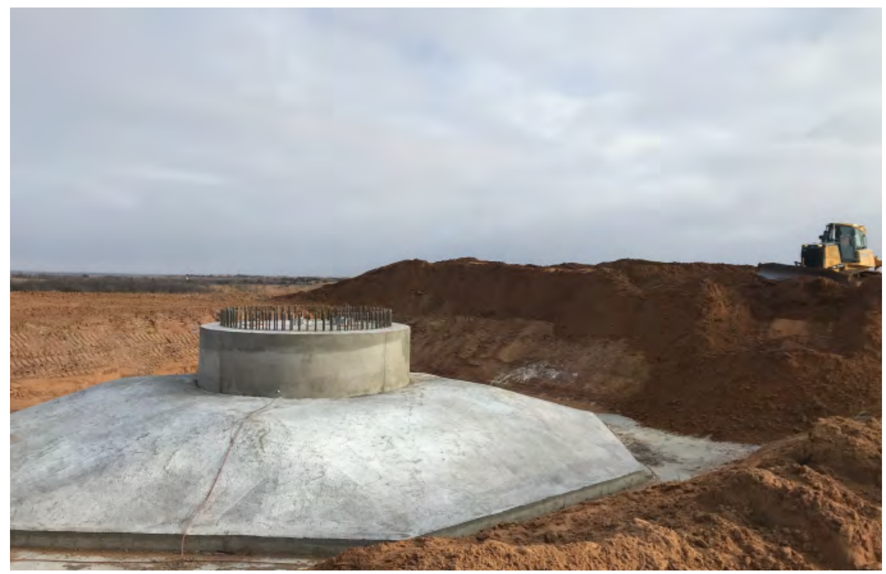

Figure D: Completed turbine foundation

SOURCE: Scout Clean Energy, 2019

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FIGURE 2-7

Turbine Foundation Construction

Gonzaga Ridge Wind Repowering Project

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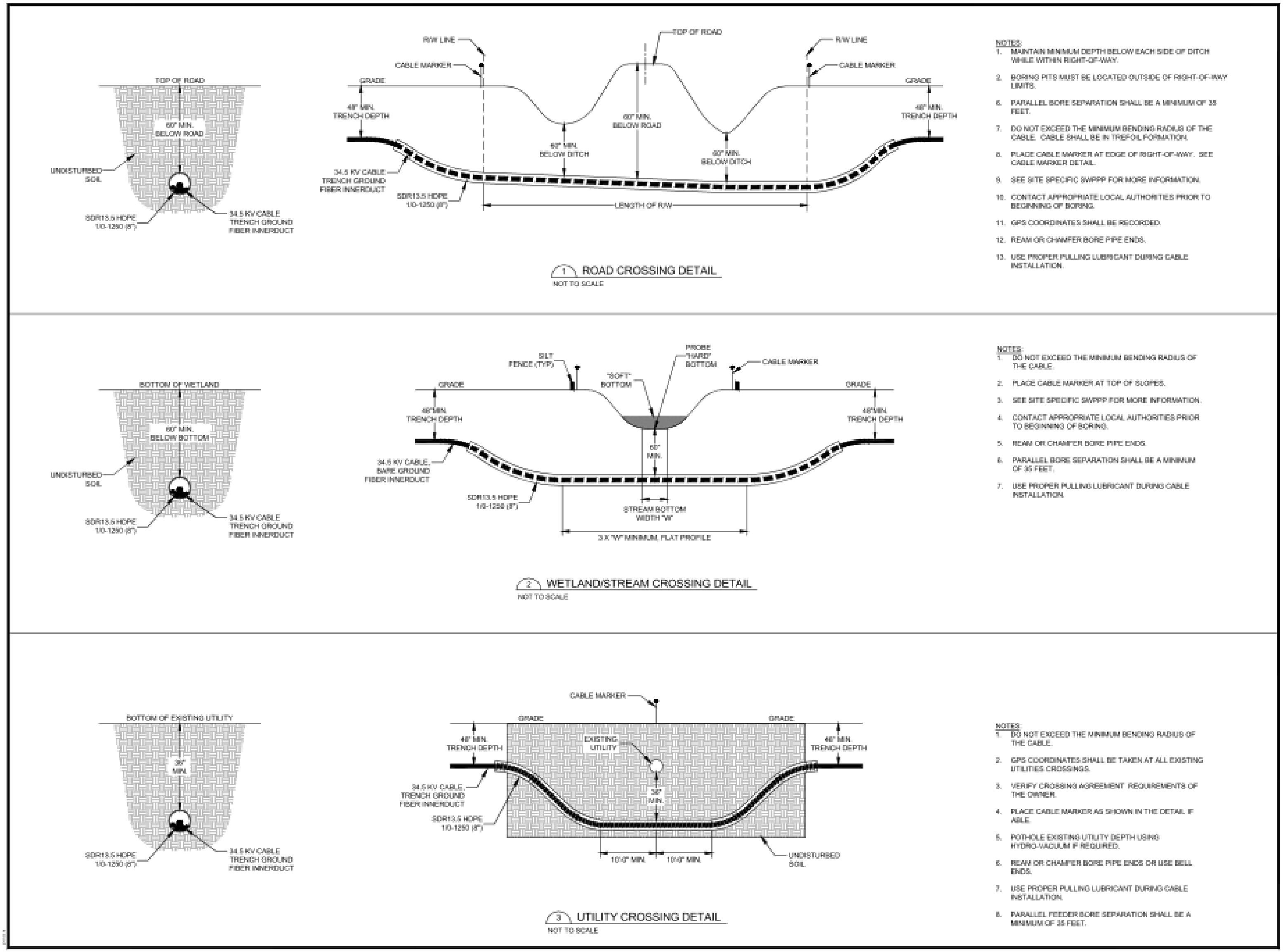

SOURCE: Scout 2018

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FIGURE 2-8

Typical Cable Trench Details

Gonzaga Ridge Wind Repowering Project

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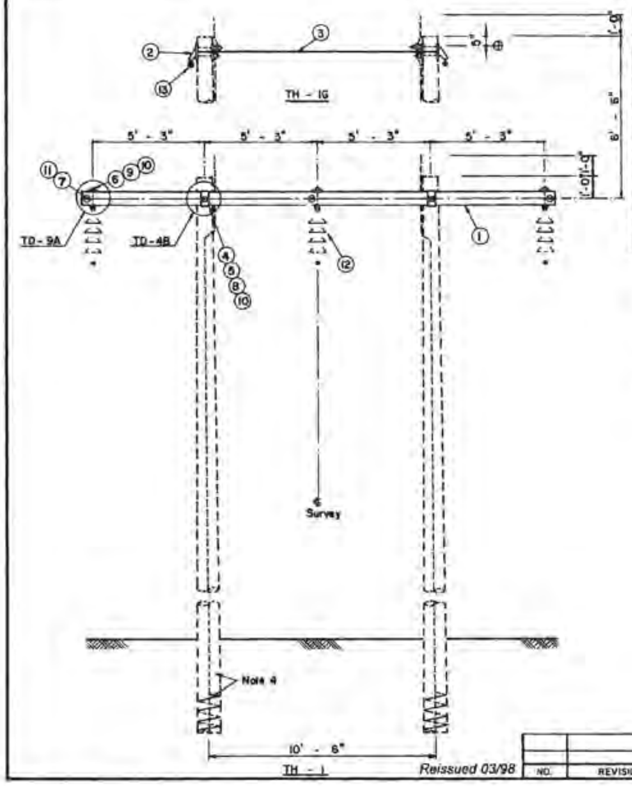


DRG. REF.	TH- 1	TH- 1G	DESCRIPTION	ITEM	DET.	CODE No.
1	1	1	X-Arm, 5-5/8" x 7-3/8" x 22'-0", #41		TCD-20	
2	-	2	OHGW Support Assembly, double bolt	-	TM-6B	
3	-	1	Grounding Assembly	-	TM-9C	
4	2	2	Plate, X-Arm Reinforcing	eg		
5	2	2	3/4" Bolt, Machine, by req'd length	c		
6	3	3	3/4" Bolt, Shoulder Eye, by req'd l.	o		
7	3	3	1/2" Bolt, Washer Head, w/Washer Nut	c		
8	2	2	Washer, Curved, 4"sq.x 1/4", 13/16" hole	d		
9	3	3	Washer, Flat, 4"sq.x 3/16", 13/16" hole	d		
10	5	5	3/4" Locknut, MF Type	ek		
11	3	3	1/2" Locknut, MF Type	ek		
12	3	3	INSULATOR ASSEMBLY, TANGENT	_	TM-__A	
13	-	2	OHGW ASSEMBLY, TANGENT	-	TM-4__	

NOTES:

1. Maximum vertical load at any conductor position is limited to 5000 lbs.
2. Strength limitations of overhead ground wire support are given on drawing TM-6.
3. Drawing TE-1 gives guidance to subassembly alternatives.
4. The following materials are to be specified on plan and profile drawings and staking sheets: POLES, POLE GROUNDING, ASSEMBLY, AND ANY ADDITIONAL GROUNDING OR POLE FOUNDATION UNITS.

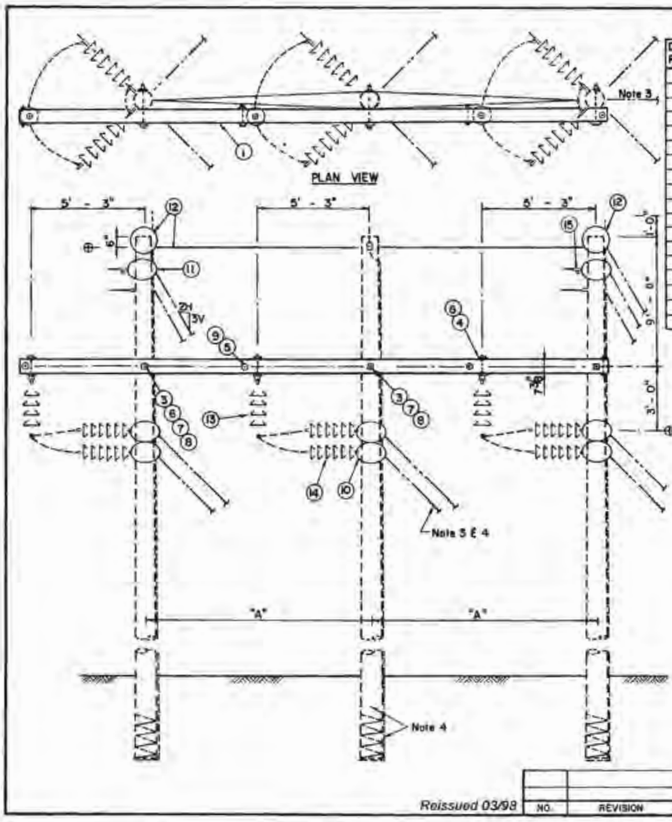
TRANSMISSION LINE STRUCTURE

TANGENT H-FRAME

(69 kV MAXIMUM)

NO.	REVISION	DATE	Aug., 1986		TH-1,1G

Reissued 03/98



DRG. REF.	QTY.	DESCRIPTION	ITEM	DET.	CODE No.
1	1	X-Arm, 5-5/8"x7-3/8"xreq'd l., #87	g	TCD-91	
2					
3	3	3/4" Bolt, Machine, by req'd length	c		
4	3	3/4" Bolt, Shoulder Eye w/Washer Nut	o		
5	4	1/2" Bolt, Washer Head, w/Washer Nut	c		
6	3	Washer, Curved, 4"sq.x1/4", 13/16"hole	d		
7	3	Washer, Flat, 4"sq.x3/16", 13/16"hole	d		
8	6	3/4" Locknut, MF Type	ek		
9	4	1/2" Locknut, MF Type	ek		
10	6	GUY ATTACHMENT, ______ DUTY	-	TG- D	
11	4	GUY ATTACHMENT, ______ DUTY	-	TG- D	
12	1	POLE TIE, GUYING, ______ DUTY	-	TG- B	
13	3	INSULATOR ASSEMBLY, TANGENT	-	TM-__A	
14	6	INSULATOR ASSEMBLY, DEADEND	-	TM-__	
15	4	OHGW ASSEMBLY, DEADEND	-	TM-4__	
16					

NOTES:

1. For an OHGW guy slope of 3V to 2H, the following minimum pole spacings are recommended:

LINE ANGLE	DIMENSION "A"
to 50° Max.	11'-6"
50° to 60° Max.	12'-0"
60° to 70° Max.	13'-0"
70° to 80° Max.	14'-0"
80° to 90° Max.	15'-0"

2. Drawing TE-1 gives guidance to subassembly alternatives.
3. For guying arrangements, see drawing TMG-5G. A bisector guy is recommended for line angles less than 60 degrees.
4. The following materials are to be specified on the plan and profile drawings and staking sheets: POLES, POLE GROUNDING ASSEMBLY, GUYING ASSEMBLIES, ANCHORS, AND ANY ADDITIONAL GROUNDING OR POLE FOUNDATION UNITS.

TRANSMISSION LINE STRUCTURE

LARGE ANGLE DOUBLE DEADEND

(69 kV MAXIMUM)

NO.	REVISION	DATE	Aug., 1986		TH-5G

Reissued 03/98

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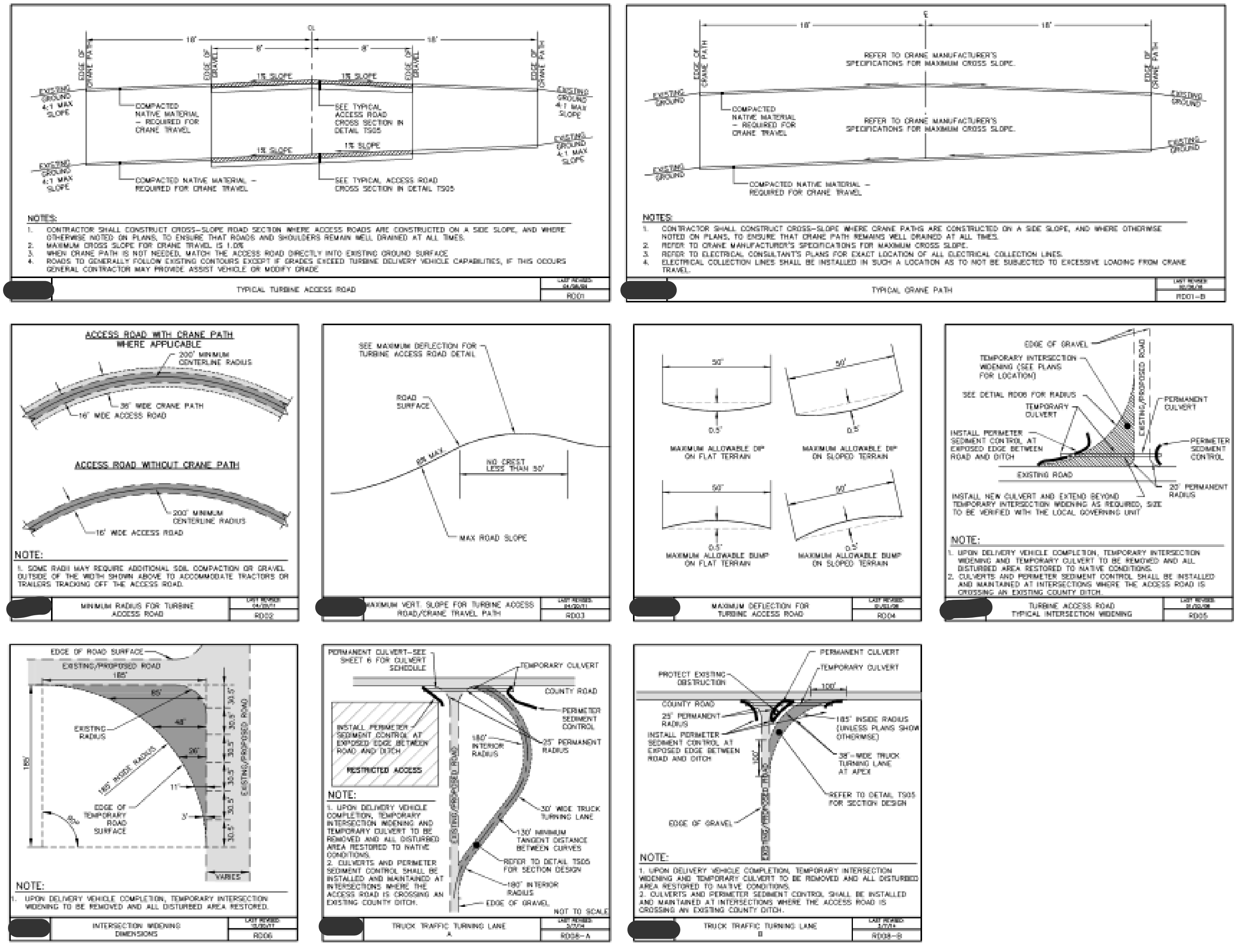

SOURCE: Scout 2018

DUDEK

FIGURE 2-10
Typical Road Design
Gonzaga Ridge Wind Repowering Project

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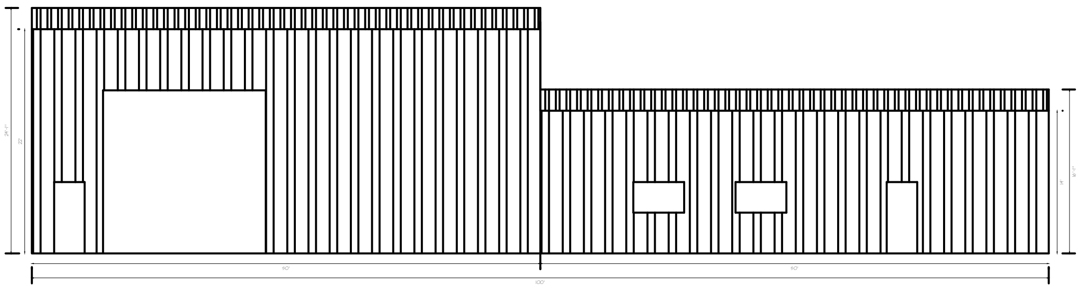
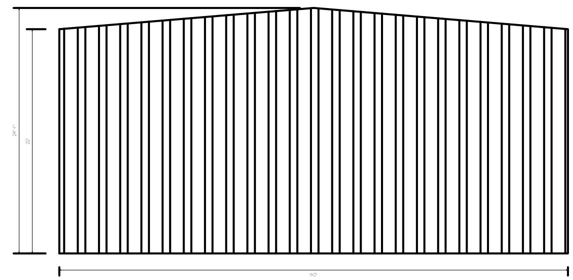
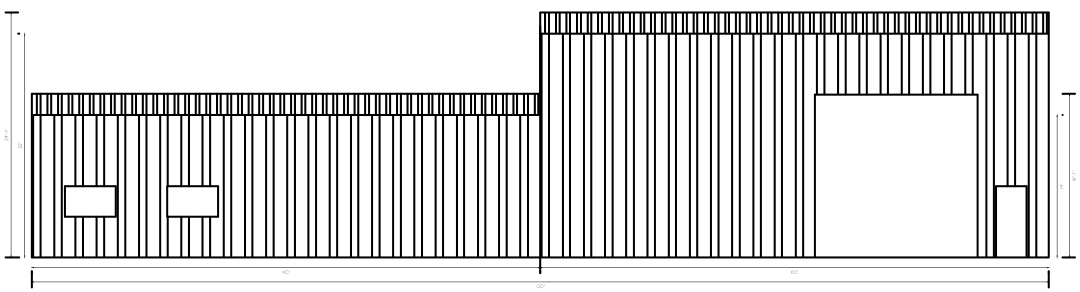


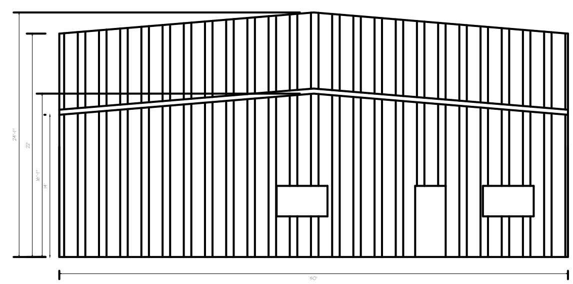
SWA



EW1



SWC



EW2

SOURCE: Scout 2018

DUDEK

FIGURE 2-11

O&M Building Illustrative

Gonzaga Ridge Wind Repowering Project

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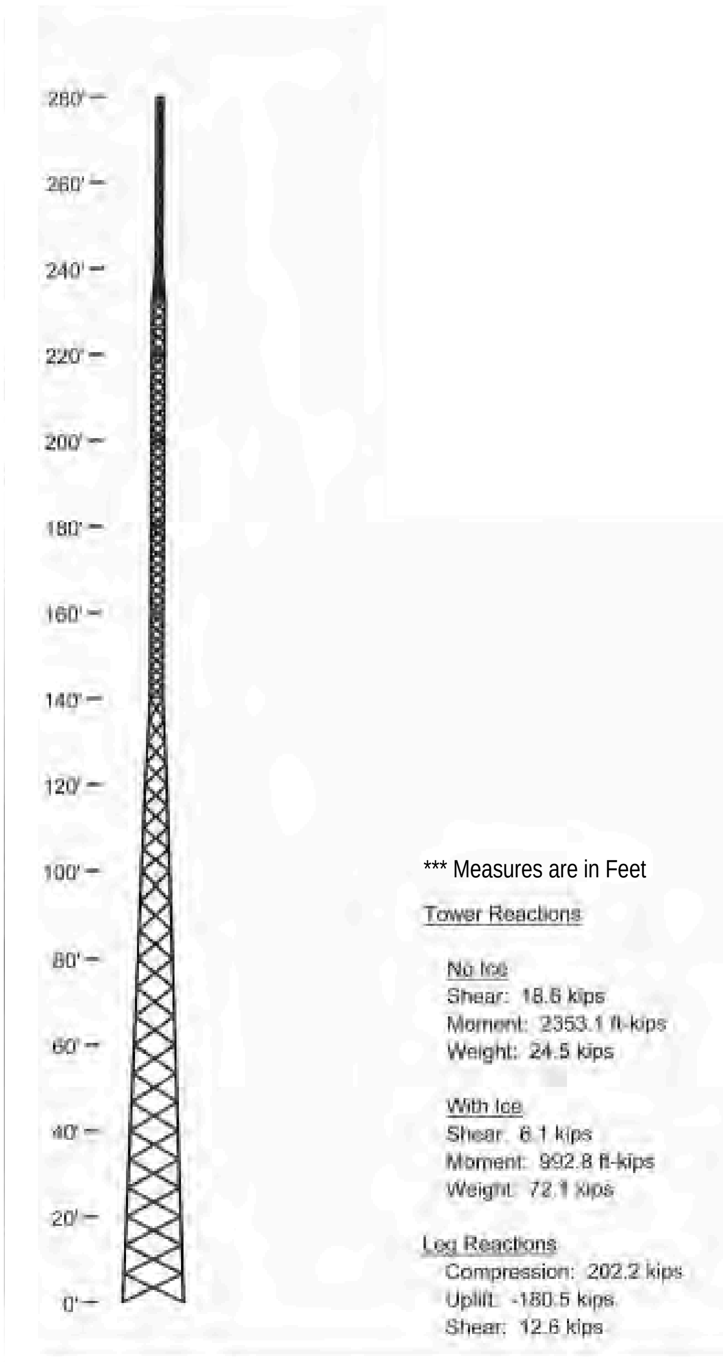

SOURCE: Scout 2018

FIGURE 2-12

MET Tower Design

Gonzaga Ridge Wind Repowering Project

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2.2.2.6 Permanent and Temporary Meteorological Towers

Up to two permanent MET towers and three temporary MET towers would be constructed in the Project site as part of Phase II. These towers support instruments that measure and record weather data to assess performance of turbines and guide Project operation. The MET towers would be up to approximately 400 feet tall (see Figure 2-12). Permanent MET towers are typically at the hub height of the turbine selected and would comply with FAA lighting regulations if over or equal to 200 feet in height. All new permanent and temporary MET towers may have guy wires for structure support and safety. Temporary MET towers would only be present on the site for a few months.

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

2.2.2.7 Storm Water Management and Erosion Control Measures

The Project would implement low impact design (LID) measures and best management practices (BMPs) in order to preserve the existing hydrology of the Project site, preclude discharge of pollutants into downstream waters, and reduce the potential for developing erosion features and increasing sediment loading to the San Luis Reservoir. Grading associated with the proposed turbines, the O&M facilities (and accompanying storage yard), and the access roads would be planned, designed, and constructed in a manner that minimizes changes in runoff patterns and water quality impacts associated with erosion and/or poor drainage. Prior to construction, a qualified professional (e.g., Professional Geologist, Professional Engineer, or Engineering Geologist) shall review and/or modify plans as necessary to ensure that the Project minimizes changes in natural hydrology. The Project shall incorporate appropriate and effective erosion control BMPsand integrate requirements of the Project's Stormwater Pollution Prevention Plan (SWPPP) per the Construction General Permit (SWRCB Order No. 2009-0009-DWQ, as amended). Examples of design solutions shall include, but are not limited to, the following:

- Preserve or promote natural vegetation cover.
- Mimic topographic aspect and incorporate designs that minimize the necessity for cut and/or fill.
- Crowning road sections with gentle slopes to prevent standing water on the road, pursuant to CDPR road standards.
- Out-sloping roads at less than 1%–2% wherever possible, pursuant to CDPR road standards.

- Where required for proper maneuvering and safety, in-sloping roads at 1%–2% into properly designed ditches.
- Installing rolling dips, ditch relief culverts, and/or water bars at intervals appropriate for the road grade and the soil erosivity.
- Minimizing the number of water crossings and maintaining crossings as close to a 90-degree angle as reasonably possible to the streambed.
- Constructing perennial and seasonal/ephemeral stream crossings so as not to change the cross-sectional area of the stream channel and so that adequate capacity exists to pass the County's design storm event.
- Constructing perennial and seasonal/ephemeral stream crossings with materials that will not degrade water quality (e.g., concrete, coarse rock, riprap, and/or gabions).
- Enforce a routine inspection and maintenance program that address the potential development of erosion features (e.g. rills within/adjacent roads) or failure of storm water conveyance structures (e.g. clogging of culverts).

Additional BMPs would be implemented to preclude the discharge of potential hazardous materials to surface waters by implementing secondary containment systems (e.g., for hydraulic fluids and waste oils) and maximizing the use of building materials that do not contain soluble toxic materials (e.g., tar). A number of the long-term water quality and erosion control measures implemented in the study may be included as part of a long-term storm water management strategy (examples listed above), which is required under the State's Construction General Permit which would be included in the project's SWPPP (see Section 2.4.1).

2.2.2.8 Off-site Improvements - Upgrades to the Los Banos Substation and Relocation of Dinosaur Lake Trail

Off-site improvements include upgrades to the Los Banos Substation and relocation of the Dinosaur Lake Trail. The New Transmission Line would be owned by GRWF from the substation located on the Project site to the point of change of ownership pole (PCO Pole). The PCO Pole would be owned by GRWF, although PG&E may design and build it. The PCO Pole would be located west of the PG&E property, across Jasper Sears Road, as shown in Figure 2-13. At the PCO Pole, PG&E assumes installation, operation and maintenance responsibility for the remainder of transmission line and corresponding pole structures that tie the line into the Los Banos Substation (PG&E transmission line). The PG&E transmission line would span from the PCO Pole, across Jasper Sears Road and enter the PG&E property. The PG&E transmission line would bisect the northern portion of the PG&E property, in a west to east direction, traversing under the existing 500 kV and 230 kV transmission lines. The PG&E transmission line would pass north of the existing wall that surrounds the Los Banos Substation to an interconnect in the northeast

SOURCE: Scout 2019, Bing Maps 2019

DUDEK

0 200 400 Feet

FIGURE 2-13

Entry Alignment

Gonzaga Ridge Wind Repowering Project

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portion of the substation. The distance from PCO Pole to the existing wall of the substation is between approximately 2,200 and 2,700 feet, depending on the final alignment of the PG&E transmission line as identified by PG&E. A fiber optic communication line would also follow the same alignment as the PG&E transmission line and may be buried through all or a portion of the alignment. Upon passing over the substation wall, the PG&E transmission line would enter an existing bay within the substation or a new bay may be constructed.

The PCO Pole would be a steel pole structure with a total structure height of up to 120 feet above ground. The remainder of the PG&E transmission line would be installed on up to ten structure locations.[7] Each structure location would consist of one, two or three monopole wood or steel poles that would have pole heights of up to 100 feet. The final pole structure design is PG&E's responsibility. If multiple monopoles are selected for each pole structure, for tangent sections, the design would be a two pole H-frame structure and for angled sections, three pole guyed structures would be used. Construction to install the poles would follow PG&E's standard Avoidance and Protection Measures that would address potential impacts to biological and cultural resources (see Section 3.2, Biological Resources for a list of applicable Avoidance and Protection Measures).

The Point of Interconnection (POI) is where the PG&E transmission line connects to the Los Banos Substation 70 kV Main Bus. Inside the walled portion of the substation, a new control building may be needed to support the installation of the new bay and 70 kV circuit breaker. A full description of the interconnection facilities is included in the Gonzaga Wind Farm Q1378 76.35 MW Cluster 10 Phase 2 Study Substation Summary report produced by PG&E dated September 17, 2018, and may be updated from time to time.

To accommodate the Project, a portion of Dinosaur Lake Trail adjacent to the western boundary of the Project site would require relocating to accommodate the wind turbines. This trail is a narrow, single-track, unimproved dirt trail used by day hikers to the Park. The trail is not designed to be ADA accessible and CDPR is proposing to relocate the trail just to the west of the Project site. At this time CDPR has not designed the trail, but it is anticipated it would be designed and constructed similar to the existing trail and would avoid tree removal and impacting any protected plant species or wetlands. Construction of the trail would commence at the completion of Phase I.

7 Note that Figure 2-13 shows 11 pole structures on the PG&E Entry Route. The 11th pole, located at the juncture of the PG&E Entry Route and the Alternate Entry Route is necessary only if the Alternate PG&E Entry Route is implemented; in which case the Alternate Entry Route would consist of up to 9 pole structures. The PG&E Entry Route would consist of up to 10 pole structures.

2.3 CONSTRUCTION ACTIVITIES

2.3.1 Grading

The Project contractor would prepare a Health and Safety Plan (HSP) prior to commencing any ground-disturbing activities as part of Phase I and Phase II. The HSP would include best practices to ensure safety for all construction personnel would be maintained during construction activities. Ground-disturbing activities including clearing and grubbing, topsoil stripping, grading, compaction, utility trenching, and placement of aggregate surfacing would occur during construction of the Project. Contractors retained by GRWF would be required to use construction equipment that meets a Tier 3 (or higher) engine rating. This requirement would be included in the contract language with all contractors' retained to do work on the Project. Grading activities would consist of the removal, storage, and/or disposal of earth, gravel, vegetation, organic matter, loose rock, and debris. Topsoil and vegetative material would be removed and stored for use as a base for revegetating temporarily disturbed areas elsewhere on the Project site. The cut and fill required for the Project would be balanced to the extent possible, to minimize the amount of materials that would need to be brought onto or removed from the site. Estimates of cut and fill cannot be determined until engineering for construction has been undertaken. Per terms of the lease, CDPR would approve the Final Construction Plan, Final Development Plan, and Restoration Plan.

A site-specific SWPPP would be prepared for the Project. The SWPPP would identify BMPs that would be used to minimize or eliminate the potential for sediments and pollutants to reach surface waters through stormwater runoff. The BMPs would comply with CDPR requirements that all BMPs are wildlife friendly and do not include any monofilaments.

To the extent practicable, based on the Project's goal of minimizing ground disturbance and preventing erosion, graded areas would maintain the local surface drainage patterns. New access roads would be designed to follow natural contours and minimize side hill cuts to the extent possible and would include other BMPs such as ditches and culverts to capture and convey stormwater runoff. Additionally, all disturbed areas where permanent gravel or aggregate is not required would be revegetated. These measures would reduce the potential for erosion and adverse effects on drainage patterns.

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

2.3.2 Transportation of Turbine and New Transmission Line Components

Turbine components would be transported to the Project site by transport vehicles via the local highways and assembled on site. Each turbine would require multiple deliveries for various components. The specifics of these deliveries would depend upon the final turbine model selected; however, GRWF anticipates that each turbine would require approximately up to 10 separate loads of turbine components (e.g., tower sections, hub, blades, nacelle, etc.), of which eight or nine would be oversized or super loads. Transport on oversized trucks would be required. As such, site access may require minor modifications to the SR-152/Dinosaur Point Road intersection that may require a California Department of Transportation (Caltrans) Encroachment Permit. Towers are generally delivered in three, four, or five sections (depending on turbine selected). Each turbine blade, nacelle, rotor, and down-tower components (e.g., controllers, ladders and platforms, pad-mount transformers, pad-mounted transformer vaults, and turbine switchgear) would be delivered separately. Deliveries would be made using transport vehicles that conform to road weight limits; any variances would be incorporated into permit applications submitted to Caltrans. Coordination with Caltrans to address the transportation and delivery requirements of the Project would be included as part of the Transportation Permit, required by Caltrans for oversized vehicles.

Delivery of the New Transmission Line components would be via semi-trucks and trailers to the temporary staging area or laydown area(s). Delivery trucks would not be as large as what is required for the turbine components and may not require either a Transportation or Encroachment Permit from Caltrans.

2.3.3 Construction Schedule and Workforce

The Project may be constructed in two phases starting with Phase I, consisting of the installation of up to nine turbines, road widening and improvements, temporary staging and laydown areas, relocation of existing transmission line poles and upgrades to the existing switchyard, if required, and the decommissioning and removal of approximately 47 existing turbines and associated infrastructure. Construction of Phase I is expected to last approximately 9 months. Construction of Phase II includes installing the remaining up to 31 turbines along with other various Project components that consist of overhead and underground communication system (fiber optic cabling); on-site collector substation; new overhead 70 kV transmission line (New Transmission Line) including upgrades to the Los Banos Substation and switchyard; O&M facility; MET towers; battery storage facility and storage sheds; and temporary construction laydown and staging areas. Construction of Phase II is anticipated to take up to 12 months and would take place sometime between 2021 and 2023/24.

Construction would typically be completed during daylight hours, from 6 a.m. to 6 p.m., but may be earlier or later depending on available daylight. Night construction may be necessary if certain conditions exist (e.g., high daytime winds that prevent turbine erection), or if Caltrans requires it as part of a permit condition. There may be instances where those hours need to be extended earlier or later, such as during the delivery of super loads, and nighttime deliveries may be required by Caltrans to occur to avoid traffic, adjust for high winds during daylight hours, and to facilitate schedule. The construction workforce is estimated to include up to approximately 200 construction workers at any given time.

To address construction traffic, GRWF or their contractor would prepare a Construction Transportation Management Plan (Plan) that addresses construction worker carpooling and dedicated flagmen to facilitate safe movement of vehicles. The Plan would be submitted to Caltrans for their review and approval prior to Phase I or initiating any construction activities. Coordination with Caltrans would be required in order to secure the necessary encroachment and trip permits necessary for specialized oversized haul trucks. It is anticipated that the California Highway Patrol would also be notified and may require escort vehicles and/or patrol vehicles to facilitate slowing freeway traffic to ensure safe access for the oversized haul trucks and motorists on SR-152.

2.3.4 Construction Sequence

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

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

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

Along with installation of turbines, construction of the substation, underground and overhead electric lines (including the New Transmission Line), meteorological towers, and O&M building would occur as part of Phase II. Construction of the New Transmission Line would start at the Los Banos Substation and progress west towards to the Project site. In the inaccessible areas of the corridor, roads would be constructed using bulldozers and excavators. Transmission line poles would then be transported along the corridor for installation via trucks and possibly helicopters in areas that are not accessible for large trucks. The poles would be installed using cranes and helicopters. Once the pole construction is completed, the transmission line wires would be ‘strung’ or installed using helicopters and bucket trucks. Once all facilities are constructed, final testing would occur to ensure all systems are working properly and according to design. As construction is completed, the temporarily used portions of the construction staging and equipment laydown areas, turbine pad laydown areas, and access roads would be restored in accordance with the Restoration Plan.

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

2.3.5 Use of Hazardous Materials

Hazardous materials are required during construction and operation of wind energy generation projects. Current weed suppression activities on the Project site include contracting with a licensed applicator for herbicide spraying on an annual basis starting in early December through late January. The herbicide, Round Up ProMax is currently exclusively used for weed suppression around all existing structures on the Project site. The continued use of herbicides for weed management and suppression on the Project site would follow all CDPR guidelines and regulations that specify the types of herbicides to be used for different plant species and permitted times for application. Starting in late spring and continuing through the fall additional weed suppression or abatement is conducted using weed cutters and hand tools. It is anticipated these activities would continue as part of the Project.

Table 2-2 summarizes materials typically used for such projects, with details about their use and typical quantities.

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

Hazardous Material	Uses	Typical Quantities Present
Fuel: diesel fuel[a]	Powers most construction and transportation equipment during construction and decommissioning phases. Powers emergency generator during operational phase.	The Project estimate is over 1,000 gallons to be stored in aboveground tanks during construction. An unknown amount would be used during decommissioning.[b]
Fuel: gasoline[c]	Used for some construction equipment and transportation vehicles.	Typically 500 to 1,000 gallons stored in an aboveground propane storage vessel.
Fuel: propane[d]	Most probable fuel use to fuel backup generators for Substation & Control house backfeed power.	Typically 500 to 1,000 gallons stored in an aboveground propane storage vessel.
Lubricating oils/grease/hydraulic fluids/gear oils	Lubricating oil is present in some wind turbine components and in the diesel engine of the emergency power generator.	Limited quantities stored in portable containers (capacity of 55 gallons or less); maintained on-site during construction and decommissioning.
	Maintenance of fluid levels in construction and transportation equipment.	Limited quantities stored in portable containers (55 gallons or less); stored on-site during operational phase.
	Hydraulic fluid is used in the rotor driveshaft braking system and other controls.	
	Gear oils and/or grease are used in the drivetrain transmission and yaw motor gears.	
Glycol-based antifreeze	Present in some wind turbine components for cooling (e.g., 5 to 10 gallons present in recirculating cooling system for the transmission).	Limited quantities (10 to 20 gallons of concentrate) stored on-site during construction and decommissioning.
	Present in the cooling system of the diesel engine for the emergency power generator.	Limited quantities (1 to 10 gallons of concentrate) stored on-site during operational phase.
Lead-acid storage batteries and electrolyte solution	Present in construction and transportation equipment.	Limited quantities of electrolyte solution (<20 gallons) for maintenance of construction and transportation equipment during construction and decommissioning.
	Backup power source for control equipment, tower lighting, and signal transmitters.	
Other batteries (e.g., nickel-cadmium batteries)	Present in some control equipment and signal-transmitting equipment.	No maintenance of such batteries is expected to take place on-site.
Cleaning solvents	Organic solvents (most likely petroleum-based but not listed under the Resource Conservation and Recovery Act) used for equipment cleaning and maintenance.	Limited quantities (<55 gallons) on-site during construction and decommissioning to maintain construction and transportation equipment.
	Where feasible, water-based cleaning and degreasing solvents may be used.	Limited quantities (<10 gallons) on-site during operations.
Paints and coatings[e]	Used for corrosion control on all exterior surfaces of turbine towers.	Limited quantities for touch-up painting during construction (<50 gallons) and for maintenance during operations (<20 gallons).

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

Hazardous Material	Uses	Typical Quantities Present
Dielectric fluids[f]	Present in electrical transformers, bushings, and other electric power management devices as an electrical insulator.	Some transformers may contain more than 500 gallons of dielectric fluid. On-site transformers each contain approximately 10,000 gallons of mineral oil.
Explosives	May be necessary for excavation of tower foundations in bedrock.	Limited quantities equal to only the amount necessary to complete the task.
	May be necessary for construction of access and/or on-site roads or for grade alterations, or electrical construction depending on depth to bedrock.	On-site storage expected to occur only for limited periods of time as needed by specific excavation and construction activities.
Herbicides	Continued use to control vegetation around facilities for fire safety.	As needed and consistent with existing site management practices, herbicides would be brought to the site and applied by a licensed applicator.

Notes:

[a] It is assumed that commercial vendors would replenish diesel fuel stored on-site as necessary. All activities would comply with the requirements of the lease with CDPR.

[b] This value represents the total on-site storage capacity, not the total amount of fuel consumed (see footnote a, above). On-site fuel storage during construction and decommissioning phases would likely be in aboveground storage tanks with a capacity of 500 to 1,000 gallons. Tanks may be of double-wall construction or may be placed within temporary, lined earthen berms for spill containment and control. At the end of construction and decommissioning phases, any excess fuel, as well as the storage tanks, would be removed from the site, and any surface contamination resulting from fuel handling operations would be remediated.

[c] Gasoline fuel is expected to be used exclusively by on-road vehicles (primarily automobiles and pickup trucks). These vehicles are expected to be refueled at an on-site refueling facility.

[d] Delivered and replenished as necessary by a commercial vendor.

[e] It is presumed that all wind turbine components, nacelles, and support towers would be painted at their respective points of manufacture. Consequently, no wholesale painting would occur on-site; only limited amounts would be used for touch-up purposes during construction and maintenance phases. It is further assumed that the coatings applied by the manufacturer during fabrication would be sufficiently durable to last throughout the equipment's operational period and that no wholesale repainting would occur.

[f] It is assumed that transformers, bushings, and other electrical devices that rely on dielectric fluids would have those fluids added during fabrication. However, very large transformers may be shipped empty and have their dielectric fluids added (by the manufacturer's representative) after installation. It is further assumed that servicing of electrical devices that involves wholesale removal and replacement of dielectric fluids would not likely occur on-site and that equipment requiring such servicing would be removed from the site and replaced. New transformers, bushings, or electrical devices are expected to contain mineral oil-based, or synthetic dielectric fluids that are free of polychlorinated biphenyls. Some equipment may instead contain gaseous dielectric agents (e.g., sulfur hexafluoride) rather than liquid dielectric fluids.

2.4 OPERATIONS AND MAINTENANCE ACTIVITIES

Current O&M activities carried out by staff that oversee the existing wind farm include inspecting the substation, access roads, office/shop, and providing turbine maintenance on a daily basis. It is anticipated these O&M activities would continue as part of the Project as outlined below.

GRWF anticipates employing up to approximately eight full-time employees upon commencing commercial operation of the Project. Approximately two full-time employees would be retained once Phase I is operational with the up to six remaining employees hired once Phase II is complete. Technician staffing is commensurate with site needs, which are primarily driven by turbine type. Operation and maintenance activities would generally occur during normal workday hours (i.e., 8:00

a.m. to 5:00 p.m.) from Monday to Friday with emergency call outs 7 days a week after normal business hours. A control center would monitor and control the turbines through the SCADA monitoring system 24 hours a day, seven days a week. The system would perform self-diagnostic tests and allow a remote operator to set new operating parameters, perform system checks, and ensure turbines are operating at peak performance. Turbines would automatically shut down if sustained winds or gusts exceed predetermined maximum operating parameters.

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

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

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

The anticipated operational life of the Project is 35 years. After that time, GRWF and CDPR would evaluate whether to continue operation of the Project or to decommission it in accordance with a Decommissioning Plan.

2.5 PROJECT DECOMMISSIONING

If, at the end of its anticipated life, the Project is decommissioned, the goal of decommissioning would be to remove the power generation equipment and return the site to a condition as close to its pre-construction state as reasonably practical. A Decommissioning Plan would be prepared prior to operation, per the terms of the lease. It is anticipated that requirements in effect at the time of decommissioning would require that all turbines and ancillary above ground structures be removed from the site. The plan would be reviewed, and if necessary revised prior to the termination of the Project land lease and implemented once the Project has ceased operation.

When the facility is decommissioned, the turbine components would be removed from the site and the materials would be reused, recycled, sold for scrap, or disposed of at a landfill. Decommissioning activities are anticipated to have similar types of construction-related activities.

Therefore, all management plans, BMPs, and stipulations developed for the construction phases of the Project would generally be applied to the decommissioning phase of the Project. Topsoil from all decommissioning activities would be salvaged and reapplied during final reclamation to the extent reasonably practical. All disturbed soil would be replanted with native vegetation, consistent with the Restoration Plan. The vegetation cover, composition, and diversity would be restored to values commensurate with the area's ecological setting. A Decommissioning Plan would address the following procedures: facility dismantling and removal, site restoration, habitat restoration, monitoring and estimated costs.

2.6 REQUIRED APPROVALS AND PERMITS

The local, state, and federal permits that may be required for the Project are listed in Table 2-3 below.

Table 2-3
Approval and Permits Potentially Required for the Proposed Project.

Jurisdiction	Permit or Approval
Local	Merced County Department of Public Health, Division of Environmental Health—Septic system permit
	San Joaquin Valley Air Pollution Control District - Authority to Construct and Permit to Operate for proposed concrete batch plant
	Merced County – Encroachment permit for improvements to any County roads and New Transmission Line
	Merced County – Road Use Agreement or equivalent
	Santa Clara County – Road Use Agreement or equivalent
State	California Department of Transportation Division of Aeronautics—Permit required per Public Utilities Commission (PUC) Section 21656
	California Department of Transportation – Transportation permit for oversized vehicles and, as applicable, encroachment permit for possible lane closures for turbine delivery vehicles
	California Department of Fish and Wildlife (CDFW) - Notification of Lake or Streambed Alteration under Fish and Game Code Section 1602 CDFW Lake or Streambed Alteration Agreement under Fish and Game Code Section 1603
	California Regional Water Quality Control Board—NPDES General Construction Permit, Clean Water Act Section 401 Water Quality Certification
Federal	Federal Energy Regulatory Commission—Approval to be an Electric Wholesale Generator and to sell electricity at market-based rates
	Federal Aviation Administration —Notice of proposed construction
	Bureau of Reclamation – Approval of all or portions of the New Transmission Line

Please note that the PG&E transmission line interconnection, which is necessary for implementation of the project (see Section 2.2.2.8), is under the sole discretionary jurisdiction of the California Public Utilities Commission (CPUC). The interconnection is considered part of the "whole of the action" under CEQA and is within the scope of this EIR.

Responsible and Trustee Agencies

The EIR prepared for the Project would be used by responsible agencies and trustee agencies that may have some approval authority over the Project (i.e., to issue a permit). The project Applicant, GRWF, would obtain all federal, state and local permits, as required by law. The following agencies have been identified as having potential discretionary authority over approval of certain Project elements, or alternatively, may serve in a ministerial capacity under CEQA.

Trustee Agencies

- California Department of Fish and Wildlife is a trustee agency under CEQA with regard to impacts, if any, to: (i) the fish and wildlife of the state, (ii) designated rare or endangered native plants, and (iii) other important natural resources.

Responsible Agencies

- San Joaquin Valley Air Pollution Control District may require an Authority to Construct or Modify permit for construction activities if any stationary source equipment would be required.
- Merced County may require an Encroachment Permit for locating the New Transmission Line adjacent to any County roads or for any roadway improvements to County roads or for any roadway improvements to County roads.
- Merced County may require a road use agreement, or equivalent, for use of County roads or for any roadway improvements to County roads.
- Santa Clara County may require a road use agreement, or equivalent, for use of County roads.
- Encroachment Permit for any activities within the state highway system (SR-152/Dinosaur Point Road intersection) and a Transportation Permit for oversized vehicles, required by Caltrans.
- California Public Utilities Commission may require a Notice of Construction for any work to upgrade the Los Banos Substation.

The CUP Amendment for the Solar Facility is proposed by XXX Solar Company (Applicant). The County of XX is the lead agency, and the County Board of Supervisor has the authority to approve the CUP Amendment for the Solar Facility. While the County does not have approval authority over PG&E's new electric line interconnection, which is under the sole discretionary jurisdiction of the California Public Utilities Commission (CPUC), the County's EIR must include an assessment of the direct and reasonably foreseeable indirect physical changes resulting from the Solar Facility, including the interconnection facilities necessary to support it. Thus, this [EIR/MND] includes analysis of the impacts from both of the project components: CUP Amendment and PG&E's electric line.

CHAPTER 3
ENVIRONMENTAL ANALYSIS

Chapter 3 provides discussion and full public disclosure of the environmental impacts of construction and operation of the proposed Gonzaga Ridge Wind Repowering Project (proposed Project). The environmental analysis includes the following three issue areas:

- 3.1 Aesthetics
- 3.2 Biological Resources
- 3.3 Transportation and Circulation

Please see Chapter 4 for an overview of those impacts found to be less than significant or mitigated to a less-than-significant level in the Initial Study Checklist (see Appendix B).

Section Format

Each technical section in Chapter 3 begins with an **introduction** that explains the issues to be evaluated, provides a general summary of comments received in response to the Notice of Preparation (NOP), and identifies the primary sources reviewed to prepare the analysis. The introduction is followed by a description of the project's **environmental setting** and **regulatory setting** as it pertains to a particular issue.

The regulatory setting provides a summary of applicable federal, state, and local regulations, plans, policies, and laws that are relevant to each issue area. The regulatory setting description in each section is followed by the **methodology** required to conduct the analysis, and the **standards (or thresholds) of significance.** Immediately following the standards of significance is a discussion of **project-specific impacts**. The project-specific impacts discussion is followed by an analysis of the **cumulative impacts** of the project. This section addresses what the project's incremental contribution to any cumulatively significant impact would be and identifies mitigation measures, if required. The impact statement is prefaced by a number for ease of identification. An explanation of each impact and an analysis of its significance follow each impact statement. All **mitigation measures** are identified immediately following the impact analysis. The degree to which the identified mitigation measure(s) would reduce the impact is also described. Compliance with applicable laws and state regulations is assumed and will be identified in the impact analysis. In many cases, compliance with applicable laws, policies, or regulations would reduce the significance of a potential impact; and thus will not be identified as a separate mitigation measure.

Note that CEQA Guidelines, Section 15370, defines mitigation as:

- Avoiding the impact altogether by not taking a certain action or parts of an action;
- Minimizing impacts by limiting the degree of magnitude of the action and its implementation;

- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
- Compensating for the impact by replacing or providing substitute resources or environments.

Technical Studies Overview

It is important to note impacts of the environment on a project or plan (as opposed to impacts of a project or plan on the environment) are beyond the scope of required CEQA review. "[T]he purpose of an EIR is to identify the significant effects of a project on the environment, not the significant effects of the environment on the project" (*Ballona Wetlands Land Trust v. City of Los Angeles* (2011) 201 Cal.App.4th 455, 473 and *California Building Industry Association v. Bay area Air Quality Management District* (2015) Cal.App 4th.).

A number of technical studies were prepared as part of this Draft EIR and are included in the technical appendices, or are appended to the Initial Study (see Appendix B). Technical studies appended to the Initial Study that support the analysis include the following: Air Quality and Greenhouse Gas Emissions Analysis Technical Report, Cultural Resources Inventory Report, Phase I Environmental Site Assessment, Hydrology and Water Quality Technical Report, and Noise Impact Study.

Technical reports appended to the EIR include a Visual Resources Report (Appendix C), Biological Resources Technical Reports (Appendix D), and Transportation Technical Memorandum (Appendix E).

Environmental Setting and Project Evaluation

According to subdivision (a) of Section 15125 of the California Environmental Quality Act (CEQA) Guidelines, an EIR must include a description of the existing physical environmental condition in the vicinity of the project as they exist at the time when the NOP is published. This "environmental setting" will normally constitute the "baseline condition" against which project-related impacts are compared. Therefore, the baseline conditions for this EIR, unless noted otherwise, are based on conditions that existed in October 2018, when the NOP was published which includes the existing wind turbines and associated infrastructure. The CEQA Guidelines recognize that the data for establishing an environmental baseline cannot be rigid. Because physical environmental conditions may vary over a range of time, the use of environmental baselines that differ from the date of the NOP is reasonable and appropriate in certain circumstances when doing so results in a more accurate or conservative environmental analysis.

For analytical purposes, impacts associated with implementation of the proposed Project are compared against two different baselines: first, project-specific effects are assessed against existing conditions at the time the NOP was first published; and second, cumulative effects are assessed against future, or "cumulative," conditions, generally defined as buildout of Merced County including Pacheco State Park. Existing conditions and the cumulative baseline can differ by issue area. Each technical section defines the existing conditions and cumulative baseline for the impacts being analyzed.

In determining the level of significance of environmental impacts associated with the proposed Project, the analysis in this Draft EIR assumes that the proposed Project would comply with relevant federal and state laws and regulations, unless otherwise noted. Therefore, such mandatory laws and regulations are not identified as mitigation measures, but rather are discussed as part of the "Regulatory Setting" governing the Project. As a state agency, the State Department of Parks and Recreation (CDPR) is generally not subject to local land use regulations. (*Hall v. City of* Taft (1956) 47 Cal.2d 177, 183; *City of Orange v.* Valenti (1974) 37 Cal.App.3d 240, 244; *Town of Atherton v. Superior Court* (1958) 159 Cal.App.2d 41. Accordingly, any reference to local planning documents (e.g., the general plan of Merced County) is for informational purposes only. The above notwithstanding, local plans and policies can often serve as a good reference or "benchmark" to understand local perspectives on environmental health and safety issues. For this reason, this EIR references the general plans of Merced County and Santa Clara County. In addition, the County of Merced is a Responsible Agency under CEQA and would issue permits to the Project Applicant (GRWF) for an on-site septic permit (if required), use of private property and County property for the New Transmission Line, and an encroachment permit for any improvements to County roads. An overview of the Project's compliance with local plans and policies is included in the technical sections included in Chapter 3, where applicable.

For the purposes of CEQA, the most conservative turbine size has been chosen for each resource analysis. For the assessment of impacts to biological resources, the rotor swept area and the height above ground of the rotor swept area is more important than the blade height. Therefore, a range of turbine dimensions are considered to ensure the full range of potential biological impacts were evaluated. For the analysis of aesthetics, the largest possible machines were used in the development of visual simulations and impact analyses, which includes a maximum blade height of up to 650 feet. Noise and vibration analyses utilized a set of turbine design and operation values that would generate the greatest noise and vibration, within the range of turbine models considered.

In addition, as described in Chapter 2, Project Description, construction is anticipated to occur in two phases. The first phase, Phase I, includes improvements to Dinosaur Point Road and Windmill Road to provide access to the site to deliver turbines and other materials, decommissioning and removal of approximately 47 existing turbines and associated infrastructure and the construction of up to nine new turbines, and construction of new roads to access the nine turbine locations within the Project site. Once Phase I is complete the remaining 115 +/- turbines would be decommissioned and removed prior to commencing construction of Phase II. Phase II includes the construction of up to 31 turbines (for a maximum of total 40 turbines), on-site collector substation, new overhead 70 kV transmission line (New Transmission Line) including upgrades to the Los Banos Substation and switchyard, a new O&M facility, as well as new on-site roads to access the Phase II turbine locations. The EIR analyzes the full buildout of the proposed Project (the "whole of the project" as required by CEQA). For the purposes of the Aesthetics and Transportation analysis the phases were not analyzed individually, because Project impacts are related to full Project buildout. For the Biological Resources section of the EIR, impacts associated with Phase I are identified separately from the full Project (Phase II) because there are site-specific construction impacts associated with Phase I activities, that would require mitigation separate from, and prior to, the Project at full buildout.

Cumulative Impacts

An analysis of cumulative impacts follows the evaluation of Project impacts under existing conditions in each technical section in Chapter 3. As defined in CEQA Guidelines, Section 15355, cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The cumulative impact from several projects is the change in the environment which results from the incremental impact of the Project together with other past, present, and reasonably foreseeable projects causing related impacts.

An introductory statement that defines the cumulative analysis methodology and the cumulative context being analyzed for respective sections (e.g., buildout of Merced County) is included under the "Cumulative Analysis" discussion. In some instances, a project-specific impact may be considered less than significant, but would be considered potentially cumulatively significant in combination with other development within the surrounding area. Or, in some instances, a potentially significant impact could result on a project level, but would not result in a cumulatively considerable impact. The cumulative impacts analysis is presented in the same format as the impacts section, shown above.

Terminology Used in this EIR

This Draft EIR uses the following terminology to describe environmental effects of the proposed project:

- **Thresholds of Significance:** A set of criteria used by the lead agency to determine at what level or "threshold" an impact would be considered significant. Standards of significance used in this Draft EIR include those set forth in CEQA Guidelines Section 15065 (Mandatory Findings of Significance) and those derived from questions set forth in Appendix G to the CEQA Guidelines; and criteria based on regulatory standards of regional, state, and federal agencies. In determining the level of significance, the analysis assumes that the proposed Project would comply with relevant federal, state, and regional laws and regulations.

Within the technical sections of this EIR, the following impact categories are applied to denote the level of significance of environmental impacts.

Significant and Unavoidable/Cumulatively Considerable

These impacts cannot be mitigated to a less-than-significant level. To approve a project resulting in one or more significant and unavoidable impact, the CEQA Guidelines require decision makers to make findings of overriding consideration that "…specific legal, technological, economic, social, or other considerations make infeasible the mitigation measures or alternatives identified in the EIR…"

Potentially Significant

These impacts can be mitigated to a level of insignificance by measures identified in this EIR and the project description. When approving a project with significant but mitigatable impacts, the decision makers must make findings that changes or alternatives to the project have been incorporated that reduce the impacts to a less-than-significant level.

Less than Significant

Less than significant impacts may be adverse but are not significant because of management actions and Best Management Practices incorporated into the project description that reduce the impact to a less-than-significant level.

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3.1 AESTHETICS

Introduction

This section describes the existing aesthetics/visual resources setting of the Project Area for the proposed Gonzaga Ridge Wind Repowering Project (proposed Project); identifies the applicable regulatory framework; evaluates potential impacts associated with aesthetics/visual resources that would result from the project; identifies mitigation measures, if necessary, to reduce the level of impact associated with implementation of the Project; and identifies the level of significance after mitigation. Regarding the impact analysis, the California Environmental Quality Act (CEQA) does not specifically protect private views. As such, potential visual effects and view impacts associated with construction and operation of the Project are evaluated from public vantage points.

No comments were received in response to the Notice of Preparation (NOP) that raised any issues associated with aesthetics or visual effects of the Project. A copy of the NOP and comments received are included in Appendix A.

In addition to photographs taken by Dudek during site visits conducted in September 2018, primary sources reviewed to prepare the analysis include the following:

- Visual Resources Report for the Gonzaga Ridge Wind Repowering Project (Appendix C)
- Pacheco State Park General Plan and Environmental Impact Report;
- Pacheco State Park Brochure;
- San Luis Reservoir State Recreation Area Brochure;
- 2030 Merced County General Plan; and
- Caltrans List of Eligible and Officially Designated State Scenic Highways.

Environmental Setting

This section describes the existing setting of the Project Area, which includes the lease area or Project site and New Transmission Line. More specifically, the section discusses scenic vistas and highways in the area and existing visual character and quality of the Project site and surrounding area including the transmission line corridors.

The Project site is located within Pacheco State Park (Park) with a majority of the proposed Project components included in an area designated as the Lease Zone (LE) that generally encompasses the eastern half of the Park. This area is not open to the public and is located west of the San Luis Reservoir and south of State Route (SR) 152 within the eastern foothills of the Diablo Range in western Merced County (see Figure 2-2, Project Location in Chapter 2, Project Description).

Currently there is only one wind turbine on the site that contains lights and other sources of lights are limited to isolated, exterior building lights. Overall, lighting and sources of glare in the larger Project Area are limited.

Scenic Vistas

The Project site encompasses elevated ridgelines, hillsides, and high valley terrain to the northeast and east of Spikes Peak (elevation 1,927 feet above mean sea level (amsl)). Topography within the Project site primarily consists of steeply sloped grass-covered and moderate to dense, clusters of oak trees on hillsides. While there are no officially designated scenic vistas in the Park (California State Parks 2006), the hilly terrain and numerous trails provide opportunities for scenic views and ensures the proliferation of scenic vistas. For example, long and occasionally broad scenic views stretching east to the San Joaquin Valley are available to trail-based recreationists on the Spikes Peak Trail and atop Spikes Peak (located approximately 1.2 miles west of the western Project boundary).

While not located atop ridgelines or other prominent terrain and somewhat limited in length by hilly terrain of the Park and Diablo Range, the Romero Visitor Center within San Luis Reservoir State Recreation Area (SRA) directly accessible from SR-152 provides an overlook from which scenic views to the characteristic vegetation and terrain of the local landscape and Diablo Range are available. The visitor center is approximately 3.9 miles from the easternmost portion of the Project site and includes an observation deck/patio that offers scenic views to the west and south across the reservoir. An existing view from the visitor center to the southwest across the reservoir and towards the dark terrain of the Diablo Range is shown on Figure 3.1-1, Existing Views from Romero Visitors Center and SR-152 (see Photograph A).

Lastly, segments of SR-152 within the Project viewshed occasionally offer broad and scenic views of the Diablo Range and San Joaquin Valley to westbound and eastbound motorists. An existing view towards the Diablo Range from an eastbound SR-152 pullout near the San Luis Reservoir shoreline is provided in Figure 3.1-1 (see Photograph B).

While vantage points offering broad and long views to local terrain are available, any of the vistas available in the Project Area can be characterized as views of large public works projects superimposed on the natural environment. For example, easterly views from Spikes Peak encompass the Project site, which is currently developed with 162 wind turbines visible on the ridgetop. This area has remained undeveloped for public access since the Park's inclusion into the State Park system. From the Romero Visitor Center, man-made San Luis Reservoir is a prominent foreground feature in views and existing wind turbines on the Project site are also visible in west-oriented views. These features (i.e., San Luis Reservoir and existing wind turbines) are also visible from SR-152 where tall and mounded road cuts do not substantially block and limit the available views.

Photograph A: View southwest from the Romero Visitor Center observation deck.

Photograph B: View southwest from eastbound SR-152 pullout near reservoir shoreline.
Wind turbines visible on nearby ridgeline.

Photograph C: View west from SR-152 at Cottonwood Bay bridge.

Photograph D: View south from access road across SR-152 to Project site.
Wind turbines visible on Project site.

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FIGURE 3.1-1

Existing Views from Romero Visitor Center and SR-152

Gonzaga Ridge Wind Repowering Project

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Scenic Highways

There are two officially designated scenic highways in Merced County: SR-152 from the Merced/Santa Clara County line east through the Project Area to the I-5 junction (approximately 13.8 miles long) and I-5 from SR-33 north to the Merced/Stanislaus County line (approximately 14.9 miles long) (Caltrans 2018). The portion of SR-152 farther to the west in Santa Clara County is considered an eligible State scenic highway.

At its closest location, SR-152 is located approximately one mile north of the Project boundary within the Park. The approximate daily volume of motorists on SR-152 is 33,500 vehicles (Caltrans 2018) and prevailing speed on the highway is approximately 65 miles per hour.

While state highway motorists are provided views to the eastern extent of the proposed New Transmission Line alignment and the Los Banos Substation, views to the hill and valley terrain of the Project site are not available generally from SR-33 west to the SRA's Romero Visitor Center. Along this segment, hilly terrain to the southeast and east of the reservoir, and the approximately 400-foot high, 3.5-mile long compacted earthen embankment that comprises San Luis Dam borders the southeastern corner of the reservoir and generally parallels SR-152 and obscures and blocks the higher elevation terrain of the Project site from view. North of the visitor center, the reservoir adjacent terrain has been modified (for reservoir and highway development) to a series of disconnected mounded landforms of varying height and width between which non-continuous views across the reservoir and towards the sloping hillsides and ridges of the Park (and Diablo Range) are available. As the highway spans Cottonwood Bay and climbs west towards Pacheco Pass, views towards the oak and grassland covered terrain of the Project site and Park are available, but regularly interrupted by mounded road cut terrain through which the highway is aligned. Road cuts along the SR-152 corridor are depicted in Photographs C and D of Figure 3.1-1. Existing wind turbines on the Project site are distant, but visible in the views.

The project boundary is located 9.7 miles west of the designated scenic segment of I-5 that is located west of the City of Los Banos. The existing Los Banos Substation is located approximately 2.5 miles west of I-5.

Visual Character and Quality

Project Site

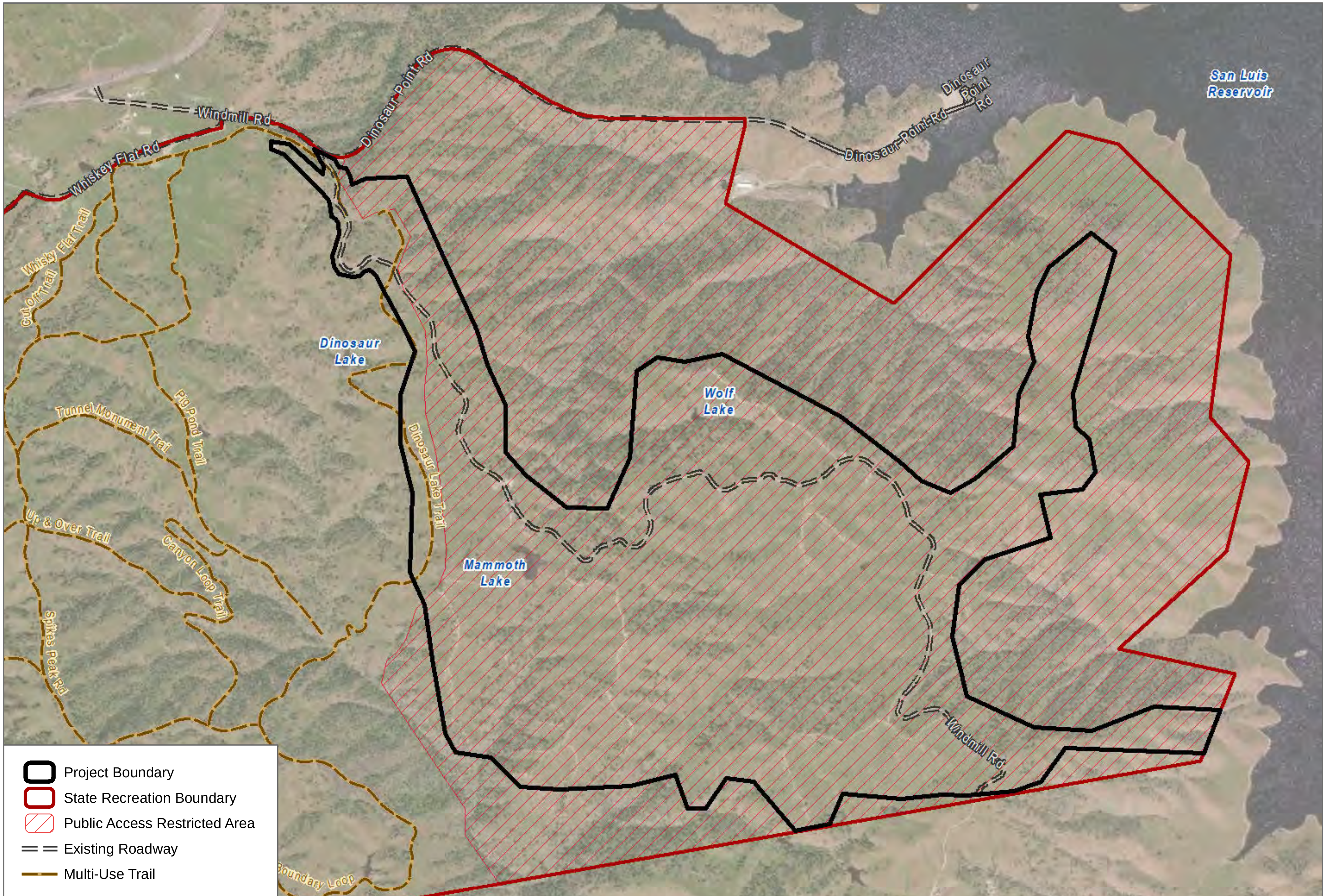
The Project site, which includes the portion of the Project within the LE area of the Park, is located west of the San Luis Reservoir and south of SR-152 and Dinosaur Point Road within an area of the Park not open to the public, as shown on Figure 3.1-2, Multi-Use Trails and Public Restricted Access Areas. There are no buildings within this area with the exception of a trailer that provides office space for employees, a small shed that contains equipment and tools for O&M activities, and a small substation, also located onsite. Within this area, there are 162 wind turbines, ranging in size from 100 to 325-feet tall (measured at the top of the turbine blade) and five temporary MET towers that are 197-feet tall. Only one existing turbine is currently required to include lights per FAA requirements. An existing transmission line, located in the northern portion of the Project site connects the existing wind farm to the Dinosaur Point Tap (existing switchyard) at which point the transmission infrastructure becomes owned and operated by Pacific Gas and Electric (PG&E). The Project is proposing to continue use of this transmission line and switchyard in addition to the New Transmission Line. A portion of an existing trail, Dinosaur Lake Trail, is located within the western portion of the Project site.

The approximately 1,766-acre Project site encompasses elevated ridgelines, hillsides, and high valley terrain to the northeast and east of Spikes Peak (elevation 1,927 feet amsl). Topography within the Project site includes steep slopes covered with grasses and hillsides with moderate to dense clusters of oak trees. Lastly, drainages line the various valleys created by the local hill and valley terrain and water collects in a handful of small lakes including Wolf Lake and Mammoth Lake.

The Project site is primarily covered with grasslands, savanna, and oak woodland however, riparian and mesic herbaceous communities occur within and along drainages. In addition, non-native and weedy (ruderal) plant communities also occur near existing areas of disturbance (i.e., roads, an electrical substation and turbine research facility). Photographs E through H on Figure 3.1-3, Existing Conditions, illustrate the typical terrain and vegetation that occurs on the Project site.

The 162 wind turbines, installed between 1988 and 2002, are installed atop ridgelines in linear strings or groupings that are accessible via a network of dirt roads that branch off from a primary access road (i.e., Windmill Road). The turbines are primarily supported by slightly conical steel tube towers that are approximately 80 feet high at the hub/nacelle however, several turbines are supported by unpainted lattice steel towers. In addition to these aged wind turbines, two taller wind turbines supported by white steel tube towers are installed to the southeast of Wolf Lake and west of the easternmost string of existing wind turbines in the project boundary. The existing wind turbines are obscured from view at the Park entrance and day use picnic and parking area; however, the wind turbines are visible from segments of Dinosaur Point Road on the approach to the parking area and San Luis Reservoir SRA boating facilities at Dinosaur Point (see Photographs G and H on Figure 3.1-3).

As previously stated, existing wind turbines are installed in linear strings that are accessible via parallel (and narrow) dirt access roads. Short and straight spur roads branching from the string access road provide access to individual wind turbines. Also, most turbine strings are supported by a small, white rectangular "box" transformer that "steps up" the electricity produced by the wind turbine generator (located in the nacelle) to 34.5 kV. That electricity is then transmitted overhead and underground to a small electrical substation on a graveled 0.20-acre chain-link fenced site located



SOURCE: Bing Maps 2019; Scout Energy 2019

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FIGURE 3.1-2

Multi-Use Trails and Public Restricted Access Areas

Gonzaga Ridge Wind Repowering Project

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Photograph E: View southeast from Dinosaur Point Road at Pacheco SP entrance

Photograph F: View southeast from Pacheco SP day use area parking lot

Photograph G: View southeast from Dinosaur Point Road to oak woodland and grassland covered terrain. Wind turbines and a MET tower are visible on the ridgeline.

Photograph H: View south from Dinosaur Point Road to oak woodland and grassland covered terrain. MET tower and wind turbines are visible on the ridgeline.

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FIGURE 3.1-3

Existing Conditions

Gonzaga Ridge Wind Repowering Project

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approximately just under a half mile north of Mammoth Lake, within the Project site boundary. A 70 kV transmission line supported by thin wooden poles (approximately 50-70 feet high) deliver electricity produced by the existing wind turbine farm to the existing switchyard. A disturbed, primarily dirt storage yard for the existing wind farm is located immediately east of an existing collector substation. Lastly, steel MET towers are temporarily installed within the Project site and are used to gather information on meteorological and wind conditions on the site. The thin line displayed by an existing MET tower on the Project site is illustrated in Photograph H on Figure 3.1-3.

Surrounding Area

The area immediately surrounding the Project site is primarily undeveloped and is comprised of generally similar vegetation and terrain as within the Project boundary. However, west of the Salt Creek drainage and adjacent canyon terrain (these features are located west of the Project site), tall ridgelines and locally prominent peaks including Spike's Peak and the shark-fin form of Pacheco Peak (approximately 2,770 feet amsl; located outside of the Park) are present and provide scenic viewing opportunities. The hill, valley, and canyon terrain within the Park and west of the Project site is traversed by a network of fifteen (15) unimproved hiking and horseback trails (see Map 4, Existing Trails; California State Park 2006). Lastly, several rural residential structures are located within 3 miles of the Project site on hilly terrain west of the Park and south of SR-152 in Santa Clara County.

Lands to the south of the Project site are primarily undeveloped but are traversed by a network of winding dirt roads. In addition, the hill and valley landscape supports limited remnants of previous ranchland operations. Lands to the north of the Project site consist of similar terrain and vegetation. Limited development including three residences (primarily single-story) along Dinosaur Point Road, Santa Clara Valley Water District (SCVWD) facilities including a small electrical substation, and Park facilities (i.e., the existing park and day use area, livestock corrals, park headquarters and ranch complex and storage shelters) are located north of the Project site and south of SR-152. The SCVWD facility and nearby reservoir boat launch and paved parking lot/picnic area within the San Luis Reservoir SRA (the SRA boundary generally follows the reservoir and O'Neill Forebay shorelines) are located on lower elevation terrain near and at the eastern terminus of Dinosaur Point Road. Similar terrain and vegetation lies to the north of SR-152 and encompasses the Upper Unit of the Cottonwood Creek Wildlife Area. Available recreational activities in the wildlife areas include wildlife viewing and hunting (CDFW 2018a, 2018b). The reservoir and surrounding terrain are visible in Photographs I, J, K and L on Figure 3.1-4, Existing Conditions.

New Transmission Line Corridor

The proposed up to approximately 16-mile New Transmission Line (or corridor) travels southeast from the new onsite project collector substation and through the Project site, along the western and southern shore of the San Luis Reservoir, through the SRA Basalt Area, and finally, parallels SR-152 and Gonzaga Road to the Los Banos Substation.

Within the Park boundary and from the new project collector substation (located adjacent to an existing collector substation), the proposed New Transmission Line corridor travels southeast across grassland covered and tree dotted hills towards the southeastern corner of the Park. Upon exiting the Park boundary, the corridor makes an abrupt southerly and easterly turn and then proceeds to traverse the grassland covered and tree dotted terrain abutting the sinuous westerly shoreline of the reservoir (see Figure 2-4 in Chapter 2, Project Description). The corridor spans several dry inlets as it proceeds to the south towards the canyon-like landscape of the SRA Portuguese Creek area. Recreational boating and fishing are popular activities at the reservoir and limited hiking opportunities are available near the Portuguese Creek area and along the south shore's Lone Oak Trail (California State Parks 2017). In addition, scenic viewing opportunities to the west and south across the reservoir are available from the SRA's Romero Visitor Center, located along the eastern shoreline and directly accessible from SR-152 (see Figure 3.1-5, Key Views).

Near the southern boundary of the SRA, the New Transmission Line corridor abruptly turns to the east, descends a slope, and spans the long, narrow inlet that defines the Portuguese Creek area. Crossing undulating, grassland-covered terrain to the south and southeast of the reservoir's Lone Oak Bay, the corridor runs west and north of quarried lands near Basalt Hill, a locally prominent landform and high point within the southern boundary of the SRA. An access road bisects the grassland covered and rock-strewn hill. In addition to tall lattice steel and tubular steel communications towers, several boxy and lightly colored communication facilities/structures and a forty-foot high fire lookout structure are present in this area. Northeast of Basalt Hill, the corridor turns to the northeast and spans the sole access road from SR-152 to the SRA's south shore Basalt Area (i.e., Basalt Road). This segment of the corridor traverses primarily undeveloped and low, grassland covered hills and is located within 0.5 mile of day use parking, picnic, and boat launch ramp facilities at Goosehead Point. In addition to recreational activities, the boat launch area and the reservoir itself offer scenic viewing opportunities to the local hilly and mountainous terrain to the north, west, and southwest. This particular segment of the corridor located south of the reservoir and near Basalt Road passes within approximately 250 feet of the SRA Basalt Area entrance (marked by a flag-pole and small wooden kiosk/structure) and 0.4 mile of the shaded, 79-site Basalt Campground. Nestled among a dense cluster of mature oaks, the campground is situated in a short, narrow canyon located south of the SRA entrance gate.

Photograph I: View west from Dinosaur Point Road towards San Luis Reservoir and Tunnel Island

Photograph J: View west from Romero Visitor Center across San Luis Reservoir towards terrain of the Diablo Range

Photograph K: View north from Goosehead Point boat launch facility

Photograph L: View northwest from Goosehead Point boat launch area towards hilly, oak and grassland covered terrain

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FIGURE 3.1-4

Existing Conditions

Gonzaga Ridge Wind Repowering Project

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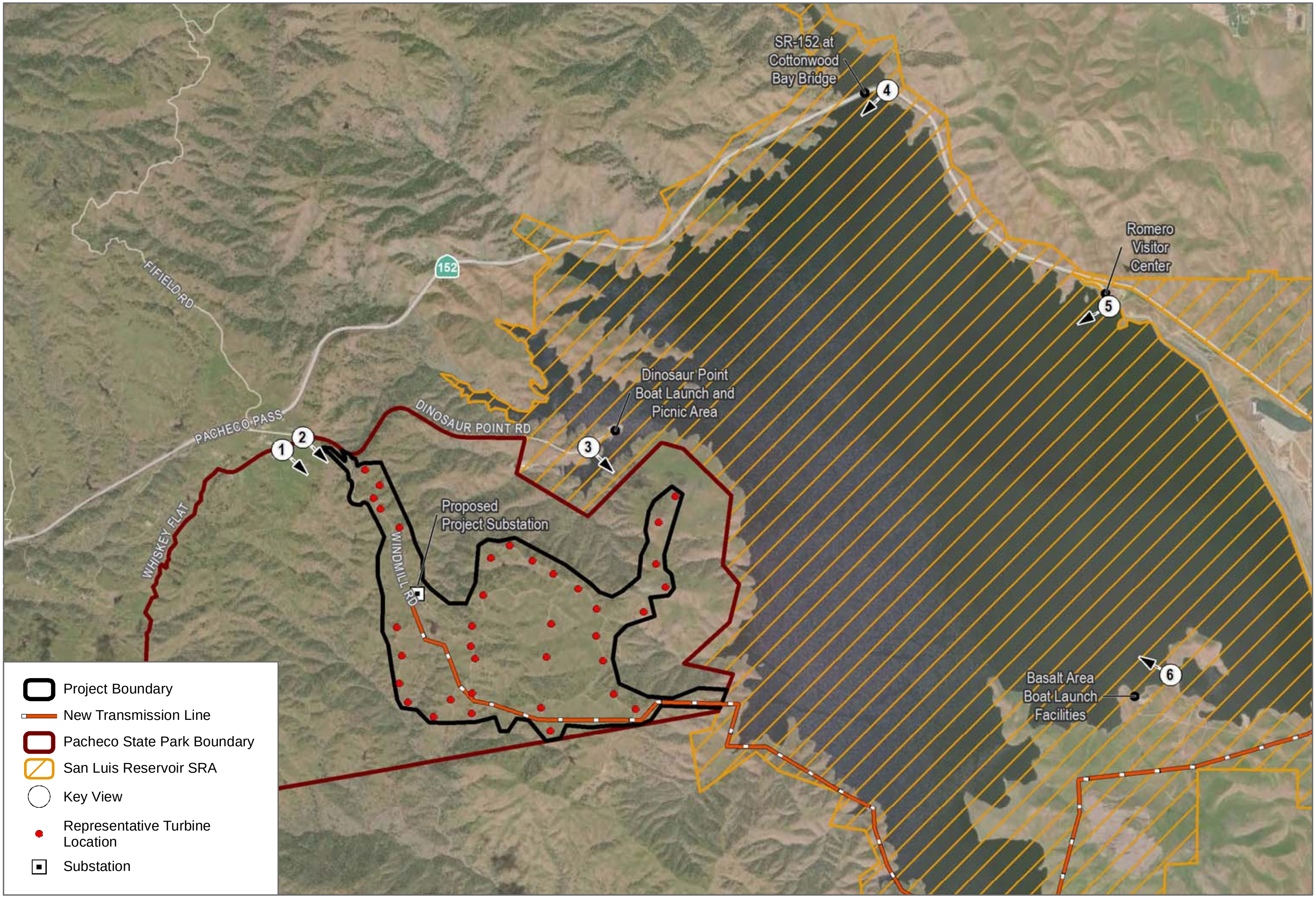

SOURCE: Bing Maps 2019; Scout Energy 2019

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FIGURE 3.1-5

Key Views

Gonzaga Ridge Wind Repowering Project

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East of the Basalt Road crossing, the corridor traverses low and rolling, grassland covered hills along a diagonal, northeastern heading and then parallels the SRA boundary to the north towards Los Banos CDF Road and SR-152. South of the state highway, the corridor spans Los Banos CDF Road and state property that supports a rectangular, single-story CAL FIRE facility. Mature trees, single-story accessory structures, paved parking areas, and a sand/dirt volleyball court are also present on the property. The remaining approximately 1.75-mile long segment of the corridor parallels SR-152, a four-lane state designated scenic highway. State highway motorists are provided unobstructed, foreground views to the proposed transmission line corridor and existing electrical infrastructure. For example, three high voltage transmission lines span the highway in a southeast-northwest direction near the proposed interconnection point to the 40-acre PG&E Los Banos Substation. The segment also parallels the northern boundary of the San Luis Reservoir Off-Highway Vehicle (OHV) Recreation Area, an approximately 155-acre area traversed by numerous dirt trails located immediate south of SR-152 and west of the Los Banos Substation. Regarding the substation, approximately four (4) transmission lines interconnect to the facility from the south and two transmission lines enter the substation from the west. The substation site contains numerous metallic bays and racks that display primarily straight vertical and horizontal forms and lines that display a consistent greyish tone. An approximately 8-foot high, beige concrete wall surrounds the substation site.

Key Views

In coordination with CDPR staff, key views were selected as representative vantage points in the landscape that offer sensitive receptors views to the Project site. Six key views were selected from which to evaluate the existing landscape and the project. The locations of selected key views are shown in Figure 3.1-5. The key views provide representative views from local and regional travel routes and gathering spots in the Park and adjacent state recreation area. The key views encompass a range of viewing distances and angles available to viewer groups in the project viewshed. More specifically, existing views towards the Project site from the Park day use parking area, (i.e., Key View 1) State Park entrance off Dinosaur Point Road (i.e., Key View 2), and Dinosaur Point Road near the SRA boat launch area (i.e., Key View 3) are depicted on Figures 3.1-6 through 3.1-8. As shown on Figures 3.1-6 and 3.1-7, existing wind turbines are not visible from lower-lying areas in the Park near the day use parking area. Existing views towards the Project site from SR-152 near the reservoir's Cottonwood Bay (i.e., Key View 4), the Romero Visitor Center (i.e., Key View 5), and the San Luis Reservoir SRA Basalt Area (i.e., along the southeastern shoreline) (i.e., Key View 6) are provided in Figures 3.1-9 through 3.1-11. Existing wind turbines on the Project site are visible in Figures 3.1-9 through 3.1-11.

Regulatory Setting

Federal Regulations

Federal Aviation Administration

FAA Advisory Circular 70/7460-1L (FAA 2018) states “any temporary or permanent structure, including all appurtenances, that exceeds an overall height of 200 feet above ground level (AGL) should be marked or lighted” (FAA 2016). The tallest structure proposed on site (wind turbines measured from base to blade tip) would be over 200 feet and therefore, all or a portion of the proposed wind turbines would require the installation of obstruction lighting atop wind turbine hubs. Permanent MET towers greater than 200 feet AGL would also be installed on the Project site and would be subject to FAA jurisdiction. Preparation and submittal of an aeronautical study and review by FAA would determine whether structures would impair aviation safety.

According to the FAA, all structures that are above 499 feet AGL are designated as obstructions and must be evaluated by the FAA through an aeronautical study to determine the effects on navigable airspace.

Chapter 13 of FAA Advisory Circular 70/7460-1L is dedicated to marking and lighting wind turbine farms. Wind turbine farms are defined as wind turbine developments containing three or more turbines of heights over 200 feet aboveground level. Marking Standards are established in Section 13.4, Marking Standards. Per FAA recommend guidelines, wind turbines should be painted white or light grey because these specific colors have been “shown to be the most effective method for providing daytime conspicuity” (FAA 2018).

Existing view southeast towards characteristic vegetation and terrain of Pacheco State Park (existing wind turbines not visible)

FIGURE 3.1-6

Key View 1 - Pacheco State Park Day Use Parking Area

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Existing view southeast from Pacheco State Park entrance towards the project site (existing wind turbines not visible)

FIGURE 3.1-7

Key View 2 - Dinosaur Point Road at Pacheco State Park Entrance

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Existing view southeast from Dinosaur Point Road towards characteristic terrain of Pacheco State Park (existing wind turbines visible)

FIGURE 3.1-8

Key View 3 - Dinosaur Point Road Near SRA Boat Launch Area

Gonzaga Ridge Wind Repowering Project

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Existing view west from State Route 152 across San Luis Reservoir towards Pacheco State Park (existing wind turbines visible)

FIGURE 3.1-9

Key View 4 - State Route 152 at Cottonwood Bay

Gonzaga Ridge Wind Repowering Project

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Existing view west from Romero Visitor Center towards project site (located 3.8 miles away - existing wind turbines visible)

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FIGURE 3.1-10

Key View 5 - Romero Visitor Center

Gonzaga Ridge Wind Repowering Project

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Existing view northwest from SRA Basalt Area boat launch facilities towards project site (located 4 miles away - existing wind turbines visible)

FIGURE 3.1-11

Key View 6 - San Luis Reservoir SRA Basalt Area

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Section 13.5, Lighting Standards, contains the following general standards established for wind turbine farm lighting:

- In most cases, not all wind turbine units within a wind turbine farm need to be lighted. Obstruction lights should be placed along the perimeter of the wind turbine farm so that there are no unlit separations or gaps more than 1/2 statute mile (sm) (804 m). Wind turbines within a grid or cluster should not have an unlighted separation or gap of more than one sm (0.9 mile or 1.6 km) across the interior of a grid or cluster of turbines. Nighttime wind turbine obstruction lighting should consist of the preferred FAA L-864 aviation red flashing, strobe, or pulsed obstruction lights. Studies have shown that red lights provide the most conspicuity to pilots.

- Daytime lighting of wind turbine farms is not required.

- Light fixtures should be placed as high as possible on the turbine nacelle, so they are visible by a pilot approaching from any direction.

- For linear turbine configurations, lights should be placed on each turbine positioned at each end of the line or string of turbines. Lights should also be placed along the line of turbines so that there is no more than a 1/2-sm (2,640-foot (805-m)) gap between the lighted turbines. In the event the gap between lights on the last segment of turbines is significantly short, it may be appropriate to move the lights on the turbine string back toward the starting point to present a well-balanced string of lights. High concentrations of lights shall be avoided.

The following standards established in Chapter 13.6, Wind Turbines Above 499 Feet, are applicable to wind turbines above 499 feet but below 699 feet:

- In addition to the lighting standards established in Chapter 13.5, the top of the turbine's nacelle should be equipped with a second L-864 flashing red light.
- The two obstruction lights should be arranged horizontally, positioned on opposite sides of the nacelle, visible to a pilot approaching from any direction, and flash simultaneously. This lighting configuration ensures the turbines in this size category are always lighted.
- In the event one of the two obstruction lights fails, no light failure notification is required; however, the light should be restored to service as soon as possible.
- All turbines within this size category should be illuminated, regardless of their location within a wind turbine farm, and should be configured to flash simultaneously with the other turbines in the same farm. This requirement ensures the pilots operating at 500 feet AGL have sufficient warning that a wind turbine obstruction may be within their flight path.

The following standard established in Chapter 13.8, Lighting of Wind Turbines During Construction Phase, are applicable to the Project:

- To ensure proper conspicuity of turbines at night during construction, all turbines should be lighted with temporary lighting once they reach a height of 200 feet (61 m) or greater until the permanent lighting configuration is turned on. As the structure's height continues to increase, the temporary lighting should be relocated to the structure's uppermost height. The temporary lighting may be turned off for short periods if they interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An L-810 steady burning red light shall be used to light the structure during the construction phase, if the permanent L-864 flashing-red lights are not in place. If power is not available, turbines should be lighted with a self-contained, solar-powered, LED, steady-burning red light that meets the photometric requirements of an FAA L-810 lighting system. The lights should be positioned to ensure a pilot has an unobstructed view of at least one light at each level. Using a NOTAM (D) to justify not lighting the turbines until the entire project is completed is prohibited.

State Regulations

California Scenic Highway System

Created by the California State Legislature in 1963, the California Scenic Highway Program includes highways designated by the California Department of Transportation (Caltrans) as scenic. There are two officially designated scenic highways in Merced County: SR-152 from the Merced/Santa Clara County line east to the I-5 junction (approximately 13.8 miles long) and I-5 from SR-33 north to the Merced/Stanislaus County line (approximately 14.9 miles long) (Caltrans 2018).

At its closest location, SR-152 is located approximately 1 mile north of the Project site within the Park. The Project site is located 9.7 miles west of the designated scenic segment of I-5 (the existing Los Banos Substation is located approximately 2.5 miles west of I-5).

Pacheco State Park General Plan

Approved by the State Park and Recreation Commission in May 2016, the Pacheco State Park General Plan establishes four management zones: Administration and Operations Zone (AO), Front Country Zone (FC), Backcountry (BC), and Lease Zone (LE). The Project site and existing wind turbines are located within the LE area that generally encompasses the eastern half of the Park. Per the General Plan, the LE area encompasses the current area of the park that supports wind turbine development and "allows for this land use to continue with limited public access" (California State Parks 2006).

According to the Pacheco State Park General Plan, the Park contains a variety of aesthetic resources including wide and long, scenic vistas. Regarding existing resources and the availability of scenic views, the General Plan notes that the parks landscape is “predominantly undeveloped [and is] characterized by open grassland and oak woodlands.” Further, due to its location atop the Diablo Range, prominent landforms provide “impressive vistas in all directions” (California State Parks 2006). Regarding the existing wind turbines located on Park lands, the General Plan acknowledges the visual contrasts and visibility of the features. Most notably, the General Plan states “the turbine towers are a physical intrusion into the natural setting” that “encroach on the uninterrupted landscape.” Lastly, the General Plan notes that available dark skies at the State Park and the limited amount of development in the immediate surrounding area make the Park a popular location for stargazing.

The General Plan also discloses the official scenic designation of SR-152 west of I-5 and the availability of scenic vistas from the highway. In regards to the state scenic designation, the General Plan notes that the State has established minimum standards for scenic corridor protection that include but are not limited to (1) regulation of land use and density of development; and (2) careful attention to design and appearance of structures and equipment.

The General Plan contains the following goals and guidelines related to Scenic/Aesthetic (RES-S) resources:

- **Goal RES-S1:** Preserve open scenic vistas on site through recognition of undeveloped ridgelines.
- **Guideline:** Conduct a visual assessment for the placement of new structures and site features that need to be located in an identified viewshed.
- **Guideline:** Where feasible, avoid placement of new structures or other obstructions at or near key vista points such as Spike’s Peak.
- **Goal RES-S2:** Maintain large expanses of open space free of visual and physical interruptions.
- **Guideline:** Minimize the development of new structures and reduce existing structures and other features that visually and physically fragment open space.
- **Goal RES-S3:** Ensure that new structures are architecturally compatible with the site’s character and/or history as a former ranch.
- **Guideline:** Identify the architectural components (style) and other contributing elements that define the site’s character and use this information as a checklist for ensuring that new structures conform.
- **Guideline:** Where feasible, ensure that the mass and scale of new structures are compatible with those of existing structures and do not dominate the surrounding landscape.

- **Goal RES-S5:** Prevent aesthetic and environmental damage from duration and intensity of lighting and fixtures.
- **Goal RES-S6:** Maintain and protect the dark nighttime sky for celestial viewing.

Local Regulations

As noted in Chapter 3, Environmental Analysis, reference to local planning documents (e.g., Merced County General Plan) is for informational purposes only. The above notwithstanding, local plans and policies can often serve as a good reference or "benchmark" to understand local perspectives on environmental health and safety issues. For this reason, references to applicable goals and policies of the general plans of Merced County and Santa Clara County are provided below.

<u>2030 Merced County General Plan</u>

According to the 2030 Merced County General Plan, the rural and agricultural landscapes of Merced County comprise the primary scenic resources in the county. Regarding the availability of scenic views, the General Plan discloses that the county has many available scenic features including the Coastal and Sierra Nevada mountain ranges, and the Los Banos Creek, Merced, San Joaquin, and Bear Creek river corridors (Merced County 2013). The following goals and policies are applicable to scenic resources and the Project:

- **Goal NR-4:** Protect scenic resources and vistas.
  - **Policy NR-4.1:** Scenic Resource Preservation. Promote the preservation of agricultural land, ranch land, and other open space areas as a means of protecting the County's scenic resources.
  - **Policy NR-4.5:** Light Pollution Reduction. The County shall develop and implement a lighting ordinance to require good lighting practices, such as the use of specific light fixtures that reduce light pollution, minimize light impacts, and preserve views of the night sky. The ordinance shall contain standards to avoid light trespass, particularly from developed uses, to sensitive wildlife corridors and refuges.

Impacts

Methods of Analysis

The environmental setting was developed through a review of aerial imagery available through Google Earth and applicable planning documents for on- and off-site lands in the Project vicinity, as well as an on-site survey. This review was supplemented with the Visual Resources Report for the Gonzaga Ridge Wind Repowering Project (Dudek 2018; Appendix C) which provides information regarding the local setting including the visual quality and character of the Project site and the New Transmission Line corridor. In addition, the Visual Resources Report describes the extent of the Project viewshed and identified viewer groups (and their exposure and sensitivity) within the viewshed. As a component of the Visual Resources Report, Dudek staff conducted a photographic inventory of the site and surrounding area on September 21 and 23, 2018. The focus of the inventory was to obtain photographs of views looking towards the proposed wind turbine locations from public vantage points in the surrounding area. Winds were mild, and local conditions were sunny and clear. Digital photographs were taken with a location-services-enabled iPhone 8 to photo document the characteristics of the Project site and surrounding area and to illustrate the quality of existing views. Photographs were taken from multiple locations along Dinosaur Point Road, SR-152, the Romero Visitor Center, and the SRA's Basalt Area.

The visual analysis herein evaluates the Project against CEQA Appendix G thresholds. To evaluate potential impacts, the most conservative turbine size has been chosen for each resource analysis and the impact evaluation assumes full Project buildout. For the analysis of aesthetics, the largest possible machines were used in the development of visual simulations and impact analyses, which includes a maximum blade height of up to 650 feet. In addition to impacts to scenic vistas, state scenic highways and day and nighttime views, an analysis of effects to existing visual character and quality of public views is provided below. Visual character is qualitatively defined by four primary components: form, line, color, and texture. Projects that create a high level of contrast with the existing visual character of a project setting are more likely to generate significant visual impacts due to visual incompatibility. Conversely, projects that create a low level of contrast with the existing visual character are less likely to generate significant visual impacts due to inherent visual compatibility. Project components are evaluated on this basis for impact analysis purposes.

For scenic vistas, public vantage points, such as roadways, public lookouts, trails, or recreational lands, from which views of the Project are likely to be available were initially identified through a review of aerial imagery, topographic maps, and the Project viewshed. Visibility to the Project site from select vantage points was verified during the photographic inventory. More remote scenic vista points such as Spike's Peak Trail were not revisited during the photographic inventory; however, the visibility of Project components was primarily through the use of aerial imagery, the Project site plan, and the proposed height of wind turbines. Height of proposed wind turbines, proximity of viewing locations (and receptors) to Project components, and complexity of the resulting view were the primary factors considered in determining whether the Project would have a substantial adverse effect on a scenic vista. For purposes of this analysis, a "substantial adverse effect" would occur if the existing view was substantially interrupted or obstructed by Project components.

State scenic highways were identified through review of the California Department of Transportation's Scenic Highway Program (http://www.dot.ca.gov/design/lap/livability/scenic-highways/index.html). Specifically, eligible and officially designated state scenic highways in Merced County and Santa Clara County near the Project site were identified. Viewing conditions from scenic highways to the Project site were assessed through review of the Google Earth street view application and for SR-152, photographs taken during the photographic inventory of the site. Factors considered in determining whether the Project would substantially damage scenic resources within a state scenic highway included existing visual quality and visual features present in views from scenic highways, visibility and scale of Project features and duration of available views to the Project site from designated scenic highways.

The analysis of potential impacts to existing visual quality and character of public views was primarily based on anticipated visual contrast as viewed from representative vantage points or Key Views, as shown in Figure 3.1-5. Because it is not feasible to analyze Project impacts for every conceivable location from which Project components would be visible, Key Views were selected in consultation with CDPR staff and represent the range of views to the Project site available to viewer groups in the Project viewshed. In coordination with CDPR staff, six Key Views were selected as representative views of the Project site available to sensitive receptors in the surrounding area and include State Park and SRA visitors and local road and state route motorists. The Project site is also visible to several Santa Clara County residences to the northwest (i.e., south of SR-152), however, CEQA does not specifically protect views from private property. As such, the anticipated visual impacts of the Project were assessed from public vantage points.

Anticipated visual change at the selected Key Views was illustrated with the aid of 3-D photosimulations. Photosimulations were prepared for the Key Views and include existing site photographs as background images and true-scale 3-D models for the Project elements rendered onto the existing photographs. The final product is a photorealistic before-and-after simulation that depicts the existing condition and the constructed Project components at proposed scales, textures, and colors. Photosimulations of the Project depicting proposed wind turbines are included on Figures 3.1-12 through 3.1-17. The anticipated effects or changes to the existing visual character were evaluated with the support of photosimulations. Visual character is qualitatively defined by four primary components: form, line, color, and texture. Projects that create a high level of contrast (such as through strong scale and color contrasts) with the existing visual character of a project setting are more likely to generate significant visual impacts due to visual incompatibility or degradation. Conversely, projects that create a low level of contrast with the existing visual character are less likely to generate significant visual impacts due to inherent visual compatibility. Project components are evaluated on this basis for impact analysis purposes.

Existing view southeast towards characteristic vegetation and terrain of Pacheco State Park

Visual Simulation: Proposed Conditions

FIGURE 3.1-12

Key View 1 - Existing View and Visual Simulation of Proposed Conditions

Gonzaga Ridge Wind Repowering Project

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Existing view southeast from Pacheco State Park entrance towards the project site

Visual Simulation: Proposed Conditions

FIGURE 3.1-13

Key View 2 - Existing View and Visual Simulation of Proposed Conditions

Gonzaga Ridge Wind Repowering Project

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Existing view southeast from Dinosaur Point Road towards characteristic terrain of Pacheco State Park

Visual Simulation: Proposed Conditions

FIGURE 3.1-14

Key View 3 - Existing View and Visual Simulation of Proposed Conditions

Gonzaga Ridge Wind Repowering Project

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Existing view west from State Route 152 across San Luis Reservoir towards Pacheco State Park


Visual Simulation: Proposed Conditions

FIGURE 3.1-15

Key View 4 - Existing View and Visual Simulation of Proposed Conditions

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Existing view west from Romero Visitor Center towards project site (located 3.8 miles away)


Visual Simulation: Proposed Conditions

FIGURE 3.1-16

Key View 5 - Existing View and Visual Simulation of Proposed Conditions

Gonzaga Ridge Wind Repowering Project

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Existing view northwest from SRA Basalt Area boat launch facilities towards project site (located 4 miles away)

Visual Simulation: Proposed Conditions

FIGURE 3.1-17

Key View 6 - Existing View and Visual Simulation of Proposed Conditions

Gonzaga Ridge Wind Repowering Project

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Lastly, the quality of existing day and night views as it pertains to glare and lighting conditions was assessed through a review of site aerial imagery and site photographs. Aerial imagery was reviewed to identify existing land uses and landscape features that may include components capable of generating glare during the day or lighting during evening and nighttime hours. Construction and operational sources of potential glare and nighttime lighting were evaluated in the context of existing day and night view quality. In addition to existing view quality and lighting conditions, the volume, intensity and operational characteristics of proposed sources of glare and lighting were considered in determining whether project-related glare and lighting would adversely affect day or nighttime views in the area.

Thresholds of Significance

Consistent with Appendix G of the CEQA Guidelines, a significant impact would occur if development of the proposed Project would do any of the following:

- Have a substantial adverse effect on a scenic vista.
- Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
- Substantially degrade the existing visual character or quality of public views (public views are those that are experienced from publicly accessible vantage points) of the site and its surroundings (non-urbanized areas).

Create a new source of substantial light or glare which could adversely affect day or nighttime views in the area.

Impacts and Mitigation Measures

3.1-1: Implementation of the proposed Project may adversely affect a scenic vista. This would be a less-than-significant impact.

The Project site is located west of the San Luis Reservoir and south of SR-152, atop the eastern foothills of the Diablo Range in western Merced County. While there are no officially designated scenic vistas in the Park, the hilly terrain and numerous trails in the Park provide opportunities for scenic views of the Park and surrounding area. For example, users of the Dinosaur Lake Trail which crosses Windmill Road and traverses (and abuts) the Project site, are provided foreground views of the characteristic grassland and oak covered terrain of the SRA. In addition, a water feature (Dinosaur Lake) is located adjacent to the trail alignment, at the base of converging slopes, and is a natural feature of interest. To the west of the Dinosaur Lake Trail, long and occasionally broad scenic views across the Park and extending to the San Joaquin Valley are available to trail-based recreationists on the Spikes Peak Trail. Lastly, while somewhat limited in length by hilly terrain within the Park and prominent mountain terrain of the Diablo Range, the Romero Visitor Center in the San Luis Reservoir SRA provides an overlook from which scenic views to the characteristic vegetation and terrain of the local landscape. Existing wind turbines and MET towers on the Project site are visible. For purposes of this analysis, the Spikes Peak Trail and Romero Visitor Center are scenic vista locations from which impacts to existing views due to the Project are visible in views from the trails and visitor center.

For purposes of this analysis, the Dinosaur Lake Trail, Spikes Peak Trail and Romero Visitor Center are scenic vista/view locations from which impacts to existing views due to the Project are evaluated below.

Sections of the Dinosaur Lake Trail are located within and outside of the Project site and the trail crosses Windmill Road. As part of the Project, CDPR plans on relocating the trail further away from the proposed turbines. Views from the trail are typical short and consist of the grassland covered and oak tree dotted hilly terrain of the Park. Existing wind turbines are generally screened or obscured from view of trail-users along the majority of the Dinosaur Lake Trail alignment. However, at the southern end of the trail near the confluence with the Pig Pond Trail, existing wind turbines are visible to the south and the closest wind turbine is located within 500 feet of the trail. As such and in addition to oak and grassland covered hills, wind turbines contribute to the visual experience of trail users. Approximately nine new wind turbines are proposed to be located within 500 feet of the trail alignment and these features would be sited within 800 feet of one another in a rough north-south line that would generally parallel the trail. New wind turbines would be located within a foreground distance of the trail and would be a constant presence in the future experience of trail users. However, there would be a reduction of over 120 wind turbines from the Project site, which would reduce the number of features visible to trail users along the southern segment of the Dinosaur Lake Trail. In addition, as wind turbines are currently visible from the trail, the introduction of wind turbines along the northern and central segments of the trail would not substantially affect the overall experience of trail users within the Park. Lastly, new wind turbines would not substantially screen or obstruct the grassland and oak dotted terrain or occasional water features from view of trail users. As such, view impacts would be considered less than significant.

Spikes Peak is located approximately 1.2 miles west of the western Project boundary. Existing wind turbines located in the eastern portion of the Project site are occasionally visible in easterly views from ridgeline segments of the Spikes Peak Trail. The proposed new wind turbines would be the primary Project components visible from the Spikes Peak Trail. The majority of the proposed wind turbines would be installed at or near locations currently occupied by existing wind turbines. In addition, implementation of the Project would entail the removal of approximately 162 existing wind turbines (between approximately 100 and 325 feet high) distributed across the Project site.

While existing wind turbines do not substantially block or obstruct scenic features from view, the removal of these features would minimize existing visual clutter and view interruption associated with the linear and clustered arrangement of numerous vertical structures. As proposed, the Project would install up to 40 new wind turbines that would conservatively be up to approximately 650 feet high as measured from base to extended blade tip. Although taller than the existing wind turbines, the new and modern wind turbines installed in individual strings would be spaced much further apart than the existing wind turbines currently located on site (see Figure 2-4 in Chapter 2, Project Description that illustrates the location of the proposed wind turbines). In addition, new wind turbines would be painted white to match the color of existing wind turbine blades and modern tower segments on the Project site.

An overall reduced number of wind turbines and wider spacing between individual features would generally improve viewing conditions from the Spikes Peak Trail because views would include fewer man-made features such as wind turbines. There would be a reduction of over 120 wind turbines from the Project site, which would significantly reduce the number of features visible to trail users. Due to their scale, proposed wind turbines would attract attention from trail users. Specifically, proposed wind turbines would rise above existing vegetation/trees and terrain and would be visible from most ridgeline vantage points. The ridgeline segment of the Spikes Peak Trail ranges in elevation from approximately 1,800 to 1,900 feet amsl. The westernmost turbine string on the Project site is located atop a low ridgeline that sits at approximately 1,400 feet amsl. Due to the variation in elevation between the trail and turbine locations, trail-based recreationists are located at a superior (i.e., higher) location in comparison to the Project. While the lower portions of proposed wind turbine towers would be below the normal line of sight of receptors, viewers would have to look “through” the upper portions (i.e., tower segments and blades) of new taller features in scenic easterly views towards the San Luis Reservoir and San Joaquin Valley.

The presence of 162 existing wind turbines, overhead collection poles and lines, and more distant transmission line structures in the landscape temper expectations for clear and uninterrupted views from the Spikes Peak Trail; therefore, the introduction of albeit larger scale but significantly fewer proposed wind turbines would not contribute to more of an interruption of easterly views. The proposed wind turbines would be setback over one mile from the ridgeline segments of the trail and Spikes Peak. Further, individual wind turbines would be spaced wider apart than existing wind turbines and as proposed, up to 40 new turbines would replace 162 existing wind turbines. Similar to existing conditions, new overhead electric poles may be visible from portions of the trail and the linear disturbance (i.e., unvegetated lines or areas of disturbance in the landscape following trenching) resulting from installation of proposed underground lines may be detectable in the landscape. While existing overhead transmission lines and structures are present to the southeast of the San Luis Reservoir, the taller form and line, and longer blades of up to 40 new wind turbines on the Project site, while highly visible would not substantially change existing available long views from Spikes Peak towards the reservoir and San Joaquin Valley. As such, view impacts would be considered **less than significant**.

The San Luis Reservoir SRA Romero Visitor Center is located off SR-152 and along the reservoir's easterly shoreline. In addition, the visitor center is approximately 3.9 miles away from the easternmost portion of the Project site and includes an observation deck/patio that offers scenic views to the west across the reservoir and to the hilly and mountain terrain of the Diablo Range. While the existing wind turbines are currently visible from the visitor center, the features display relatively low and faint lines in views and their apparent scale is diminished by distance (see Figure 3.1-10). With implementation of the Project, the introduction of up to 40 wind turbines would be noticeable in the western horizon by creating a bolder, more distinct silhouette on the Project site. However, substantial blockage of scenic features associated with the addition of up to 40 turbines would not occur and visible interruption in the ridgeline of the western horizon would not result in a noticeably greater increase in view interruption as compared to existing conditions. Therefore, scenic view effects at the Romero Visitor Center would not be adverse and impacts would be considered **less than significant**.

The nearest segment of the proposed transmission line would be located greater than three miles from the San Luis Reservoir SRA Romero Visitor Center. As such, due to distance between the features and receptors, the proposed transmission line on the Project site (and near the San Luis Reservoir) would produce weak contrast and would not be clearly visible from the visitor center.

The Project would also remove the existing temporary MET towers and install up to two new permanent and three temporary MET towers (approximately 400 feet tall each) on the Project site. The MET towers would be distributed across the 1,766-acre Project site. Despite the tall form displayed by new MET towers, these features would display a thin line. In addition, due to the thin profile of new MET towers and location of these features in relation to identified scenic vantage points, new MET towers would not substantially obstruct scenic features from view despite the larger size of the features relative to existing on site MET towers. Figure 3.1-14 provides a comparison of an existing and proposed MET tower on the Project site. MET towers would be noticeable in the landscape including from park trails due to their tall scale. However, they would not be visually prominent and the generally thin form and line displayed by the features would not substantially obstruct or interrupt an existing view from a scenic vista. Lastly, the presence of existing tall features has affected existing opportunities for unimpeded views across the Project site from the identified on and off site scenic vantage points. Therefore, scenic vista impacts associated with the removal of existing MET towers and installation of new MET towers would be **less than significant**.

Mitigation Measures

None required.

3.1-2: Implementation of the proposed Project may damage scenic resources within a state scenic highway. This would be a less-than-significant impact.

Within the Project site there are no historic buildings or rock outcroppings. However, as previously stated, oak woodland vegetation is a characteristic vegetation community on Park lands and mature oak trees regularly occur on the Project site and throughout the region.

The Project viewshed is depicted on Figure 3.1-18, Topographic Viewshed. As shown on the figure, the proposed Project viewshed encompasses segments of SR-152, an officially designated state scenic highway. The removal of 162 existing wind turbines and the installation of up to 40 noticeably taller new wind turbines (conservatively assumed up to 650-feet high to the tip of the blade) would attract the attention of westbound SR-152 motorists. Similar to existing conditions, discontinuous views of proposed wind turbines would be available to motorists traveling at approximately 65 miles an hour from approximately Romero Visitor Center in the San Luis Reservoir SRA to Pacheco Pass. Specifically, wind turbines would be visible between gaps in mounded road cuts and hills that occasionally line the eastern and northern shoreline of the reservoir and conceal the Project site from view of motorists. While the larger scale and distinct y-shaped massing of wind turbine towers and blades would change the existing visual quality of the landscape as viewed from SR-152, construction of the Project and installation of new wind turbines within the Project site would require the removal of numerous trees. However, trees to be removed to accommodate Project roadways and the New Transmission Line are primarily located in the ravines and in other portions where views from the highway are limited. Where the removal of trees is unavoidable, the loss of trees would not be noticeable to motorists and other users of the state route in part, because it is over one mile from the site and motorists travelling at approximately 65 miles per hour would have a difficult time distinguishing this change. The majority of wind turbines would be setback from the closest ridgelines to the highway and the interior location of Project components would largely conceal ground disturbances from view of state route users. As such, impacts associated with damage to scenic resources (specifically, trees) within SR-152 would be **less than significant**.

The Project site is located 9.7 miles west of the officially designated state scenic segment of I-5 as it travels west of the city of Los Banos. In addition, the proposed overhead New Transmission Line tie-in to the Los Banos Substation would be located approximately 2.5 miles west of I-5. Due to distance, proposed wind turbines on the Project site would be relatively indiscernible to passing motorists on I-5. The distant forms would be indefinite and as the Project site is located within the peripheral field of vision of motorists on the primarily north-south interstate, motorists would have only brief opportunities to focus on the hilly terrain of the Project site. Further, motorists are more likely to be attracted to the visually prominent mountain terrain of the Diablo Range (the Project site would be visually subordinate to the taller and darker mountains in views from I-5). Lastly, the interconnection of the proposed overhead New Transmission Line would not damage scenic resources within the I-5 corridor. New support poles (approximately 120-feet tall each) would be setback over 2.5 miles from the interstate and would not command the attention of motorists. Further, new poles and overhead transmission lines would be indistinct from the numerous existing transmission lines and taller lattice steel and tubular steel towers installed near the existing Los Banos Substation and nearby along the SR-33 corridor. Therefore, impacts associated with damage to scenic resources within I-5 would be **less than significant.**

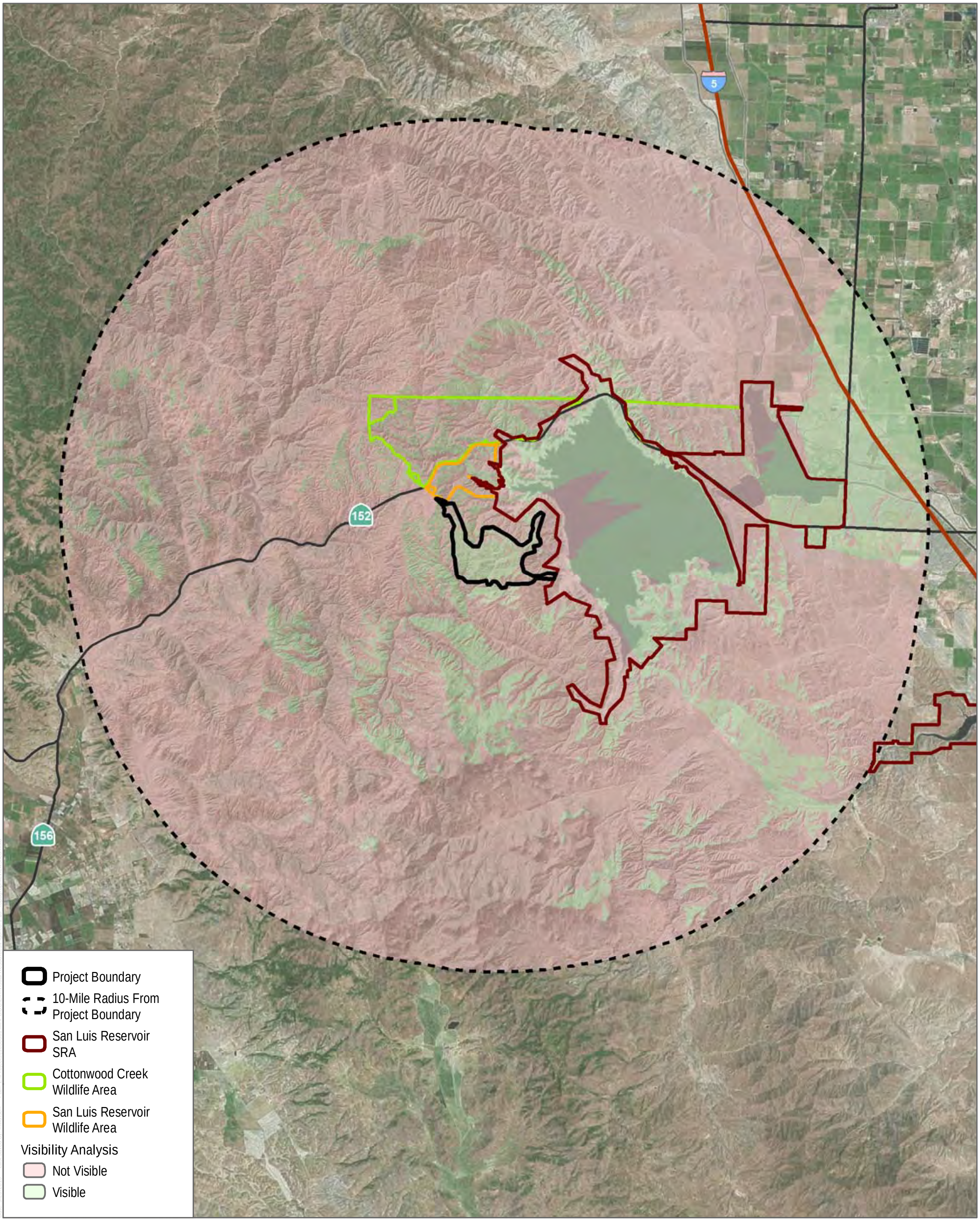
Mitigation Measures

None required.

3.1-3: Implementation of the proposed Project may degrade the existing visual character or quality of public views of the site and its surroundings. This would be a less-than-significant impact.

The Project site currently features 162 wind turbines installed atop ridgelines in linear strings or groupings that are accessible via a network of dirt roads that branch off from a primary access road (i.e., Windmill Road). The turbines are primarily supported by slightly conical steel tube towers that are approximately 80 feet high at the hub/nacelle however, several turbines are supported by unpainted lattice steel towers. When the extended blade tip from the top of the tower is included, the total height of the existing wind turbines ranges from approximately 100-325 feet tall. All existing wind turbines feature three-blade rotors.

Due to the location of the Project site and the inferior (i.e., low-angle) public vantage points provided to most receptors in the surrounding area, ground disturbance and other construction-related effects of the Project would be obscured from view. However, improvements to Windmill Road at the junction with Dinosaur Point Road would be visible to hikers on Dinosaur Lake Trail that crosses Windmill Road at the turnoff from Dinosaur Point Road. As part of the Project, CDPR would relocate Dinosaur Lake Trail to ensure an adequate buffer from proposed wind turbines is maintained and trail users are afforded a unique recreation experience. In addition to road improvements, the sequential installation of wind turbine towers and required cranes for their installation would be visible. As new sections are installed, turbine towers would rise from their ridgeline locations and introduce tall and straight vertical forms and lines to the landscape. The presence of cranes and other construction equipment and vehicles, and the progression of tall and visible project components, would only be experienced on a temporary basis by local receptors, including hikers on Park trails (i.e., Dinosaur Lake and Spikes Peak trails) and motorists on SR-152. Once construction activities are complete, cranes (and other construction equipment and vehicles) would be removed and crane locations (and other areas of visible ground disturbance) would be restored back to its original state, or as close to its original state as possible, per terms of the lease. Given the limited duration of construction activities and the screening of non-wind turbine related components from view of most local receptors in the surrounding area, construction activities would not substantially degrade existing visual character or quality. Construction impacts would be **less than significant**.



SOURCE: USGS 2018, Bing 2019

DUDEK

0 1.5 3 Miles

FIGURE 3.1-18

Topographic Viewshed

Gonzaga Ridge Wind Repowering Project

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Once operational, the visibility of Project components would vary with location. For example, the visibility of Project components at identified public gathering points in the central and northern portions of the Park would generally be limited with the exception of views from the Dinosaur Lake Trail. As noted above, CDPR is planning on relocating the trail to provide an adequate buffer from proposed wind turbines however, it is anticipated new wind turbines would still be visible from relocated trail segment. Due to intervening hilly terrain and trees, views to Project components (including wind turbines) from areas further to the west of the Project boundary would typically be screened or obscured. From these locations, views of the characteristic savannah, grassland, and oak woodland dotted hillside and valley terrain (see Figures 3.1-12 and 3.1-13) would continue to contribute to the Park experience. At locations including the Park day use parking area and the State Park entrance off Dinosaur Point Road, Project components would be fully to partially screened from view and would have low/weak effects on existing visual quality. As such, implementation of the Project would produce overall weak visual contrast as experienced from the State Park day use parking area and the State Park entrance off Dinosaur Point Road. Photosimulations of the Project (specifically, new 650-foot-tall wind turbines) as viewed from these locations (i.e., Key View 1 and Key View 2) are provided on Figures 3.1-12 and 3.1-13.

From elsewhere in the surrounding area, the new wind turbines would be clearly visible. For example, from low-angle vantage points to the north and west of the Project site including the San Luis Reservoir SRA (more specifically, at the Dinosaur Point boat launch and picnic area and Romero Visitor Center) and SR-152 at the Cottonwood Bay bridge, the new wind turbines would be tall and display a noticeable vertical form and line. Due to the scale and massing of the proposed wind turbines, the wind turbines would be visible atop ridgelines and against the sky. Near the Dinosaur Point Road SRA boat launch and picnic area (i.e., Key View 3), the closer proximity and taller scale of proposed wind turbines would create apparent and distinct forms and lines that would create a notable contrast compared to the existing older style wind turbines (see Figure 3.1-14). In addition and when viewed from a foreground viewing location, the white color of wind turbine towers, nacelles, and blades would produce a noticeable color contrast with the dominant tans and greens of the existing landscape. However, color contrasts would be moderated by distance such that beyond a foreground distance, the white color of turbines would be indistinct. Photosimulations of the Project as viewed from Dinosaur Point Road near the boat launch and picnic area (Key View 3), SR-152 at the Cottonwood Bay bridge (Key View 4), and the Romero Visitor Center (Key View 5) are presented on Figures 3.1-14, 3.1-15, and 3.1-16. An additional view of the Project from boat launch facilities in the Basalt Area of the SRA (Key View 6) is presented on Figure 3.1-17.

As shown in Figures 3.1-15 and 3.1-16, the existing 100 to 325 foot-tall wind turbines are noticeable but faint in views from SR-152 at the Cottonwood Bay bridge and the Romero Visitor Center. The proposed new wind turbines would be noticeable from the highway and visitor center. Although the Project would remove all of the 162 older style wind turbines, the height of new turbines would be somewhat more pronounced along the ridgeline locations as compared to existing conditions (see Figures 3.1-15 and 3.1-16). However, due to the distance, the visibility of the new turbines would be somewhat muted. For example, the nearest wind turbines would be setback over approximately 3.5 miles from the bridge and visitor center, 4 miles from the boat launch area (see Key View 6, Figure 3.1-17), and 5.5 miles from the Basalt Campground. As shown in the Key View 6 visual simulation (see Figure 3.1-17), new wind turbines would be viewed from the SRA Basalt Area boat launch as a collection of visible yet faint lines on the western horizon. Although a slightly more distant location, views from this area would be similar to views from SR-152 and from the Romero Visitor Center. New wind turbines would be visible to the public; however, the addition of up to 40 new wind turbines would not substantially degrade the existing visual quality of public views of the Project site and surroundings. Therefore, impacts would be **less than significant**.

With the exception of the easternmost segment, the New Transmission Line (and other components of the Project) would not be overly noticeable. These components would not create particularly strong/high visual contrast as viewed from public vantage points. The proposed O&M facility would be located within the interior of the Project site and would be partially screened from public view from Park trails by existing terrain and vegetation. The new project collector substation would be situated in the western extent of the Project site and adjacent to the site of an existing collector substation. The facility would be visually submissive to taller wind turbines located nearby and would not be detectable to SR-152 motorists or receptors at the San Luis Rey Reservoir SRA. Off-site segments of the New Transmission Line would be visible from the Romero Visitor Center, other locations in the SRA, and from SR-152 near the Los Banos Substation. New Transmission Line support poles (approximately 120-feet tall) would be visible from the highway but would be experienced in the context of existing high voltage transmission lines that parallel SR-152 to the north. The volume of existing transmission lines increases on the approach to the Los Banos Substation and therefore, due to the presence of similar features in views, the proposed New Transmission Line would create weak form and line contrasts. Impacts to existing visual character and quality associated with non-wind turbine project components would be **less than significant**.

Lastly, the removal of existing MET towers and installation of up to two new permanent and three temporary MET towers across the Project site would be noticeable to receptors. However, these features would not be visually prominent. The increased scale of MET towers (approximately 400 feet tall each) would be most apparent when viewed within a foreground viewing distance and from a low-angle position relative to the Project site. For example, at Dinosaur Point Road near the SRA boat launch and picnic facilities, a new MET tower would be located approximately 0.75 mile away atop the hilly terrain of the Project site (see Key View 3, Figure 3.1-14). The new MET tower would replace an existing MET tower and would be installed at the same site. While the new MET tower would be taller and display a more visible vertical line relative to the existing feature, the new MET tower would display a similar thin profile and would not degrade the character or quality of existing views. When viewed from more distant vantage points such as at westbound SR-152 at the Cottonwood Bay bridge, MET towers would display a thin line on the Project site ridgeline that may be overlooked by the casual observer. At Key View 4, the distant lines displayed by new MET towers would produce weak contrast such that the existing visual character of the site and surrounding area would not be degraded. In addition and when viewed in the context of new wind turbines, new MET towers would be indistinct (see Key View 4, Figure 3.1-15). As such, impacts to existing visual character and quality associated with the operation of new MET towers would be **less than significant**.

Mitigation Measures

None required.

3.1-4: Implementation of the proposed Project may create a new source of substantial light or glare that could adversely affect day or nighttime views in the area. This would be a less-than-significant impact.

Lighting

Existing wind turbines and associated infrastructure on the Project site does not generate or produce a substantial amount of light. For example, FAA obstruction lighting is installed on one out of the 162 on site wind turbines and exterior lighting fixtures are installed on the office trailer. While existing sources of lighting along the western and southern shores of San Luis Reservoir are limited, the Los Banos Substation and nearby commercial and residential development at the SR-33 and SR-152 junction include sources of lighting along the eastern extent of the proposed transmission line alignment.

Construction of the Project is anticipated to occur in two phases with the first phase taking approximately nine months to complete followed by the second phase anticipated to take 12 months to complete. Construction activities would occur during daylight hours but may involve extended hours, as needed, to complete certain activities and/or during emergencies. For the majority of the year, nighttime construction lighting would not be required. However, during emergencies, tasks requiring extended hours and during late fall and winter months, the lack of adequate natural lighting may dictate that portable lighting sources be used at specific construction sites.

The FAA requires obstruction lighting be installed on wind turbines over 200 feet tall from the base of the turbine to the top of the blade tip for aviation safety. During construction, the FAA lighting standards require turbines be lit with temporary lighting at a height of 200 feet until the permanent lighting is installed. As standard practice, the Project would install temporary lighting on turbines consistent with FAA requirements. It is assumed that the use of construction night lighting during the 12-month construction period would be limited. Delivery of various turbine components may be required during nighttime hours and may require portable temporary lighting for short periods of time. However, for most non-emergency tasks construction activities would be conducted during daylight hours. When required, portable construction night lighting would temporarily illuminate construction areas and would be focused onto the area of active construction. Unnecessary illumination of the nighttime sky from non-wind turbine lighting would be controlled to the extent feasible with the use of lights that are fully shielded and directed downward. Due to the irregular need for night construction lighting and with shielded and downward directed lighting sources, short-term construction lighting impacts would be **less than significant**.

The FAA requires wind turbine projects to submit an application that provides details on the location and size of proposed turbines along with specific information in order to evaluate any potential impacts to the National Airspace System. This includes preparation and submittal of an aeronautical study and review by FAA to determine whether structures would impair aviation safety. Additionally, the FAA will evaluate a project to determine required lighting. Lights are required for turbines that exceed an overall height of 200 feet above ground level (FAA 2016). The tallest structure proposed on site (wind turbines measured from base to blade tip) would be over 200 feet and therefore, proposed wind turbines would require the installation of obstruction lighting atop wind turbine hubs. Light fixtures would be placed as high as possible on the turbine nacelle, so they are visible by a pilot approaching from any direction. Permanent MET towers greater than 200 feet AGL would also require lights. Consistent with FAA requirements, a lighting plan would be developed for the Project and submitted to FAA for approval.

Nighttime wind turbine obstruction lighting should consist of the preferred FAA L-864 aviation red flashing, strobe, or pulsed obstruction lights if approved by FAA. Studies have shown that red lights provide the most visibility to pilots. The FAA does not require daytime lighting of wind turbines. For linear turbine configurations, such as what the Project is proposing, the FAA suggests that lights should be placed on each turbine positioned at each end of the line or string of turbines and high concentrations of lights shall be avoided.

The introduction of lighting on approximately 80 percent of the turbines, or between 24 to 32 turbines, would add more light in an area that currently contains very limited amounts of visible light. The FAA L-864 lights are of medium intensity and are the same lights that are required on radio and television towers that exceed 350 feet in height. The Pacheco State Park General Plan (California State Parks 2006) acknowledges the presence of wind turbines in the LE portion of the Park. The General Plan also notes that due to the limited amount of development in the immediate surrounding area, the Park is a popular location for stargazing. However, permitted year- round day use is limited to 8:00 a.m. to sunset and therefore, evening and nighttime use of the Park for activities including hiking and stargazing is currently unauthorized.

The red tint of obstruction lights installed on between 24 to 32 wind turbines on the Project site may be visible to nearby rural residences including four homes south of SR-152 and off Dinosaur Point Road. These homes are located within approximately one mile of the Project site's western boundary. As depicted in Figure 3.1-12, Key View 1, the majority of wind turbines on the Project site would be blocked from view at the Park day use parking area. While not included in the Key View 1 photograph, the four nearby homes off Dinosaur Point Road are located at a similar or lower elevation than Key View 1. Therefore, overall project visibility from these homes is anticipated to be similar to that expected at Key View 1. As such, the four homes are not anticipated to be provided direct line of sight views to obstruction lighting installed atop wind turbine nacelles. Rather, the red tint of lights would be visible low on the horizon and would not substantially effect nighttime views available at the nearest residences.

In addition to residences, the lights on the wind turbines would be visible to SR-152 motorists and select areas within the SRA Basalt Campground. While the nearest new wind turbines would be located within one mile, the majority of the 40 proposed wind turbines would be setback 2 miles or more from the state route. The nearest wind turbines would be setback over approximately 5.5 miles from the Basalt Campground and 4 miles from the SRA boat launch area. As previously stated, night lighting of wind turbines over 200 feet tall is a FAA requirement for increasing aircraft safety. The Project site currently contains limited nighttime lighting including FAA obstruction lighting on one existing wind turbine. Stationary and mobile sources of lighting occur outside the Park boundary on private property, on the SR-152 corridor near reservoir dam and near the Los Banos Substation.

Due to the presence of existing lighting in the landscape, the operation of medium-intensity lights synchronized to flash simultaneously atop 24 to 32 new wind turbines located between one and 5.5 miles from the nearest receptors would not substantially affect nighttime views. The lights would be visible from SR-152but would not be a distraction to drivers due to distance and regularly impeded views to new wind turbines because of road cuts. Distance and the dense planting of mature trees that effectively block the availability of longer distance views would limit visibility of lights atop new wind turbines at the Basalt Campground sites. Therefore, obstruction lighting would not substantially affect nighttime views from SR-152 or the Basalt Campground. Impacts would be **less than significant**.

Following the completion of construction, other new and familiar nighttime lighting sources would operate on the Project site. For example, exterior lights would be installed at the on-site project collector substations and O&M building. Newly installed building lighting would be kept to the minimum intensity required to ensure adequate lighting for staff to perform as-needed and/or emergency maintenance. The total amount of non-wind turbine related lighting operating on the Project site would be low and generally limited to the on-site substations and O&M facility. All non-wind turbine related lighting would be hooded, directed downward, and turned off when not required. Because new sources of nighttime lighting would be limited and facility lighting would be hooded, directed downwards, and turned off when not in use, facility lighting would not substantially affect nighttime views in the area. Impacts would be **less than significant**.

Glare

Consistent with FAA rules established in Advisory Circular 70/7460-1L: Obstruction Marking and Lighting, all turbine components (including towers, nacelles, and rotors) would be painted or finished using low-reflectivity, neutral white colors. Facilities including the project collector substation and O&M facility would be screened from view of motorists and other local receptors by intervening terrain and oak woodland vegetation. Regarding the New Transmission Line, the materials under consideration for support poles (i.e., steel) are displayed by electrical infrastructure in the existing landscape and are not typically considered highly reflective. Lastly, all outdoor night and building exterior lighting would be hooded, directed downward, and turned off when not required. Project components and operational facility lighting would not produce substantial glare that would adversely affect day or nighttime views in the area. Therefore, impacts would be **less than significant**.

Shadow Flicker

Shadow flicker refers to the alternative levels of lighting intensity produced when rotating blades cast shadows on nearby buildings and receptors. Shadow flicker may occur at sunrise or sunset where a wind turbine is installed near a residence or roadway. Proposed wind turbines would generally be setback from public roads outside of the Project site and from the nearest occupied residences. The nearest proposed wind turbine would be located approximately 675 feet south of Dinosaur Point Road and over 3,000 feet from residences located off Dinosaur Point Road and south of SR-152. While shadow flicker may be experienced by Dinosaur Point Road motorists as they navigate the noticeable curve in the road east of the Park entrance, the duration of received alternating lighting intensity would be brief (i.e., seconds) and exposure would be limited to sunrise and sunset hours. Further, atmospheric conditions effect the potential for shadow flicker as the presence of clouds and associated blocking of the sun tends to create faint/no shadows. In addition, blade angle relative to the receptor is an additional factor affecting shadow flicker. For example, if the plane of turbine blades is in a line between the receptor and the sun, the produced shadow should be thin and have a reduced impact compared to if the plane were perpendicular. The blade angle of the nearest turbines to Dinosaur Point Road may align perpendicular to the road; however, proposed wind turbines would bet setback over 675 feet from Dinosaur Point Road, therefore potential shadow flicker exposure would be brief and limited to sunrise and sunset hours. Thus, shadow flicker and associated impacts to daytime views would be **less than significant**.

Mitigation Measures

None required.

Cumulative Impacts

The geographic scope for the aesthetics cumulative analysis encompasses the Project viewshed. Cumulative impacts require the analysis of other projects located within the Project viewshed. Cumulative impacts are considerable if the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. With the exception of existing wind turbine development on the Project site, there is no comparable renewable energy development in the geographic study area or any other known past, present or future projects with the exception of the San Luis Reservoir and Dam and the Los Banos Substation, located to the east of the Project site.

3.1-5: The proposed Project could contribute to cumulative changes affecting a scenic resource, or to an existing viewshed and visual character of the area. Based on the analysis the Project's contribution would be less than significant.

The Los Banos Substation and regional electrical transmission infrastructure that interconnects to the substation has permanently altered views of the surrounding hilly landscape available to motorists on SR-152. In addition, construction and continued operation of the San Luis Dam has also noticeably modified the landscape and permanently altered the character of the visual environment in the Project Area. While noticeable, the visual effects of past and present projects have not resulted in a significant cumulative aesthetic impact. The visibility of these features is somewhat limited to the immediate area and are receptors (primarily motorists and other temporary viewers) are exposed to these effects of a short duration of time. In addition, as there is no comparable renewable energy development in the project viewshed and similarly scaled projects are not proposed in the viewshed, the Project would not combine with other projects to create a cumulative aesthetic impact related to visual character. Therefore, the Project would not contribute to an existing cumulative impact and the Project's contribution would not be considerable or **less than significant.**

Mitigation Measures

None required.

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3.2 BIOLOGICAL RESOURCES

Introduction

This section describes the existing biological resources associated with the Gonzaga Ridge Wind Repowering Project (Project or proposed Project); identifies the applicable regulatory framework; evaluates the potential impacts of the Project on biological resources; describes measures to avoid, minimize, and/or mitigate these impacts; and identifies the level of significance after mitigation. For the purposes of this section, the environmental setting discussion addresses the existing biological resources associated with the entire Project; i.e., Phases I and II. Impacts associated with Phase I are identified separately from those associated with Phase II when there are site-specific construction impacts associated with Phase I activities that would require mitigation separate from, and prior to, the Project at full buildout.

Only one comment letter regarding biological issues was received from the U.S. Fish and Wildlife Service (USFWS) in response to the Notice of Preparation (NOP). The comment letter recommended that the EIR include an analysis of the Project's potential impacts to San Joaquin kit fox (*Vulpes macrotis mutica*; a federally endangered species), California tiger salamander (*Ambystoma californiense*; a federally threatened species), California red-legged frog (*Rana draytonii*; a federally threatened species), and USFWS designated Critical Habitat for California red-legged frog. Potential impacts to these species are addressed below in Section 6.

Much of the baseline information used to prepare this section is based on several biological technical reports prepared for the Project included in Appendix D.

Environmental Setting

Pacheco State Park and Vicinity

As defined in the Project Description (Chapter 2), the "Project site" includes the 1,766-acre lease area within the Park boundaries within which the proposed wind turbines and associated infrastructure will be constructed. The turbines would be constructed and operated by Gonzaga Ridge Wind Farm, LLC (GRWF or Applicant). Pacheco State Park (Park) consists of 6,900 acres of former ranchland along State Route (SR) 152 known as Pacheco Pass, at the edge of the Diablo Mountain Range (see Figure 2.2 in Chapter 2) which is the easternmost chain of the central California Coast Range. Grazing, hiking, mountain biking and horseback riding occur within the Park (California State Parks 2006).

The Park, and much of the privately-owned land surrounding the Park to the north, west, and south, is largely undeveloped and is characterized by rolling to steep topography dominated by grassland and oak savanna with various-sized patches of oak woodland and scrub vegetation interspersed with intermittent and perennial drainages and associated riparian vegetation. Much of the surrounding area outside the Park is used as grazing land by private ranches. The land between the Park and the San Luis Reservoir State Recreation Area (SRA) to the east belongs to the Bureau of Reclamation (BOR) and is managed by the California Department of Parks and Recreation (CDPR).

Project Site and New Transmission Line Corridor

The Project site generally consists of moderate to steeply sloped hills supporting relatively undisturbed (and some disturbed in association with the existing wind farm) natural plant communities dominated by annual grassland and oak savanna but also including riparian and oak woodland, chaparral, sage scrub, ponds and wetlands, and creek drainages. Existing development within the Project site includes dirt roads, buildings, the existing 162 wind turbines, and several ponds (California State Parks 2006). Historically, grazing occurred throughout the Park and still occurs within the western 2,000 acres of the Park; however, grazing does not occur within the Project site. Elevations within the Project site range from 1,020 feet above mean sea level (amsl) to 1,530 feet amsl.

After exiting the Project site, the proposed new 70 kV high voltage transmission Line ("New Transmission Line") generally follows the southern and eastern boundaries of the San Luis Reservoir in areas generally characterized by oak savanna, patches of scrub vegetation, and grassland in gentle to moderately sloped topography. The area between the Reservoir and the Los Banos substation in which the New Transmission Line would occur is generally flat and dominated by open grassland and pastureland. Elevations along the New Transmission Line range from approximately 1,415 feet above mean sea level (amsl) at the western terminus to approximately 280 feet amsl at the eastern terminus. The combination of the Project site (inclusive of the existing transmission line and switchyard) and the New Transmission Line corridor is hereafter referred to as the Project Area. More detailed descriptions of the on-site vegetation communities and land cover types within the Project Area is provided further below.

The Project Area occurs within the Panoche-San Luis Reservoir watershed, as part of the San Joaquin River Basin, and runoff from the Project Area flows into San Luis Reservoir through San Luis Creek (USGS 2018). There are several unnamed National Hydrography Dataset (NHD) flow lines that run from the Project site and along the New Transmission Line into the San Luis Reservoir (USGS 2018). The three main tributaries within the Project site include Hidden Creek and two unnamed ephemeral drainages, all of which have been modified to include ponds occurring within the site.

The Project Area is in a semi-arid climate resembling that of the adjacent San Joaquin Valley, with daytime average temperatures ranging from approximately 80°F–100°F during the summer months and 45°F–65°F in the winter months. Evening and early morning temperatures are cooler due to the coastal marine fog that moves eastward across the Pacheco Pass. Average annual rainfall collected from the Pacheco Pass Station (046583) from 1949 through 1977 is approximately 12.77 inches per year (Western Regional Climate Center 2018).

Methods

This section describes the methods used to describe the existing biological resources associated with the proposed Project including the proposed New Transmission Line corridor. In particular, it includes a discussion of the various literature and databases that were compiled and reviewed as well as technical field studies conducted to identify and characterize various resources occurring or potentially occurring within the Project Area.

Literature Review

Special-status biological resources present or potentially present within the Project site were identified through an extensive literature search using the following sources: the U.S. Geological Survey National Hydrography Dataset (NHD; USGS 2018); USFWS (2018), CDFW California Natural Diversity Database (CNDDB) (CDFW 2018a, 2018c, 2018d), and the California Native Plant Society's (CNPS) Online Inventory of Rare and Endangered Vascular Plants (2018). The Web Soil Survey (USDA 2018a) was reviewed to identify potentially occurring special-status plants based upon known soil associations. Native plant community classifications used in this report follow a Manual of California Vegetation (Sawyer et al. 2009; CNPS 2018), the California Natural Community List (CDFW 2018a), and Appendix C: Pacheco State Park Vegetation Types of the Pacheco State Park General Plan Environmental Impact Report (California State Parks 2006), where applicable. The natural history and habitat requirements of bat species documented within the Project site was researched through literature review including Hermanson and O'Shea (1983), Zeiner et al. (1990b), Shump and Shump (1982), and Western Bat Working Group (2017). The literature review also included review of the data summarized in the Pacheco State Park General Plan Environmental Impact Report (California State Parks 2006) to describe pertinent pre-2006 conditions on the Project site.

Because the proposed Project site is within Pacheco State Park and within Merced County, the Pacheco State Park General Plan Environmental Impact Report (California State Parks 2006) and the Merced County General Plan (Merced County 2013) are applicable to the Project and were also reviewed.

Technical Biological Studies Conducted for this Project

A number of biological studies were conducted to characterize and map the existing vegetation communities within the Project Area, to identify common wildlife species occurring on the Project site, to determine the extent of use of the Project site by eagles and other raptors, small birds, and bats, and to determine the potential for various special-status plant and wildlife species to occur on or adjacent to the Project Area. The methods associated with the technical studies, summarized and described below, were presented to and discussed with both the California Department of Fish and Wildlife (CDFW) and USFWS at a meeting on November 8, 2017 (a list of additional meetings held with representatives from the CDFW and USFWS to discuss biological resource issues is provided further below). Because of their complexity, more detailed descriptions documenting the methods and results of the avian and bat surveys and assessments can be found in the Avian and Bat Studies Technical Report (Appendix D).

Vegetation Communities and Land Cover Type Characterization and Mapping

Characterization and mapping of vegetation communities and land cover types within the Project Area consisted of an initial "desktop" mapping effort through interpretation of existing aerial imagery that included the Project site as well as the New Transmission Line. The source of the imagery included the best available data from the National Agriculture Imagery Program (NAIP), which provides accurate and high-resolution imagery (USDA 2016). Vegetation specialists graphically digitized different vegetation communities and land cover types based on differing aerial signatures using spatial database technology (ArcGIS; ESRI 2012). Project-specific Geographic Information System (GIS) project files were created using ArcGIS software using drone aerial photography flown in late 2018 and early 2019, over the proposed New Transmission Line corridor including a 500-foot buffer around the New Transmission Line. Areas were reviewed in the office through desktop analysis using GIS software in ArcGIS. The New Transmission Line vegetation communities and land cover signatures and boundaries were reviewed, and changes or edits were digitized using ArcGIS tools.

Dudek biologists also conducted a field review of vegetation communities and land cover types within the Project site on November 15, 2017, to confirm and finalize the desktop mapping effort previously conducted. Because the specific alignment of the proposed New Transmission Line had not yet been finalized at the time, a field review of vegetation communities associated with the alignment was not conducted. However, the alignment was flown in December 2018 and early January 2019, with the use of an unmanned aerial vehicle (UAV; DJI M600 Pro) equipped with LiDar (light imaging, detection, and radar) and photographic imagery capabilities to map both topography as well as vegetation. The UAV was flown at less than 400 feet above ground between 7 and 10 meters per second; all data was captured in digital file format. Dudek biologists then downloaded the data to characterize and map vegetation communities within 250 feet on either side of the proposed New Transmission Line alignment.

The Project site field review consisted of visually surveying vegetation communities and land cover types on the site. Special consideration was given to the potential presence of unique vegetation communities such as scrubs, chaparral, and seasonal wetlands or seeps, and those vegetation communities that otherwise appeared cryptic on aerial imagery. In addition, the potential for on-site vegetation communities to provide habitat for special-status plant and/or wildlife species known to occur in the region was also noted and documented. During the field review, biologists utilized the desktop mapping via the Collector for ArcGIS application (ESRI 2017). Species composition data was collected for each of the vegetation communities and land cover types. Upon completion of the field mapping, Dudek GIS specialists incorporated all edits and notes into the GIS vegetation dataset for the Project for use in preparing maps and further data analysis.

Special-Status Plant Surveys

A survey for three special-status plant species was conducted on the Project site within habitat areas, primarily mesic grassland and chaparral communities, previously determined to potentially support these species. The survey was conducted on May 22 and 23, 2019, by qualified Dudek botanists and were conducted at a time of year when the target special-status plant species potentially occurring on the site would have been visible and identifiable. The survey was floristic in nature and consisted of walking meandering transects in areas of suitable habitat. The survey followed recommended methodology described in the California Native Plant Society's Botanical Survey Guidelines (CNPS 2001), the California Department of Fish and Wildlife's Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018), and the U.S. Fish and Wildlife Service's Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants (USFWS 2000).

Local reference populations for the target special-status species are primarily located on private land and were inaccessible. However, Hall's bush-mallow was observed from a vehicle blooming along the south side of SR 152, less than 5 miles north to northeast of the Project site. This population was not accessible on foot due to the limited width of road shoulders and areas for pedestrian- travel but the plants were close enough to the road edge to be confirmed to species. All botanical resources on the Project site were identified to a level necessary to determine rarity and botanical nomenclature follows the Jepson Manual: Vascular Plants of California, Second Edition (Baldwin et al. 2012) and The Jepson Online Interchange Project (CCH 2019).

Because the exact location of the proposed New Transmission Line west of the Los Banos substation, including placement of transmission towers, access roads, and staging and laydown areas, had not been confirmed at the time the surveys were conducted on the Project site, and because development of the New Transmission Line will occur as part of Phase II and the accuracy of surveys would be better served being conducted in the blooming period prior to development to determine presence/absence, focused surveys along the proposed New Transmission Line corridor were not conducted. However, as described further below, such surveys will be conducted during the blooming period prior to ground disturbance within habitat areas along the finalized corridor. The rare plant survey report is located in Appendix D.

Project Site Wetland Delineation

A jurisdictional delineation of the Project site was conducted on May 22 and 23, 2019, and at the Los Banos Substation on May 22 where the New Transmission Line would tie into the substation, by two qualified Dudek wetlands biologists. The purpose of these delineations was to characterize and map wetland/aquatic areas potentially under the jurisdiction of the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the federal Clean Water Act (CWA), under California Department of Fish and Wildlife (CDFW) jurisdiction, pursuant to Section 1600 of the California Fish and Game Code, and/or under the state Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the federal CWA.

Potentially jurisdictional features were delineated based on methodology described in the 1987 Corps of Engineers Wetlands Delineation Manual (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (ACOE 2008). Non-wetland waters of the United States are delineated based on the presence of an ordinary high water mark (OHWM), as determined using the methodology in *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (ACOE 2010). All features potentially under the jurisdiction of the USACE (subject to final verification by the USACE if a Section 404 permit is needed) and/or the CDFW were mapped and acreages of jurisdiction calculated.

Prior to the field work, Dudek biologists reviewed the following available resources:

- 1:200-scale aerial photograph (Google Earth 2019)
- Historic aerial photographs (Historicaerials.com 2019)
- U.S. Geological Survey 7.5-minute topographic quadrangle (USGS 2019)
- U.S. Department of Agriculture Natural Resources Conservation Services Web Soil Survey (USDA 2019a)
- National Wetland Inventory (USFWS 2019)

A formal jurisdictional delineation was not conducted associated with the New Transmission Line (other than at the junction of the line at the PG&E substation west of Los Banos) because since the line is part of Phase II of the Project, the location of transmission towers, staging and laydown areas, and access roads have not yet been finalized. Once this is done, a jurisdictional delineation will be conducted within and adjacent to the proposed transmission corridor.

See Appendix D for a more complete description of the methods and results of the wetland delineations described herein.

General Avian Studies

To provide a basis from which to determine potential collision risk of the repowered turbines on avian species, qualified Dudek biologists conducted 30-minute avian point counts (Ralph et al. 1993; Morrison 1998; CEC and CDFG 2007) from nine fixed points within the Project site to document bird use, behavior, and movement patterns (Figure 3.2-1). Surveys were conducted throughout the day, beginning from one-half hour after sunrise to one hour before sunset, to capture the movement of species within varying activity periods. Point counts were conducted weekly beginning October 7, 2017, and ending October 3, 2018, and every other week during subsequent surveys in November and December 2018, and January through September, 2019. Observers rotated the starting survey location every field visit. During the first 10 minutes of the survey at each location, the biologist focused on recording occurrences and activities of small birds (less than 10 inches [25 centimeters] in length) within 328 feet (100 meters) of the fixed observation point. During the remaining 20 minutes, the biologist focused on recording occurrences and activities of medium to large birds (greater than 10 inches [25 centimeters] long) within 2,625 feet (800 meters) of the fixed observation point.

Data on raptor species, including eagles, were collected throughout the 30-minute point count within a 2,625-foot (800-meter) radius of the fixed observation point. To the extent possible, the biologist collected data on raptors detected beyond the 2,625-foot (800-meter) radius. The nine point count locations were primarily along ridgelines at the locations of proposed new wind turbines, at a density that would minimize overlap of the 2,625-foot (800-meter) point count radius, minimize repeat detections, and adequately subsample the Project site and immediate vicinity, thus maintaining coverage across the anticipated wind turbine area.

Because the rotor swept zone (RSZ) of a turbine (e.g., the area in space encompassed by spinning rotor blades at a given rotor diameter), is the primary source of avian (and bat) collisions, specific information was collected during the avian point counts on the height above ground for observed avian flights. For the purposes of avian collision risk analysis in this EIR, the maximum and minimum height above the ground of the RSZ for the proposed turbines is referred to the as the rotor diameter above ground (RDAG).

The Project would consist of up to 40 wind turbines (Figure 2-3, Project Site and Facilities Map in Chapter 2, Project Description) with up to 9 turbines associated with Phase I and the remainder associated with Phase II. Because of the dynamic nature of wind energy technology development, the actual make, model, size and specifications of the turbines selected for the proposed Project will be determined closer to the start of construction. Therefore, and for purposes of the impact analysis considered in this section, a range of turbine types to capture the envelope of potential impacts representing the smallest and largest machines that GRWF would use for the Project is analyzed. The use of the smallest and largest turbine parameters provides an impact envelope that identifies possible turbine heights, rotor diameters, and rotor swept areas that are used in the resource impact analyses. Figure 3.2-2 provides an illustration of four turbine models under consideration that span the range of tip heights, ground clearance, and rotor diameters potentially installed on the Project site.

Eagle Studies

Point Counts

As noted above, the avian point counts included collecting data on eagles throughout the 30-minute point count period within a 2,625-foot (800-meter) radius of the fixed observation point. The data collected information on time and duration of an observed eagle within the 800m radius, sex and age class where possible, activity behavior, flight height above ground (including maximum and minimum height levels), and flight direction and paths.

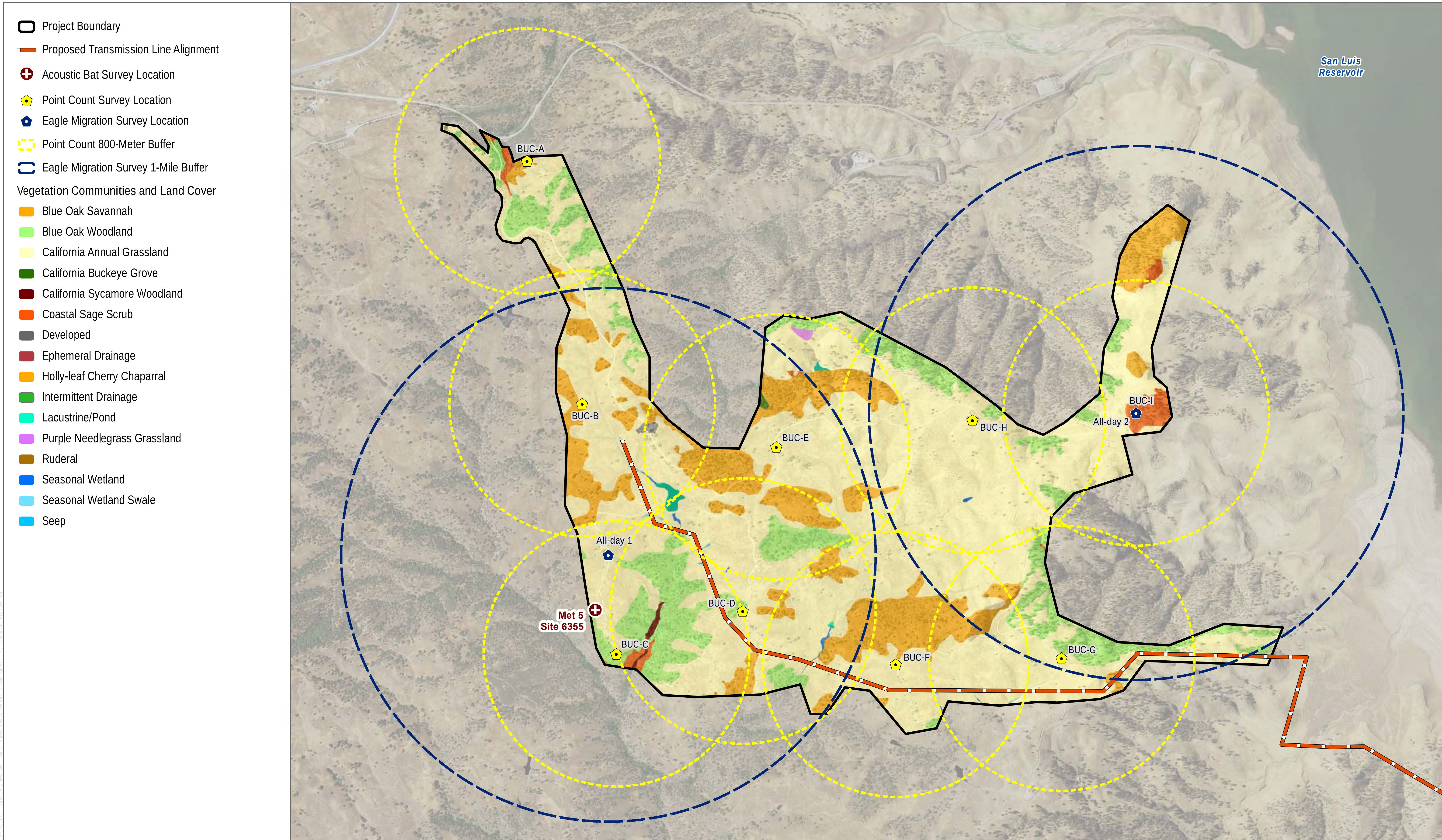
Migration Counts

In addition to the point counts described above, Dudek performed all-day eagle point count surveys at two locations (shown on Figure 3.2-1) to obtain data on golden eagle (*Aquila chrysaetos*) and bald eagle (*Haliaeetus leucocephalus*) use of the Project site and vicinity during spring and fall migration periods. The two all-day count locations were established at opposite ends of the Project site, with one on the eastern edge of the site and one on the western edge. Each was at a prominent location atop a hill providing expansive views of the surrounding area. From these locations, observers could identify and follow the activities of golden eagles up to a mile away, together covering approximately 6.3 square miles of the Project site and vicinity. While the focus of these all-day surveys was to collect data on golden eagles, information on other raptor species observed during this time was also collected. Surveying in one location for an entire day maximizes the potential for observations of golden eagles, thereby permitting detailed analysis of eagle use within the Project site and immediate vicinity.

All-day eagle point counts were conducted weekly between October 1 and November 30, 2017, between March 1 and April 30, 2018, and between October 15 and December 8, 2018, to collect data on potential use of the Project site and immediate vicinity by golden eagles during fall and spring migrations. See Section 3.1.2 in Appendix D for more details on survey methodology.

Nest Territory Surveys

During the spring of 2018, Dudek conducted eagle territory/nest surveys using several methodologies consistent with an ongoing U.S. Geological Survey eagle study within the northern Diablo Mountains (Wiens et al. 2014). This study focused on detection of territorial golden eagle pairs within a sample of equal-sized, hexagonal study plots. For the proposed Project, the survey area included the existing wind farm and all suitable eagle nesting habitat within 10 miles of the site, as shown on Figure 3.2-3. The 10-mile survey buffer is based on requirements of the USFWS Eagle Conservation Plan Guidance for wind energy projects (USFWS 2013).



SOURCE: USDA 2016

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FIGURE 3.2-1

Point Count Survey Locations

Biological Resources for the Gonzaga Ridge Wind Project

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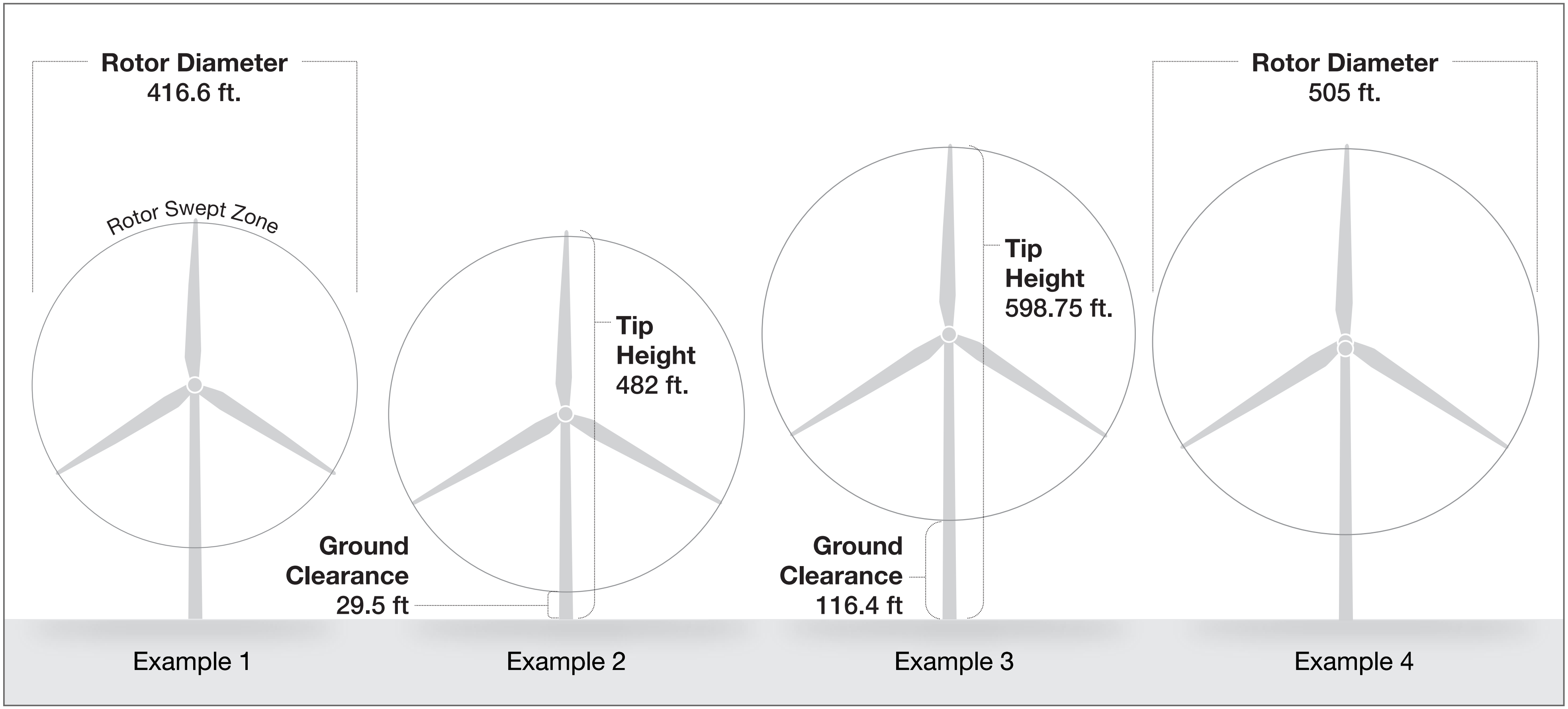

Note: Diagram shows representative Turbine Models under consideration

SOURCE: General Electric 2017

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FIGURE 3.2-2

Representative Turbines

Gonzaga Ridge Wind Repowering Project

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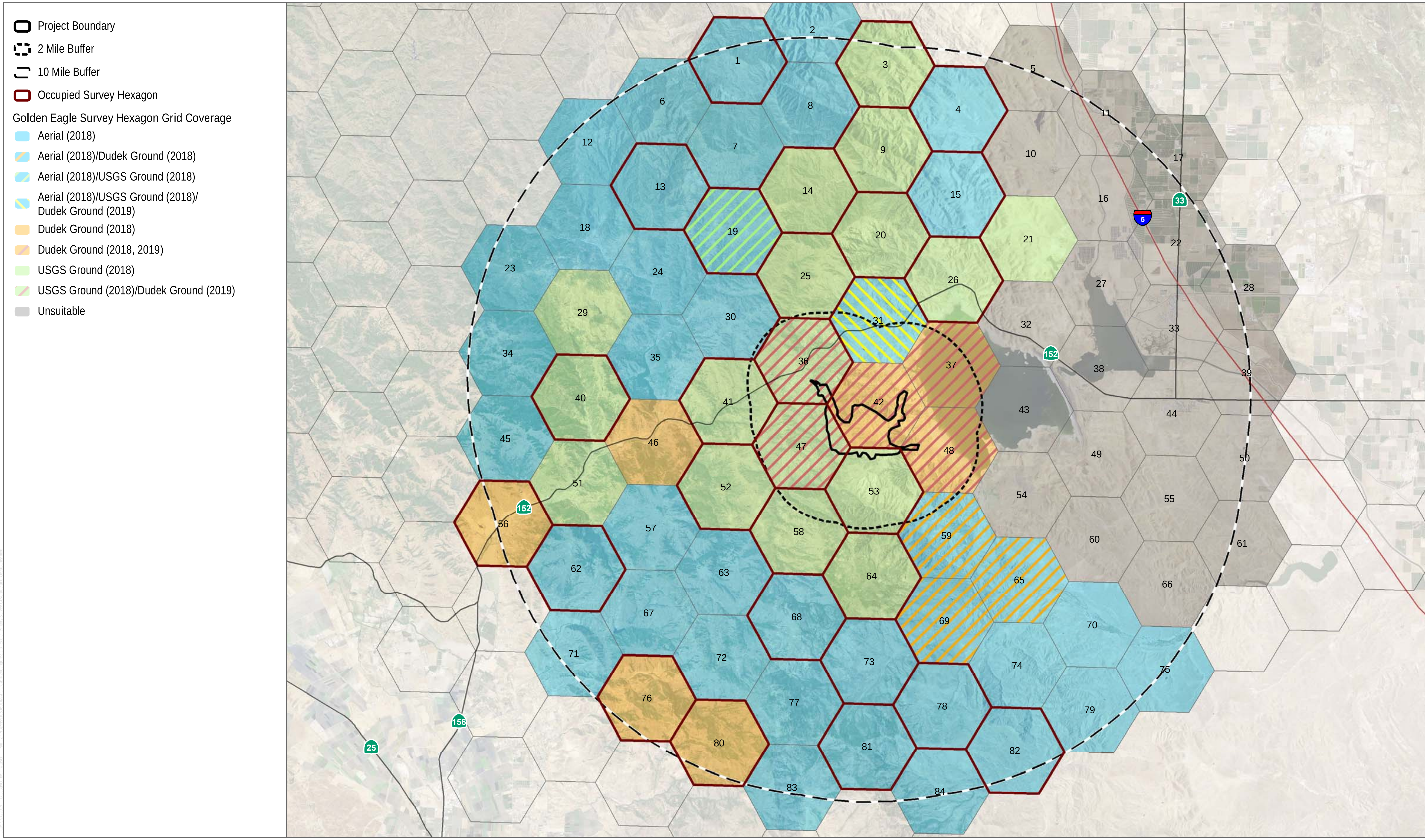

SOURCE: USDA 2016

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FIGURE 3.2-3

Eagle Cumulative Territory Survey Coverage

Biological Resources for the Gonzaga Ridge Wind Project

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In areas that were publicly accessible or where Dudek obtained access, Dudek conducted ground surveys within hexagons overlaying the study area (Figure 3.2-3). Observation points were located at pre-selected locations on ridges and hilltops providing the maximum coverage of the hexagonal survey cell. Surveys were conducted during the nesting season (January to July) for golden eagles in this region and during identified survey periods as established by Wiens et al. Additional ground surveys were conducted in the spring of 2019 covering only the hexagon plots within 2 miles of the Project site.

Because of the issues associated with access to private lands within the 10-mile survey radius, an aerial helicopter survey was conducted during the second survey period (March 1 to April 30) of selected study cells between 2 and 10 miles from the site. The helicopter flew directly to the hexagon framework where the observers searched for signs of active nesting by golden eagles. In addition, the team intensively searched other suitable nesting cliffs in the study area.

While biologists for both the ground and aerial surveys searched for nest structures when possible, the focus of the surveys was to search for golden eagle pairs within each hexagon plot that exhibited behavior indicative of a nest territory within that plot. Active territories were noted when paired eagles were observed indicating such behavior. See Section 3.1.3 in Appendix D for more details on survey methodology.

Bat Surveys

To provide a basis from which to determine potential collision risk of the repowered turbines on bat species, Dudek biologists conducted passive acoustic bat surveys within the Project site to determine general bat presence, activity levels, and species composition. Monitoring was conducted February through October 2018, covering peak activity season for bats (i.e., March through October).

Dudek utilized Anabat II zero-crossing ultrasonic detectors and compact flash drive (CF)-zero crossings analysis interface module (ZCAIM) storage units. Two units were programmed to record bat calls each day from one half-hour before sunset to one half-hour after sunrise each day of the study. Monitoring units were installed on an existing meteorological or MET tower on the Project site (Figure 3.2-1). The MET tower included two monitoring units equipped with microphones, one at a height on the tower representative of the estimated rotor swept zone of the new turbines, and one nearer ground level where bats often forage. The MET tower was chosen based on topography and vegetative communities and therefore potentially a high probability for detections. The data from the two units were periodically downloaded in the field by Dudek biologists and all the data was ultimately compiled and analyzed to determine bat use of the area. Acoustic call data was analyzed using the Anabat analysis program Analook and summarized by detector, detector night, and season. The data was also categorized by bat species and guild. See Section 4.1 in Appendix D for more details on bat surveys.

California Condor Assessment

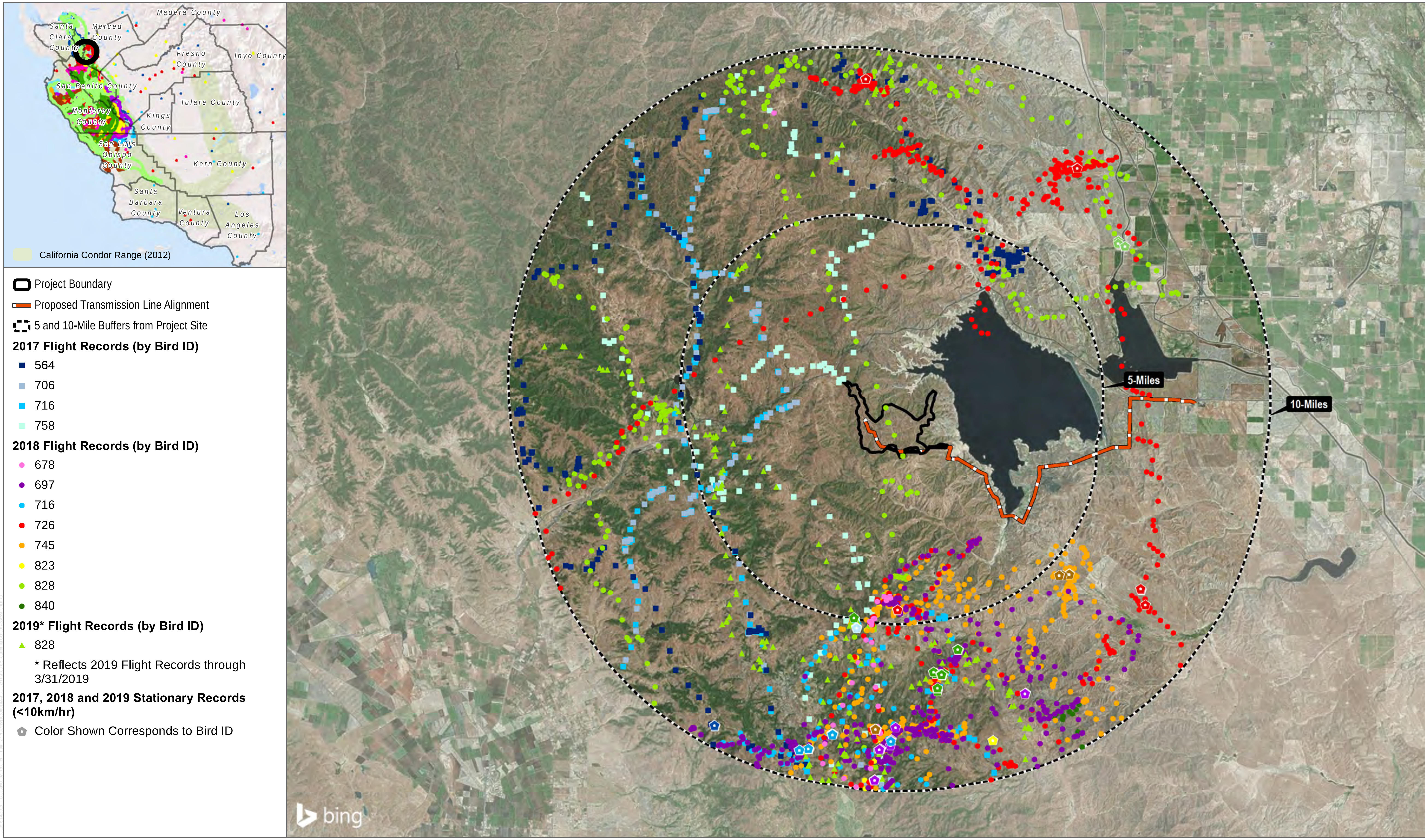
To identify and characterize potential California condor use of the Project site and/or surrounding region, Dudek compiled and reviewed the USFWS/USGS database that depicts, on KMZ-based maps, the daily flight paths of condors outfitted with GPS/GSM radio transmitters. The northern California breeding population of condors is centered in Pinnacles National Park approximately 50 miles southwest of the Project site. Approximately 65 percent of the free-flying condors in this population are outfitted with radio transmitters. Historical data from January 2017 through to March 31, 2019, was reviewed and evaluated and any condors (and their flight paths) flying within 10 miles of the Project site were mapped (Figure 3.2-4). In addition, any anecdotal observations of condors during any of the biological surveys described above were also compiled and mapped. See Section 5.1 in Appendix D for more details.

PG&E Site Assessment

Dudek biologists conducted a biological site assessment on May 22, 2019, at the PG&E substation west of Los Banos. The portion of the substation in which the assessment was conducted ("project site") consisted of an approximately 3,600-foot long, 100-foot-wide corridor in the northern portion of the substation within which the proposed New Transmission Line would tie into the substation. The biological site assessment included searches for any sign or evidence of special-status wildlife species (those species considered rare, threatened, or endangered by state and/or federal resource agencies) known to occur in the region, including western burrowing owl (*Athene cunicularia*), San Joaquin kit fox (*Vulpes macrotis mutica*), and American badger (*Taxidea taxus*). Suitable habitat for each of these species occurs on the site. Searches for special-status plant species were also conducted.

The assessment was conducted on foot and included a visual survey of the project site and the immediate surrounding area. Native and naturalized plant and wildlife species encountered on the project site were identified and recorded. Sensitive biological resources were mapped in the field using a combination of a mobile georeferenced map and a Trimble Geo 7X Global Positioning System (GPS) unit. Dudek Global Information Systems (GIS) specialists then mapped observed and documented biological and wetland resources on aerial imagery and provided figures using ArcGIS software.

The site was also delineated for wetlands and other aquatic habitat potentially subject to the jurisdiction of state and federal resource agencies. Potential wetlands or waters of the U.S. were delineated based on the same methodology described above for the Project site.



SOURCE: USFWS 2018

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0 7,000 14,000 Feet

FIGURE 3.2-4

California Condor Assessment

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Siting Constraints and Micro-Siting

On February 13 and 14, 2019, Dudek biologists conducted several surveys within the Project site to identify potential biological constraints to the siting of the up to 40 proposed turbines proposed for the Project. All proposed turbine sites, including anticipated ground disturbance areas associated with each turbine location, were visited by two biologists. At each proposed turbine location, the following assessment with respect to biological resources was made: the presence of any raptor nests; suitability of habitat for special-status plants; and the presence of any sensitive habitat features such as wetlands, streams, or recognized sensitive terrestrial vegetation communities. Any resources identified as potential constraints to the siting of the turbines was characterized, recorded, and mapped and the turbines were sited accordingly to minimize impacts on these resources.

Resource Agency Coordination History

Several meetings were held with representatives from the CDFW and the USFWS to brief the agencies on the overall Project, summarize and obtain feedback on the data collection methods described above, review (at later meetings) the initial results of the biological surveys conducted, and to obtain feedback and input on the overall approach to biological issues, potential permitting, and documentation. A brief summary of this coordination is presented below.

Agency Meetings

October 25, 2017	Meeting with Heather Beeler (Eagle Coordinator with USFWS) and Thomas Leeman (Deputy Chief, Migratory Birds Division) at USFWS regional headquarters in Sacramento to introduce the Project, discuss special-status species issues, and approach to data collection regarding eagle use of the Project site.
November 8, 2017	On-site meeting with CDFW (Lisa Gymer) and USFWS (Heather Beeler, Thomas Leeman) to provide an overview and tour of the repower Project and to present the biological resources study plan for review and input.
December 21, 2017	On-site meeting with Justin Sloan (USFWS biologist) at the turbine site and California State Parks (CDPR) staff to provide overview of the proposed Project and to discuss potential special-status species issues.
March 6, 2018	Conference call with Heather Beeler (USFWS) to discuss status of data collection regarding eagle use of the Project site.

August 29, 2018 Meeting with Heather Beeler and Thomas Leeman to discuss the results to date of ongoing data collection regarding eagle use at the Project site, the potential for additional data to be collected, and next steps.

August 30, 2018 On-site meeting with Justin Sloan, USFWS biologist, to discuss the potential for San Joaquin kit fox to occur within the easternmost areas potentially impacted by the proposed New Transmission Line.

Meetings were also held with the California Wildlife Foundation (10-11-18, 06-26-19) and the National Audubon Society (11-9-18, 06-26-19) to provide an overview of the Project, summarize biological studies being conducted and to be conducted and approaches expected to be utilized to minimize impacts on biological resources, and to obtain input and feedback on the Project and technical studies.

Biological Resources within the Project Area

The following describes the existing biological conditions of the Project site as well as the associated with the proposed New Transmission Line based on the literature and database reviews and on the various technical studies conducted, as described above.

Vegetation Communities and Land Cover Types

Twelve vegetation communities and two anthropogenic land cover types were identified within the Project site, which are summarized in Table 3.2-1. Six vegetation communities and two anthropogenic land cover types were identified within the 500-foot buffer along the New Transmission Line, which are summarized in Table 3.2-2. Each of these communities and land cover types are described further below. See Figures 3.2-5 and 3.2-6 that depict the vegetation communities and land cover types within the Project Area.

Table 3.2-1
Vegetation Communities and Land Cover Types within the Project Site

Macrogroup	Scientific Name	Acres	% of Site
Vegetation Communities			
California Coastal Scrub	*Artemisia californica* (California sage brush scrub)	21.97	1.20
California Chaparral	*Prunus ilicifolia* (Holly leaf cherry chaparral)	7.09	0.40
California Forest and Woodland	*Quercus douglasii* (Blue oak woodland)	242.67	13.74
	Quercus douglasii/Bromus spp. – *Daucus pusillus* (Blue oak savanna)	270.32	15.30
	Aesculus californica (California buckeye groves)	0.88	0.06
Southwestern North American Riparian, Flooded and Swamp Forest	*Platanus racemosa* (California Sycamore Woodland)	2.53	0.14

Table 3.2-1
Vegetation Communities and Land Cover Types within the Project Site

Macrogroup	Scientific Name	Acres	% of Site
California Annual and Perennial Grassland	*Nassella pulchra* (Purple needle grass grassland)	1.52	0.09
	Bromus diandrus–Avena spp. (California annual grassland)	1,210.22	68.52
Aquatic	Seasonal Wetland	1.37	0.09
	Seasonal Wetland Swale	1.30	0.07
	Pond/Lacustrine	3.92	0.22
	Ephemeral/Intermittent Drainage	0.22	0.02
Anthropogenic Land Cover	Ruderal	0.35	0.03
	Developed	2.02	0.12
	Total[1]	1,766.38	100%

Notes:
[1] Totals may not sum due to rounding.
Sources: CDFW2018b; Sawyer et al. 2009; CNPS 2018b.

Table 3.2-2
Vegetation Communities and Land Cover Types within the New Transmission Line Corridor and 500-foot Buffer Area

Macrogroup	Scientific Name	Acres	% of Site
California Coastal Scrub	*Artemisia californica* (California sage brush scrub)	1.24	0.16
California Forest and Woodland	*Quercus douglasii* (Blue oak woodland)	36.44	4.62
	Quercus douglasii/Bromus spp. – *Daucus pusillus* (Blue oak savanna)	7.66	0.97
California Annual and Perennial Grassland	*Bromus diandrus–Avena* spp. (California annual grassland)	655.35	83.05
Aquatic	Seasonal Wetland	3.10	0.39
	Pond/Lacustrine	42.29	5.36
Anthropogenic Land Cover	Ruderal	7.07	0.89
	Developed	35.97	4.56
	Total[1]	789.12	100%

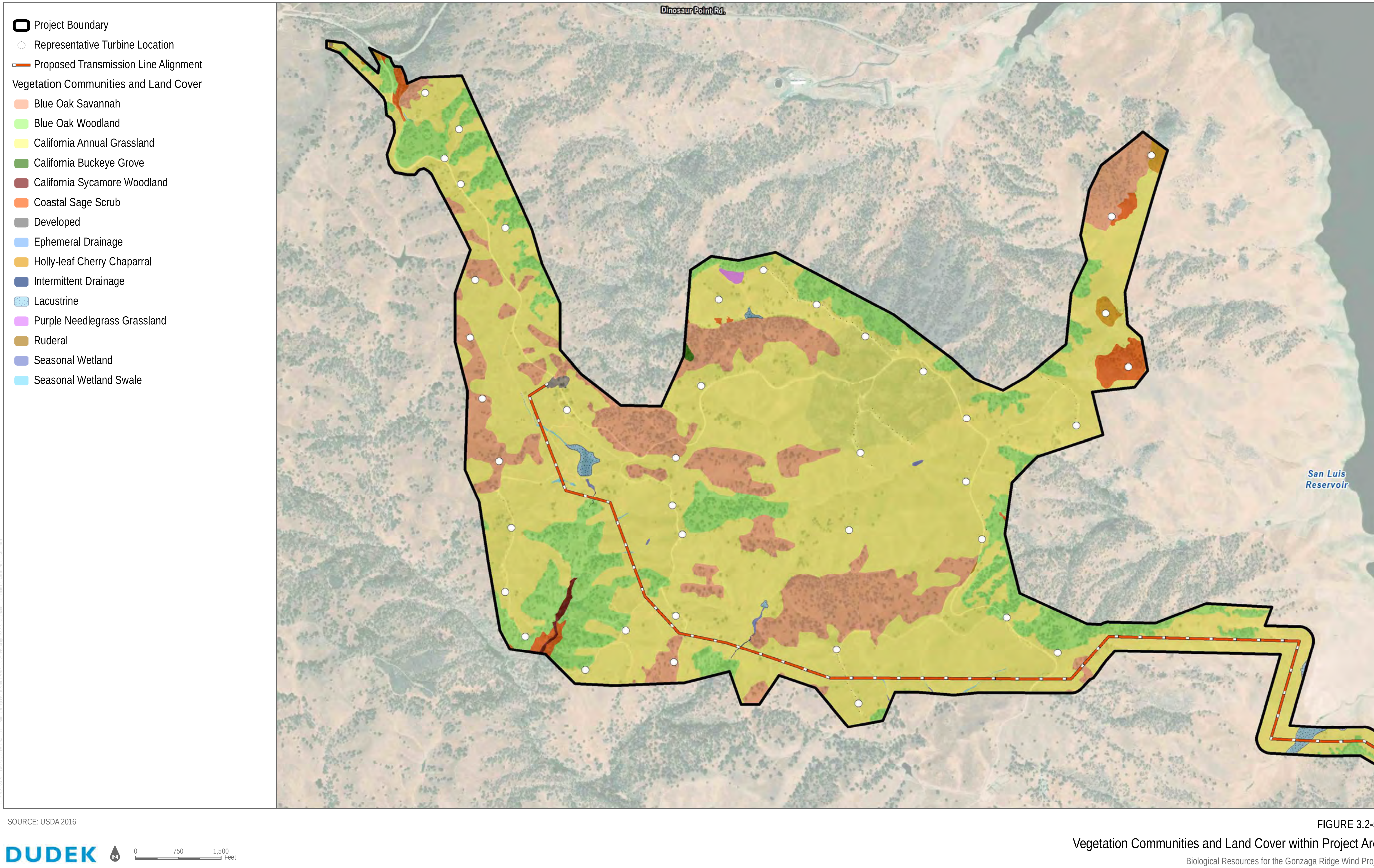
Notes:
[1] Totals may not sum due to rounding.
Sources: CDFW2018b; Sawyer et al. 2009; CNPS 2018b.

Described below is a summary of each vegetation community found within the Project Area. Some of these vegetation communities are recognized as sensitive on the California Natural Community List (CDFW 2018a) and are discussed in more detail in the Sensitive Biological Resources section below.

Vegetation Communities

California Sage Brush Scrub

California sage brush scrub is described by Sawyer et al. (2009) and includes California sagebrush (*Artemisia californica*) as the sole or dominant shrub in the canopy. California sagebrush scrub has a continuous or intermittent shrub canopy less than 2 meters (7 feet) in height with a variable ground layer (Sawyer et al. 2009) and typically occurs on steep, south-facing slopes and at times, though rarely, occurs on flooded low-gradient deposits along streams.



SOURCE: USDA 2016

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FIGURE 3.2-5A

Vegetation Communities and Land Cover within Project Area

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Project Boundary
Representative Turbine Location
Proposed Transmission Line Alignment
Vegetation Communities and Land Cover
Blue Oak Savannah
Blue Oak Woodland
California Annual Grassland
Coastal Sage Scrub
Developed
Lacustrine
Ruderal
Seasonal Wetland

SOURCE: USDA 2016

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0 750 1,500 Feet

FIGURE 3.2-5B

Vegetation Communities and Land Cover within Project Area

Biological Resources for the Gonzaga Ridge Wind Project

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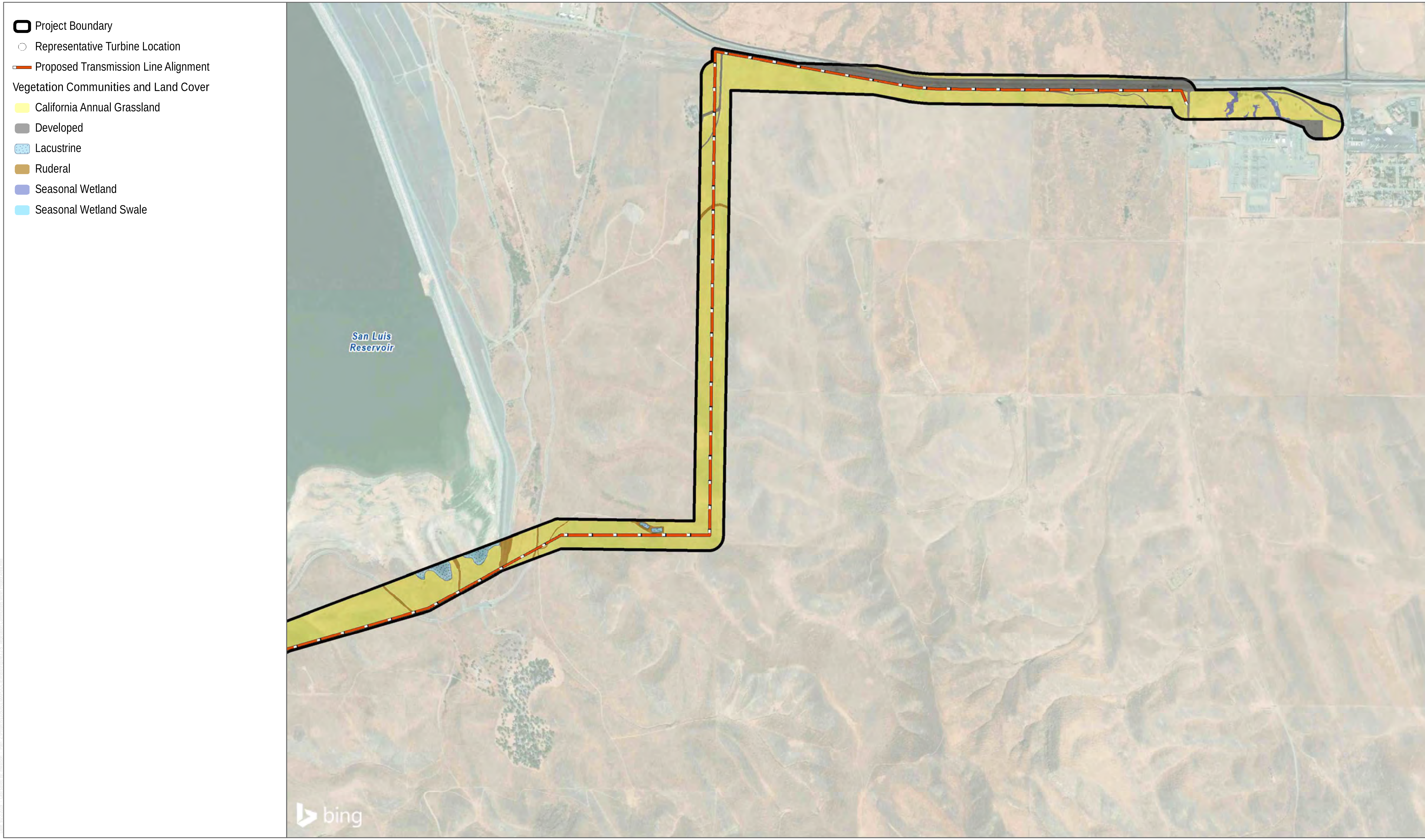

SOURCE: USDA 2016

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FIGURE 3.2-5C

Vegetation Communities and Land Cover within Project Area

Biological Resources for the Gonzaga Ridge Wind Project

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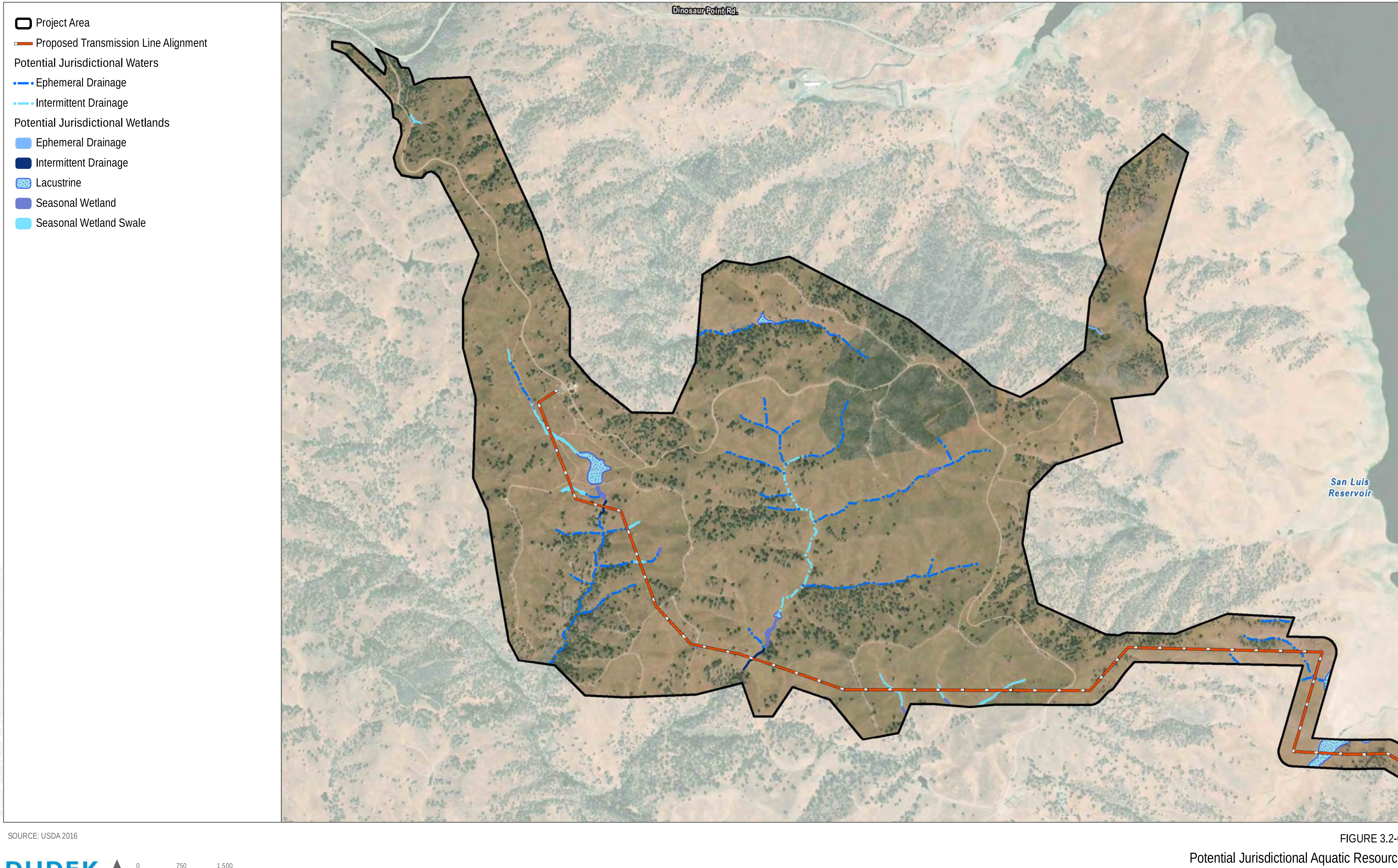

SOURCE: USDA 2016

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FIGURE 3.2-6A

Potential Jurisdictional Aquatic Resources

Biological Resources for the Gonzaga Ridge Wind Project

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SOURCE: USDA 2016

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FIGURE 3.2-6B

Potential Jurisdictional Aquatic Resources

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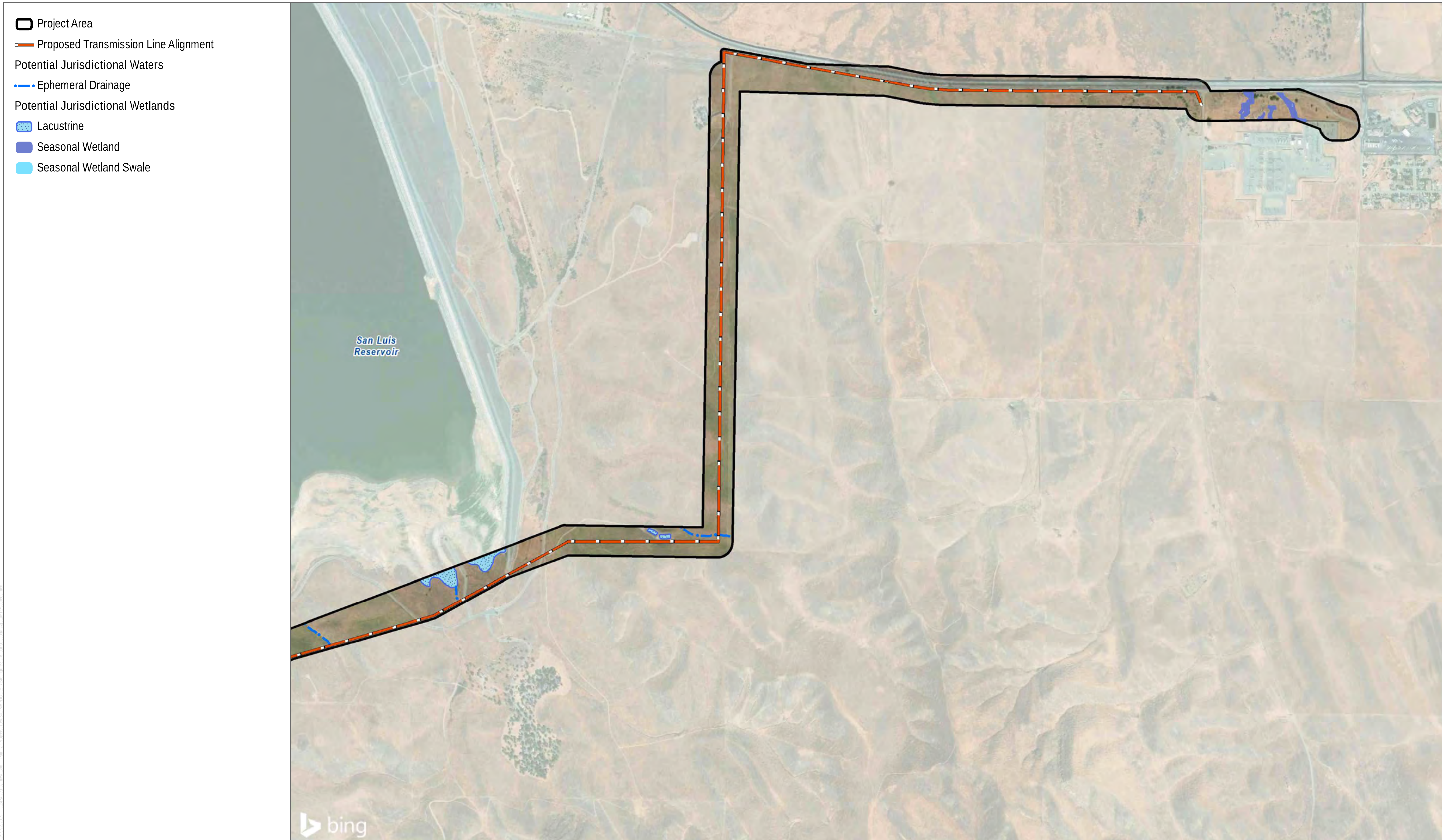

SOURCE: USDA 2016

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0 750 1,500 Feet

FIGURE 3.2-6C

Potential Jurisdictional Aquatic Resources

Biological Resources for the Gonzaga Ridge Wind Project

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On site, the California sage brush scrub forms an intermittent to dense shrub layer. The herbaceous layer is limited to openings and is poorly developed in established stands. Trees are occasionally present at lower levels of slopes. The on-site alliance is dominated by California sage brush and contains occasional coyote brush, deerweed, and California buckwheat (*Eriogonum fasciculatum*). The tree layer is emergent, open, occasional, and predominantly includes blue oak (*Quercus douglasii*). This vegetation community occurs on steeper slopes throughout the Project Area.

Holly Leaf Cherry Chaparral

Holly leaf cherry chaparral includes holly leaf cherry (*Prunus ilicifolia*) as the dominant or co-dominant shrub in the canopy. Holly leaf cherry chaparral has an open to continuous shrub canopy less than 15 meters (49 feet) in height with a sparse to continuous herbaceous layer (Sawyer et al. 2009) and typically occurs on steep, north-facing slopes.

On site, the holly leaf cherry chaparral forms an intermittent shrub layer dominated by holly leaf cherry. The community on-site is isolated and the herbaceous layer is generally poorly developed; a number of holly leaf cherry shrubs were in poor health with a high degree of vegetation dieback. The soils associated with this community are loose and highly erodible. Trees are occasionally present and consist primarily of blue oak. This vegetation community is located in isolated north-facing portions of hillslopes in the northern portion of the Project site and in one area centrally located along the New Transmission Line. Holly leaf cherry chaparral occurs within the Project site but not along the New Transmission Line.

Blue Oak Woodland

Blue oak woodland communities include blue oak as the dominant or co-dominant tree in the canopy and have an intermittent to continuous tree canopy less than 20 meters (66 feet) in height with a sparse to intermittent shrub layer. Blue oak woodlands typically occur on valley bottoms, foothills, and rocky outcrops.

Blue oak woodlands occur within the Project site and along the New Transmission Line. The woodlands form an open to intermittent tree layer with a sparse shrub layer. The herbaceous layer is consistent with adjacent California annual grasslands, as described in further detail, below. The on-site alliance is dominated by blue oak, with sporadic gray pine intermixed where this community occurs on higher elevation slopes. The blue oak woodlands are located primarily on hillslopes throughout the Project Area.

Blue Oak Savanna

This association is described by Sawyer et al. under the blue oak woodland alliance, as described above (2009). Blue oak savanna is similar to blue oak woodland with the exception of the total cover of the tree canopy; the tree cover in blue oak savanna is intermittent to sparse, with large open areas of grassland interspersed. The blue oak savannas generally occur on valley bottoms and gently sloping hillsides.

Blue oak savanna occurs within the Project site and along the New Transmission Line. The on-site blue oak savanna contains only blue oak in the tree canopy and shrubs are largely absent. The understory consists of California annual grassland, as described below, with the addition of increased cover of non-native Italian thistle (*Carduus pycnocephalus*), barbed goat grass (*Aegelops triuncalis*), and wild carrot (*Daucus pusillus*). This vegetation community shows evidence of past and current cattle grazing and the thatch of previous years' grass growth is thick.

California Buckeye Grove

California buckeye grove communities include California buckeye as the dominant or co-dominant tree in the canopy and have an open to continuous one or two-tiered tree canopy less than 10 meters (33 feet) in height with a variable shrub and herbaceous layers (Sawyer et al. 2009). The California buckeye grove community typically occurs on varied slopes and topography.

A single small California buckeye grove occur on the Project site and forms an open to intermittent shrub layer. The herbaceous layer is limited to openings and is generally poorly developed in established stands. Trees are occasionally present. The on-site alliance is dominated by California buckeye with the occasional blue oak tree interspersed. The shrub layer includes California sagebrush and poison oak. The California buckeye grove on-site is limited to a north-facing slope in the northern portion of the Project site. There are no California buckeye groves occurring along the New Transmission Line.

California Sycamore Woodland

California sycamore woodland alliance communities include California sycamore (*Platanus racemosa*) as the dominant or co-dominant tree in the canopy which is less than 35 meters (115 feet) in height with a variable shrub layer and sparse or grassy herbaceous layer (Sawyer et al. 2009). The California sycamore woodland often occurs in gullies or along streams, springs, seeps, and associated terraces where floodplains are subject to high-intensity flooding.

Within the Project site, California sycamore woodland forms an open to intermittent tree layer dominated by California sycamore in association with coast live oak. The shrub layer is sparse and contains poison oak and California sagebrush. The herbaceous layer is grassy and contains similar species as those described in the California annual grassland, below. The California sycamore woodland is limited to a single, deeply incised stream channel in the southwestern portion of the Project site. There is no California sycamore woodland occurring along the New Transmission Line.

Purple Needle Grass Grassland

Purple needle grass grassland contains purple needle grass (*Stipa pulchra*), foothill needle grass (*Stipa lepida*), or nodding needle grass (*Stipa cernua*), or melic grass (*Melica californica*) along with other perennial grasses and herbs in the herbaceous layer which has a continuous herbaceous layer less than 1 meter (3 feet) in height (Sawyer et al. 2009). The purple needle grass grassland occurs on various topography and soils.

Within the Project site, the small patches of purple needle grass form an open grass canopy with approximately 15 percent absolute cover in association with other grasses such as wild oat (*Avena fatua*) and bromes (*Bromus* spp.). The shrub and tree layer is absent from this vegetation community. This vegetation community is located in an isolated patch on a south-facing hillslope in the northern portion of the Project site. There is no purple needle grass grassland occurring along the New Transmission Line.

California Annual Grassland

The California annual grassland alliance includes wild oat (Avena spp.), dominant or co-dominant in the herbaceous layer, which is open to continuous and less than 1.2 meters (4 feet) in height (Sawyer et al. 2009). California annual grassland occurs in waste places, rangelands, and openings in woodlands throughout northern California.

California annual grassland is co-dominated by wild oat, ripgut brome (*Bromus diandrus*), and soft chess (*Bromus hordeaceus*). Additional grasses include barbed goat grass, purple needle grass, rattail fescue (*Festuca myuros*), and Italian ryegrass (*Festuca perennis*). Forbs present in this vegetation community include soaproot (*Chloragalum pomeridianum*), California poppy, and Italian thistle. The shrub and tree layer is absent from this vegetation community. This vegetation community is located throughout the Project Area and is actively grazed by cattle along the New Transmission Line corridor. California annual grassland occurs throughout the Project site and along the New Transmission Line.

Seasonal Wetlands and Seasonal Wetland Swales

The amount and duration of standing water present in seasonal wetlands (typically shallow depressions in the ground) vary and are strong factors in determining the vegetative cover and plant species present in such features. Rainfall, groundwater, soil composition, and topography can all contribute to the seasonal saturation associated with seasonal wetlands. These features are generally wet during the rainy season and for a time into the subsequent dry season before drying completely in the summer or fall. Seasonal wetland swales have similar characteristics as seasonal wetlands but are typically more linear and often meandering in nature and are often associated with seasonal stream channels.

On-site, seasonal wetlands and swales are primarily within topographical depressions where rainwater runoff from adjacent hillslopes settles for periods of sufficient duration to facilitate wetland plant growth. Plants in these wetlands include Italian ryegrass and rushes (*Juncus* spp.). On the Project site, these wetland features are generally located within grassland communities and appear to be preferentially grazed by cattle.

On the PG&E substation, one seasonal wetland swale was mapped on the project site during the field assessment conducted in May of 2019. The swale appears to collect surface run-off from the substation and undeveloped areas between the substation and the proposed New Transmission Line corridor. The swale conveys run-off and overflow into an earthen ditch along Gonzaga Road, which eventually enters a culvert below SR 152 and empties into an open field north of the highway.

Pond/Lacustrine

Within the Project site, earthen dams constructed along seasonal drainages form ponds on-site. The earthen dams create a barrier to downstream flow, allowing water to pond for prolonged periods during the year and provide water for stock. The ponds contained water during the site survey. The on-site ponds may be used by the special-status western pond turtle for foraging and basking and by the special-status California red-legged frog for reproduction. Both species are known to occur within the Pacheco State Park and are discussed further in Section 4.5.2.1 below. The vegetation on the margins of the ponds are similar to those species associated with seeps. Ponds are not recognized by CDFW (CDFW 2018a) as a natural vegetation community and are not a special-status vegetation community.

Areas along the proposed New Transmission Line mapped as pond (i.e., lacustrine) are part of the San Luis Reservoir, with the exception of two large stock ponds along the eastern end. One seasonal small pond was mapped on the PG&E substation site during the field assessment conducted in May of 2019. Similar to the small seasonal swale on the site, the pond appears to collect surface run-off from the substation and undeveloped areas between the substation and proposed New Transmission Line corridor.

Intermittent Drainage

Two intermittent drainages mapped on the Project site: one that originates from a pond outside of the Project site, flows north to south through the southwestern portion of the Project site; the second intermittent drainage originates approximately 0.5 mile upstream of the Project site flows north to south through the southern portion of the project site. Both drainages convey surface run-off from surrounding uplands and eventually flow into San Luis Reservoir to the east. There is no distinct riparian corridor associated with either drainage.

Ephemeral Drainage

There is one ephemeral channel on the Project site that, when inundated, flows roughly northwest through the southeast portion of the site. This channel originates on the Project site near the top of a hill where it conveys surface run-off from adjacent uplands eventually into San Luis Reservoir to the east. The hydrology of this channel is reliant on surface run-off/precipitation events.

Anthropogenic Land Cover Types

Ruderal

Ruderal areas are those that have significant anthropogenic influences and have a cover of plants that are typically non-native. Within the Project area, ruderal areas include the sparsely vegetated upland areas that have been graded as a result of past roadway improvements, staging areas for wind farm activities, and barren areas associated with wind turbines. The soils are generally hard-packed and contain high concentrations of gravel. Vegetation cover is sparse in ruderal areas and dominated by introduced, non-native plant species such as redstemmed filaree (*Erodium cicutarium*), English plantain (*Plantago lanceolata*), common plantain (*P. major*), black mustard (*Brassica nigra*), rose clover (*Trifolium hirtum*), and yellow star-thistle (*Centaurea solstitialis*). Ruderal areas occur within the Project site and along the New Transmission Line. Ruderal areas are not considered a sensitive vegetation community.

Developed

Developed areas are those that have been completely altered by anthropogenic or human activities and contain little to no vegetation. Such areas include buildings, paved and gravel roadways and trails, gravel lots, and other constructed environments. On-site, developed areas include buildings, un-vegetated parking areas and roadways, and wind turbine footings. Vegetation is largely absent from these areas. Developed lands occurs within the Project site and along the New Transmission Line.

Soils

The U.S. Department of Agriculture (USDA) Soil Survey mapped the Project Area as being underlain by the following soil types: Millsholm Loam, Millsholm-Rock outcrop complex, Fifield-Gonzaga complex, Fifield-Millsholm complex, Quinto-Millsholm-Rock outcrop complex, Asolt very stony clay, and water (USDA 2018a) (Table 3, Soil Substrate within the Project Site). None of the soils within the Project site have a hydric rating (USDA 2018a). See Figure 2 in Appendix D for a depiction of soil types on the Project site.

Table 3.2-3
Soil Substrate within the Project Site

Soil Substrate	Total Acreage
Loam	
Millsholm Loam, 30%-50% slopes	198.38
Millsholm Loam, 8%-15% slopes	229.64
Millsholm-Rock outcrop complex, 15%-30% slopes	934.26
Sandy Loam	
Fifield-Gonzaga complex, 30%-50% slopes	18.61
Fifield-Millsholm complex, 30%-50% slopes	237.98
Gravelly Sandy Loam	
Quinto-Millsholm-Rock outcrop complex, 40%-75% slopes	56.20
Very Stony Clay	
Asolt very stony clay, 15%-30% slopes	31.77
Asolt very stony clay, 30%-50% slopes	56.28
Water	
Water	3.27
Total	1,766.39

Plant Diversity

A total of 68 species of plants were observed during the 2017 field review of vegetation communities conducted by Dudek within the Project site. Latin and common names for plant species with a California Rare Plant Rank (CRPR; formerly CNPS List) follow the California Native Plant Society Online Inventory of Rare, Threatened, and Endangered Plants of California (CNPS 2018b). For plant species without a CRPR, Latin names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2018), and common names follow the USDA Natural Resources Conservation Service Plants Database (USDA 2018b). Twenty-nine families are represented on-site, with nearly half of species coming from the *Asteraceae*, *Poaceae*, and *Rosaceae* families. Species composition includes 44 (65%) native species and 24 (35%) non-native species occurring on the Project site.

Wildlife Diversity

The upland, riparian, and aquatic communities within the Project Area provide foraging, breeding, and shelter habitat for a variety of common and special-status amphibian, reptile, bird, and mammal vertebrate species. Latin and common names of animals follow Crother (2012) for reptiles and amphibians, American Ornithologists' Union (AOU 2016) for birds, Wilson and Reeder (2005) for mammals, and North American Butterfly Association (NABA 2016) or San Diego Natural History Museum for butterflies (SDNHM 2002).

Sensitive Biological Resources

The following sensitive resources are discussed in this section: plant and animal species present or potentially present on the Project site or within the proposed New Transmission Line corridor that are considered of special status by state or federal resource agencies, or recognized conservation organizations, owing to declining, limited, or threatened populations; vegetation communities, land cover types, or habitat areas that are unique, are of relatively limited distribution, or are of particular value to wildlife; and wildlife movement corridors. As noted in the Methods section above, the potential for occurrence of special-status plant and wildlife species within the Project Area is based on reviews of the CNDDB (CDFW 2018a, 2018c, 2018d), the CNPS Online Inventory of Rare and Endangered Vascular Plants (CNPS 2018), and the Web Soil Survey (USDA 2018a) for special-status plant species soil associations, as well as on the habitat mapping and other field surveys conducted on the site.

Special-Status Plant Species

Special-status plant species include those species that are federally and/or state-listed as endangered or threatened or that are proposed for listing as endangered or threatened; are candidate species for state or federal listing; or are listed as a List 1A or 1B, List 2A or 2B, List 3, or List 4 plants in the *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2018). Plants with a CRPR of 1A are presumed extirpated or extinct because they have not been seen or collected in the wild in California for many years. Plants with a CRPR of 1B are rare throughout their range with the majority of them endemic to California. Plants with a CRPR of 2A are presumed extirpated because they have not been observed or documented in California for many years. List 3 species are those determined to be those for which more information is needed regarding rarity and/or threats. List 4 species are those considered uncommon but not necessarily "rare" from a statewide perspective; a watch list.

Results of the CNDDB and CNPS searches identified nine special-status plant species as occurring or potentially occurring in the Project region. Of these, six were removed from consideration due to the lack of suitable habitat within or immediately adjacent to the Project Area, or because the Project Area is outside of the species' known range and are therefore not addressed further in this EIR. The remaining three plant species include spiny-sepaled button-celery (*Eryngium spinosepalum*) and shining navarretia (*Navarretia nigelliformis ssp. radians*), both identified by the CNPS as CRPR 1B.2 list species and both of which have moderate potential to occur within the Project Area, and one species, Hall's bush mallow (*Malacothamnus halli*), a CRPR 1B.2 list species that has been previously documented as occurring within the Project site. These species are listed below in Table 3.2-3 and a more complete discussion of each species follows.

As previously discussed, a focused survey for these three special-status plant species was conducted on the site at a time when the species would have been visible. None of these special-status plant species were observed. Nevertheless, micro-siting of turbines was conducted in early 2019 to avoid habitat potentially supporting these special-status plants. Because the exact alignment and location of transmission poles associated with the New Transmission Line had not been finalized prior to the blooming season of special-status plants potentially occurring in the general area of the transmission line corridor, pre-construction surveys for special-status plant species will be conducted in areas along the New Transmission Line that could potentially support such species once the various components of the alignment have been finalized.

Table 3.2-3
Special-Status Plant Species Present or with Potential to Occur within the Project Area

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Eryngium spinosepalum	spiny-sepaled button-celery	None/None/1B.2	Mesic areas within valley and foothill grassland, vernal pools/annual / perennial herb/Apr–June/ 260–3,200	Moderate potential to occur. Seeps and mesic areas in the grassland on-site may provide potentially suitable habitat for this species. The nearest documented occurrence of this species is located approximately 1 mile northeast of the Project site (CNDDB Occ. No. 91; CDFW 2017). Species not observed during the May 2019 surveys within the Project site.
Malacothamnus hallii	Hall's bush-mallow	None/None/1B.2	Chaparral, coastal scrub/perennial evergreen shrub/(Apr)May–Sep (Oct)/30–2,495	Moderate potential to occur. The chaparral and scrub on-site provide potentially suitable habitat for this species. This species was previously documented within the Project site in 2009 (CNDDB Occ. No. 2; CDFW 2017). Species not observed during the May 2019 surveys within the Project site.
Navarretia nigelliformis ssp. *radians*	shining navarretia	None/None/1B.2	Mesic areas within valley and foothill grassland, vernal pools; Sometimes clay/annual herb/(Mar)Apr–July/210–3,280	Moderate potential to occur. Seeps and mesic areas in the grassland on-site provide potentially suitable habitat for this species. The nearest documented occurrence is located approximately 5 miles south of the Project site (CNDDB Occ. No. 12; CDFW 2017). Species not observed during the May 2019 surveys within the Project site.

Source: CNDDB 2018.

Spiny-sepaled button-celery (*Eryngium spinosepalum*), CRPR 1B.2

Spiny-sepaled button-celery is a dicot, California native perennial herb, and is distributed throughout central California (CNPS 2018). This species is found in mesic areas within valley and foothill grassland, and vernal pools. Spiny-sepaled button-celery's bloom period is between April and June. This species occurs at elevations between 260 and 3,200 feet.

This species has a moderate potential to occur within the Project Area. The seeps and mesic areas within the grassland present on site may provide potentially suitable habitat for this species.

Hall's bush mallow (*Malacothamnus halli*), CRPR 1B.2

Hall's bush mallow is a dicot, California native perennial evergreen shrub, and is distributed throughout the northern portion of the San Joaquin Valley (CNPS 2018). This species is found in chaparral and coastal scrub. The bloom period for Hall's bush mallow is between April and September, and sometimes October. Willowy monardella occurs at elevations between 30 and 2,495 feet.

This species is known to occur within the Park, along the SR-152 road cut; however, abundance and exact locations are not known due to lack of intensive surveys conducted within the Park (California State Parks 2006). The chaparral and scrub within the Project Area may provide potentially suitable habitat for this species.

Shining navarretia (*Navarretia nigelliformis* ssp. *radians*), CRPR 1B.2

Shining navarretia is a dicot, California native annual herb, and is distributed throughout central California (CNPS 2018). This species is typically found within mesic areas of valley and foothill grassland, and along edges of vernal pools. The bloom period for shining navarretia is between April and July. Shining navarretia occurs at elevations between 210 and 3,280 feet.

This species has a moderate potential to occur within the Project Area. The mesic areas within the woodland and grassland present on-site may provide potentially suitable habitat for this species.

Special-Status Wildlife Species

Special-status wildlife species include species that meet the following criteria:

- Listed, proposed for listing, or candidates for listing as threatened or endangered under FESA
- Listed or candidates for listing as threatened or endangered under CESA
- Designated as Species of Special Concern by the CDFW
- Listed on the CDFW "Special Animals" list
- Meet the definition of rare, threatened, or endangered as described in the CEQA Guidelines, Section 15380

The potential for special-status wildlife species to occur on the Project site or within the proposed New Transmission Line corridor is based on documented occurrences (from review of known databases) and relative distribution of the species in the region, life history and general habitat requirements, and overall suitability of the habitat within the Project Area to support such species. Focused surveys for various special-status wildlife species, including avian point counts, focused surveys for eagles, acoustic bat surveys, and a California condor assessment, were conducted as summarized in the Methods section above.

Results of the compilation and review of the CNDDB revealed twenty-eight special-status wildlife species as occurring in the Project Area region or that have potential to occur in the vicinity of the Project site. Of these, eight were removed from consideration due to the lack of suitable habitat within or immediately adjacent to the Project site, or because the Project site is outside of the species' known range and are therefore not addressed further in this EIR.

Of the twenty-one special-status wildlife species with potential to occur in or in the immediate vicinity of the Project Area, twelve are known to be present within the Project site (eleven were observed); the remaining are assumed to occur on-site (three species) or have a moderate to high potential of occurring. The known presence or potential presence of these species within the Project site and proposed New Transmission Line, are summarized in Table 3.2-4 and discussed in more detail below. Those actually observed and with moderate to high potential of occurring on a regular basis, or that are assumed to occur within the Project Area for purposes of this EIR analysis (a total of 15 species), are discussed in more detail further below.

One of these species, the San Joaquin kit fox, was included in the USFWS NOP comment letter (see Appendix A). However, it was determined that this species is not expected to occur within the Project Area based on the grassland and oak woodland habitat on the Project site occurring at too high an elevation typical of this species and because the surrounding topography makes occupancy of the New Transmission Line corridor by San Joaquin kit foxes unlikely.

Table 3.2-4
Special-Status Wildlife Species Present or with Potential to Occur within the Project Area

Wildlife Species	Status (Federal/State)	Project Site Suitable Habitat and Potential for Occurrence	New Transmission Line Corridor Suitable Habitat and Potential for Occurrence
Amphibians and Reptiles			
Western pond turtle (*Actinemys marmorata*)	None/SSC	Observed. Suitable aquatic breeding habitat on-site; historically known to occur within Mammoth Lake[1].	Moderate potential to occur. Suitable aquatic breeding habitat occurs in the site vicinity.

Table 3.2-4
Special-Status Wildlife Species Present or with Potential to Occur within the Project Area

Wildlife Species	Status (Federal/State)	Project Site Suitable Habitat and Potential for Occurrence	New Transmission Line Corridor Suitable Habitat and Potential for Occurrence
California tiger salamander (*Ambystoma californiense)*	FT/ST, WL	Assumed to occur. Suitable aquatic breeding habitat on-site. Known to occur in the region.	Low potential to occur. Small areas of suitable aquatic breeding habitat occurs in the site vicinity.
Northern California legless lizard (*Anniella pulchra*)	None/SSC	Moderate potential to occur. Suitable habitat occurs on-site.	Moderate potential to occur. Suitable habitat occurs on-site.
San Joaquin coachwhip (*Coluber flagellum ruddocki*)	None/SSC	Moderate potential to occur. Suitable habitat occurs on-site.	Moderate potential to occur. Suitable habitat occurs on-site.
Blainville's horned lizard (*Phrynosoma blainvillii*)	None/SSC	Moderate potential to occur. Suitable habitat occurs on-site.	Moderate potential to occur. Suitable habitat occurs on-site.
California red-legged frog (*Rana draytonii*)	FT/SSC	Assumed to occur. Suitable breeding habitat occurs on-site; historically known to occur in both Mammoth and Wolf Lake[1].	Low potential to occur. Small areas of suitable breeding habitat occurs in the site vicinity.
Western spadefoot toad (*Spea hammondii*)	None/SSC	Moderate potential to occur. Suitable habitat occurs on-site.	Moderate potential to occur. Suitable habitat occurs on-site.
Birds			
Golden eagle (*Aquila chrysaetos*)	BCC/FP, WL	Observed during migration and avian point counts. Suitable nesting and foraging habitat occurs on-site.	High potential to occur. Suitable nesting and foraging habitat occurs on-site.
Bald eagle (*Haliaeetus leucocephalus*)	BCC/SE, FP	Observed during migration and avian point counts. Not expected to nest within the Project site. Historically present during winter in small numbers at the San Luis Reservoir (California State Parks 2006). One active nest presumed to be present at south end of Reservoir, approximately 4 miles southeast from the Project site. Suitable wintering habitat occurs on-site.	Moderate potential to occur. Suitable wintering habitat occurs on-site. Historically present during winter months within the San Luis Reservoir (California State Parks 2006). One active nest presumed to be present at south end of Reservoir.

Table 3.2-4
Special-Status Wildlife Species Present or with Potential to Occur within the Project Area

Wildlife Species	Status (Federal/State)	Project Site Suitable Habitat and Potential for Occurrence	New Transmission Line Corridor Suitable Habitat and Potential for Occurrence
California condor (*Gymnogyps califorinianus*)	FE/SE, FP	USGS radio telemetry detections near the site. Over a 2-year period (2017-2019), a total of 11 condors have been recorded by USGS radio telemetry data flying within 10 miles of the Project site, all at high elevations; one condor was recorded flying over the Project site at high elevation. No condors have been recorded perching or otherwise landing on the Project site or within 5 miles of the site. Suitable foraging habitat occurs on-site.	Moderate potential to fly over the site. Suitable foraging habitat occurs on-site. Could potentially fly over the transmission route but not expected land or perch along the transmission corridor based on historical USGS radio telemetry data.
White-tailed kite (*Elanus leucurus*)	None/FP	Observed during avian points count. Suitable nesting and foraging habitat occurs on-site.	High potential to occur. Suitable nesting and foraging habitat occurs on-site
Northern harrier (*Circus cyaneus*)	None/SSC	Observed during avian point counts; historically present (California State Parks 2006). Suitable nesting and foraging habitat occurs on-site.	High potential to occur. Suitable nesting and foraging habitat occurs on-site
Burrowing owl (*Athene cunicularia*)	BCC/SSC	Not expected to occur. This species typically avoids mountain regions and hilly terrain.	High potential to occur. Suitable nesting and foraging habitat in the lower elevations of the alignment east of San Luis Reservoir.
Loggerhead shrike (*Lanius ludovicianus*)[2]	BCC/SSC	Observed during avian point counts. Historically present (California State Parks 2006). Suitable nesting and foraging habitat occurs on-site.	High potential to occur. Suitable nesting and foraging habitat occurs on-site
Olive-sided flycatcher (*Contopus cooperi*)	BCC/SSC	Observed during avian point counts but likely a migrant and not expected to occur on a regular basis.	Low potential to occur. Not expected to nest along the New Transmission Line and not expected to occur on a regular basis.

Table 3.2-4
Special-Status Wildlife Species Present or with Potential to Occur within the Project Area

Wildlife Species	Status (Federal/State)	Project Site Suitable Habitat and Potential for Occurrence	New Transmission Line Corridor Suitable Habitat and Potential for Occurrence
American white pelican (*Pelecanus erythrorhynchos*)	None/SSC	Observed once during avian point counts but unlikely to nest within the Project site. No suitable habitat on-site. Likely a flyover associated with visits to San Luis Reservoir. Not expected to occur on a regular basis.	Low potential to occur. No suitable habitat within/adjacent to the New Transmission Line. Likely utilizes San Luis Reservoir for foraging and potentially nesting and not expected to occur on a regular basis except possibly over those portions of the alignment adjacent to the reservoir.
Mammals			
American badger (*Taxidea taxus*)	None/SSC	High potential to occur. Suitable denning and foraging habitat occurs on-site.	High potential to occur. Suitable denning and foraging habitat occurs on-site.
San Joaquin kit fox (*Vulpes macrotis mutica*)	FE/ST	Not expected to occur. Project site too steep, mountainous terrain, at high elevations.	Not expected to occur. Some suitable habitat; along the easternmost portion of the New Transmission Line but multiple barriers for remote kit fox populations to access this area.
Pallid bat (*Antrozous pallidus*)	None/SSC	Detected during acoustic surveys. Suitable foraging/roosting habitat occurs on-site.	High potential to occur. Suitable foraging/roosting habitat occurs on-site
Western mastiff bat (*Eumops perotis californicus*)	None/SSC	Detected during acoustic surveys. Suitable foraging/roosting habitat occurs on-site.	High potential to occur. Suitable foraging/roosting habitat occurs on-site.
Western red bat (*Lasiurus blossevillii*)	None/SSC	Detected during acoustic surveys. Suitable foraging/roosting habitat occurs on-site.	High potential to occur. Suitable foraging/roosting habitat occurs on-site.

Notes:

1 According to the Pacheco State Park General Plan Environmental Impact Report (California State Parks 2006) surveys conducted by the Park in 2002 determined that California red-legged frogs are known to occupy both Mammoth Lake and Wolf Lake and a large population of western pond turtles are known to occur within Mammoth Lake.

Status Legend

FE: Federally Endangered
FT: Federally Threatened
FC: Federal Candidate
BCC: U.S. Fish and Wildlife Service Bird of Conservation Concern
SSC: California Species of Special Concern
FP: California Fully Protected Species
WL: California Watch List Species
SE: State Endangered
ST: State Threatened

Amphibians and Reptiles

*Western pond turtle (*Actinemys marmorata*), SSC*

The range of western pond turtle extends along most of the west coast of North America, primarily west of the Cascade–Sierra crest, from western British Columbia, Canada, to northern Baja California, Mexico (Ernst et al. 1994). The elevation range for the western pond turtle is from sea level to over 6,560 feet amsl, but it is uncommon over 5,000 feet amsl (Stebbins 1954; Bury 1963; Holland 1994). Western pond turtles occur in slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites. They require adjacent uplands with friable soils for nesting and over-wintering.

Although no focused surveys were conducted for western pond turtle within the Project Area, this species was observed within Mammoth Lake during field surveys conducted by the Park in 2002 (California State Parks 2006) and anecdotally during various field visits to the Project site in 2018. Suitable pond habitat occurs within the Project site for this species and in the southern finger of the San Luis Reservoir within the 500-foot buffer of the New Transmission Line (Figure 3.2-6).

*California tiger salamander (*Ambystoma californiense*), FT/ST, WL*

California tiger salamander occurs within annual grassland, valley–foothill hardwood, valley–foothill riparian habitats, vernal pools, other ephemeral pools, and (uncommonly) along stream courses and man-made pools if predatory fishes are absent. This species occurs at elevations from 3 meters up to 1,054 meters (3,200 feet) (Zeiner et al. 1988) and is limited primarily the areas in the Central Valley and Central Coast regions. Although breeding by tiger salamanders has been documented in permanent ponds, if there are predatory fish or bullfrogs in the pond, breeding will most likely be unsuccessful (California State Parks 2006).

California tiger salamander has a moderate potential to occur within the Project Area. Focused surveys for this species were not conducted by the Park; therefore, it is unknown if this species is present (California State Parks 2006). However, this species is known to occur in the Project Area vicinity and there is suitable permanent pond habitat within the Project Area that could support this species. Suitable pond breeding habitat for California tiger salamander occurs on the Project site and potentially within cattle ponds along the New Transmission Line 500-foot buffer. Therefore, for purposes of this EIR, California tiger salamander is assumed to occur within suitable habitat in the Project Area.

*California red-legged frog (*Rana draytonii*), FT/SSC*

California red-legged frog occurs from sea level to elevations near 5,000 feet. It has been extirpated from 70% of its former range and now is found primarily in coastal drainages of central California, from Marin County south to northern Baja California. Breeding habitat includes freshwater pools and backwaters within streams and creeks, ponds, marshes, springs, and lagoons. Additionally, California red-legged frogs frequently breed in artificial impoundments such as stock ponds (USFWS 2002).

Although no focused surveys were conducted for California red-legged frog within the Project Area, this species was observed during field surveys conducted by the Park in 2002 within Mammoth Lake and Wolf Lake, which is within the Project site boundary (California State Parks 2006), and is known to occur in the Project vicinity. Suitable pond breeding habitat occurs within the Project site and within the western portion of the proposed New Transmission Line alignment (Figure 3.2-6). Given the presence of suitable habitat within the Project Area, the historical presence on-site, and known presence in the vicinity, this species is assumed to be present within suitable breeding ponds in the Project Area. Additionally, the Project site as well as the western portion of the New Transmission Line alignment is within a large USFWS designated Critical Habitat unit for California red-legged frog (Figure 3.2-7).

*Western spadefoot (*Spea hammondii*), SSC*

Western spadefoot ranges from the north end of California's Central Valley near Redding, south, west of the Sierras and the deserts, and into northwest Baja California, Mexico (Jennings and Hayes 1994; Stebbins 2003). Although the species primarily occurs in lowlands, it also occupies foothill and mountain habitats. Within its range, the western spadefoot toad occurs from sea level to 4,000 feet amsl, but mostly at elevations below 3,000 feet (Stebbins 2003).

The western spadefoot is almost completely terrestrial, entering temporal pools and drainages only to breed. The species aestivates within rodent burrows in upland habitats near aquatic breeding sites (Stebbins 1972). The species prefers open areas with sandy or gravelly soils in a variety of habitats, including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, river floodplains, alluvial fans, playas, and alkali flats (Stebbins 2003; Holland and Goodman 1998). However, the species is most common in grasslands with vernal pools or mixed grassland/coastal sage scrub areas and is most active during periods of rain (Holland and Goodman 1998).

Western spadefoot has a moderate potential to occur within the Project Area. Focused surveys for this species were not conducted by the Park; therefore, it is unknown if this species is present (California State Parks 2006). Suitable pond habitat for western spadefoot occurs within the Project site along and adjacent to the New Transmission Line.

*Northern California legless lizard (*Aniella pulchra*), SSC*

Found primarily in the central and southern California coast ranges from sea level to around 6,000 feet in elevation, this fossorial lizard species occurs in moist warm loose (often sandy) soil typically with leaf litter present as cover. Habitat types include sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks.

Northern California legless lizard has a moderate potential to occur within the Project Area. Oak woodlands, chaparral and stream terraces on site provide some suitable habitat for this species. Focused surveys for this species were not conducted by the Park; therefore, it is unknown if this species is present (California State Parks 2006). Suitable upland habitat for this species occurs within the Project site and along and adjacent to the New Transmission Line. The nearest documented occurrence for this species is located approximately 15 miles southeast of the Project site and approximately 9 miles southeast of the proposed New Transmission Line (Occ. No. 124; CDFW 2018).

*San Joaquin coachwhip (*Coluber flagellum ruddocki*), SSC*

San Joaquin coachwhip prefers open, dry, often treeless areas including grassland, chaparral, and scrub habitats within its range in central and southern California. This snake species tends to seek cover in rodent burrow burrows and rock piles.

This species has a moderate potential to occur within the Project Area. The grasslands and open sage scrub on-site provide potentially suitable habitat. Focused surveys for this species were not conducted by the Park; therefore, it is unknown if this species is present (California State Parks 2006). Suitable upland habitat for this species occurs within the Project site and along and adjacent to the New Transmission Line. The nearest documented occurrence for this species is located approximately 10 miles southeast of the Project site and approximately 3.2 miles southeast of the proposed New Transmission Line (Occ. No. 19; CDFW 2017).

SOURCE: USDA 2016, USFWS 2010

DUDEK

0 2,600 5,200 Feet

FIGURE 3.2-7

USFWS-Designated Critical Habitat for California Red-Legged Frog Within the Project Area

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*Blainville's horned lizard (*Phrynosoma blainvillii*), SSC*

This horned lizard species typically occurs below 6,000 feet in elevation in open areas of sandy soil in valleys, foothills, and semi-arid foothills including coastal scrub, chaparral, valley–foothill hardwood, conifer, riparian, pine–cypress, juniper, and annual grassland habitats.

Blainville's horned lizard has a moderate potential to occur within the open grassland and sage scrub habitat in the Project Area. Focused surveys for this species were not conducted by the Park; therefore, it is unknown if this species is present (California State Parks 2006). Suitable upland habitat for this species occurs within the Project site and along and adjacent to the New Transmission Line. The nearest documented occurrence for this species is located approximately 11 miles west of the Project site and approximately 15 miles west of the proposed New Transmission Line (Occ. No. 614; CDFW 2017)

Birds

*Golden eagle (*Aquila chrysaetos*), BCC/FP, WL*

The golden eagle is a year-round, diurnally active species that is a permanent resident and migrant throughout California where it tends to occupy mountain, foothill, and desert areas. Foraging habitat for this species includes open habitats with scrub, grasslands, desert communities, and agricultural areas. This species typically nests on cliffs within canyons and escarpments and in large trees (generally in open habitats) primarily within rugged, hilly or mountainous terrain (Garrett and Dunn 1981b; Johnsgard 1990). Most nests are located on cliffs or trees near forest edges or in small stands near open fields but is also known to utilize electrical transmission towers and similarly sized structures as nest sites (Garrett and Dunn 1981b; Johnsgard 1990; Kochert et al. 2002; Scott 1985). Golden eagles commonly build, maintain, and variably use multiple alternative nest sites in their breeding territories, routinely refurbishing and reusing individual nests over many years.

Over the course of the two years of avian point count surveys conducted on the Project site (a total of 693 point counts were conducted), individual golden eagles were observed on nine different occasions at four of the nine sites (Figure 3.2-1). Of the 20,790 total observation minutes conducted, the golden eagles that were observed comprised 25 minutes (0.12%) out of the total observation minutes within the 800m point count radius. Eight of the nine observations were in the southern portion of the site, but demonstrated no temporal pattern, instead occurring at different times of the year. All nine observation were flying individuals that passed through the elevation range of the RDAG at some point during the observations.

During the fall 2017, spring 2018, and fall 2018 migration periods (October to November, March to April), Dudek biologists recorded 48 golden eagle observations over a total 150 surveys conducted. These observations amounted to 175 golden eagle detection minutes out of the total

71,700 survey minutes (0.24%) conducted. Of these observations, the majority (36) were from the northeastern part of the site (Figure 3.2-1). All golden eagles were observed in flight behavior of some type; 42 of the detections (88%) involved individuals flying at least partly at heights within the potential RDAG. These 42 individuals were observed for a combined total of 160 minutes (0.22%), out of the 71,700 total survey minutes. It is assumed that the majority of these were migratory or non-resident individuals given the low number of eagles observed during the year-round point count surveys. See Appendix D for more information regarding these observations.

Of the total 84 hexagons within 10 miles of the Project site that were surveyed for golden eagle territories, 28 of the hexagons were determined to be occupied by a territorial pair of golden eagles. Of these, 18 were between approximately 5-10 miles from the Project site, and seven were between approximately 2-5 miles from the site. Three hexagons were located within 2 miles of the Project site were determined to be occupied; however, eagle activity in these hexagons were noted to be located well away from the Project site and no nest sites were observed. No territorial eagles were observed within the hexagon in which the Project site occurs. See Appendix D for more information regarding these observations.

Suitable foraging habitat (including coastal sage scrub, grassland, and wetland vegetation communities) and nesting habitat (including oak woodland, oak savanna, California buckeye groves and California sycamore woodland) occurs on the Project site for golden eagles. Suitable foraging habitat (including coastal sage scrub, grassland, and wetland vegetation communities) and nesting habitat (including oak woodland, oak savanna, California buckeye groves and California sycamore woodland) also occurs along the New Transmission Line 500-foot buffer for golden eagles.

*Bald eagle (*Haliaeetus leucocephalus*), SE, FP*

The USFWS delisted the bald eagle from FESA in 2007, but the species remains a California endangered and fully protected species. In California, most nesting bald eagles are found in the northern part of the state, but pairs nest locally south through the Sierra Nevada, coastal counties in Central and Southern California, and on the Channel Islands. Bald eagles typically nest in large conifers or on rock outcrops near aquatic features, but also occasionally in large hardwoods, such as sycamores and oaks (Anthony et al. 1982; USFWS 1986). They usually nest in one of the largest trees available in close proximity of water and generally situated with a prominent overview of the surrounding area (Buehler 2000). Bald eagles preferentially forage on fish and waterfowl, but their diet varies regionally and seasonally in response to locally available resources, and often includes a variety of mammals as well as carrion, especially in winter (Todd et al. 1982; Stalmaster 1987; Ewins and Andress 1995; Buehler 2000).

Bald eagles were observed on 8 occasions during the avian point count surveys for a total of 15 detected minutes (0.07%) out of the 20,790 total observation minutes conducted. All eight bald eagles were recorded in flight and passed through the elevation range of the RDAG at some point during the observations.

Bald eagles were observed on 24 occasions during the migration period surveys conducted in 2017 and 2018. Nearly all of these (20 of 24) were from the survey station to the northeast which overlooks San Luis Reservoir to the east (Figure 3.2-1). Most of the detections of bald eagles (17 of 24) came in the fall of 2017 and 21 of 24 observations involved individuals flying for at least part of the time at altitudes within the potential RDAG, although 10 spent time well above the RDAG. The total detection time for the 21 individuals flying within the RDAG was 82 minutes (0.11%), out of the total migration period survey time of 71,700 minutes.

Bald eagles are not expected to nest on the Project site due to the availability of suitable nest habitat in close proximity to the San Luis Reservoir SRA and the preference of this species to nest near large water bodies. An active bald eagle nest has historically occurred along a southern finger of the SRA (California State Parks 2006) and an immature bald eagle was anecdotally observed during golden eagle territory surveys conducted south of the reservoir in 2018. This species may irregularly forage within grasslands and savanna habitat on the Project site and in similar habitat along and adjacent to the New Transmission Line corridor during winter months.

*California condor (*Gymnogyps californianus*), FE/SE, State FP*

Once on the brink of extinction, captive-bred and some recent wild-bred condors have begun to use portions of their historical range in California, including the Diablo Mountain Range (Johnson et al. 2010). Nest sites are typically located in cavities, ledges, and potholes in cliffs and large rock outcrops, and, more rarely, in cavities in giant sequoia trees (*Sequoiadendron giganteum*). Although California condors historically nested over a relatively large portion of the Coast, Transverse, and southern Sierra Nevada mountain ranges in California (Koford 1953; Meretsky and Snyder 1992), all current wild California condor nest sites within the state are located within Western and Southern California, primarily within the Los Padres and Angeles National Forests and Pinnacles National Park which occurs approximately 50 miles south/southwest of the Project site.

As large opportunistic scavengers, California condors are evolutionarily adapted for feeding on the carcasses of large ungulates, such as deer and elk, as well as whales, seals, and sea lions washed up along the coast (Emslie 1987). More recently, condors have adapted to forage on carcasses of cattle, sheep, and other domestic grazing animals. As the availability of large carcasses was often unpredictable, condors developed a wide-ranging search behavior. Foraging flights occurred, and continue to occur, over vast areas encompassing hundreds of linear miles of travel each day, typically in association with foothills and mountainous areas where condors can take advantage of updrafts and prevailing winds (Meretsky and Snyder 1992).

Most California condor foraging occurs in open foothill grasslands and oak savannas and occasionally in open scrub vegetation and require fairly open areas in which to access food. California condors prefer areas with relatively steep topography, such as in mountains and hillsides, which, in addition to creating updrafts that provide favorable soaring conditions, also make it easier for condors to take off and land near carcasses (USFWS 1984). The majority of breeding birds forage within 80 to 112 miles of their nesting areas.

Suitable foraging habitat (primarily associated with grassland and oak savanna communities) occur on the Project site. Condors have never been known to nest within the Project site or within the Project region, likely due to a lack of suitable nest habitat (large rock outcrops and cliffs with appropriate ledges and cavities for nesting).

Based on a review of USFWS/USGS GPS telemetry data (representing individual condor flights) from January 2017 through March 2019, eleven individual condors flew within 10 miles of the Project site. Of these, nine flew within 5 miles of the site of which only one flew over the site (Figure 3.2-4). In 2017, a total of 2,596,871 condor location "points" (location information, including speed and elevation, provided by solar-powered GPS transmitters generally every 1-5 minutes during daylight hours) were recorded by the 55 condors wearing GPS transmitters. Of these points, 214 (.008% of all condor location points), representing four individual condors, were recorded within 0-5 miles from the Project site and 489 location points (.018%) representing the same four condors, were recorded from 5-10 miles of the site.

In 2018, a total of 2,101,768 condor location points were recorded, with 295 location points (.014%) representing six individual condors, occurring within 0-5 miles and 2,467 location points (.117%), representing the same six condors and two other additional condors, occurring from 5-10 miles of the site. In the first quarter of 2019, a total of 780,559 condor location points were recorded, with 44 location points (.006%) representing one individual condor, occurring within 0-5 miles and 351 location points (.045%), representing the same condor, occurring from 5-10 miles of the site. No individual condors landed or perched on the Project site or within five miles of the Project site. Between 5 and 10 miles of the site, two individuals perched briefly during August 2017 and two individuals perched during June 2018.

Of note, all condors documented within 5 miles and 5-10 miles of the Project site in 2017 and 2018, and during the first quarter of 2019, occurred at relatively high altitudes above the ground. In 2017, four condors flew at an average altitude of 2,953 feet (900 meters) above ground within 5 miles of the site, and the same four condors flew at an average altitude of 3,413 feet (1,040 meters) above ground between 5 and 10 miles of the site. In 2018, the average altitude within 5 miles and between 5 and 10 miles was 4,939 feet (1,505 meters) and 3,027 feet (922 meters), respectively. In the first quarter of 2019, the average altitude within 5 miles and between 5-10 miles was 2,366 feet (721 meters) and 2,320 feet (707 meters), respectively. These high-altitude overflights likely reflect the relative lack of large animal carcasses (the preferred source of food for condors) within the Project site and surrounding area. The prohibition on hunting (a typical source of animal carcasses within the range of the condor in California) within the Project site and Pacheco State Park likely contributes to this lack of a food source. In addition, the Park and surrounding region is not historically known as a frequent foraging area for California condors. No California condors were observed during any of the avian bird count or migration surveys conducted on the Project site.

Table 3.2-5 below presents the average flight altitude of each of the condors that flew within 10 miles of the site, time spent within the 5- and 10-mile buffers, and the percent that the records of each of these condors within the buffers represented with respect to all condor records in 2017/2018 in northern California.

Table 3.2-5
Summary of California Condor Occurrences within
5 and 10 Miles of the Project Site

California Condor ID	Average Altitude (Feet)		Number and Percent of Location Point Records[1]	
	5-Mile Buffer[2]	*10-Mile Buffer[3]*	*5-Mile Buffer[2] Number (Percent)*	*10-Mile Buffer[3] Number (Percent)*
2017 Occurrences				
564	3,208	3,182	50 (<0.01%)	184 (0.01%)
706	2,644	3,205	38 (<0.01%)	76 (<0.01%)
716	2,716	3,330	49 (<0.01%)	128 (<0.01%)
758	3,245	3,937	77 (<0.01%)	100 (<0.01%)
Total	—	—	214 (0.01%)	488 (0.02%)
Average	2,953	3,413	—	—
2018 Occurrences				
678	5,981	4,990	10 (<0.01%)	24 (<0.01%)
697	3,028	3,107	54 (<0.01%)	595 (0.03%)
716	—	3,258	—	473 (0.02%)
726	3,255	1,811	89 (<0.01%)	564 (0.03%)
745	3,507	2,457	86 (<0.01%)	510 (0.02%)
823	10,541	5,354	2 (<0.01%)	18 (<0.01%)
828	3,320	2,303	54 (<0.01%)	266 (0.01%)
840	—	936	—	11 (<0.01%)
Total	—	—	295 (0.01%)	2,461 (0.12%)
Average	4,939	3,027	—	—

Table 3.2-5
Summary of California Condor Occurrences within
5 and 10 Miles of the Project Site

California Condor ID	Average Altitude (Feet)		Number and Percent of Location Point Records[1]	
	5-Mile Buffer[2]	*10-Mile Buffer[3]*	*5-Mile Buffer[2] Number (Percent)*	*10-Mile Buffer[3] Number (Percent)*
2019 First Quarter Occurrences				
828	2,366	2,320	44 (<0.01%)	351 (<0.05%)
Total (all data)	—	—	553 (<.01%)	3,300 (<.01%)
Average (all data)	3,983	3,092	—	—

Notes:
1 Percent of Records is based on the number of USGS location point records for each individual California condor divided by the total location point records of all California condors for that year.
2 The 5-mile buffer is defined as all California condor point record locations occurring between 0 and 5 miles from the Project site.
3 The 10-mile buffer is defined as all California condor point record locations occurring between 5 and 10 miles from the Project site.

*White-tailed kite (*Elanus leucurus*), State FP*

White-tailed kite inhabits herbaceous and open cismontane habitats (Zeiner et al. 1990a). This species is a year-round resident in coastal and valley lowlands, and forages in undisturbed, open grasslands, meadows, farmlands, and emergent wetlands. The white-tailed kite typically nests in trees with dense canopies.

White-tailed kite was observed on four occasions (between December 2017 and June 2018) over the course of the 693 avian point count surveys conducted within the Project site. The observations totaled 12 detected minutes (0.06%) out of the 20,790 total observation minutes conducted. The individuals were observed foraging, perching, hunting and soaring at point count sites BUC-E and BUC-B, which are within the interface of blue oak savanna and California annual grassland and within California annual grassland, respectively (Figures 3.2-1 and 3.2-5). On each of the four occasions, the individual kites were observed flying within the potential RDAG for at least brief periods of times. Suitable nesting and foraging habitat for this species (including wetland, grassland, oak savanna, and oak woodland habitat) occurs within the Project site and along and adjacent to the New Transmission Line corridor.

*Northern harrier (*Circus cyaneus*), SCC*

Northern harrier inhabits annual grassland, lodgepole pine, and pine meadow habitats in the Central Valley, Sierra Nevada, and northeastern California (Zeiner et al. 1990a). This species is less common in the Central Valley. Northern harrier breeds from sea level to 5,700 feet, and nests on the ground in shrubby vegetation, within tall grasses and forbs in wetland (Brown and Amadon 1968).

Northern harrier was observed on eighteen occasions during the avian point count surveys conducted within the Project site. The individuals were observed soaring the majority of the time, presumably foraging. On each of the fourteen occasions, the individual harriers were observed flying within the RDAG for at least brief periods of times. Observations of norther harrier occurred at all point count sites with the exception of site BUC-I, which is located on the eastern most boundary of the Project site (Figure 3.2-1). Suitable wetland, grassland, and coastal sage scrub habitat for nesting and foraging for northern harrier occur within the Project site and along the New Transmission Line corridor.

*Burrowing owl (*Athene cunicularia*), BCC/SCC*

Burrowing owl inhabits annual grassland, open scrub and shrub habitats, and desert regions in most of the lower elevations of the State. This species typically does not occur in areas characterized by mountainous or hilly terrain. Burrowing owl uses rodent (particularly ground squirrel) or other burrow habitat for breeding, roosting, and shelter and will also use man-made openings associated with small culverts, pipes, and debris piles.

No burrowing owls were observed during the two years of avian point count surveys conducted within the Project site. While not expected to occur within the Project site due to the steeper topography and hilly terrain characterizing the site, burrowing owl could potentially occur along or adjacent to the proposed New Transmission Line corridor where the alignment crosses annual grassland and oak savannah habitat in the more level terrain east of the San Luis Reservoir up to and including the PG&E substation tie-in location.

*Loggerhead shrike (*Lanius ludovicianus*), BCC/SSC*

Loggerhead shrike inhabits open-canopied riparian woodland habitats (Zeiner et al. 1990a). This species ranges throughout California in the lowlands and foothills. The loggerhead shrike is a resident and winter visitor, and prefers open habitats with perches, including scattered shrubs, trees, posts, fences, and utility lines.

Loggerhead shrike was observed on six occasions during the avian point count surveys conducted within the Project site. On each of the six occasions, the individual shrikes were observed flying within the RDAG for at least brief periods of times. The individuals were observed foraging and perching. Observations of loggerhead shrike occurred at point count sites BUC-B, BUC-F, BUC-H, and BUC-I, two of which are within California annual grassland and the other two are within the interface of blue oak savanna and California annual grassland, and coastal sage scrub (Figures 3.2-1 and 3.2-5). Suitable nesting and foraging habitat for loggerhead shrike within the Project site and along the New Transmission Line corridor includes wetland, coastal scrub, chaparral, grassland, and sycamore woodland vegetation.

Mammals

*San Joaquin kit fox (*Vulpes macrotis mutica*), FT/SE*

San Joaquin kit fox is endemic to California, occurring only on the San Joaquin Valley floor, surrounding foothills and ranges, and smaller, adjacent valleys, from northern Ventura and Santa Barbara Counties north to Contra Costa and San Joaquin counties. The three core subpopulations for the kit fox are in the Ciervo–Panoche region (western Fresno and Merced counties and eastern San Benito County), western Kern County, and the Carrizo Plain (USFWS 2010b).

San Joaquin kit fox occurs in arid lands with scattered shrubby vegetation underlain by loose-textured sandy soils suitable for burrowing and supporting primary prey (e.g., kangaroo rats). Occupied communities and land covers include valley sink scrub, valley saltbush scrub, upper Sonoran subshrub scrub, annual grassland, grazed grasslands, petroleum fields, and urban areas in the southern portion of their range; valley sink scrub, interior coast range saltbush scrub, upper Sonoran subshrub scrub, annual grassland, and the remaining native grasslands in the central portion of their range; and annual grassland and valley oak woodland in the northern part of their range (USFWS 1998).

The San Joaquin kit fox is not expected to occur within the Project site because of the relative steep and mountainous nature of the site and surrounding area and general lack of suitable habitat. Suitable grassland habitat occurs along the flatter and lower elevation portion of the proposed New Transmission Line near east of the San Luis Reservoir up to its intersection with the Los Banos substation. Also, a recent range-wide kit fox habitat modeling study habitat includes the grasslands along the western edge of the San Joaquin Valley, near the San Luis Reservoir, as being of medium habitat suitability (Cypher et al. 2013).

However, kit fox observations in this area are rare and no breeding populations are known to be present in the region (Cypher et al. 2013). The CNDDB occurrences nearest the New Transmission Line (i.e., within 5 miles) are relatively older records (at least 15 years) and restricted to the western edge of San Joaquin Valley floor (CDFW 2018c). The closest occurrence is approximately 0.1 mile south of the southernmost portion of the New Transmission Line near Billy Wright Road in a record from 2005 (occurrence no. 125). The second closest record to the New Transmission Line is from 1989 (occurrence no. 550) and is located approximately 0.25 mile east of the New Transmission Line on the Madeiros area of the San Luis Reservoir State Recreation Area. An older record, estimated sometime from 1972 to 1975 (occurrence no. 875), notes an occurrence south of O'Neill Forebay about 2.1 miles west of the intersection of Highways 152 and 107.

The rarity and age of these records may likely be due to the fact that while the immediate area near the Los Banos Substation supports suitable habitat for the species, kit foxes would have to travel through atypical and inhospitable habitat (active agricultural fields, urban/suburban development, hilly/mountainous terrain) to access this area. Therefore, San Joaquin kit foxes are not expected to occur within or in the vicinity of the New Transmission Line corridor. Also, surveys conducted in May of 2019 within the PG&E substation area in which the New Transmission Line will terminate found no evidence of San Joaquin kit fox activity.

American badger (Taxidea taxus), SSC

Within California, American badger occurs throughout the state except for the extreme northwestern coastal area (Zeiner et al. 1990b) and upper most elevations in the Sierra Mountains This species prefers dry, open, treeless areas, grasslands, coastal scrub, agriculture, and pastures, especially with friable soils (Zeiner et al. 1990b). This species is considered somewhat tolerant of human activities (Zeiner et al. 1990b).

American badger has a high potential to occur within the Project Area. Suitable denning and foraging habitat (primarily annual grassland and oak savannah vegetation) for American badger occurs on the Project site and along the New Transmission Line corridor.

Bats

Bat Survey Summary

Over 10,000 audio data files with bat calls were recorded during the survey period from February through October 2018. Data collected from passive acoustic bat surveys was reviewed and determined that bat species were present within the Project Area. The passive acoustic bat survey results were also used to evaluate the level of bat activity at each survey station. Eleven bat species were identified within the Project site during the Anabat passive surveys, including three special-status species: pallid bat, western red bat, and western mastiff bat. None of these species are state- or federally-listed as Threatened or Endangered and all are considered California Species of Special Concern. The eight additional common species detected include: big brown bat (*Eptesicus fuscus*), silver-haired bat (*Lasionycteris noctivagans*), hoary bat (*Lasiurus cinereus*), western small-footed myotis (*Myotis ciliolabrum*), little brown bat (*Myotis lucifugus*), Yuma myotis (*Myotis yumanensis*), canyon bat (*Parastrellus hesperus*), and Brazilian free-tailed bat (*Tadarida brasiliensis*).

Table 3.2-6, Bat Survey Results by Location in Minutes of Detection, provides the special-status designation for each species detected, and displays the number of minutes of bat activity for each passive survey location and species richness across all survey locations. Exact numbers of individuals cannot be determined because the difference between single vocalization files made by different individuals or multiple vocalization files made by the same individual can't be distinguished. Instead, the sum of 1-minute time increments for which a species was detected as present is used to calculate Index of Abundance (IA), an IA or magnitude of each species contribution to spatial use (Miller 2001) (Table 3.2-6). Although bat species were detected via acoustic methods within the Project boundaries it is difficult to confirm that the bat species roost on site based on this survey. The bat species may have been passing over the Project site.

Table 3.2-6
Bat Survey Results by Location in Minutes of Detection

Species		Survey Location (minutes recorded)		Total Minutes Recorded
Species Name	*Status*[1]	*MET 5 (High)*	*MET 5 (Low)*	
Pallid bat (*Antrozous pallidus*)	SSC/WBWG:H	—	2	2
Big brown bat (*Eptesicus fuscus*)	None	—	6	6
Western mastiff bat (*Eumops perotis*)	SSC/WBWG:H	3	4	7
Western red bat (*Lasiurus blossevillii*)	SSC/WBWG:H	—	4	4
Hoary bat (*Lasiurus cinereus*)	WGWB: M	36	8	44
Silver-haired bat (*Lasionycteris noctivagans*)	WGWB: M	—	3	3
Western small-footed myotis (*Myotis ciliolabrum*)	WGWB: M	—	1	1
Little brown myotis (*Myotis lucifugus*)	WGWB: M	—	3	3
Yuma myotis (*Myotis yumanensis*)	WBWG: LM	5	117	122
Canyon bat (*Parastrellus hesperus*)	None	3	8	11
Brazilian free-tailed bat (*Tadarida brasiliensis*)	None	645	144	789
	Total	692	300	992

Notes:
SSC: California Species of Special Concern
WBWG: Western Bat Working Group
H: High
M: Medium
LM: Low-Medium

Table 3.2-7, Index of Species Abundance (IA) in Minutes of Detection, displays the IA by species across all recording locations and all sampling nights. The IA number is the number of minutes the species was observed, divided by the total number of sampling nights, and then multiplied by 100. This allows for a comparison of number of individuals (i.e., abundance) between species.

Table 3.2-7
Index of Species Abundance (IA) in Minutes of Detection

Species	IA (minutes recorded)	
Species Name	*MET 5 (High)*	*MET 5 (Low)*
Pallid bat (*Antrozous pallidus*)	—	3
Big brown bat (*Eptesicus fuscus*)	—	8
Western mastiff bat (*Eumops perotis*)	1	5
Western red bat (*Lasiurus blossevillii*)	—	5
Hoary bat (*Lasiurus cinereus*)	16	10
Silver-haired bat (*Lasionycteris noctivagans*)	—	4
Western small-footed myotis (*Myotis ciliolabrum*)	—	1
Little brown myotis (*Myotis lucifugus*)	—	4
Yuma myotis (*Myotis yumanensis*)	2	150
Canyon bat (*Parastrellus hesperus*)	1	10
Brazilian free-tailed bat (*Tadarida brasiliensis*)	288	185
Total	308	385

In minutes of detection, MET 5 low was the most active at 385 minutes, whereas MET 5 high was the least active at 308 minutes. Overall, the relative species abundance across all recording locations in minutes of detection indicated that the Brazilian free-tailed bat was the most abundant at 473 minutes, and the western small-footed myotis was the least abundant at 1 minute (Table 3.2-7). Only Yuma myotis and Brazilian free-tailed bat have relative high abundance with IA at or above 150 minutes.

All three special-status species had low relative abundance in the Project site. Pallid bat and western red bat were not recorded at MET 5 high but were both recorded at MET 5 low with 3 and 5 minutes respectively. Western mastiff bat was recorded for 1 minute at MET 5 high, and 5 minutes at MET 5 low.

A total of 308 minutes of activity was recorded at MET 5 high which is set up within the worst case RDAG. Passive monitoring resulted in the detection of five bat species. Of these five species, one special-status species, western mastiff bat, was detected in the RDAG, comprising approximately 0.32% of the total minutes present in the RDAG.

*Pallid bat (*Antrozous pallidus*), SSC/WBWG: H*

Pallid bat inhabits grasslands, shrublands, woodlands, and forests at elevations up to 2,440 meters (8,000 feet) in California (Zeiner et al. 1990b). This species occurs throughout California in open, dry habitats with rocky areas for roosting (Hermanson and O'Shea 1983). This species requires protected areas for day roosting, including caves, crevices, and hollow trees, and may roost at night in more open sites, including buildings (Hermanson and O'Shea 1983).

Pallid bat was detected during the 2018 focused bat surveys at MET 5 low for a duration of 2 minutes (Table 3.2-6). This species had the second lowest detection abundance within the Project site (Table 3.2-7). Most of the vegetated areas on the Project site and within the 500-foot buffer of the New Transmission Line are considered suitable foraging habitat for this species.

*Western red bat (*Lasiurus blossevillii*), SSC/WBWG: H*

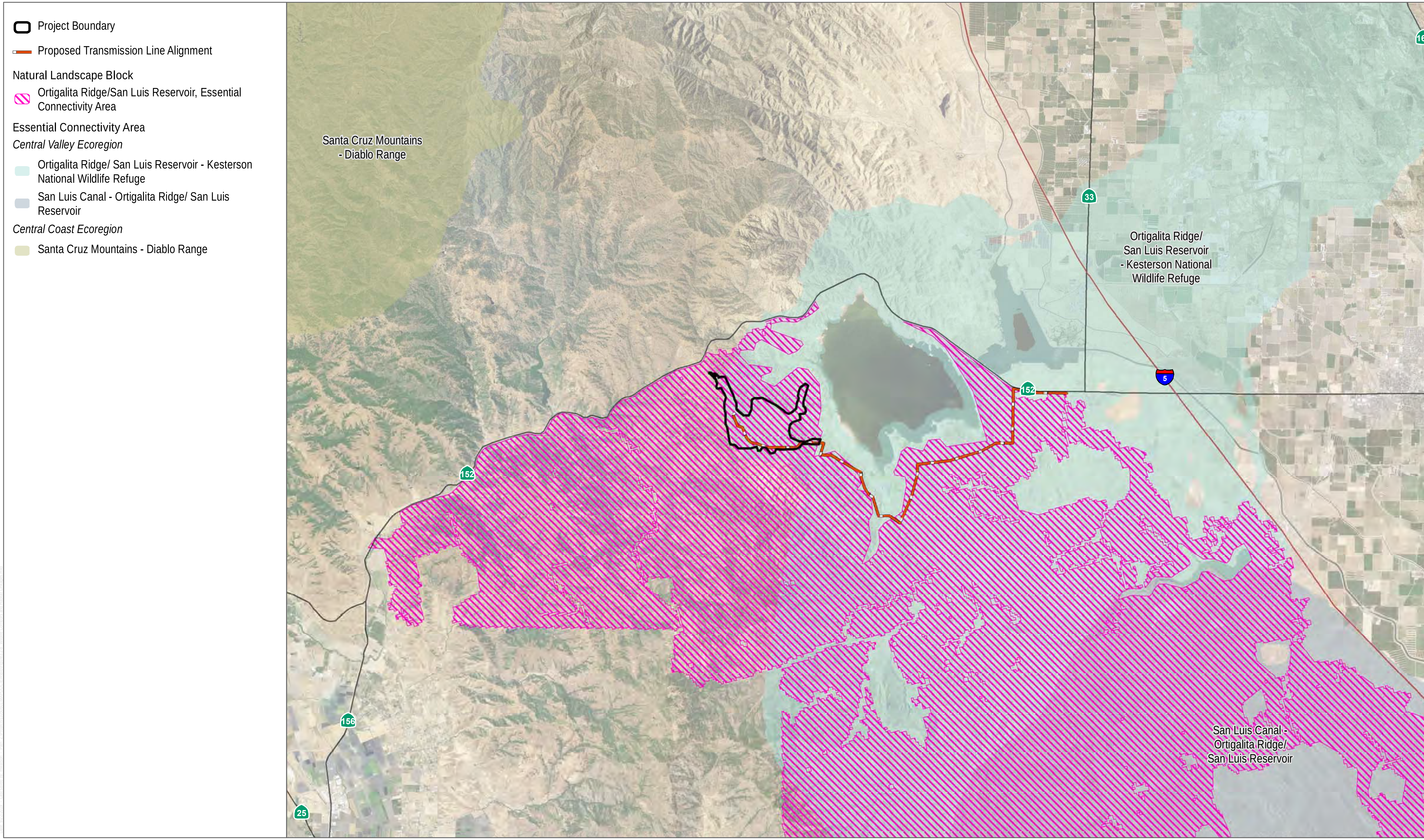
Western red bat inhabits grasslands, shrublands, open woodlands, forests, and croplands throughout California (Zeiner et al. 1990b). This species migrates between summer and winter ranges, and commonly winters in western lowlands and coastal regions south of San Francisco Bay. This species primarily roosts in trees and shrubs but will occasionally roost on the ground (Shump and Shump 1982).

Western red bat was detected during the 2018 focused bat surveys at MET 5 low for 4 minutes (Table 3.2-7). This species had relatively low detection abundance within the Project site (Table 3.2-8). Most of the vegetated areas on the Project site and within the 500-foot buffer of the New Transmission Line are considered suitable foraging habitat for this species.

*Western mastiff bat (*Eumops perotis californicus*), SSC/WBWG: H*

Western mastiff bat inhabits a wide variety of chaparral, coastal and desert scrub, grasslands, coniferous and deciduous forest and woodland habitats (Zeiner et al. 1990b). Roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels in San Joaquin Valley and Coastal Ranges from Monterrey County southward to southern California (Zeiner et al. 1990b).

Western mastiff bat was detected during the 2018 focused bat surveys at both MET 5 low and MET 5 high for a total of 7 minutes (Table 3.2-6). This species had relatively low detection abundance within the Project site (Table 3.2-7). Most of the vegetated areas on the Project site and within the 500-foot buffer of the New Transmission Line are considered suitable foraging habitat for this species.



SOURCE: USDA 2016

DUDEK

0 6,500 13,000 Feet

FIGURE 3.2-8

Wildlife Corridors and Habitat Linkages

Biological Resources for the Gonzaga Ridge Wind Project

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Sensitive and/or Regulated Habitats

Sensitive habitats are those that are considered rare or declining in the region or support sensitive plant and/or wildlife species. In particular, those communities included as sensitive on the California Natural Community List (CDFW 2018a) would require specific mitigation in order to comply with regional conservation goals. Regulated habitats are those under the jurisdiction of USACE, CDFW, and/or RWQCB. These habitats would be considered sensitive for CEQA purposes. Sensitive habitats found in the Project Area are listed below:

- Holly leaf Cherry Chaparral is included as sensitive on the California Natural Community List (CDFW 2018a). There are 7.09 acres of holly leaf cherry chaparral within the Project site; no holly leaf cherry chaparral occurs along the proposed New Transmission Line.
- California Buckeye Grove has a State Rarity rank of S3 and a Global Rarity rank of G3 (CDFW 2018a). There is 0.88 acre of California buckeye grove within the Project site; none of this habitat occurs within the New Transmission Line corridor.
- California Sycamore Woodland has a State Rarity rank of S3 and a Global Rarity rank of G3 (CDFW 2018a). There are 2.53 acres of California sycamore woodland within the Project site and may be considered jurisdictional wetlands/riparian habitat. None of this habitat occurs within the New Transmission Line corridor.
- Purple Needle Grass is included as sensitive on the California Natural Community List (CDFW 2018a). A total of 1.52 acres of purple needle grass grassland occurs on the Project site; none of this habitat occurs within the New Transmission Line corridor.
- Seasonal Wetland/Swale is not defined by CDFW (2018b) but could be considered jurisdictional wetlands by the USACE and/or CDFW. There are 2.67 acres of seasonal wetland/swales within the Project site and 3.10 acres along and/or adjacent to the New Transmission Line corridor.
- Intermittent/Ephemeral Drainage is not defined by CDFW (CDFW 2018a) but could be considered jurisdictional by the USACE and/or CDFW. There are 0.22 acre of intermittent/ephemeral drainages within the Project site.
- Pond is not defined by CDFW (CDFW 2018a) and is not a special-status vegetation community. However, ponds may be considered as jurisdictional aquatic features by the USACE and/or CDFW. There are 3.92 acres of pond within the Project site and 42.29 acres along or adjacent to the New Transmission Line corridor.

Additionally, oak woodlands are addressed under Section 21083.4(b) of the California Public Resources Code, which requires mitigation for impacts to oak woodlands considered significant by a county for projects under the county's jurisdiction. However, because the CDPR is the lead agency for the Project, impacts to oak woodlands would not be subject to county jurisdiction.

Nevertheless, oak trees and oak resources are considered sensitive resources by CDPR and once turbine locations are finalized, the applicant will work with CDPR to identify oak impacts and appropriate measures to mitigate such impacts. Oak woodland habitats occurring in the Project Area include blue oak savanna and blue oak woodland. There are 270.32 acres of blue oak savanna and 242.67 acres of blue oak woodland within the Project site; 7.66 acres of blue oak savannah and 36.44 acres of blue oak woodland occur along and/or adjacent to the New Transmission Line.

Jurisdictional and Potentially Jurisdictional Aquatic Resources

Features that convey or hold water are often regulated by multiple agencies. Federal, state, and local agencies have different definitions and terminology for these types of features. Water-dependent resources regulated by USACE, RWQCB, and CDFW are collectively referred to as jurisdictional aquatic resources herein. Terminology used in this document to distinguish each jurisdictional aquatic resource according to the agency that regulates the resource is as follows:

- USACE and RWQCB: "Wetland" and "non-wetland waters." Wetland waters of the United States and non-wetland waters of the United States are subject to regulation by USACE and RWQCB, pursuant to the Clean Water Act. Within the Project site, USACE waters of the United States and wetlands, and RWQCB waters of the United States and wetlands overlap, and therefore are combined under one term: "non-wetland waters" or "wetlands."
- CDFW: "Riparian areas" and "streambeds." Lakes, rivers, and streambeds, including any associated riparian habitat, are subject to regulation by CDFW pursuant to the California Fish and Game Code. Within the Project Area, CDFW streambeds are synonymous with USACE and RWQCB non-wetland waters.

As previously discussed, a formal wetlands jurisdictional delineation was conducted on the Project site in areas defined by GRWF as within or immediately adjacent to the proposed limits of disturbance associated with the project, and at the Los Banos PG&E substation, in May of 2019 (Appendix D). A total of eight seasonal swales were delineated within the Project site, seven of which occur in low areas at the saddle of hills where they convey surface run-off from the surrounding uplands. The remaining swale meanders alongside a dirt access road prior to emptying into a pond outside of the site. Each of these swales were characterized by hydrophytic vegetation, hydric soils, and wetland hydrology. One seasonal wetland was located within the Project site that collects and holds surface runoff long enough to create wetland hydrology, soils, and vegetation. This wetland occurs adjacent to a dirt access road in the southern portion of the site.

Two intermittent drainages were located that flow north to south through the southwestern and southern portions of the Project site. Both drainages convey surface run-off from surrounding uplands and eventually flow into San Luis Reservoir to the east. One ephemeral channel was located that, when inundated, flows roughly northwest through the southeast portion of the site. Similar to the two intermittent drainages, this channel conveys surface run-off from adjacent uplands into San Luis Reservoir.

Based on the data collected during the delineation, the seasonal wetland, seasonal wetland swales, intermittent drainages, and ephemeral channel on the Project site would not be considered waters of the U.S. subject to USACE jurisdiction. However, the seasonal wetland and seasonal wetland swales would be under the jurisdiction of the RWQCB, and the two intermittent drainages on the site are under the jurisdiction of the RWQCB and the CDFW (Table 3.2-8). The one ephemeral channel on the site is expected to be under CDFW jurisdiction.

At the PG&E substation, the small swale that was delineated is isolated from traditionally navigable waters and, therefore, is not considered to be "waters of the U.S." regulated by the USACE. However, this is expected to be regulated by the Regional Water Quality Control Board as waters of the state. In addition, the small pond on the site is isolated from traditionally navigable waters and, therefore, is not considered to be "waters of the U.S." regulated by the USACE. However, this feature is expected to be regulated by the Regional Water Quality Control Board as waters of the state. In addition, the pond contains an OHWM and may be regulated by the California Department of Fish and Wildlife under Section 1602 of the California Fish and Game Code.

Table 3.2-8
Jurisdictional Aquatic Resources within the Project Site

Feature	Cowardin Code	Potential Jurisdiction	Acres	Linear Feet
Wetlands				
SW-1	PEM	RWQCB	0.006	N/A
SWS-1	R6	RWQCB	0.064	N/A
SWS-2	R6	RWQCB	0.158	N/A
SWS-3	R6	RWQCB	0.127	N/A
SWS-4	R6	RWQCB	0.016	N/A
SWS-5	R6	RWQCB	0.056	N/A
SWS-6	R6	RWQCB	0.067	N/A
SWS-7	R6	RWQCB	0.010	N/A
SWS-8	R6	RWQCB	0.024	N/A
		Total	0.595*	N/A
Other Waters				
ID-1	R4	RWQCB/CDFW		104.98
ID-2	R4	RWQCB/CDFW		140.25
EC-1	R6	CDFW		146.60
		Total		391.83

*Acreage is lower than that identified in Table 3.2-1 because only those wetland features within/adjacent to proposed project limits of disturbance were delineated, and because some areas within wetland features were not determined to be under ACOE and/or RWQCB jurisdiction.

Notes: SW = seasonal wetland; PEM2 = Palustrine, emergent, non-persistent; SWS = seasonal wetland swale; RWQCB = Regional Water Quality Control Board; N/A = not applicable; CDFW = California Department of Fish and Wildlife; PD = perennial drainage; R5 = Riverine, perennial; ID = intermittent drainage; R4 = Riverine, Riverine, intermittent.

The Project site supports 0.595 acre of wetlands and 391.83 linear feet of other waters that are anticipated to meet the criteria for jurisdictional waters of the State that are under the jurisdiction of the RWQCB and/or the CDFW.

The proposed New Transmission Line alignment also contains several NHD flow lines; however, since a formal jurisdictional delineation was not conducted along this alignment, flow line widths were not obtained. A number of these potential jurisdictional features, particularly along much of the western-most portion of the New Transmission Line, flow into the San Luis Reservoir, a navigable water of the United States. These are represented on Figure 3.2-6 as "potential jurisdictional features" and are assumed to be potentially under the jurisdiction of USACE/RWQCB as non-wetland waters of the U.S./State and under CDFW as streambeds. Potential jurisdictional aquatic resources within the 500-foot buffer surrounding and including the New Transmission Line corridor total 22.95 acres, comprised of 0.92 acre of USACE/RWQCB/CDFW-jurisdictional wetlands/riparian habitat and 22.03 acres of USACE/RWQCB/CDFW-jurisdictional non-wetland waters of the U.S./streambed. Acreages for potential jurisdictional resources within the Project site are summarized in Table 3.2-8.

Wildlife Corridors and Habitat Linkages

Wildlife corridors are generally linear features that connect large patches of natural open space and provide avenues for the immigration and emigration of animals. Wildlife corridors contribute to population viability in several ways: they allow the continual exchange of genes between populations, which helps maintain genetic diversity; they provide access to adjacent habitat areas, representing additional territory for foraging and mating; they allow for a greater carrying capacity of wildlife populations by including "live-in" habitat; and they provide routes for recolonization of habitat lands following local population extinctions or habitat recovery from ecological catastrophes (e.g., fires).

Landscape-level habitat connectivity in the Project region was completed by the California Essential Habitat Connectivity Project (CEHC) (Spencer et al. 2010). The CEHC is a collaborative effort commissioned by the CDFW and California Department of Transportation that developed a coarse-scale "Essential Connectivity Map" that shows large natural "Natural Landscape Blocks" throughout the state and areas considered essential for providing ecological connectivity between the blocks, called "Essential Connectivity Areas." They are not intended to be detailed linkage designs but are "placeholder polygons that can inform land-planning efforts."

At a very coarse scale, the CEHC Project shows that the Project Area is located in the Diablo Range within the foothills above the San Joaquin Valley, along the western edge of the Central Valley Ecoregion. The Project site is within a large Natural Landscape Block (i.e., Ortigalita Ridge/San Luis Reservoir) that encompasses the Diablo Range and extends south to Panoche Valley (Figure 3.2-8). The Project site is overlain by a broad Essential Connectivity Area (approximately 20 miles wide, 15 miles long) that extends from the Project site east to the Kesterson National Wildlife Refuge and south to Ortigalita Ridge. This Essential Connectivity Area provides north-south and east–west connections between the large Natural Landscape Blocks encompassing the Diablo Range, and those across the San Joaquin Valley and into the Sierra Nevada foothills.

Taking into consideration the CEHC Project analysis, the Project site is situated between several regional landscape features and protected and public lands, providing an important component of regional habitat connectivity. The Project site is located adjacent to the San Luis Reservoir SRA to the east, Henry Coe State Park to the northwest, San Luis and Cottonwood Creek Wildlife Areas to the north, and open space within the Park to the west and south. The Project site and vicinity therefore consists of generally undeveloped lands that provide, even with the existing wind farm and associated infrastructure on the Project site, for relatively unobstructed natural wildlife movement at a regional level. Lands on the San Joaquin Valley floor to the east of the Project site have long been converted to agricultural and developed uses, including the cities of Los Banos and Merced, and therefore provide relatively little current habitat connectivity function east of the Project site and to the valley floor. Furthermore, because of a general lack of development or other land uses that may restrict wildlife movement to narrow and constrained corridors, wildlife movement patterns on the Project site and in the regions north, west, and south of the site are expected to be defined more by natural environmental features such as vegetation, water features, and terrain than by land uses.

With this background information, some generalizations about wildlife use and movement across the Project site can be made. The Project site currently provides unrestricted movement areas for wildlife, including larger mammalian species such as mountain lion, bobcat, elk, mule deer, and coyote. The ephemeral drainages within the Project site provide the most energy-efficient movement areas for most large mammalian species due to the steeper surrounding terrain. The ponds and the adjacent upland areas within the site provide foraging, breeding and aestivation habitat for semi-aquatic amphibian and reptile species, and potentially allow these species to move through the site. The majority of the Project site is grassland and oak savanna with patches of more dense oak woodland, which based on incidental observations, seems to provide adequate cover for elk and mule deer and may provide an abundant prey base of small mammals for bobcats and coyotes. Species using the site are likely tolerant of the noise generated by the existing wind turbines.

Regulatory Setting

Federal Regulations

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973 (16 U.S.C. 1531 et seq.), as amended, is administered by the U.S. Fish and Wildlife Service (USFWS), National Oceanic and Atmospheric Administration, and National Marine Fisheries Service. This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend and provide programs for the conservation of those species, thus preventing extinction of plants and wildlife. Under provisions of Section 9(a)(1)(B) of FESA, it is unlawful to "take" any listed species. "Take" is defined in Section 3(19) of FESA as, "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

FESA (16 U.S.C. 1531 et seq.) is implemented by USFWS through a program that identifies and provides for protection of various species of fish, wildlife, and plants deemed to be in danger of or threatened with extinction. As part of this regulatory act, FESA provides for designation of critical habitat, defined in FESA Section 3(5)(A) as specific areas within the geographical range occupied by a species where physical or biological features "essential to the conservation of the species" are found and that "may require special management considerations or protection." Critical habitat may also include areas outside the current geographical area occupied by the species that are nonetheless "essential for the conservation of the species."

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA; 16 U.S.C. 703 et seq.) is a federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The number of bird species covered by the MBTA is extensive and is listed in 50 CFR 10.13. The regulatory definition of "migratory bird" is broad and includes any mutation or hybrid of a listed species and includes any part, egg, or nest of such bird (50 CFR 10.12). The MBTA, which is enforced by USFWS, makes it unlawful "by any means or in any manner, to pursue, hunt, take, capture, [or] kill" any migratory bird (or eggs or nests) or attempt such actions, except as permitted by regulation. Under the MBTA, "take" is defined as pursuing, hunting, shooting, capturing, collecting, or killing, or attempting to do so (16 U.S.C. 703 et seq.).

In December 2017, Department of Interior Principal Deputy Solicitor Jorjani issued a memorandum (M-37050) that interprets the MBTA to only prohibit intentional take. Recent guidance issued by the USFWS in April of 2018 clarifies and reiterates that the MBTA does not regulate "incidental" take, which is take that results from an activity "but is not the purpose of the activity" and that activities lacking the express purpose of killing or injuring migratory birds do not constitute prohibited takings under the MBTA (USFWS 2018).

Clean Water Act

Pursuant to Section 404 of the Clean Water Act, the USACE regulates the discharge of dredged and/or fill material into "waters of the United States." The term "wetlands" (a subset of waters) is defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (33 CFR 328.3(b)). In the absence of wetlands, the limits of USACE jurisdiction in non-tidal waters, such as intermittent streams, extend to the "ordinary high-water mark" (33 CFR 328.3(e)).

Bald and Golden Eagle Protection Act

Bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) are federally protected under the Bald and Golden Eagle Protection Act (BGEPA), passed in 1940 to protect bald eagle and amended in 1962 to include golden eagle (16 U.S.C. 668 et seq.). This act prohibits the take, possession, sale, purchase, barter, offering to sell or purchase, export or import, or transport of bald eagles and golden eagles and their parts, eggs, or nests without a permit issued by USFWS. The definition of "take" includes to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb. The definition of "disturb" has been further clarified by regulation as follows: "Disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior" (50 CFR 22.3).

The BGEPA prohibits any form of possession or taking of both eagle species, and the statute imposes criminal and civil sanctions, as well as an enhanced penalty provision for subsequent offenses. Further, the BGEPA provides for the forfeiture of anything used to acquire eagles in violation of the statute. The statute exempts from its prohibitions on possession the use of eagles or eagle parts for exhibition, scientific, or Native American religious uses.

In November 2009, USFWS published the Final Eagle Permit Rule (74 FR 46836–46879) providing a mechanism to permit and allow for incidental (i.e., non-purposeful) take of bald and golden eagles pursuant to the BGEPA (16 U.S.C. 668 et seq.). The previous year, 2008, USFWS adopted 50 CFR Part 22.11(a), which provides that a permit authorizing take under FESA section 10 applies with equal force to take of golden eagles authorized under the BGEPA. These regulations were followed by issuance of guidance documents for inventory and monitoring protocols and for avian protection plans (USFWS 2010a). In January 2011, USFWS released its Draft Eagle Conservation Plan Guidance aimed at clarifying expectations for acquiring take permits acquisition by wind power projects, consistent with the 2009 rule (USFWS 2011).

On December 16, 2016, USFWS adopted additional regulations regarding incidental take of golden eagles and their nests (81 FR 91494 et seq.). Most of the new regulations address "programmatic eagle non-purposeful take permits" such as those typically requested by members of the alternative energy industry, most notably wind farms. For example, the new regulations extend the duration of such permits from 5 to 30 years. In addition, the new regulations modify the definition of the BGEPA "preservation standard" to mean "consistent with the goals of maintaining stable or increasing breeding populations in all eagle management units and the persistence of local populations throughout the service range of each species" (81 FR 91494 et seq.).

State Regulations

California Endangered Species Act

The California Department of Fish and Wildlife (CDFW) administers the California Endangered Species Act (CESA) (California Fish and Game Code, Section 2050 et seq.), which prohibits the "take" of plant and animal species designated by the Fish and Game Commission as endangered or threatened in the State of California. Under CESA Section 86, take is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA Section 2053 stipulates that state agencies may not approve projects that will "jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat which would prevent jeopardy."

CESA Sections 2080 through 2085 address the taking of threatened, endangered, or candidate species by stating, "No person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the Commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided in this chapter, the Native Plant Protection Act (Fish and Game Code, Sections 1900–1913), or the California Desert Native Plants Act (Food and Agricultural Code, Section 80001)."

California Fish and Game Code

Streambed Alteration Agreement

Pursuant to Section 1602 of the Fish and Game Code, the CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. A Streambed Alteration Agreement is required for impacts within the bed, bank, and channel of aquatic features under the jurisdiction of CDFW pursuant to Section 1602.

Fully Protected Species

Sections 3511, 4700 and 5050 and 5515 of the California Fish and Game Code designates certain birds, mammals, reptiles and amphibians and fish as "fully protected" species. Fully protected species may not be taken or possessed without a permit from the Fish and Game Commission. CDFW may not authorize the take of such species except (1) for necessary scientific research, (2) for the protection of livestock, and (3) when the take occurs for fully protected species within an approved state Natural Communities Conservation Plan.

Resident and Migratory Birds

The California Fish and Game Code provides protection for wildlife species. It states that no mammals, birds, reptiles, amphibians, or fish species listed as fully protected can be "taken or possessed at any time." In addition, CDFW affords protection over the destruction of nests or eggs of native bird species (CFGC Section 3503), and it states that no birds in the orders of Falconiformes or Strigiformes (birds of prey) can be taken, possessed, or destroyed (CFGC Section 3503.5). CDFW cannot issue permits or licenses that authorize the take of any fully protected species, except under certain circumstances such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock (CFGC Section 3511). Separate from federal and state designations of species, CDFW designates certain vertebrate species as Species of Special Concern based on declining population levels, limited ranges, and/or continuing threats that have made them vulnerable to extinction.

For the purposes of these state regulations, CDFW currently defines an active nest as one that is under construction or in use and includes existing nests that are being modified. For example, if a hawk is adding to or maintaining an existing stick nest in a transmission tower, then it would be considered t active and covered under these Fish and Game Code Sections.

California Native Plant Protection Act

The Native Plant Protection Act of 1977 (CFGC Section 1900–1913) directed CDFW to carry out the legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The Native Plant Protection Act gave the California Fish and Game Commission the power to designate native plants as "endangered" or "rare," and to protect endangered and rare plants from take. When CESA was passed in 1984, it expanded on the original Native Plant Protection Act, enhanced legal protection for plants, and created the categories of "threatened" and "endangered" species to parallel FESA. CESA categorized all rare animals as threatened species under CESA, but did not do so for rare plants, which resulted in three listing categories for plants in California: rare, threatened, and endangered. The Native Plant Protection Act remains part of the California Fish and Game Code, and mitigation measures for impacts to rare plants are specified in a formal agreement between CDFW and project proponents.

Porter–Cologne Water Quality Control Act

The intent of the Porter–Cologne Water Quality Control Act is to protect water quality and the beneficial uses of water, and it applies to both surface water and groundwater. Under this law, the State Water Resources Control Board develops statewide water quality plans, and the Regional Water Quality Control Board (RWQCB) develops basin plans that identify beneficial uses, water quality objectives, and implementation plans. The RWQCBs have the primary responsibility to implement the provisions of both statewide and basin plans. Waters regulated under the Porter–Cologne Water Quality Control Act include isolated waters that are no longer regulated by the USACE. Developments with impact to jurisdictional waters must demonstrate compliance with the goals of the act by developing Storm Water Pollution Prevention Plans (SWPPPs), Standard Urban Storm Water Mitigation Plans, and other measures to obtain a Clean Water Act Section 401 certification.

California Environmental Quality Act

CEQA requires identification of a project's potentially significant impacts on biological resources and feasible mitigation measures and alternatives that could avoid or reduce significant impacts. CEQA Guidelines Section 15380(b)(1) defines endangered animals or plants as species or subspecies whose "survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors" (14 CCR 15000 et seq.). A rare animal or plant is defined in Section 15380(b)(2) as a species that, although not presently threatened with extinction, exists "in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or … [t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered 'threatened' as that term is used in the federal Endangered Species Act." Additionally, an animal or plant may be presumed to be endangered, rare, or threatened if it meets the criteria for listing, as defined further in CEQA Guidelines Section 15380(c). CEQA also requires identification of a project's potentially significant impacts on riparian habitats (such as wetlands, bays, estuaries, and marshes) and other sensitive natural communities, including habitats occupied by endangered, rare, and threatened species.

Oak Woodlands Conservation Act

Senate Bill 1334 established California Public Resources Code section 21083.4(b) and sets conservation standards for oak woodlands through the Oak Woodlands Conservation Act, which provides funding for the conservation and protection of California's oak woodlands. This bill requires any county containing oak woodlands to determine whether a project in its jurisdiction would result in significant impacts to oak woodlands and sets statewide minimum mitigation standards for significant impacts to oak woodlands under CEQA.

California Guidelines for Reducing Impacts to Birds and Bats

Published by the California Energy Commission (CEC) and CDFG, the California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development (CEC Guidelines) (CEC and CDFG 2007) outline the generally accepted procedures for the permitting and study of potential wind energy development projects. The CEC Guidelines are intended to provide voluntary strategies to reduce impacts on birds and bats from new wind energy developments or repowering of existing wind energy projects in California. The CEC Guidelines include recommendations on screening of proposed sites, study design, and impact assessment, as well as recommendations for the development of avoidance, minimization, and mitigation measures.

Regional/Local Regulations

Pacheco State Park General Plan Environmental Impact Report

The proposed Project is located within the boundaries of the Pacheco Sate Park. On May 12, 2006, the State Park and Recreation Commission approved the General Plan and Final EIR (GP/EIR) for Pacheco State Park, which presents the Park's existing conditions and plans for the future use and management of the Park. Existing data of the Park's resources was compiled in 2002 and park use, management, and guidelines were developed shortly thereafter (California State Parks 2006).

The Park is broken down into four management zones based on shared as well as unique characteristics. The Project site is within the Leased Zone based on the presence of wind turbines along the area's highest ridges. The intent of the Leased Zone is to maintain the wind turbines and associated power production for the life of the lease (California State Park 2006). The GP/EIR also includes a number of goals that address overall natural resource management within each of the Park's management zones. These include protection and maintenance of locally and regionally important native plant communities such as native grasslands and wetlands, protection of special-status plant species and communities, protecting and maintaining habitat for common and special-status wildlife species and reducing the number of invasive species such as wild pigs. Multiple guidelines are listed in the GP/EIR that are intended to provide direction to accomplish these goals.

Impacts

Methods of Analysis

This section addresses the potential direct and indirect impacts on biological resources that would result from implementation of the proposed Project and provides an analysis of significance for each impact. The analysis of direct and indirect impacts covers construction, operations and maintenance (O&M), and decommissioning of the existing wind turbines. For those impacts considered to be potentially significant under CEQA, measures are proposed to avoid, minimize, and/or mitigate the impacts. The decommissioning process for the existing wind turbines is not anticipated to result in impacts to sensitive or special-status resources. However, the mitigation measures in place for avoidance and minimization of impacts would also apply during the removal of the existing turbines. As noted earlier in this chapter, the impacts analysis herein addresses ground disturbance activities and turbine operations associated with both Phase I and Phase II. In most cases, impacts associated with the Project site discussed below are inclusive of both phases. However, where appropriate, the discussion differentiates between those associated with Phase I and those associated with Phase II particularly when the significance of the impacts associated with one phase may differ from those associated with the other phase.

As discussed in the Project Description (see Chapter 2), GRWF determined the proposed locations of the wind turbines and support facilities based on a variety of considerations. In particular, and to avoid/minimize potential impacts on biological resources, siting of the proposed new turbines (associated with both Phase I and Phase II) considered the presence or potential presence of avian nests (particularly raptors), sensitive communities (e.g., wetlands, streams, oak woodlands), and special-status plant species (see Methods section above for a brief discussion of associated surveys). Consequently, the impact analysis below is based on the locations of turbines as determined by the micro-siting effort conducted in February 2019.

Direct impacts are those impacts that result from a project and occur at the same time and place [40 C.F.R 1508.8(a)]. Direct impacts were quantified by overlaying the anticipated limits of grading associated with the proposed Project onto the biological resources map and quantifying impacts on existing habitats. Permanent direct impacts on biological resources are generally those associated with ground disturbance on which permanent structures or materials will be placed or on which the land/habitat is converted to a new use. Temporary direct impacts on biological resources typically include those disruptions to habitat or wildlife that do not result in a permanent land use conversion and are temporary in nature either because the impact will diminish over a short period of time or because the impact will only occur for a brief period of time and will cease entirely after that time period. Permanent and temporary direct impacts are based on the Project components and impact assumptions listed in Table 2-1 in Chapter 2, Project Description.

Indirect impacts are those caused by a Project that can occur later in time or farther removed in distance while still reasonably foreseeable and related to the Project [40 C.F.R 1508.8(b)]. Indirect impacts on biological resources typically include those that affect remaining or adjacent biological resources not affected by the direct effects associated with Project construction and operation/maintenance. During construction of the Project, temporary indirect impacts to biological resources typically include disruption of wildlife activity (including nesting/breeding, foraging, and movement) due to increased human activity and noise. Long-term indirect impacts to remaining open space areas can include intrusions by humans, noise, effects of toxic chemicals from turbine or vehicle leaks, runoff from developed areas potentially causing soil erosion and hydrological changes.

Thresholds of Significance

The following guidelines for assessing the significance of impacts on biological resources, based on Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.), were determined to apply to this project. A significant impact on biological resources would occur if the proposed Project would result in any of the following conditions:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service.
- Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

The significance of impacts to biological resources are typically assessed by comparing the potential changes resulting from a proposed project to the significance thresholds defined above. An evaluation of whether or not an effect on biological resources would be "substantial" with respect to the significance thresholds generally considers the following:

- amount and/or extent of the resource (numbers, acres, etc.) to be affected;
- the relative biological value (rarity, functions and values) and/or sensitivity status of the resource and its relevance within a specified geographical area;
- the type and severity of impact, (i.e., would the project adversely affect wildlife through mortality, injury, displacement, or habitat loss or adversely impact vegetation through destruction of a sensitive plant population?);
- timing of the impact, (i.e., would the impact occur at a critical time in the life cycle of a special-status plant or animal, such as breeding, nesting, or flowering periods?);
- duration of the impact, (i.e, whether the impact is temporary or permanent); and
- project design attributes or other Applicant proposed measures included as part of the overall proposed Project that would avoid or minimize potential impacts on biological resources.

In addition, because the proposed Project is a repowering project to replace the existing 162 wind turbines with up to 40 new turbines, it is assumed that the historical and ongoing impact that the existing 162 operating turbines may have had on avian and bat species over the past 30 years essentially represents the baseline condition against which the significance of impacts associated with the operation of the proposed new turbines on these species will also consider.

Issues Addressed in the Initial Study

Three biological significance thresholds listed in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.), including those associated with potential impacts on wildlife movement and nursery sites, potential conflicts with local policies or ordinances (such as a tree ordinance) protecting biological resources, and potential conflicts with adopted Habitat Conservation Plans or similar local, regional, or state conservation plans, are not addressed in this EIR for the reasons discussed below.

As discussed in the Initial Study (see Appendix B), after the decommissioning of the existing 162 wind turbines on the Project site and the installation of up to 40 new wind turbines, which will result in a substantial reduction in the total number of turbines on the site, it is anticipated resident wildlife species would continue to use the site for local as well as larger-scale movement and any established wildlife movement areas (i.e., drainages, dirt roads, trails, etc.) would continue to function in their current state. The Project does not include installing new fences or other impediments to wildlife movement. Project implementation, therefore, would not result in any adverse impacts to the movement of any native resident or migratory wildlife species on or in the vicinity of the Project site. In addition, based on the fieldwork conducted on the site, there are no known wildlife nursery sites present that would be adversely affected. Therefore, impacts associated with wildlife movement and nursery sites were found to **be less than significant** and will not be discussed further in this EIR.

As stated in the Initial Study, because CDPR is the lead agency for this Project it is not required to comply with local (county) policies or regulations. Nevertheless, consistent with CDPR GP/EIR goals and policies addressing natural resources, the proposed Project would (1) not impact any existing wetland or riparian areas since all turbines would be installed in upland areas and setbacks would be established around existing wetland areas to avoid impacts associated with on-site infrastructure; (2) minimize impacts to oak trees; (3) avoid impacts to special-status plant species and sensitive plant communities, and (4) maintain habitat values for common and special-status wildlife species occurring on the site. In addition, the project team and CDPR has met with two environmental groups to coordinate minimizing adverse effects on important or sensitive biological resources, and has met with and coordinated with Merced County, CDFW, and USFWS to address avoidance of wetland and aquatic resources and special-status plant and wildlife species and the protection of these resources. As such, the proposed Project would not conflict with any local policies or ordinances protecting biological resources, including the goals and policies of the CDPR EIR/GP discussed above. Therefore, impacts associated potential conflicts with local policies or ordinances were determined to be **less than significant** and will not be discussed further in this EIR.

As stated in the Initial Study, there are no adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plans that include the Project site, New Transmission Line corridor, or areas immediately adjacent to the Project site or New Transmission Line corridor. Because the proposed Project would therefore not conflict with any such plans, impacts associated with the potential to impact Habitat Conservation Plans, Natural Community Conservation Plans were determined to be less than significant and will not be discussed further in this EIR.

Impacts and Mitigation Measures

3.2-1: Implementation of the proposed Project may have a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. This would be considered a potentially significant impact.

Project Site

Special-Status Plant Species

Three special-status plant species—spiny-sepaled button-celery, shining navarretia, and Hall's bush mallow—have either been historically documented on the Project site (Hall's bush mallow) or have a moderate potential to occur on the Project site (the remaining two species) based on the presence of suitable habitat on-site. Construction and ground disturbance associated with the proposed Project could result in the direct loss of special-status plant species should they occur within ground disturbance areas associated with the Project. During construction of the Project, indirect effects can include dust accumulation on individual plants which can disrupt plant vitality in the short term although such impacts would be temporary and would not be expected to have a substantial adverse effect on the plants. However, none of these plant species were observed on the Project site during focused, protocol-level plant surveys conducted in May of 2019. Nevertheless, micro-siting of turbines that was conducted in early 2019 included avoiding habitat potentially supporting these special-status plants. Therefore, no direct or indirect impacts associated with Phase I or with development within the Project site associated with Phase II are expected to occur to special-status plant species; therefore, **no significant impacts would occur**.

Special-Status Wildlife Species

Implementation of the proposed Project would result in the direct loss of habitat, including foraging habitat, for many of the special-status wildlife species described in the Environmental Setting above. These species are included in Table 3.2-9; impacts are noted in acres. The assessment of this habitat loss, as well as any operational impacts to these species, is discussed further below.

Table 3.2-9
Direct Impacts to Suitable Habitat for Special-Status Wildlife Species Known to Occur or with Potential to Occur within the Project Area

Wildlife Species	Status (Federal/State)	Phase I (Temporary/Permanent)	Phase II (Temporary/Permanent)
Amphibians and Reptiles			
Western pond turtle (*Actinemys marmorata*)	None/SSC	No impact to suitable breeding habitat/no impact to suitable breeding habitat	No impact to suitable breeding habitat/no impact to suitable breeding habitat
California tiger salamander (*Ambystoma californiense)*	FT/ST, WL	No impact to suitable breeding habitat/no impact to suitable breeding habitat	No impact to suitable breeding habitat/no impact to suitable breeding habitat
Northern California legless lizard (*Anniella pulchra*)	None/SSC	38.77ac/6.08ac	73.19ac/12.43ac
San Joaquin coachwhip (*Coluber flagellum ruddocki*)	None/SSC	110.73ac/20.18ac	413.08ac/85.21ac
Blainville's horned lizard (*Phrynosoma blainvillii*)	None/SSC	110.73ac/20.18ac	413.08ac/85.21ac
California red-legged frog (*Rana draytonii*)	FE/SSC	No impact to suitable breeding habitat/no impact to suitable breeding habitat	No impact to suitable breeding habitat/no impact to suitable breeding habitat
Western spadefoot toad (*Spea hammondii*)	None/SSC	No impact to suitable breeding habitat/no impact to suitable breeding habitat	No impact to suitable breeding habitat/no impact to suitable breeding habitat
Birds			
Golden eagle (*Aquila chrysaetos*)	BCC/FP, WL	110.86ac/20.2ac, foraging 16.9ac/2.22ac, nesting	417.18ac/84.85ac, foraging 32.84ac/2.84ac, nesting
Bald eagle (*Haliaeetus leucocephalus*)	BCC/SE, FP	110.86ac/20.2ac, foraging 16.9ac/2.22ac, nesting	417.18ac/84.85ac, foraging 32.84ac/2.84ac, nesting
White-tailed kite (*Elanus leucurus*)	None/FP	110.86ac/20.2ac, foraging 16.9ac/2.22ac, nesting	417.18ac/84.85ac, foraging 32.84ac/2.84ac, nesting
California condor (*Gymnogyps califorinianus*)	FE/SE, FP	110.86ac/20.2ac, foraging Not expected to nest on-site.	417.18ac/84.85ac, foraging Not expected to nest on-site.
Northern harrier (*Circus cyaneus*)	None/SSC	110.86ac/20.2ac, foraging 16.9ac/2.22ac, nesting	417.18ac/84.85ac, foraging 32.84ac/2.84ac, nesting
Burrowing owl (*Athene cunicularia*)	BCC/SSC	Not expected to nest/forage on Project site.	No impacts on Project site. 118.78ac/20.79ac transmission line
Loggerhead shrike (*Lanius ludovicianus*)[2]	BCC/SSC	4.57ac/0.78ac nesting, foraging	11.13ac/0.79ac, nesting, foraging
Olive-sided flycatcher (*Contopus cooperi*)	BCC/SSC	No impact.	No impact.
American white pelican (*Pelecanus erythrorhynchos*)	None/SSC	No impact.	No impact.
Mammals			
American badger (*Taxidea taxus*)	None/SSC	128.54ac/22.49ac	450.02ac/88.27ac

Table 3.2-9
Direct Impacts to Suitable Habitat for Special-Status Wildlife Species Known to Occur or with Potential to Occur within the Project Area

Wildlife Species	Status (Federal/State)	Phase I (Temporary/Permanent)	Phase II (Temporary/Permanent)
San Joaquin kit fox (*Vulpes macrotis mutica*)	FE/ST	No impact.	No impacts on Project site. 118.78ac/20.79ac New Transmission Line
Pallid bat (*Antrozous pallidus*)	None/SSC	128.70ac/22.52ac, foraging 16.90ac/2.22ac, roosting	592.92ac/123.32ac, foraging 32.84ac/2.84ac, roosting
Western mastiff bat (*Eumops perotis californicus*)	None/SSC	128.70ac/22.52ac, foraging 16.90ac/2.22ac, roosting	592.92ac/123.32ac, foraging 32.84ac/2.84ac, roosting
Western red bat (*Lasiurus blossevillii*)	None/SSC	128.70ac/22.52ac, foraging 16.90ac/2.22ac, roosting	592.92ac/123.32ac, foraging 32.84ac/2.84ac, roosting

Status Legend
FE: Federally Endangered
FT: Federally Threatened
FC: Federal Candidate
BCC: U.S. Fish and Wildlife Service Bird of Conservation Concern
SSC: California Species of Special Concern
FP: California Fully Protected Species
WL: California Watch List Species
SE: State Endangered
ST: State Threatened

Western pond turtle, California tiger salamander, California red-legged frog, western spadefoot

Western pond turtle was observed in at least one of the on-site ponds on the Project site in 2018 and is assumed to occur within the other on-site ponds. California red-legged frog is also known to occur on-site in at least two of the on-site ponds. California tiger salamander, while not historically observed on-site, is known to occur in the Project vicinity and is presumed to be present within suitable pond habitat on the Project site. In addition, most of the Project site is within designated critical habitat for California red-legged frog. It is unknown if western spadefoot occurs on-site, but the same breeding habitat areas that are suitable for the other three species could also potentially support western spadefoot.

All of the proposed new turbines, for both Phase I and Phase II, as well as all infrastructure associated with these turbines (e.g., new access roads, O&M facility, overhead collector system, temporary staging/laydown areas, etc.) for both phases are proposed to be well outside of the on-site ponds that serve as breeding habitat for these species; therefore, no direct loss of this habitat or individual animals of these species would occur with Project implementation associated with either phase. However, California red-legged frog, California tiger salamander, and western spadefoot typically use small mammal burrows and soil crevices within upland habitat adjacent to breeding ponds and drainages for shelter and aestivation outside of their breeding season.

Consequently, under either Phase I or Phase II, animals utilizing upland areas, particularly within close proximity to on-site ponds, proposed for grading or other ground-disturbance activities may become entombed under soil, crushed or damaged by equipment or personnel, thereby resulting in harm or mortality to individuals. Such impacts to these species, if occurring within upland burrows at the time of ground disturbance, would be considered a **potentially significant impact.**

In addition, grading or other construction-related activities that occur in close proximity to the on-site ponds and drainages could result in indirect impacts to these areas. Impacts can include erosion and/or siltation into the ponds that can cover egg masses or the young of each of these species, inadvertent impacts by vehicles or construction personnel to individuals of these species that may be basking or seeking shelter in burrows within adjacent upland habitat near the ponds, or the spillage of chemicals into the ponds due to leaking vehicles or other equipment working adjacent to the ponds. These indirect effects, for both Phases I and II, would be considered a **potentially significant impact**.

The Project site is within designated critical habitat for the California red-legged frog (Figure 3.2-7). This critical habitat is generally in the form of breeding habitat but includes adequate adjacent upland habitat within which to burrow, seek shelter, and/or aestivate. All of the potential breeding ponds within the critical habitat area, and the vast majority of the adjacent upland habitat near the breeding ponds would be avoided; only 41.58 acres of suitable upland habitat would be impacted through Project implementation of both Phases I and II (see Table 3.2-10 below). Because of the insubstantial amount of this upland habitat to be impacted (2.9%) with respect to the amount that would remain undisturbed, the amount of habitat impacted would be negligible given the small footprint of each turbine; and once the turbines are operational they would not inhibit the ability of any red-legged frogs in the on-site ponds to forage, disperse, or otherwise move through the surrounding habitat. In addition, and as noted in Chapter 2, Project Description, the upland habitat associated with the decommissioning of the 162 existing turbines on the site, as well as the approximately 15 acres of upland habitat temporarily disturbed from ground-disturbance activities including staging and laydown areas as well as a construction trailer and associated parking, would be replanted and restored with native vegetation consistent with the area's ecological setting. With respect to the areas being decommissioned, and because more turbines will be decommissioned than being proposed to be installed on the Project site, this restoration would ultimately result in a net increase in upland habitat for this and other wildlife species. Consequently, the permanent loss of 41.58 acres of designated upland critical habitat for California red-legged frog as a result of both Phases I and II would not adversely affect the functions and values of this habitat to support the recovery of the species in this region. Therefore, this loss would **not be considered a significant impact.**

Table 3.2-10
Potential Impacts to Vegetation Communities and Land Cover Types within California Red-legged Frog Critical Habitat Areas on the Project Site

Vegetation Type	Total Acreage within Critical Habitat on Project Site (Phases 1 and 2)	Permanent Impacts (acres) Phases 1 and 2
Breeding Critical Habitat for California Red-legged Frog		
Pond/Lacustrine	3.55	--
Suitable Critical Habitat Acreage	3.55	--
Upland Critical Habitat Potentially Used by California Red-legged Frog		
Blue Oak Savanna	272.48	18.07
California Annual Grassland	1,120.88	23.27
Purple Needle Grass Grassland	1.35	0.24
Seasonal Wetland	1.52	--
Seep	0.40	--
Total Acreage	1,403.73	41.58

Source: Dudek 2019.

Northern California legless lizard, San Joaquin coachwhip, Blainville's horned lizard

Suitable habitat occurs on the Project site for each of these species and each has some potential to occur on-site. Ground-disturbance activities associated with both Phases I and II is expected to result in the direct loss of upland habitat for these species (see Table 3.2-10). Potential direct impacts to these species during construction include injury or mortality by construction vehicles on access roads, mechanical crushing during site preparation, grading of new access roads, and preparation of staging locations. Indirect impacts include fugitive dust and general disturbance due to increased human activity. These impacts are considered a **potentially significant impact**.

Golden Eagle, Bald Eagle

Construction

Over the two years of avian point count surveys conducted on the Project site, biologists observed individual golden eagles on nine occasions comprising a total of approximately 25 minutes of eagle observations (0.12%) out of the total 20,790 observation minutes conducted during the surveys. Golden eagles were observed across four different point count stations during the 800m point count surveys. These observations were all in the southern portion of the Project site. Biologists observed bald eagles eight times across six different point count stations representing a total of approximately 15 minutes of eagle observations (0.07%) out of the total 20,790 observation minutes conducted during the surveys. Suitable nesting and foraging habitat occurs within the Project site and in the surrounding areas for golden eagle, and suitable wintering foraging and roosting habitat occurs on the site and surrounding areas for bald eagle, though all bald eagle activity observed on the site was associated with foraging or movement events.

Direct impacts to golden eagle habitat during construction would include the permanent loss of approximately 3.2 percent of the total amount of foraging habitat associated with Phases I and II within the Project site. No suitable nest trees are expected to be impacted by Phases I and II within the Project site as most of the trees located within close proximity to the areas impacted by the Project are considered too small to support eagle nests or will otherwise be avoided by ground disturbance activities. Because of the insubstantial amount of foraging habitat to be impacted relative to that being preserved, and because the Project includes the restoration of habitat associated with decommissioned turbines such that the result would be a net increase in suitable foraging habitat, impacts to foraging habitat are considered **less than significant**.

Indirect impacts from construction activities include noise and human disturbance that can disrupt eagle foraging behavior on the site and potentially adversely affect nesting behavior (e.g., cause nest abandonment) for active nests occurring within a half mile, and within the immediate viewshed of, construction activities. This species is sensitive to human encroachment and if active nests are disturbed by humans, nest abandonment can occur (Thelander, 1974). No active nests or territories are known to occur within one mile of the Project site based on the data collected to date. However, should a golden eagle pair construct a nest on or adjacent to the site between the time of the current surveys and when Project construction would begin (anticipated in the first quarter of 2020), construction activities and associated noise and human activity could result in adverse disturbances to nesting golden eagles. These indirect effects, therefore, would represent a **potentially significant impact**.

Direct impacts to bald eagle habitat during construction would include the loss of 62 acres of winter foraging habitat. This represents approximately 3% percent of the total amount of foraging habitat within the Project site. No known roost or perch trees are expected to be impacted by the Project. Noise from construction activities is not expected to adversely affect bald eagles as this species is not expected to nest on-site. Therefore, **no impacts** to bald eagles as a result of indirect impacts would occur.

Operation

Direct impacts from Project operation is largely associated with collision with operating wind turbines and collision or electrocution with collector and transmission lines. For purposes of the impact analysis, a range of turbine models to capture the envelope of potential impacts representing the smallest and largest machines that GRWF would use for both phases of this Project are analyzed. Models considered include those with the highest and lowest rotor blade tip heights above ground (182.5m and 9m, or approximately 598 ft and 30 ft, respectively) and those with the largest and smallest rotor diameters (154m, or approximately 505 ft, and 127m, or 416 ft, respectively), all with varying RDAGs (see Figure 3.2-2).

Out of the 693 avian point counts conducted, representing a total of 20,790 minutes (346.5 hours) of recorded observations over the space of two years (October 2017 to September 2019), the nine golden eagle observations totaled 25 minutes representing 0.12% of the total survey time. As noted above, the point count data collected on the Project site recorded a total of eight bald eagles observed over a total of 15 minutes of observation time during the avian point counts. Between the two eagle species, this represented a total of 40 minutes (0.19 %) of recorded eagle observations over the entire survey period. All nine of the golden eagles and all eight of the bald eagles observed during the 800m point counts briefly passed through the elevation range of the RDAGs of the range of models considered at some point during the observations.

Of the 48 golden eagles observed during the 150 migration period surveys conducted over one spring and two fall migration periods, 42 were observed flying briefly within the various RDAGs (Appendix D). These 42 individuals were observed within the RDAGs for a combined total of 160 minutes (0.22%), out of the 71,700 total survey minutes. Most of the detections of bald eagles (21 of 24) during the migratory period surveys involved individuals briefly passing through the elevation range of the RDAGs being considered, although 10 spent time well above the RDAG at altitudes 1,200 feet and higher (Appendix D). The total detection time for the 21 bald eagles flying within the RDAG was 82 minutes (0.11%), out of the total survey time of 71,700 minutes. During the eagle territory surveys, although individual eagles were recorded within the Project site, no active nests or territories were observed to occur within one mile of the Project site based on the data collected to date.

The overall proposed Project would replace 162 older, smaller wind turbines with up to 40 new, larger wind turbines; nine turbines would be installed as part of Phase I with the remaining under Phase II. Multiple studies suggest that repowering projects, which would utilize newer, larger turbines, can result in an overall reduction in avian impacts when compared to the existing baseline fatality rates of the older-generation turbines (BRC 2004). One study from Smallwood and Karas (2009) in the Altamont Pass Wind Resource Area (APWRA, approximately 60 miles north of the Project site) indicated that fatality rates on one repowered project were 54% and 66% lower for raptors and all birds, respectively, relative to first- and second-generation turbines and predicted that repowering across the APWRA could produce similar reductions. On a larger scale, Smallwood (2010) used fatality data from 2005 to 2009 throughout the APWRA to develop multiple baseline fatality-rate estimates and compared those to predicted fatality rates at another repowering project in Contra Costa County. The author concluded that the newer and larger turbines would reduce fatality rates by 65% and 61% for raptors and all birds, respectively. Another study compared fatality rates at two repowering projects to non-repowered turbines across the APWRA to determine if repowering would reduce the number of turbine-related fatalities for several raptor species (ICF International 2013). The estimates of the fatality rates for the repowering projects were significantly lower than the corresponding estimates for the non-repowered turbines for

American kestrel, golden eagle, and red-tailed hawk with the decrease being greatest for golden eagle (89 percent) followed by American kestrel (88 percent), and red-tailed hawk (36 percent). And recently an agreement was reached at the APWRA with the Audubon Society and other entities to replace 2,400 existing Kenetech 56-100 and KSV-33 turbines with newer, fewer, and larger wind turbine models as part of an ongoing commitment to reduce raptor mortality at the APWRA by 50 percent.

Raptor use at wind energy projects is generally considered to be positively correlated to raptor collision risk (Anderson et al 2004). In a review of mortality rates observed at wind projects in the western U.S. compared to the level of golden eagle use as determined during pre-construction point count surveys, projects that reported low to very low golden eagle use have not reported eagle mortalities, whereas projects with relatively high eagle use reported eagle fatalities (Ocotillo Express LLC 2018). In particular, no mortality has been documented where annual eagle use values are less than 0.05/20-minute survey period (adjusted from a 30-minute survey period for project comparison; CH2MHILL 2016). While this observation is not intended to suggest that wind turbine sites with low eagle use estimates will not incur an eagle morality over the life of a given wind project, it does suggest that facilities with rather low eagle use are likely to incur low levels of take (if any) relative to facilities with documented high eagle use.

While no mortality monitoring has ever been conducted associated with the existing operating wind turbines at the Project site, it is assumed that any historical and ongoing impact that these existing turbines may have had on avian and bat species over the past 30 years essentially represents the baseline condition for this site. Based on the survey data (summarized above and in more detail in Appendix D) collected for the Project site, golden and bald eagle use of the site appears to be very low and, consequently, collisions with the operating turbines installed as part of the Project are expected to be very infrequent if at all, especially in association with Phase I. In an analysis of eagle use of the Project site, based on the two years of avian point count surveys conducted through September of 2019, observed golden eagle use resulted in a use value of 0.0087/20-minute survey period and bald eagle use resulted in a use value of 0.008/20-minute survey period. These eagle use values are substantially lower than the eagle use value (0.05/20-minute survey period) noted above below which no documented mortalities of eagles have been reported in the western U.S. wind projects analyzed.

The power collection system for the new turbines would largely be underground though small portions of the system may be above ground to minimize loss of trees and woodland habitat and due to topographical considerations. The existing overhead transmission line to the Dinosaur Point substation (historically used by the existing wind farm) would continue to be utilized to transmit energy as part of Phase I of the Project. While portions of this existing transmission line will need to be realigned to facilitate new turbine placement associated with Phase I, no increased risk of collision/electrocution with golden or bald eagles foraging on the Project site is expected to occur.

The 70 kV New Transmission Line (Phase II) that would extend from the Project site to the Los Banos Substation is addressed further below.

However, given that several territorial golden eagles have been observed as occurring within 10 miles of the Project site, and that at least some golden as well as bald eagles have been documented foraging on the site and moving through the worst case scenario RDAGs of several turbine models being considered for both phases of the Project, and despite the expected benefits of replacing a large number of older, smaller turbines with substantially fewer and newer turbines as well as the very low eagle use values associated with the Project site by golden and bald eagles, collisions with operating wind turbines that would result in injury and/or mortality cannot be entirely ruled out for either Phase I or Phase II (though the collision potential, particularly with respect to the existing baseline, is expected to be substantially lower for Phase I due to the reduced number of turbines that will be installed). Such collisions by golden or bald eagles would be considered a **potentially significant impact**.

White-tailed kite, northern harrier, loggerhead shrike, olive-sided flycatcher, American white pelican

Direct impacts to white-tailed kite habitat associated with construction for both phases of the project within the Project site includes the loss of approximately 3.8% percent of the total amount of foraging habitat, and approximately 0.5% of the nesting habitat, within the Project site. Direct impacts to northern harrier and loggerhead shrike associated with construction includes the loss of approximately 2.3% percent of the total amount of foraging and nesting habitat within the Project site for these species. Because of the insubstantial amount of foraging/nesting habitat to be impacted relative to that being preserved, and because the Project includes the restoration of habitat associated with decommissioned turbines such that the result would be a net increase in suitable habitat, impacts to habitat for these species are **less than significant**.

Indirect impacts from construction activities associated with both Project phases within the Project site include noise and human disturbance that can disrupt foraging behavior on the site and potentially adversely affect nesting behavior (e.g., result in nest abandonment) if active nests occur within 300 feet construction activities. Activities that result in adverse impacts on active nests of these species are considered a **potentially significant impact**.

Olive-side flycatcher and American white pelican, though observed on the Project site, are not expected to nest on-site due to lack of suitable habitat (white pelican) and because the site is outside the normal nesting range of the species (flycatcher). Both individuals observed were assumed to be migrants or irregular visitors to the area. Therefore, no direct or indirect impacts to these species associated with habitat loss would occur. While operation of active wind turbines could pose a risk to both these species and loggerhead shrike should they occur within the RSZ of the turbines, none of these species are expected to occur within this zone. There is no foraging or nest habitat on the site that would attract white pelicans to fly close enough to the site to be within the RSZ and because the olive-side flycatcher is likely only to occur as a migrant flying over the site at relatively high altitudes or as a very infrequent forager during migration events, the risk of collision with turbine blades on the Project site or existing on-site transmission lines is considered so low as to not be a substantially adverse effect on the species. Loggerhead shrikes forage relatively close to the ground, preferring to be close to cover provided by low-lying shrubs and thickets. Therefore, the risk of an individual of these three species colliding with spinning turbines is considered to be very low. However, foraging white-tailed kites and northern harriers could potentially fly within the RSZ associated with the new turbines. Thought the potential is considered somewhat remote given the low potential of either of these species to nest and forage on the site, this is considered a **potentially significant impact**.

California Condor

Direct impacts to California condor habitat associated with construction includes the permanent loss of approximately 105.5 acres of foraging habitat. This represents an insignificant amount (5.4%) of the total amount of foraging habitat within both phases of the Project, and an even much smaller percentage when considering suitable foraging habitat in the immediate vicinity of the Project Area. This species is not expected to nest on-site due to the lack of suitable nest habitat. Because of the insubstantial amount of foraging habitat to be impacted relative to that being preserved, and because both phases of the Project includes the restoration of habitat associated with decommissioned turbines such that the result would be a net increase in suitable foraging habitat, impacts to California condor foraging habitat are **less than significant**.

Based on a review of USFWS/USGS GPS telemetry data (representing individual condor flights) of the central California subpopulation of condors from January 2017 through March 2019, 11 individual condors flew within 10 miles of the Project site. Of these, nine flew within 5 miles of the site of which only one flew directly over a portion of the site (Appendix D). Of the millions of telemetry location points associated with condor flights from this subpopulation of condors, the number of location points associated with these 11 condors within 10 miles of the Project site represents less than one-tenth of one percent of the total location points during the 27-month review period. In addition, and based on the telemetry data, these 11 condors flew at relatively high altitudes during the flights within 10 miles of the site, with the average altitude across the 27-month period being 3,573 feet (1,089 meters) above ground. Furthermore, no condors have been recorded or observed perching or feeding on or immediately adjacent to the Project site. Condors are very opportunistic foragers, often traveling large distances at high altitudes to find food or to fly to known areas with a high potential of large mammal carcasses (i.e., primarily dead domestic cattle, wild pigs, or deer or elk in areas that are hunted).

No grazing or hunting is allowed to occur within both the State Park, inclusive of the Project site, thus removing a primary attractant to condors. Furthermore, no historic condor roost sites occur on the site or in the vicinity that have been or continue to be used by this very communal species that could cause condors to fly at low altitudes over the site. Based on a review of the USGS radio telemetry data, it appears that the majority of the flight occurrences near the Project site are overflights as birds move from the activity center of the Central California condor flock at Pinnacles National Park and in the Big Sur area, approximately 50 miles to the southwest of the Project site, to known foraging areas within the Diablo Range and other large open space areas in the region. In addition, condors may be more wary of wind turbines than other large flying birds. As of the latest publicly released 5-year review of the California condor in 2013 (the 5-year review ending in 2018 has not yet been released), no condors have collided with an active wind turbine despite condors in both southern and central California occurring and foraging within close proximity to various active wind farms (USFWS 2013). This includes the 162 existing turbines on the Project site that have been in operation for over 30 years.

However, the Project site does support populations of deer and elk, as well as wild pigs, all of which are prey for local mountain lions. Animals preyed upon by mountain lions can serve as attractants to passing condors. In addition, individual cows from nearby ranches could inadvertently make their way to the Project site. Any such animals that expired on the site due to disease or old age can serve as attractants to condors. While condors are only expected to fly near or over the Project site on a very irregular basis and at relatively high altitudes, the potential for a large animal carcass to be available at the same time a condor happens to be soaring in the site vicinity cannot be entirely ruled out.

In addition, condors are known to be attracted to microtrash (i.e., broken glass, paper and plastic waste, small pieces of metal such as screws, nuts, and bolts, bottle caps, pop-tops, PVC pipe fragments, etc.) that adult condors will ingest and bring back to nest sites to feed to young, mistaking the trash as bone chips and carcass fragments to aide nestlings with digestion and as a source of calcium (Houston et al. 2007). While adult condors can usually regurgitate such materials without harm to themselves, it can cause injury or mortality to condor chicks. Construction sites associated with the Project site, including maintenance operations once the new turbines are in operation, can be a source of this microtrash and can serve to attract condors flying overhead or nearby.

The possibility of a condor being attracted to the Project site from either animal carcasses or the presence of microtrash and potentially colliding with Project turbines associated with either Phase I or Phase II, though remote, would be considered a **potentially significant impact**.

Pallid bat, western mastiff bat, western red bat

Direct impacts to these bat species associated with construction from both phases of the Project includes the loss of approximately 145.84 acres of foraging habitat and approximately 5.06

acres of potential roosting habitat. This represents approximately 6.02 percent of the total amount of foraging habitat and 2.4% of the total potential roosting habitat within the Project site and along the New Transmission Line corridor. Because of the insubstantial amount of foraging and roosting habitat to be impacted relative to that being preserved, and because both phases of the Project include the restoration of habitat associated with decommissioned turbines such that the result would be a net increase in suitable foraging habitat, impacts to foraging habitat are **less than significant**.

The removal of trees associated with both phases of the Project could potentially result in harm or mortality to any individual bats roosting in the trees, typically under bark layers. Indirect impacts, including construction noise and human disturbance, can adversely affect daytime and/or maternal roost sites that occur in trees, rock crevices, or buildings in close proximity (within 500 feet) to construction. Adverse effects can include abandonment of maternity roosts and daytime roosts exposing the bats to diurnal predators. Construction noise and human disturbance that could adversely affect roosting bats or maternal roosts is considered a **potentially significant impact**.

As described above, bats were detected by the passive Anabat devices resulting in over 10,000 files and nearly 1,000 minutes of total recorded data. Most of this data (69%) was associated with the common Brazilian free-tailed bat. The actual number of recorded minutes for these three special-status bat species is 2 minutes (0.2%; pallid bat), 7 minutes (0.7%; western mastiff bat), and 4 minutes (0.4%; western red bat) indicating that these bats forage on the site, or simply pass through the site, on a very infrequent basis. Only one of these species, western mastiff bat, was detected as briefly occurring within the RSZ.

While barotrauma, the damage that can occur to internal organs as a result of bats flying through areas of rapid drops in atmospheric pressure near spinning turbine blades, has been well documented (Durr and Bach 2004, Baerwald et al. 2008), whether or not barotrauma is a primary contributor to bat mortality, versus direct collision with turbine blades, at operating wind farms continues to be inconclusive (Grodsky et al. 2011) with at least one study suggesting that most bat mortality at wind farms is likely due to turbine collisions (Rollins et al. 2012).

Based on the very low number of bat detections within the potential RDAG of turbines likely to be used on the Project site, bat collisions with turbines is only expected to occur on a very infrequent basis. While the possibility for any of these three special-status bat species to forage or otherwise fly within the RSZ of the proposed new turbines and be subjected to collision with turbine blades or barotrauma cannot be entirely ruled out, the expected low number of bat mortality is not expected to substantially affect regional populations of these species and, therefore, would be a **less than significant impact**.

American badger

Direct impacts to American badger associated with installation of the wind turbines and associated infrastructure from both phases of the Project includes the loss of approximately 110.76 acres of foraging and denning habitat. This represents approximately 5.9 percent of the total amount of foraging and denning habitat within the Project site. Because of the insubstantial amount of this habitat to be impacted relative to that being preserved, and because the Project includes the restoration of habitat associated with decommissioned turbines such that the result would be a net increase in suitable foraging/denning habitat, impacts to this habitat are **less than significant**.

Direct impacts also include the potential for active dens or den entrances to become crushed or destroyed by construction vehicles and equipment associated with grading and/or improving areas for turbine pads, access roads, and/or buildings and infrastructure. If live young or adults are in the burrows at the time, such activities could result in injury or mortality to animals. This would be considered a **potentially significant impact**.

New Transmission Line Corridor (Phase II)

Special-Status Plants

Direct impacts to special-status plants would be similar to those described for the Project site but would be associated with the New Transmission Line tower installation and the creation of access roads which would occur under Phase II of the Project. Similarly, indirect effects associated with dust and other construction-related activities would not be expected to result in a substantial adverse effect on plant species. Depending on how many individual plants or populations of a particular species would be directly affected by installation of the New Transmission Line and associated access roads, this would be considered a **potentially significant impact**.

Special-Status Wildlife Species

Western pond turtle, California tiger salamander, California red-legged frog, western spadefoot

Small areas of suitable pond or lacustrine habitat also occur within or adjacent to the proposed New Transmission Line corridor that can provide breeding habitat for these four species. The westernmost portion of the proposed New Transmission Line corridor is also within designated critical habitat of the California red-legged frog; the majority of the habitat along the New Transmission Line corridor east of the San Luis Reservoir is considered unlikely to support this species. Similar to the wind turbine area, all areas of aquatic breeding habitat for these four species would be avoided by construction activities associated with the installation of the New Transmission Line towers and associated access roads and maintenance corridors. However, similar indirect affects identified with the Project site could also adversely affect aquatic breeding habitat within and/or adjacent to the proposed transmission corridor. This would be considered a **potentially significant impact**.

For the same reasons stated above for the Project site, the loss of an insubstantial amount of upland critical habitat for the California red-legged frog would not adversely affect the ability of regional populations to recover. However, any animals that may be using upland areas adjacent to breeding habitat could be adversely affected if these areas are subjected to ground-disturbance activities during a time when individual animals may be within a ground burrow. Therefore, disturbance to upland habitat being used by these species during construction would be considered a **potentially significant impact**.

Northern California legless lizard, San Joaquin coachwhip, Blainville's horned lizard

Direct and indirect ground disturbance impacts associated with installation of the New Transmission Line towers, access roads, laydown areas, etc. to these reptile species would be similar as those identified above for the Project site.

Golden Eagle, Bald Eagle

An up to 16-mile 70 kV transmission line would be installed to transmit electrical energy from the Project site to the Los Banos Substation east of the Project site. This New Transmission Line would be supported by power poles up to 120 feet in height. The specific number and location of the poles has not yet been determined. Nevertheless, the tall power poles that support these high voltage lines have been known to attract eagles and other raptors as perch sites and even as nest sites. Electrocution can occur when a bird simultaneously contacts two electric wires of different phases or an electric wire and a ground wire. This typically occurs when the wingspan of the bird is greater than the spacing between any two electric cables on a power pole or when a bird bridges the gap between an electric cable and a ground wire. This happens most frequently when a bird attempts to perch on a structure with insufficient clearance between these elements. Collisions with transmission lines can also occur during flight especially during inclement weather such as rain or snow, or during strong winds.

However, overall transmission line and tower design would conform to the latest raptor protection guidelines formulated by the Avian Power Line Interaction Committee (APLIC) (APLIC 2006, 2012). Specifically, these guidelines include design standards and specifications related to the structure and spacing of electrical components that, if implemented, are intended to substantially reduce the risk of raptor (and other large avian species) collision and electrocution. Because the APLIC guidelines will be incorporated into the final design of the transmission towers and associated components, the electrocution and collision risk associated with the New Transmission Line will be a **less-than-significant impact**.

White-tailed kite, northern harrier, burrowing owl, loggerhead shrike, olive-sided flycatcher, American white pelican

Impacts associated with collision and/or electrocution with the New Transmission Line would be the same as discussed above for golden and bald eagles. Incorporation of the APLIC guidelines and standards discussed above into the final design of the transmission towers and associated components will also substantially reduce the risk of collision and electrocution for these species. Therefore, the potential for electrocution and collision associated with the New Transmission Line is considered a **less than significant impact**.

California Condor

Since their reintroduction into the wild, California condor populations have been affected by collisions with power lines and high-voltage transmission lines (Meretsky et al. 2000; Grantham 2007a; Mee and Snyder 2007). At least seven individuals were killed by collisions with lines and/or electrocution attempting to land on transmission towers between 1988 and 1999 (Meretsky et al. 2000), and such collisions remain a threat to released condors (Snyder and Snyder 2000, 2005; Snyder 2007). While the condor flight data within 0-5 and 5-10 miles of the Project Area have been at relatively high altitudes, at least four radio-telemetered condors were recorded perching between 5 and 10 miles of the Project Area for brief periods of time and condor activity in the region is likely to increase as more captive bred and natural bred condors are released into the wild and the species continues to expand into historical range areas.

While California condors are not expected to regularly fly over or near the proposed New Transmission Line corridor, especially in the more flat terrain at the eastern portion of the corridor, the potential for electrocution while attempting to land on a tower or the potential for collision with the New Transmission Line between towers, cannot be entirely ruled out. This is particularly a threat if a cow or other large mammal carcass occurs in close proximity to the New Transmission Line alignment.

Because the electrical components associated with the high voltage towers of the New Transmission Line will be designed consistent with APLIC standards and guidelines, the potential for electrocution to a condor perching or attempting to perch on a tower is expected to be substantially minimized if not completely avoided. In addition, bird flight diverters will be installed at appropriate locations along the New Transmission Line, and per APLIC guidelines, to minimize the potential for collisions by condors with transmission lines during low foraging flights. Because the few radio-telemetered condors that have flown over the Project Area to date have done so at high altitudes, and because the design of the New Transmission Line would be consistent with APLIC design standards and guidelines, the potential collision and electrocution risk associated with the New Transmission Line would be a **less-than-significant impact**.

Pallid bat, western mastiff bat, western red bat

The proposed New Transmission Line associated with the Project poses no real threat to bat species as they are too small to span most powered components that would trigger an electrocution, rarely land on or roost on high voltage transmission towers (especially in areas with electrified components), and their sonar ability will generally prevent bats from collisions with transmission lines. Therefore, the possibility of electrocution and/or collision associated with the proposed New Transmission Line is considered a **less-than-significant impact**.

American badger, burrowing owl

Direct impacts to American badger associated with construction of Phases I and II includes the loss of approximately 110.7 acres of foraging and denning habitat, and approximately 20.9 acres of foraging/nesting habitat for burrowing owl associated with the lower elevation areas of the New Transmission Line (Phase II) as a result of tower pad placement and access roads. This represents approximately 5.9 percent of the total amount of foraging and denning habitat for the badger, and approximately 2.9 percent of burrowing owl foraging/nesting habitat within the New Transmission Line corridor. Because of the insubstantial amount of this habitat to be impacted relative to that being preserved, and because the Project includes the restoration of habitat associated with decommissioned turbines such that the result would be a net increase in suitable foraging/denning habitat, the loss of an insubstantial amount of potential foraging and denning/nesting habitat for these two species is considered a **less-than-significant impact**.

Direct impacts associated with the New Transmission Line are similar to those for the Project site and include the potential for active dens and nest burrows to become crushed or destroyed by construction vehicles and equipment associated with grading and/or improving areas for tower pads and access roads. Such activities could result in injury or mortality to animals. This would be considered a **potentially significant impact**.

San Joaquin kit fox

Direct impacts to San Joaquin kit fox associated with construction of the lower elevation areas of the New Transmission Line (Phase II) includes the loss of approximately 20.8 acres of foraging and denning habitat as a result of tower pad placement and development of access roads. This represents approximately 2.9 percent of the total amount of foraging and denning habitat within the transmission corridor. Because of the insubstantial amount of this habitat to be impacted relative to that being preserved, and because the potential for San Joaquin kit foxes to occur within or adjacent to the New Transmission Line corridor is considered very low, the relatively loss of an insubstantial amount of potential foraging and denning habitat for this species is considered a **less than significant impact**.

In the unlikely possibility that San Joaquin kit foxes occur within or adjacent to the alignment, direct impacts associated with the New Transmission Line include the potential for active dens to become crushed or destroyed by construction vehicles and equipment associated with grading and/or improving areas for tower pads and access roads. Such activities could result in injury or mortality to animals. This would be considered a **potentially significant impact**.

Mitigation Measures

Special-Status Plant Species

Potentially significant direct impacts to special-status plant species within the Project Area would be mitigated through the application of Mitigation Measures BIO-1 through BIO-3 below. Implementation of these measures would reduce potentially significant impacts on special-status plants to **less than significant**.

BIO-1: **Special-status plant surveys**. In those areas where ground disturbance activities associated with Phase II of the Project, including the New Transmission Line, would occur within habitat potentially supporting special-status plant species, focused surveys for special-status plant species shall be conducted by a qualified CDPR approved botanist according to the CNPS Botanical Survey Guidelines (CNPS 2001); and shall follow the Protocols for Surveying and Evaluating Impacts to Special Status Native Populations and Natural Communities (CDFG 2009); and the U.S. Fish and Wildlife Services General Rare Plant Survey Guidelines (Cypher 2002) prior to the commencement of grading/construction-related activities wherever areas that are suitable for occupation could be affected by direct or indirect impacts. The surveys shall be conducted in the blooming season prior to commencement of construction-related activities within suitable habitat areas, and the surveys shall be conducted at a time of year when the plants can be located and identified.

BIO-2: **Habitat and plant avoidance**. Should special-status plant species be documented within proposed grading or other ground-disturbance areas associated with the New Transmission Line, avoidance measures shall be implemented to minimize indirect impacts to individual plants, wherever feasible. These measures can include the following:

a. Adjustments to the limits of grading boundaries to confine work to avoid populations of special-status plants by at least 50 feet or as otherwise determined by a qualified botanist and in consideration of the type and extent of ground disturbance, potential for indirect impacts following ground disturbance activities, topography, and other factors.

b. Prior to construction activities, a qualified botanist shall flag the location of special-status plant populations and the corresponding avoidance special-status plant setback. This flagging shall be in addition to, and distinguished apart from, any required construction boundary fencing.

BIO-3: **Biological Awareness Training.** Prior to the initiation of construction activities associated with both phases of development within the Project site, a qualified CDPR approved biologist shall conduct an on-site biological awareness training session, as part of an overall Project orientation program, with construction personnel to inform them of the special-status resources in the Project Area. As new construction personnel join the construction crews throughout the Project construction phase, additional biological awareness training sessions shall be conducted by the biologist. The initial and subsequent training sessions shall include, at a minimum, the following:

a. A discussion of the special-status species and resources potentially occurring within and adjacent to ground-disturbance areas;

b. Dissemination of short handouts (including photos/depictions as appropriate) describing these species and resources, including protective status and penalties for violation of state and/or federal laws and regulations protecting certain species;

c. Information regarding the types of microtrash that could be ingested by condors and the need to keep work areas free of microtrash.

d. Avoidance measures being implemented on the Project site to avoid/minimize potential impacts to various species and biological resources.

e. Steps to take should such special-status plant or wildlife species be observed by on-site construction personnel and contact information for communicating sightings or issues.

All attendees shall fill out a sign-in sheet. The training program shall also be recorded and subsequently shown to any construction personnel who are not able to attend the initial or subsequent training programs.

Special-Status Wildlife Species

<u>Western pond turtle, California tiger salamander, California red-legged frog, western spadefoot</u>

Potentially significant indirect impacts to breeding habitat for western pond turtle, California tiger salamander, California red-legged frog, and western spadefoot within the Project Area would be mitigated through application of Mitigation Measures BIO-3 above, and BIO-4 below. Implementation of these measures would reduce potentially significant impacts on these species to **less than significant**.

BIO-4: **Species avoidance plan**. Prior to ground disturbance associated with Phase I of the Project within or immediately adjacent to where each of these species could occur, a qualified biologist shall prepare a Species Avoidance Plan that addresses each of these four species. The plan shall include appropriate measures, activities, and best management practices to be implemented prior to and during construction and ground-disturbance activities that, when implemented, shall ensure that no direct or indirect impacts to these species will occur. The plan, which will also apply to Phase II of the Project, shall be submitted to the CDFW and CDPR for review. Measures in the plan shall include, but not be limited to, the following that will apply to both phases of the Project:

a. Conducting ground-disturbance activities as great a distance from breeding habitat as feasible.

b. Conducting pre-construction surveys in upland habitat likely to support burrow habitat potentially utilized by these species. The surveys shall be conducted by a qualified biologist and all potential burrows shall be flagged and/or fenced to note areas to be avoided, at a setback distance determined by the biologist, during ground-disturbance activities.

c. Conducting on-site monitoring by a qualified biologist during Project construction and decommissioning activities that disturb surface soils within upland habitat/burrows that could potentially be used by these species as determined by the biologist.

d. Establishing exclusion fencing around construction sites to exclude individual animals within suitable upland habitat from entering active construction zones.

e. Restricting vehicle traffic to established roads, staging areas, and parking areas.

f. Capping construction pipes, culverts, conduits and similar structures stored on-site to prevent entrapment of any animals seeking shelter and covering trenches at night to prevent animals from being trapped in the trench.

g. The use of Best Management Practices to prevent sediment, pollutants, chemicals, and erosion from construction activities from entering suitable aquatic habitats on the Project site. These can include, but are not limited to, the use of silt fencing and sterile hay bales, and temporary sediment disposal.

Northern California legless lizard, San Joaquin coachwhip, Blainville's horned lizard

Potentially significant direct and indirect impacts to the northern California legless lizard, San Joaquin coachwhip, and Blainville's horned lizard within the Project Area would be mitigated through application of Mitigation Measure BIO-3 above, and BIO-5 below. Implementation of these measures would reduce potentially significant impacts on these species to **less than significant**.

BIO-5: **Pre-construction surveys and construction monitoring**. Within 14 days of ground disturbance that will occur within suitable habitat for these species for both phases of Project development, pre-construction surveys shall be conducted by a qualified biologist to search for individuals within and immediately adjacent to the proposed disturbance area. Visual searches shall include overturning rocks, bark, and other debris. If more than 14 days lapse between the time of the pre-construction survey and the start of ground-disturbing activities, another pre-construction survey must be completed.

If individual animals are found in the disturbance zone, individuals shall be captured and relocated to nearby suitable areas, as determined by the qualified biologist. If the animals cannot be captured, all trenches, bores, and other excavations shall be sloped at a 3:1 ratio at the ends to provide wildlife escape ramps, or covered completely at the end of each work-day, or if not in use, to prevent wildlife access.

On-site monitoring by a qualified biologist shall be conducted during Project construction and ground disturbance activities that occur within upland habitat areas determined by the biologist to potentially support these species. If individuals of these species are observed by construction personnel within a trench or elsewhere within the construction area, the biologist shall be contacted and no vehicles or equipment shall be moved until the animal has left voluntarily or is removed by the biologist.

Golden eagle, bald eagle

Potentially significant direct and indirect impacts to golden and bald eagles within the Project Area would be mitigated through application of Mitigation Measures BIO-3 above, and BIO-6 through BIO-9, below. These measures shall be implemented for both Phase I and Phase II. Implementation of these measures would reduce potentially significant impacts on these species to **less than significant**.

BIO-6: **Golden eagle nest surveys and setbacks.** The following measures associated with pre-construction surveys shall be implemented by a qualified avian biologist with expertise in the identification and life history of eagles and the construction contractor.

1. Before construction-related activities begin on the Project site and during the golden eagle breeding season (January 15 through August 31), pre-construction surveys (ground, aerial, or both) shall be conducted within 0.50-mile of the disturbance area perimeter to ascertain the status of all known breeding territories and, through March 31, to search for potential new nesting territories within the relevant survey area. Such surveys shall be conducted by a qualified avian biologist no more than 30 days before construction-related activity is scheduled to begin. As egg-laying occurs in the region in February and March (see, e.g., Dixon 1937; Hunt et al. 1995, 1999), after March 31, it can be assumed that no new nesting will occur, and no further pre-construction surveys shall be required, if the status of nesting activities in a relevant area has already been confidently ascertained to that point in time.
2. If pre-construction surveys reveal adult golden eagles actively tending a nest site between January 15 and March 31, or an active nest (eggs or young present) any time between January 15 and August 31, the following shall occur:
   a. A 0.25-mile no-activity setback shall be established around the nest site if the construction activity is within the viewshed of the nest. If the work area is not within direct view of the nest, the no-disturbance buffer can be closer, as determined by the biologist in consideration of existing conditions including ambient noise, topography, type and extent of the activity, and time of year. Nest buffer boundaries within the Project site shall be identified by the use of orange construction fencing or similar highly visible fencing/flagging material as approved by the eagle biologist. Once the no disturbance buffer is established, no further construction-related activity shall be allowed within that buffer area until the biologist determines that either no nestlings will occur (i.e., no eggs laid as of March 31), the nest has failed, or the nesting cycle is complete and all fledglings have dispersed and no longer dependent upon the nest. If golden eagles decide to re-nest at the site in subsequent years, despite the proximity of the Project, they shall be allowed to do so and no additional mitigation shall be required.
   b. Construction-related activities that involve major landscape alterations (e.g., excavation, grading, or tree removal activities that encompass more than 5 acres), operation of heavy equipment (e.g., large excavators and dump trucks), or activities that otherwise result in frequent or repetitive loud noises (e.g., pile driving or use of chain saws) should preferentially occur

outside of the breeding season (September 1 through January 14), if within visible range (up to .25 mile) of an occupied breeding territory.

c. Following site-specific reviews by a qualified golden eagle biologist, the prescribed no-disturbance setbacks may be adjusted to reflect existing conditions, including ambient noise, topography and landscape screening, and the nature of disturbance. Such evaluations may, for example, support allowance of light construction-related activity closer than 0.25 mile out of the viewshed range of a nest.

BIO-7: **Management practices and measures to minimize on-site impacts and attractants to the site.** The following practices and design measures (that have not been included in the existing turbine field) shall be implemented to minimize elements that could serve to attract eagles (and condors and other raptors) to the Project site and to minimize the potential for turbine collisions:

a. Turbine construction shall minimize cutting into hill slopes to achieve smooth rounded terrain, rather than sudden berms or cuts, to reduce prey abundance.

b. Rocks unearthed during the excavation process shall be used during construction of foundations or hauled off site and disposed of properly, and not be left in piles near turbines to avoid providing cover for prey.

c. Discourage small mammals and reptiles from burrowing under or near turbine bases by placing gravel at least 5 feet around each tower foundation.

d. To avoid collisions with support wires, all meteorological towers shall be un-guyed, unless evidence is provided that topography, safety, access and/or climate conditions prohibit free standing towers. If guyed towers are necessary, appropriate bird deterrents on the wires shall be installed.

e. Alter or reduce vegetative cover within 50 m (164 feet) of active turbines to reduce eagle/raptor predation near each turbine. Such vegetation alteration shall only occur where appropriate and feasible and with concurrence of a qualified biologist in order that such alteration/reduction shall not adversely affect other special-status species or resources.

f. Remove any medium to large mammal carcasses (e.g., wild pig, domestic cattle, deer, elk) within the Project site, within 24 hours of discovery, to a designated burial location (or to the nearest County landfill site that accepts dead livestock) far enough from wind turbines so as not to present a risk to eagles and condors foraging on the carcasses. If the carcass is in a deteriorated condition or otherwise cannot be moved, it can be covered with soil or buried at the observed location.

g. Immediately clean up all spills of ethylene glycol which can attract California condors.

h. Ensure regular efforts are made to eliminate all microtrash (i.e., broken glass, paper and plastic waste, small pieces of metal such as screws, nuts, and bolts, bottle caps, pop-tops, PVC pipe fragments, etc.) at and near all construction as well as operations/maintenance work sites.

i. Minimize night lighting during construction by using shielded directional lighting that is pointed downward thereby avoiding illumination to adjacent natural areas and the night sky.

BIO-8: **Post-construction mortality monitoring**. After Phase I of the Project is operational, GRWF shall retain a qualified wildlife biologist to perform monthly post-construction mortality monitoring for one year to determine the level of incidental injury and mortality to populations of avian and/or bat species, particularly eagles and other raptors, associated with turbine collisions on the Project site. Based on a review of the monitoring data, GRWF shall consult with USFWS and CDFW to determine whether or not additional monitoring shall be necessary for Phase I and/or Phase II once those turbines become operational. The monitoring shall also include the following:

a. A qualified wildlife biologist shall conduct mortality monitoring using a statistically significant sample size of operational turbines within the Project site.

b. The mortality monitoring shall follow standardized guidelines outlined by the California Energy Commission and California Department of Fish and Wildlife (CEC and CDFG, 2007) and the United States Fish and Wildlife Service (USFWS 2016).

c. At a minimum, the data collected during the mortality monitoring shall include, but not be limited to, the following:

- species number, location, and distance from the turbine for each recovered bird or bat, availability of prey for raptor species found, and apparent cause of mortality;
- number of annual avian and bat mortalities per turbine sampled; and
- removal of dead carcasses to prevent carrion-consuming birds of prey from being attracted to the Project site

d. If a state- or federally-listed Threatened or Endangered species is found during any of the mortality monitoring periods, all appropriate information shall be collected, including photographs of the carcass, and the CDFW or USFWS shall be contacted as soon as possible to determine the appropriate course of action.

e. An annual mortality monitoring report submitted to the USFWS and CDPR that documents all methods and results of the monitoring.

After post-construction monitoring data have been obtained, GRWF shall review the data and, in consultation with the USFWS and the CDFW, determine which, if any, specific turbines generate disproportionately high levels of avian or bat mortalities (based on evidence of statistically significant higher levels of mortality relative to other turbines). If specific turbines are found to result in disproportionately high avian or bat mortalities, GRWF shall consult with USFWS and CDFW to evaluate any feasible measures that can be implemented to reduce or avoid mortalities at those specific turbines.

During the mortality monitoring, additional 800-meter avian use counts shall be conducted to identify avian use, particularly of eagles and raptors, potentially utilizing the re-powered Project site and to compare with pre-construction avian point counts. The point counts shall be conducted by a qualified avian biologist twice a month at the same point count stations and utilizing the same data methods as conducted during the pre-construction survey. An annual report shall be prepared that describes the methods and results of the avian use counts for that survey year.

BIO-9: **Avian Power Line Interaction Committee Standards for Transmission Lines.** To minimize the potential for collision and electrocution to eagles, California condors, and other raptor species, the New Transmission Line shall incorporate the transmission line and tower component separation standards, as well as recommendations to reduce collision risk, included in these standards to minimize/avoid electrocution of eagles and other raptors (including California condors) attempting to perch or nest on the towers, and to avoid collisions with transmission lines between towers during low-level flights. These design standards typically address configuration and spacing of transmission lines, use of line marking devices/diverters, and appropriate spacing of electrical components affixed to towers/poles. The latest published Avian Power Line Interaction Committee standards and guidelines shall be used.

BIO-10: **Bird and Bat Conservation Strategy.** The Project applicant, GRWF, shall retain a qualified avian and bat biologist to develop a Bird and Bat Conservation Strategy (BBCS) to address Project impacts to special-status avian and bat species and shall submit the plan to the USFWS for review prior to initiation of proposed construction associated with Phase I. The BBCS shall be prepared in accordance with the interim guidance provided by USFWS (2010) and shall include methods and results of avian and bat surveys conducted at the Project site; a risk assessment associated with potential collisions with proposed turbines and electrocution (associated with the proposed New Transmission Line); potential avoidance, minimization, and mitigation measures to address this risk; methods and protocols associated with post-construction monitoring; and adaptive management actions that can be taken based on the monitoring results.

<u>White-tailed kite, northern harrier, burrowing owl</u>

Potentially significant direct and indirect impacts to white-tailed kite, northern harrier, and burrowing owl from potential electrocution and collision with the New Transmission Line (Phase II), as well as with construction of transmission tower pads, laydown areas, and access roads associated with the New Transmission Line, would be mitigated through the implementation of Mitigation Measures BIO-3, BIO-7, BIO-8, BIO-9, and BIO-10 above, as well as BIO-11 below. Implementation of these measures would reduce potentially significant impacts on these species to **less than significant**.

BIO-11: **Pre-construction bird nest surveys.** A nesting bird survey shall be completed by a qualified biologist if construction, ground disturbance, and/or vegetation trimming/removal activities are scheduled to occur during the breeding season (March 1-August 30 for most native bird species in this region) to determine if any native birds protected by the federal Migratory Bird Treaty Act and/or the California Fish and Game Code are nesting within proposed New Transmission Line disturbance areas or within 200 feet of these disturbance areas. If any active nests are observed during surveys, a suitable avoidance buffer from the nests shall be determined by the qualified biologist. The avoidance buffer distance shall consider such factors as the species of bird, topographic features, intensity and extent of the disturbance, timing relative to the nesting cycle, and anticipated ground disturbance schedule. Limits of construction to avoid active nests shall be established in the field with flagging, fencing, or other appropriate barriers and shall be maintained until the chicks have fledged and the nests are no longer active, as determined by the qualified biologist.

California condor

Potentially significant direct and indirect impacts to California condor associated with turbine collision and microtrash ingestion (construction and installation of turbines and infrastructure associated with Phases I and II), and electrocution and collision associated with the New Transmission Line (associated with Phase II) would be mitigated through the implementation of Mitigation Measures BIO-3, BIO-7, BIO-8, BIO-9, and BIO-10 above, reducing potentially significant impacts to **less than significant.**

Pallid bat, western mastiff bat, western red bat

Potentially significant direct and indirect impacts to pallid bat, western mastiff bat, and western red bat associated with the proposed turbines within the Project site (Phases I and II) would be mitigated through the implementation of Mitigation Measures BIO-3 and BIO-10 above and BIO-12 below for both Phase I and Phase II), reducing impacts to **less than significant**.

BIO-12: **Bat roost pre-construction surveys.** The Project applicant, GRWF shall retain a qualified avian and bat biologist to implement the following measures to avoid and minimize impacts to bat day roosts, maternity roosts, and individuals of the pallid bat, western mastiff bat, and western red bat:

1. Surveys for roosting bats shall be conducted during the maternity season (March 1 to July 31) for any construction or ground disturbance that occurs within 300 feet of rocky outcrops or other habitat capable of supporting bat nursery colonies. These areas shall be surveyed by a qualified bat biologist and shall include a minimum of one (1) day and one (1) evening visit.
2. Should an active maternity roost be identified, the roost shall not be disturbed and vegetation- and/or ground-disturbing activities within 300-feet shall be postponed or halted until the roost is vacated and juveniles (if a maternity roost) have fledged, as determined by the qualified bat biologist. This avoidance measure shall be applied to all bat species, including special-status and non-special-status species.
3. No earlier than 30 days prior to the commencement of vegetation- and ground-disturbing activities associated with the Project site, a qualified biologist shall conduct pre-construction surveys of identified trees to be removed to determine if active day roosts of bats are present within the trees to avoid the potential of harm or mortality to individual bats.
4. If a day roost (or winter roost) is found in trees or in rock outcrop crevices within or immediately adjacent to the disturbance footprint, the individuals shall be safely evicted under the direction of the qualified bat biologist. If

individuals cannot be safely evicted from a winter roost due to factors such as cold temperatures or lack of alternative roosting sites, as determined by the qualified bat biologist, vegetation- and/or ground-disturbing activities within 300-feet of the roost shall be postponed or halted until conditions are suitable for safe eviction or the roost is vacated naturally.

American badger

Potentially significant direct impacts to American badger associated with construction and installation of turbines and infrastructure (Phases I and II) and with installation of the New Transmission Line (Phase II) within the Project Area would be mitigated through the application of Mitigation Measures BIO-3 above and BIO-14 below for both phases of the Project. Implementation of these measures would reduce potentially significant direct impacts to this species to **less than significant.**

BIO-13: **Pre-construction surveys.** GWRF shall implement the following measures to avoid and minimize impacts to American badgers and active dens.

1. No earlier than 30 days prior to the commencement of vegetation- and ground-disturbing activities, a qualified biologist shall conduct pre-construction surveys to determine if active American badger dens are present on or within 100-feet of the Project disturbance zone.
2. If an active den, as determined by the qualified biologist, is located, the den shall be flagged and the biologist shall determine if the den is a maternity den or non-maternity den. If a non-maternity den, construction shall be halted within 50 feet of the den until the badger has left the den on its own accord, as determined by the biologist. At that point the den can be collapsed and construction can continue. If the den is determined by the biologist to be an active maternity den, then construction shall be halted and a no-disturbance buffer of 100 feet established around the den until all pups have matured to the point of leaving the den and the den is determined by the biologist to be vacated by both young and adults. At that point, the den can be collapsed and construction can continue.

San Joaquin kit fox

Potentially significant direct impacts to the San Joaquin kit fox associated with the proposed New Transmission Line (Phase II) would be mitigated through the application of Mitigation Measures BIO-3 and BIO-7 above, and BIO-14 and BIO-15, below. Implementation of these measures would reduce potentially significant direct impacts to this species to **less than significant**.

BIO-14: **Pre-construction surveys.** GWRF shall implement the following measures to avoid and minimize impacts to the San Joaquin kit fox and active dens.

1. No earlier than 14 days and no more than 30 days prior to the commencement of vegetation- and ground-disturbing activities, a qualified biologist shall conduct pre-construction den surveys within suitable habitat along the proposed New Transmission Line alignment and within 200 feet of the alignment to determine if any burrows or dens potentially used by San Joaquin kit fox are present. Surveys shall be conducted
2. If dens are located, the den shall be flagged and the biologist shall determine the status of the den pursuant to USFWS protocols and definitions for San Joaquin kit fox (USFWS 1999) and appropriate avoidance measures taken pursuant to USFWS protocols (USFWS 2011). For dens determined to be "known" or "natal" dens (as defined by USFWS 1999), den avoidance measures, include establishing construction exclusion zones around burrows/dens potentially used by kit foxes pursuant to the exclusion zone design and setback distances defined in USFWS 2011, shall be implemented. The exclusion zones shall be maintained until all construction related disturbances have been terminated.

BIO-15: **San Joaquin kit fox avoidance plan.** Pursuant to a meeting with the USFWS in August 2018, GWRF shall retain a qualified biologist to prepare a San Joaquin kit fox take avoidance plan that shall include the following: (1) a description of the pre-construction surveys discussed above for burrow/dens within/immediately adjacent to the New Transmission Line alignment potentially used by San Joaquin kit fox, and (2) USFWS-documented avoidance measures (and any others that GRWF proposes) that minimizes/avoids the potential for take of this species in the unlikely event individual kit foxes do occur within the eastern-most portion of the New Transmission Line alignment during construction.

3.2-2: **Implementation of the proposed Project may have a substantial adverse effect on riparian habitat or other sensitive natural community identified in regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. This would be considered a less-than-significant impact.**

Project Site (Phases I and II) and New Transmission Line Corridor (Phase II)

Ground disturbance and construction activities associated with both Phase I and Phase II of the proposed Project on upland sensitive plant communities would potentially affect very small amounts of holly leaf cherry chaparral and purple needle grass grassland, while no impacts would occur to California sycamore woodland or California buckeye grove (Table 3.2-11).

The purple needle grass grassland on-site is small, fragmented, contains a high cover of non-native annual grasses, and appears to be subject to moderate to heavy grazing from deer and/or elk. Similarly, the area of holly leaf chaparral on the site is also small and somewhat fragmented. Nevertheless, if these communities cannot be avoided, seeds and topsoil from the portion of the grassland and chaparral that would be impacted will be collected by a qualified botanist and re-established in a location on the Project site determined by the CDPR. The methods and protocols of the collection and re-establishment will be included in the Project restoration plan to be prepared by GRWF (see Chapter 2, Project Description). Thus, impacts to these two upland plant communities, should they occur, would be considered **less than significant**.

The permanent loss of approximately 5 acres of oak woodland would normally be subject to the mitigation requirements pursuant to Section 21083.4(b) of the California Public Resources Code. However, this code states that impacts to oak woodlands that would trigger mitigation only apply to projects under the County's jurisdiction. Because the CDPR is the lead agency for this Project, the trigger for mitigation for impacts on this vegetation community does not apply. In addition, the loss of 5 acres is spread out over the entire Project Area and represents only 2 percent of the total amount of oak woodlands within the Project site and along the New Transmission Line corridor. Therefore, the loss of approximately 5 acres of oak woodlands within the Project Area is **less than significant**. However, GRWF is committed to working with CDPR to avoid as many oak trees as possible and to offset the loss of those oak trees that cannot be avoided with planting of additional oak trees within the Pacheco State Park boundary. The methods associated with any planting of oak trees, as well as the number to be planted, location, and success criteria for planted trees, would be included in the Project Restoration Plan to be prepared by GRWF prior to any impacts on oak trees (see Chapter 2, Project Description).

Table 3.2-11
Summary of Impacts to Sensitive Upland Vegetation Communities within the Project Area

Vegetation Type	Phase I Impacts (acres)		Phase II Impacts (acres)	
	Temporary	*Permanent*	*Temporary*	*Permanent*
Prunus ilicifolia (Holly leaf cherry chaparral)[1]	0.91	0.09	4.10	0.21
Quercus douglasii (Blue oak woodland)[1]	16.66	2.19	32.84	2.84
Aesculus californica (California buckeye groves)[1]	—	—	—	—
Nassella pulchra (Purple needle grass grassland)[1]	—	—	0.71	0.29

Notes:
1 Included as a sensitive vegetation community by the California Natural Community List (CDFW 2018a); wetland areas potentially regulated under the jurisdiction of USACE, CDFW, and/or RWQCB, or protected under the Section 21083.4(b) of California Public Resources Code.

Mitigation Measures

None required.

3.2-3: Implementation of the proposed Project may have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. This would be considered a less-than-significant impact.

Project Site (Phases I and II) and New Transmission Line Corridor (Phase II)

No direct impacts associated with Phase I or Phase II would occur to assumed jurisdictional aquatic resources (based on the protocol jurisdictional delineation described in the Methods discussion above) within the Project site. Impacts to these resources would be avoided through placement of turbines, access roads, staging/laydown areas, and associated infrastructure outside of the boundaries of jurisdiction for these resources. Indirect impacts due to the potential for soil erosion and leakage of chemicals/pollutants from construction vehicles and machinery into ponds, seeps, or drainages could potentially occur during construction and ground-disturbance activities. However, as addressed in Chapter 2, Project Description, GRWF would prepare a SWPPP that, when implemented, would substantially avoid/minimize the potential for runoff, erosion, chemical spills, etc. to adversely affect on-site wetland and drainage areas.

While the final placement of towers associated with the New Transmission Line (Phase II) has not yet been finalized, it is the intent that various components of the alignment (i.e., towers, maintenance/access roads, etc.) avoid impacts to potentially jurisdictional resources occurring along the New Transmission Line alignment. Potential indirect impacts to aquatic resources within the New Transmission Line corridor would be similar to those addressed above for the Project site. However, as noted above, GRWF would prepare a SWPPP that, when implemented, would substantially avoid/minimize the potential for runoff, erosion, chemical spills, etc., to adversely affect on-site wetland and drainage areas and other potentially jurisdictional resources.

As described in Section 2.2.2.9, off-site improvements include upgrades to the Los Banos Substation and relocation of the Dinosaur Lake Trail. As discussed in this section, the New Transmission Line will culminate at the Los Banos Substation which is on property owned and managed by PG&E. Various new transmission poles and structures, including a buried fiber optic line, would need to be constructed and installed to accommodate the tie-in of the New Transmission Line at the substation. Based on the jurisdictional delineation conducted in the area of the proposed tie-in at the substation, one seasonal wetland swale was identified and mapped that, while not considered a Waters of the U.S., is likely under the jurisdiction of the State. However, it is the intention of GRWF to avoid this wetland such that no impacts to jurisdictional wetlands would occur.

To accommodate the proposed location of wind turbines associated with Phase I of the Project, the portion of Dinosaur Lake Trail adjacent to the western boundary of the Project site would require relocating. This trail is currently a narrow, single-track, unimproved dirt trail used by hikers in the Park. CDPR is proposing to relocate a portion of the trail just to the west of the Project site. While CDPR has not completed the final design of the trail, it is anticipated it would be designed and constructed similar to the existing trail and would avoid tree removal and impacts to any drainages or wetlands potentially under the jurisdiction of the ACOE and/or CDFW.

Therefore, **no impacts**, direct or indirect, to assumed jurisdictional aquatic resources (including potential jurisdictional areas) is expected to occur within the Project site.

Mitigation Measures

None required.

Cumulative Impacts

3.2-4: Implementation of the proposed Project may have a cumulative adverse effect on biological resources when viewed in connection with the effects of other past, present or future projects. This would be considered a less-than-significant impact.

Cumulative impacts require the analysis of projects located within the vicinity of the proposed Project. Cumulative impacts are considerable if the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. While the cumulative analysis for the proposed Project includes most biological resources addressed in this DEIR, it focuses on impacts to sensitive species as a result of turbine construction and operations as that is the primary potential impact on biological resources associated with the Project. The geographic scope for the biological cumulative analysis encompasses other proposed and existing projects, primarily wind projects, within 10 miles of the Project site. Ten miles is the distance from a given project site that the USFWS suggests surveys for golden eagle nests be conducted for wind energy projects (USFWS 2013) and has been used by at least one other recent wind energy project in California in the assessment of cumulative impacts (Ocotillo Express LLC 2018).

No other wind energy projects, nor any non-renewable energy projects, have been recently developed or are proposed to occur within the cumulative impacts assessment area. However, two solar projects may be developed within or immediately adjacent to the cumulative impacts analysis area: Sullivan Road Solar Project approximately 10-11 miles northeast of the Project site, and an unnamed 155 MW solar project just west of the California Aqueduct approximately 9-10 miles east of the Project site. An Initial Study for the Sullivan Road Solar Project was reviewed to identify sensitive species and plant communities that could potentially occur and be affected by the project. No documentation associated with the unnamed solar project was available to be reviewed (likely as it has yet to be analyzed with respect to biological resources at this time) so assumptions on sensitive resource occurrence and potential impacts were made based on a review of aerial imagery of the proposed project site. The potential impacts on sensitive biological resources posed by these two projects in context with those associated with the proposed Project on the same resources, are briefly discussed below.

Special-Status Plants

Ground disturbance associated with both solar projects could potentially affect grassland associated special-status plant species if they occur (no focused surveys have been conducted based on documentation reviewed to date for either project). Because of the potential for special-status plants to occur, the Sullivan Road Solar Project Initial Study lists several measures to avoid and/or minimize adverse impacts on special-status plants, should they be identified, including the development of a mitigation plan that describes the avoidance and compensatory mitigation measures that would be implemented to ensure a no net loss in quantity and quality of any impacted plant populations. The unnamed solar project has not yet been analyzed but because of the similarity of habitat as the Sullivan Road project, it is assumed that special-status plant species could also occur and that similar avoidance/minimization measures would be implemented to reduce any significant impacts. With respect to the Gonzaga project, because turbines and infrastructure associated with both phases of the proposed Project have been designed to avoid habitat potentially supporting the three special-status plant species potentially occurring on the site, and because no special-status plant species were found on the Project site during focused surveys for the species, no impacts to special-status plants are expected to occur. In addition, implementation of Mitigation Measures BIO-1 through BIO-3 would ensure impacts to special-status plants would be avoided. Therefore, the Project's contribution to the cumulative impact on special-status plant populations is considered to be **less than significant**.

Non-Avian Special-Status Wildlife Species

Vernal pools and other seasonal wetland areas on the Sullivan Road project site, and potentially on the unnamed solar site, provide potential breeding habitat for California tiger salamander and western spadefoot toad. The Sullivan Road project Initial Study includes a number of measures to avoid/minimize/mitigate for potential impacts on these species, should they occur; the unnamed solar project is also expected to have similar measures implemented should these species occur.

On the Gonzaga Project site, turbines and infrastructure associated with both phases of the Project have been designed to avoid all ponds and wetland habitat, including those areas potentially supporting California tiger salamander, California red-legged frog, and western spadefoot toad. In addition, implementation of Mitigation Measures BIO-3 and BIO-4 and would avoid/minimize impacts on these species should they occur on-site.

The grassland habitat on both proposed solar projects could potentially support populations of American badger and San Joaquin kit fox. Potential impacts on these species would be avoided, minimized, or otherwise mitigated by implementation of several mitigation measures in the Sullivan Road Initial Study. The unnamed solar project is also expected to have similar measures implemented should these species occur. While American badger could occur within grassland habitat and oak savannah habitat within both phases of the Gonzaga project, and San Joaquin kit fox within the lower elevations of Phase II, implementation of measures BIO-3 and BIO-13 through BIO-15 will ensure that no adverse impacts would occur to these species, should they occur on the Project site and along the New Transmission Line. Therefore, the Project's contribution to the cumulative impact on non-avian special status animals is considered to be **less than significant**.

Avian Special-Status Wildlife Species

Both solar projects are located almost entirely within non-native grassland habitat which provides limited nesting bird habitat except for a few ground-nesting species, including burrowing owl. No golden or bald eagles are expected to nest on or immediately adjacent to these proposed solar project sites. Potential impacts on nesting birds would be avoided, minimized, or otherwise mitigated by implementation of several mitigation measures in the Sullivan Road Initial Study. The unnamed solar project is also expected to have similar measures implemented should nests of these species occur. A number of avian species could potentially nest within both the Phase I and Phase II areas of the Gonzaga Project, while burrowing owl could only potentially occur within the lower, more level grassland areas associated with the New Transmission Line (Phase II). Implementation of measures BIO-3 and BIO-11 will ensure that adverse impacts on nesting bird species will be avoided. Furthermore, because of the insubstantial amount of foraging habitat to be impacted relative to that being preserved, because of the substantial amount of available foraging habitat within 10 miles of the Project site, and because the Project includes the restoration of habitat associated with decommissioned turbines such that the result would be a net increase in suitable foraging habitat, impacts to avian foraging habitat would be insubstantial. Therefore, the Project's contribution to the cumulative impact on active nests and nest habitat of avian bird species, including burrowing owl, is considered to be **less than significant**.

Wetlands

Some vernal pools and seasonal wetlands occur on the Sullivan Road Solar Project site, and possibly on the unnamed solar project site. Potential impacts on wetland resources would be avoided, minimized, or otherwise mitigated by implementation of several mitigation measures in the Sullivan Road Initial Study. The unnamed solar project is also expected to have similar measures implemented should wetlands occur on the site.

No direct impacts would occur to assumed or potential jurisdictional aquatic resources within the Project site. Impacts to these resources would be avoided through placement of turbines, access roads, staging/laydown areas, and associated infrastructure outside of the boundaries of jurisdiction for these resources. Indirect impacts due to the potential for soil erosion and leakage of chemicals/pollutants from construction vehicles and machinery into ponds, seeps, or drainages would be addressed through a SWPPP that, when implemented, would substantially avoid/minimize the potential for runoff, erosion, chemical spills, etc. to adversely affect on-site wetland and drainage areas. While the final placement of towers associated with the New Transmission Line has not yet been finalized, it is the intent that various components of the alignment (i.e., towers, maintenance/access roads, etc.) avoid impacts to potential jurisdictional resources occurring along the New Transmission Line alignment. Indirect impacts to potentially jurisdictional aquatic resources within the New Transmission Line corridor would also be addressed through the preparation of a SWPPP, addressed above. Therefore, the Project's contribution to the cumulative impact on wetland resources is considered to be **less than significant**.

Mitigation Measures

None required.

References

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3.3 TRANSPORTATION AND CIRCULATION

Introduction

The transportation and circulation section discusses existing and cumulative transportation and circulation conditions associated with implementation of the proposed Gonzaga Ridge Wind Repowering project (proposed Project). The analysis addresses impacts to State Route 152 (SR-152), Dinosaur Point Road, and Windmill Road associated with construction and future operation of the Project. Potential impacts to transit, bicycle, and pedestrians as well as to air traffic are addressed in the Initial Study prepared for the project and included in Appendix B.

No comments were received that addressed concerns regarding traffic in response to the Notice of Preparation (NOP). A copy of the NOP and comments received in response to the NOP are included in Appendix A.

The primary source referenced to prepare this section is the Traffic technical memorandum prepared by Dudek and included in Appendix E.

Environmental Setting

Existing Site Location

The Project Area (which includes the Project site, existing transmission line, existing Dinosaur Point Tap switchyard and the proposed New Transmission Line) is located within Merced County. The lease area, referred to as the Project site, is located in the eastern portion of Pacheco State Park (Park), and is bordered by SR-152 to the north, the San Luis Reservoir, the San Luis Reservoir State Recreation area and Bureau of Reclamation (BOR) lands to the east, land within the Park and unincorporated Santa Clara County to the west, and private lands to the south. The City of Los Banos is located approximately 20 miles to the east, while the City of Gilroy is located approximately 18 miles to the west of the Project site.

Regional access to the Project site is provided by SR-152, which has connections to Interstate 5 (I-5) to/from the east, and US Route 101 (US-101) to/from the west. Access to the site is primarily provided by Dinosaur Point Road – Fifield Road/SR-152 (full access) and by Old Pacheco Pass Road/SR-152 (right turn in/out only). From these two roadways, a series of roads provide access to the interior of Pacheco State Park where the Project site is located. Figure 3.3-1 shows the Project site and study area for the transportation evaluation.

Study Area

The following two intersections that would be potentially impacted by traffic generated by the peak construction phase as well as permanent operation of the Project:

1. SR-152/Dinosaur Point Road – Fifield Road
2. SR-152/Old Pacheco Pass Road

Transportation Network

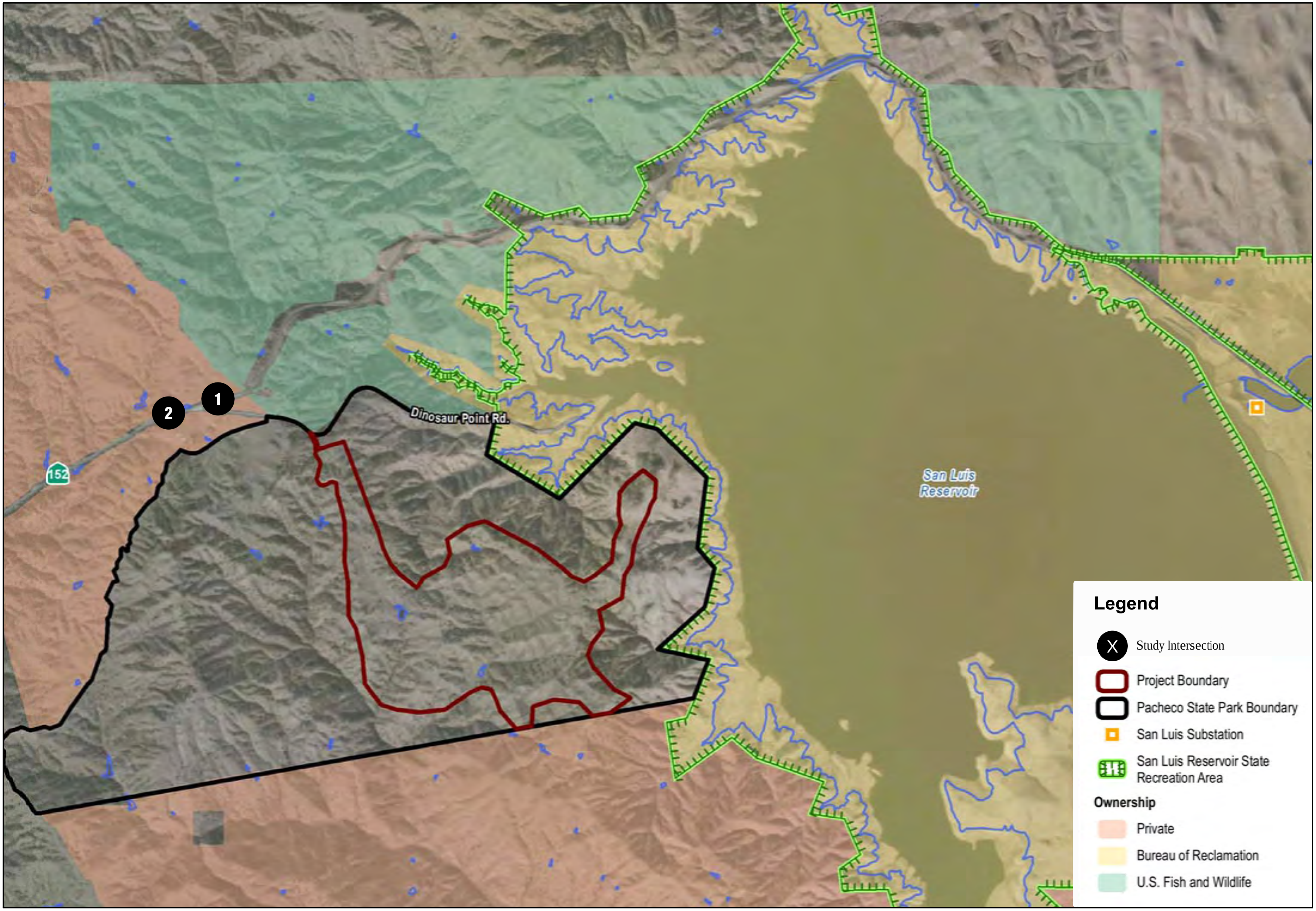
The freeway and roads that are located within the study area (see Figure 3.3-1) are described below.

State Route 152 is a four-lane, divided highway that runs east-west within the study area, connecting to I-5 and the communities of Merced County in the east, to U.S. 101 and the communities of Santa Clara County in the west. While the freeway is divided with a landscape median, a turn pocket along Dinosaur Point Road – Fifield Road allows for left-turning movements and U-turns from the west bound direction.

Dinosaur Point Road – Fifield Road is a two-lane, undivided road that runs north-south, and east-wind within the study area. Dinosaur Point Road connects to the interior of Pacheco State Park and provides a public parking lot and boating area for the San Luis Reservoir, while Fifield Road connects to the Upper Cottonwood Creek Wildlife Area.

Old Pacheco Pass Road is a two-lane, undivided road that runs east-west within the study area. Old Pacheco Pass Road is unpaved and serves as a connection to Dinosaur Point Road. The road provides a wide shoulder for SR-152.

In addition to the roads listed above, modifications to the interstate, state highway and county road systems may be needed to accommodate turbine component deliveries. A potential point of origination for deliveries is through the Port of Stockton, southbound via I-5, and westbound via SR-152. Minor impacts such as tree trimming and sign removal/replacement may be needed to deliver the turbine components. Upon final wind turbine selection, a Project-specific delivery plan would be developed by Gonzaga Ridge Wind Farm (GRWF or Applicant) and the appropriate transportation permits would be obtained.



SOURCE: Merced County 2018, Bing Maps 2018

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FIGURE 3.3-1

Project Site Location and Study Area

Gonzaga Ridge Wind Repowering Project

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Traffic Volumes

Existing peak hour counts with axle-classification at the study intersections were conducted in September 2018 during a typical non-holiday week. Due to the large amount of truck traffic existing along SR-152, existing volumes were adjusted to include a “heavy vehicle percentage” factor within the traffic model (Synchro). Use of the heavy vehicle percentage factor within Synchro more accurately estimates the operation of an intersection that is evaluated using the Highway Capacity Manual (HCM) methodology. Existing weekday AM (7:00 to 9:00) and PM (4:00 to 6:00) peak hour volumes are shown on Figure 3.3-2.

Analysis Scenarios

The existing conditions in the site vicinity, including the existing roadway system, existing weekday AM and PM peak hour traffic volumes, and existing traffic operations are representative of a typical weekday of traffic in the year 2018. This includes existing visitor traffic destined to and from the Park, as well as existing employees and associated maintenance activities for the existing wind turbines.

Existing plus Project (Peak Construction) conditions includes analysis of the Project’s peak construction phase traffic added to the existing weekday daily, AM and PM peak hour traffic volumes. Project traffic is comprised of construction-related traffic from construction workers, vendor trucks, haul trucks, and oversized load trucks. Project traffic was distributed and assigned to the segments and intersections in the study area and analyzed under Existing plus Project (Peak Construction) conditions.

Existing plus Project (Permanent Operations) conditions includes analysis of the Project’s permanent operational traffic added to the existing weekday daily, AM and PM peak hour traffic volumes. Project traffic is comprised of daily workers. Project traffic was distributed and assigned to the segments and intersections in the study area and analyzed under Existing plus Project (Permanent Operations) conditions.

Level of Service Methodology

Level of service (LOS) is commonly used as a qualitative description of segment or intersection operations and is based on the capacity and the volume of traffic using the segment or the intersection.

The HCM analysis methodology describes the operation of an intersection using a range of LOS from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on the corresponding control delay experienced per vehicle for unsignalized intersections. At the Caltrans study area intersections, the LOS was calculated using the HCM 2010 methodology. The Synchro 10 LOS software was used to determine intersection LOS for all study scenarios. Synchro is consistent with the HCM 2010 methodology (Transportation Research Board 2010). Table 3.3-1 shows the LOS for unsignalized and signalized intersections under the HCM methodology (delay).

Table 3.3-1
Levels of Service for Intersections using HCM Methodology

Level of Service	Unsignalized Intersections Control Delay (in seconds)	Signalized Intersections Control Delay (in seconds)
A	< 10.0	< 10.0
B	> 10.0 to < 15.0	> 10.0 to < 20.0
C	> 15.0 to < 25.0	> 20.0 to < 35.0
D	> 25.0 to < 35.0	> 35.0 to < 55.0
E	> 35.0 to < 50.0	> 55.0 to < 80.0
F	> 50.0	> 80.0

Source: HCM 2010.

Per Caltrans, the LOS for operating State highway facilities is based upon measures of effectiveness (MOEs). These MOEs describe the measures best suited for analyzing State highway facilities (i.e., freeway segments, signalized intersections, on- or off-ramps, etc.). Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State highway facilities; however, Caltrans acknowledges that this may not always be feasible and if an existing State highway facility is operating at less than the appropriate target LOS, the existing MOE should be maintained.

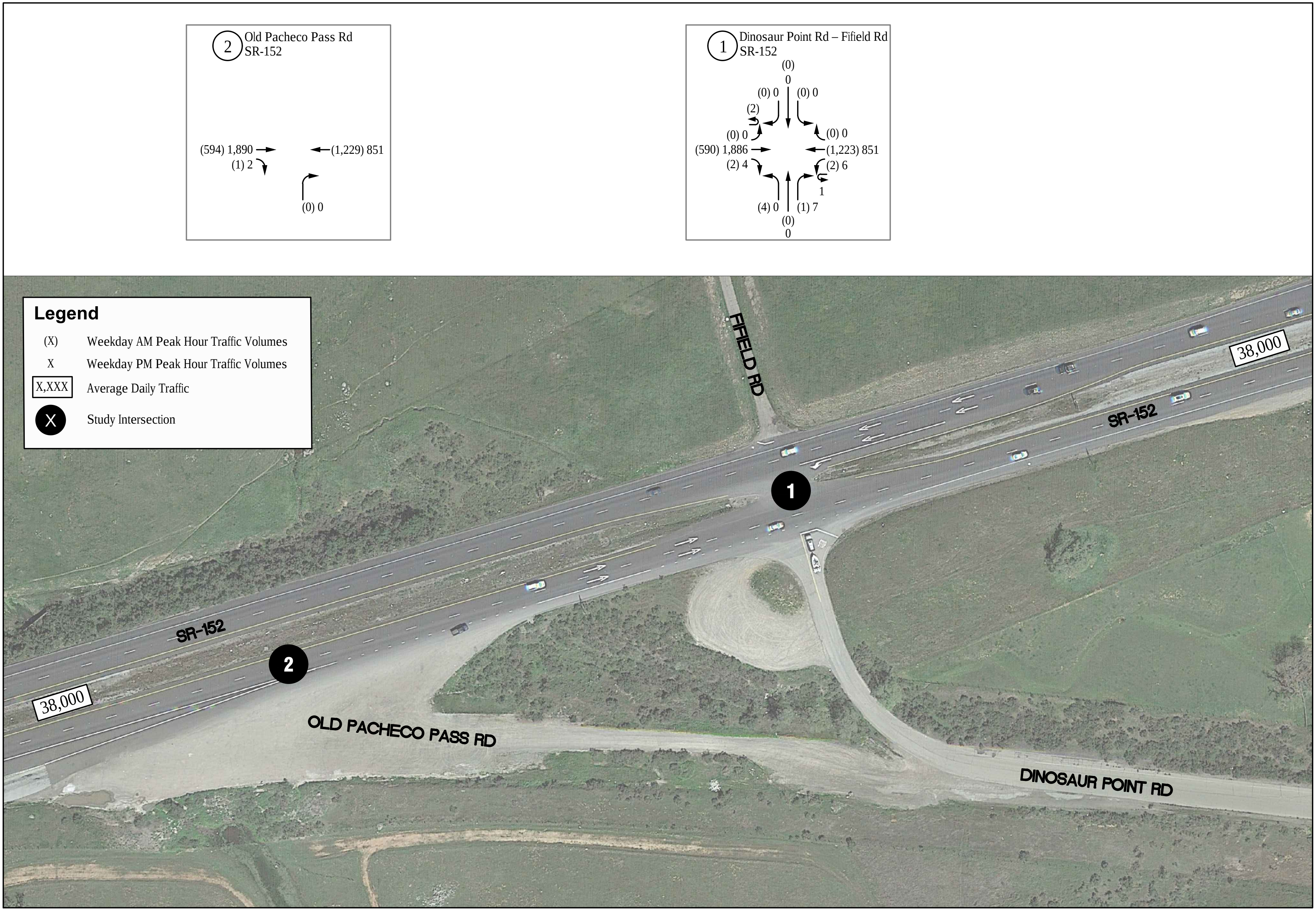
Intersection Operations

An intersection LOS analysis was prepared for the existing conditions using HCM 2010 methodology via the Synchro LOS software as discussed previously. Table 3.3-2 shows the results of the existing conditions LOS analysis.

Table 3.3-2
Existing Weekday Peak Hour Intersection LOS

Intersection	Control[1]	AM Peak		PM Peak	
		Delay (in sec)	*LOS*	*Delay (in sec)*	*LOS*
1. SR-152/Dinosaur Point Road – Fifield Road	2-way stop	35.6	E	24.4	C
2. SR-152/Old Pacheco Pass Road	1-way stop	0.0	A	0.0	A

Notes: Delay – Delay reported as Control Delay and expressed in seconds
LOS – Level of Service
1 Two-Way Stop Control reported as worst movement. Analyzed using Highway Capacity Manual (HCM 2010) methodology.
BOLD value indicates unsatisfactory LOS



SOURCE: Google Maps, 03/2018

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FIGURE 3.3-2

Existing AM, PM and Daily Traffic Volumes

Gonzaga Ridge Wind Repowering Project

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As shown in the table, all of the study area intersections are currently operating at LOS C or better under existing conditions during both peak hours, with the exception of the intersection of SR-152/Dinosaur Point Road – Fifield Road which operates at LOS E (35.6 seconds) in the AM peak hour. Due to HCM methodology for stop-controlled intersections, the worst movement of an intersection is reported. In this case, the northbound left-turn consisting of 4 vehicles per hour (during the PM peak hour) is the resulting delay. All other movements are LOS C or better.

Regulatory Setting

Existing transportation policies, plans, laws and regulations that apply to the proposed Project are summarized below. This information provides a context for the impact discussion related to the Project's consistency with applicable regulatory conditions.

Federal Regulations

There are no federal traffic and circulation regulations, plans, and policies that are applicable to the Project.

State Regulations

<u>California Department of Transportation</u>

The California Department of Transportation (Caltrans) is the primary State agency responsible for transportation issues. One of its duties is the construction and maintenance of the State highway system. Caltrans has established standards for roadway traffic flow and developed procedures to determine if State-controlled facilities require improvements. For projects that may physically affect facilities under its administration, Caltrans requires encroachment permits before any construction work may be undertaken. For projects that would not physically affect facilities, but may influence traffic flow and levels of services at such facilities, Caltrans may recommend measures to mitigate the traffic impacts of such projects. Caltrans facilities within the study area includes SR-152, as well as the intersection ofSR-152/Dinosaur Point Road.

Pursuant to Caltrans's Guide for the Preparation of Traffic Impact Studies, "Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D" on state highways (Caltrans 2002). However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS.

The Caltrans guide also establishes criterion for determining when a traffic impact study (TIS) is needed. The following criterion is a starting point in determining when a TIS is needed:

1. When a project generates over 100 peak hour trips assigned to a state highway facility;
2. When a project generates 50 to 100 peak hour trips assigned to a state highway facility – and, affected state highway facilities are experiencing noticeable delay; approaching unstable traffic flow conditions (LOS "C" or "D").
3. When a project generates 1 to 49 peak hour trips assigned to a state highway facility – the following are examples that may require a full TIS or some lesser analysis:
    a. Affected state highway facilities experiencing significant delay; unstable or forced traffic flow conditions (LOS "E" or "F");
    b. The potential risk for a traffic incident is significantly increased (i.e., congestion related collisions, non-standard sight distance considerations, increase in traffic conflict points, etc.); and
    c. Change in local circulation networks that impact a state highway facility (i.e., direct access to State highway facility, a non-standard highway geometric design, etc.).

The following Caltrans procedures and directives are relevant to the Project:

- **Level of Service Target.** Caltrans maintains a minimum level of service at the transition between LOS C and LOS D for all of its facilities. Where an existing facility is operating at less than the LOS C/D threshold, the existing measure of effectiveness should be maintained.[1]

State of California Department of Transportation's Concept Report for State Route 152

Transportation Concept Reports (TCRs) are planning documents that describe Caltrans' basic approach to development of a given state route. This TCR is a long-range system planning document that establishes a planning concept for the District 6 State highway corridor through the year 2035. The TCR provides the route, traffic data, and operating characteristics for the current 2012, future years 2020 and 2035 (Caltrans 2016). In addition, TCRs define the type of facility and LOS for each route. Caltrans endeavors to maintain a target LOS at the transition between LOS C and D on State highway facilities, or whichever LOS is feasible to attain. The Concept LOS is a "target" LOS determined by the importance of the route and environmental factors. A deficiency or a need for improvement is triggered when the actual LOS falls below the Concept LOS.

Local Regulations

As noted in Chapter 3, Environmental Analysis, reference to local planning documents (e.g., Merced County General Plan) is for informational purposes only. The above notwithstanding, local plans and policies can often serve as a good reference or "benchmark" to understand local perspectives on environmental health and safety issues. For this reason, references to applicable goals and policies of the general plans of Merced County and Santa Clara County are provided below.

2030 Merced County General Plan

The following policies from the 2030 Merced County General Plan Circulation Element are relevant to the Project.

- Policy CIR-1.5: County Level of Service Standards

  Implement a Countywide roadway system that achieves the following level-of-service (LOS) standards during peak traffic periods:

  (a) For roadways located within rural areas: LOS "C" or better.

  (b) For roadways located outside Urban Communities that serve as connectors between Urban Communities: LOS of "D" or better.

  (c) For roadways located within Urban Communities: LOS of "D" or better.

- Policy CIR-1.6: Level of Service "E" Exception

  Allow a level of service "E" or worse only on a minor component of the circulation system (such as a left turn movement from a local roadway) if the major component of the circulation system (such as a through movement on a collector or arterial roadway) would be significantly compromised in the process of improving the level of service of the minor component.

- Policy CIR-1.14: Required Structural Improvements

  Require developers of mining, large commercial, agricultural commercial, and industrial projects to either make appropriate roadway improvements and/or provide a funding mechanism for maintenance of the structural sections of County roadways when such projects could result in appreciable increases to commercial truck traffic and/or compromise the integrity of existing road sections.

Santa Clara County General Plan

The following transportation policies from the Santa Clara County General Plan Transportation Element are relevant to the Project.

- C-TR 12: It is the goal of this plan to achieve a level-of-service (LOS) no lower than D at peak travel periods on city streets, county roads, expressways and state highways. However, in certain instances, a lower level of service may be acceptable when LOS D cannot practically be achieved.

[1] California Department of Transportation, 2002. Guide for the Preparation of Traffic Impact Studies.

Implementation Recommendations

- C-TR(i) 6: Development proposals which would cause existing levels-of-service for roadway segments and intersections in the vicinity of the proposed project to fall below level-of-service D at peak travel periods; or would create congestion at peak periods worse than level-of-service D on nearby roadway segments and intersections may be approved if either of the following mitigations are included in the project.
    1. The developer implements 'reasonable' mitigation measures to offset increases in traffic congestion created by the project. Such mitigation measures could include contributing to transit improvements, contributing to TSM improvements, establishing employer-based TDM measures or other measures acknowledged by the Congestion Management Agency to offset the level-of-service impacts of the proposed project.
    2. The project is located at or near an existing or planned transit node, higher density is desired by the approving agency, and programs will be implemented to encourage commuters to use commute alternatives, including transit.

Impacts

Methods of Analysis

The impact analysis evaluates potential construction and operational impacts due to the increase in vehicle and truck trips in the short-term (construction) and long-term (operation) under full Project buildout conditions. Due to the location of the Project site, the analysis focuses on impacts to SR-152 and the intersection of Dinosaur Point Road/SR-152. The Initial Study prepared for the Project (see Appendix B) addresses the other transportation-related issues included in Appendix G of the CEQA Guidelines. All of the other transportation-related concerns were determined to be less than significant; therefore, they are not further evaluated in this section.

Trip Generation

Construction Vehicles

Trip generation estimates for the construction phase of the Project were calculated based on the peak phase of construction and delivery of wind turbine components. Construction traffic includes the number of workers, and the amount of delivery and on-site truck traffic that would be generated to and from the site during a 24-hour period (daily), and the AM and PM peak commute hours. It is assumed construction activities would occur during the daylight hours of 6:00 AM to 6:00 PM, for approximately 12 hours over the weekdays (Monday through Friday), with some possible work over the weekend. The peak construction phase would occur in late spring and summer, and since construction is contingent upon daylight hours, shifts would be shortened for other phases occurring during winter.

For the purposes of this analysis, up to approximately 200 workers and 80 vendor trucks would access the site during the peak of construction. The length of the wind turbine components necessitates oversized haul trucks that are longer than average and contain more axles, and as a result, would require coordination with Caltrans for encroachment permits (for oversized vehicles traveling on State highways). Coordination with the California Highway Patrol (CHP) may also be necessary to ensure oversized haul trucks have safe access to/from the site. Due to the irregular size and safety requirements associated with hauling these materials, it is assumed the specialized oversized haul trucks would not deliver equipment during the AM or PM peak hours. The following list provides the type and quantity of each type of specialized haul truck that would be destined to the Project site during the peak construction period:

- Hub Truck: 2 trucks per day
- Nose Cone Truck: 1 truck per day
- Down Tower Assembly Truck: 1 truck per day
- Tower Tube Truck: 6 trucks per day
- Nacelle Truck – 2 trucks per day
- Generator Truck – 2 trucks per day
- Blade Truck – 6 trucks per day

It should be noted that not all of the specialized haul trucks would be generated in a single day, but one, or a combination, of specialized haul trucks may be generated in one day, for the installation of up to 40 wind turbines.

Vendor truck traffic to and from the site would be evenly distributed over the 12 hour workday. Although construction worker shifts are scheduled to start before the AM peak hour, a conservative analysis assuming that 10% of construction workers would arrive or depart the Project site within the AM peak hour (after 7:00 AM) and within the PM peak hour (before 6:00 PM), was analyzed. The calculation of Project trip generation estimates is shown in Table 3.3-3.

Table 3.3-3
Project Trip Generation (Peak Construction)

Vehicle Type	Daily Quantity		Daily	AM Peak Hour			PM Peak Hour		
			Trips	*In*	*Out*	*Total*	*In*	*Out*	*Total*
Trip Generation[1]									
Workers	200	workers	400	20	0	20	0	20	20
Vendor Trucks	80	trucks	160	8	8	16	8	8	16
Hub Trucks	2	trucks	4	0	0	0	0	0	0
Nose Cone Trucks	1	trucks	2	0	0	0	0	0	0
Down Tower Assembly Trucks	1	trucks	2	0	0	0	0	0	0
Tower Tube Trucks	6	trucks	12	0	0	0	0	0	0
Nacelle Trucks	2	trucks	4	0	0	0	0	0	0
Generator Trucks	2	trucks	4	0	0	0	0	0	0
Blade Trucks	6	trucks	12	0	0	0	0	0	0
Concrete Trucks	38	Trucks	76	3	3	6	3	3	6
		Total	676	31	11	42	11	31	42

Notes:
1 Trip Generation based on construction estimates provided by Scout Clean Energy.
Source: Gonzaga Ridge Wind Farm, LLC 2019.

As shown in Table 3.3-3, the peak construction phase of the Project would generate 676 daily trips, 42 AM peak hour trips (31 inbound and 11 outbound), and 42 PM peak hour trips (11 inbound and 31 outbound).

Consistent with the analysis of truck volumes along SR-152, the "heavy vehicle percentage" factor within the Synchro LOS software was also adjusted for the Project's peak hour truck volumes. Use of the heavy vehicle percentage factor within Synchro more accurately estimates the operation of an intersection that is being evaluated with the HCM methodology.

Operation (Employee Vehicle Trips)

Trip generation estimates were calculated based upon the estimated number of full-time workers. It is assumed employees would work between the hours of 8:00 AM to 5:00 PM, for approximately 9 hours over the weekdays (Monday through Friday). Approximately up to eight workers would arrive to the site during the AM and PM peak hours, at full Project buildout.

The calculation of Project trip generation estimates are shown in Table 3.3-4.

Table 3.3-4
Project Trip Generation (Permanent Operations)

Daily		Daily	AM Peak Hour			PM Peak Hour		
Vehicle Type	*Quantity*	*Trips*	*In*	*Out*	*Total*	*In*	*Out*	*Total*
Trip Generation[1]								
Workers 8 workers		16	8	0	8	0	8	8
Total		16	8	0	8	0	8	8

Notes:
1 Trip Generation based on permanent operations estimates provided by Scout Clean Energy, LLC
Source: Gonzaga Ridge Wind Farm, LLC 2018.

As shown in Table 3.3-4, permanent operations of the proposed Project would generate 16 daily trips, 8 AM peak hour trips (8 inbound and 0 outbound), and 8 PM peak hour trips (0 inbound and 8 outbound).

Trip Distribution and Assignment

Construction Vehicles

Construction-related Project trips were distributed to the study area intersections and segments using the regional location of the Project site, logical commute routes for workers, and available truck routes for Project-related trucks.

It is assumed all of the construction-related Project truck traffic would originate from I-5 to the east, and enter the Project site via SR-152 westbound, and exit via SR-152 eastbound. Trucks would use I-5 as a major regional connector. Construction workers are assumed to be drawn from the east (Central Valley), as temporary worker housing costs are estimated to be cheaper than in the west (Bay Area). Therefore, construction workers have been analyzed as arriving via SR-152 westbound and departing via SR-152 eastbound.

The resulting Project trip distribution percentages and assignments are shown in Figures 3.3-3, 3.3-4, 3.3-5 and 3.3-6 for workers (passenger cars), vendor trucks, haul trucks, and total Project (peak construction) traffic, respectively.

Operation (Employee Vehicle Trips)

Project trips were distributed to the study area intersections and segments using the regional location of the Project site and logical commute routes for workers.

Workers are assumed to be drawn from areas to the east (Central Valley) and west (Bay Area). Therefore, workers have been analyzed as arriving and departing from both SR-152 westbound and SR-152 eastbound, with an equal distribution.

The resulting Project trip distribution percentage and assignment for the permanent operations of the proposed Project is shown in Figure 3.3-8.

Existing plus Project

Peak Construction Traffic Volumes

Existing traffic volumes were collected in September 2018 and are shown in Figure 3.3-2. As shown under the existing conditions analysis, the traffic volumes in the study area are relatively low, and as such, no new significant growth is anticipated in the short term horizon. Therefore, Project impacts were calculated for the Existing plus Project (Peak Construction) condition.

The Project trip assignments shown in Figure 3.3-6 for construction-related Project traffic (workers and vendor trucks), were added to the existing traffic volumes shown in Figure 3.3-2 to derive the Existing plus Project (Peak Construction) traffic volumes. Figure 3.3-7 illustrates the Existing plus Project (Peak Construction) traffic volumes that were used to evaluate Existing plus Project (Peak Construction) traffic conditions.

Intersection Operations

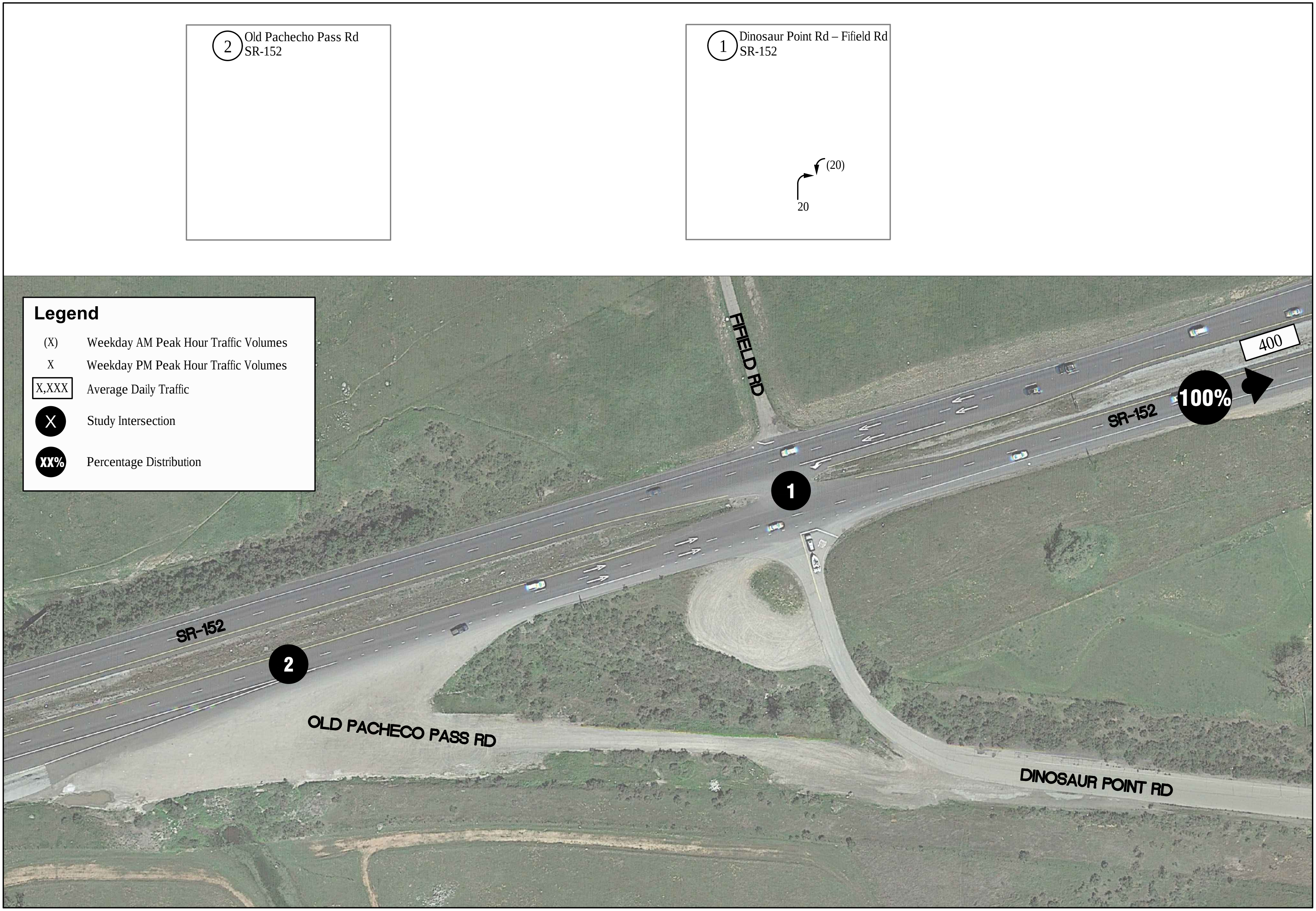
An intersection operations analysis was conducted for the study area to evaluate the Existing plus Project (Peak Construction) weekday AM and PM peak hour conditions. Intersection operations were calculated using the LOS methodology described previously. The following presents the results of the Existing plus Project (Peak Construction) analysis.

Table 3.3-5 shows the results of the Existing plus Project (Peak Construction) LOS analysis and provides a comparison to the existing (without Project) conditions for the weekday peak hours using HCM methodology for unsignalized intersections and Caltrans intersections.

Table 3.3-5
Existing Plus Project (Peak Construction) Peak Hour Intersection LOS

		Existing				Existing plus Project (Peak Construction)				Change		Significant Change in LOS or Delay	
		AM Peak		*PM Peak*		*AM Peak*		*PM Peak*					
Intersection	*Control*[1]	*Delay (sec)*	*LOS*	*Delay (sec)*	*LOS*	*Delay (sec)*	*LOS*	*Delay (sec)*	*LOS*	*AM*	*PM*	*AM*	*PM*
1. SR-152/Dinosaur Point Rd – Fifield Rd	2-way stop	35.6	E	24.4	C	40.7	E	42.1	E	5.1	17.7	no	yes
2. SR-152/Old Pacheco Pass Road	1-way stop	0.0	A	0.0	A	0.0	A	0.0	A	0.0	0.0	no	no

Notes: Delay – Delay reported as Control Delay and expressed in seconds
LOS – Level of Service
1 Two-Way Stop Control reported as worst movement. Analyzed using Highway Capacity Manual (HCM 2010) methodology.
BOLD value indicates unsatisfactory LOS



SOURCE: Google Maps, 03/2018

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FIGURE 3.3-3

Project Trip Distribution and Assignment – Passenger Cars (Peak Construction)

Gonzaga Ridge Wind Repowering Project

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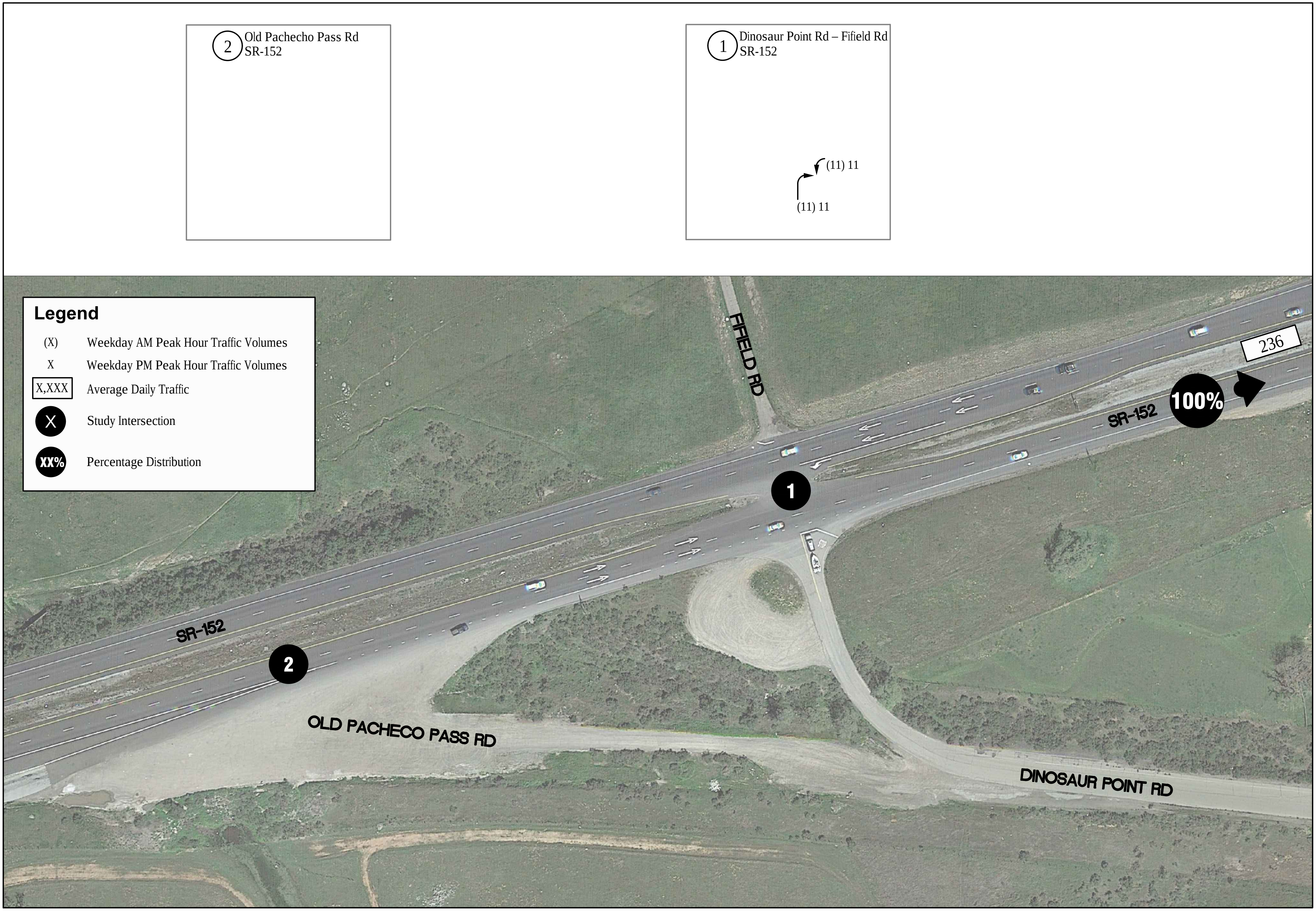

SOURCE: Google Maps, 03/2018

FIGURE 3.3-4

Project Trip Distribution and Assignment – Vendor Trucks (Peak Construction)

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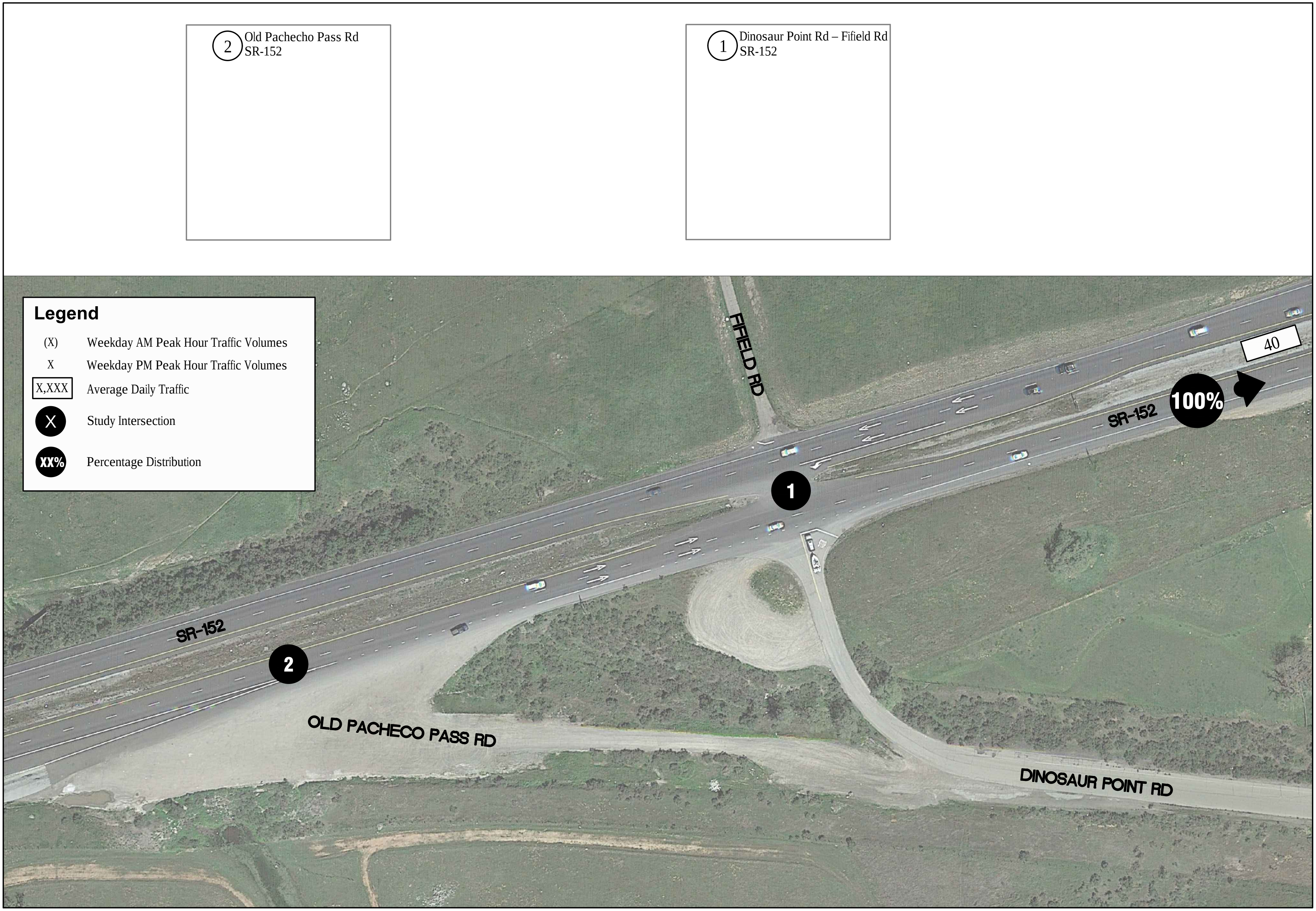

SOURCE: Google Maps, 03/2018

FIGURE 3.3-5

Project Trip Distribution and Assignment – Haul Trucks (Peak Construction)

Gonzaga Ridge Wind Repowering Project

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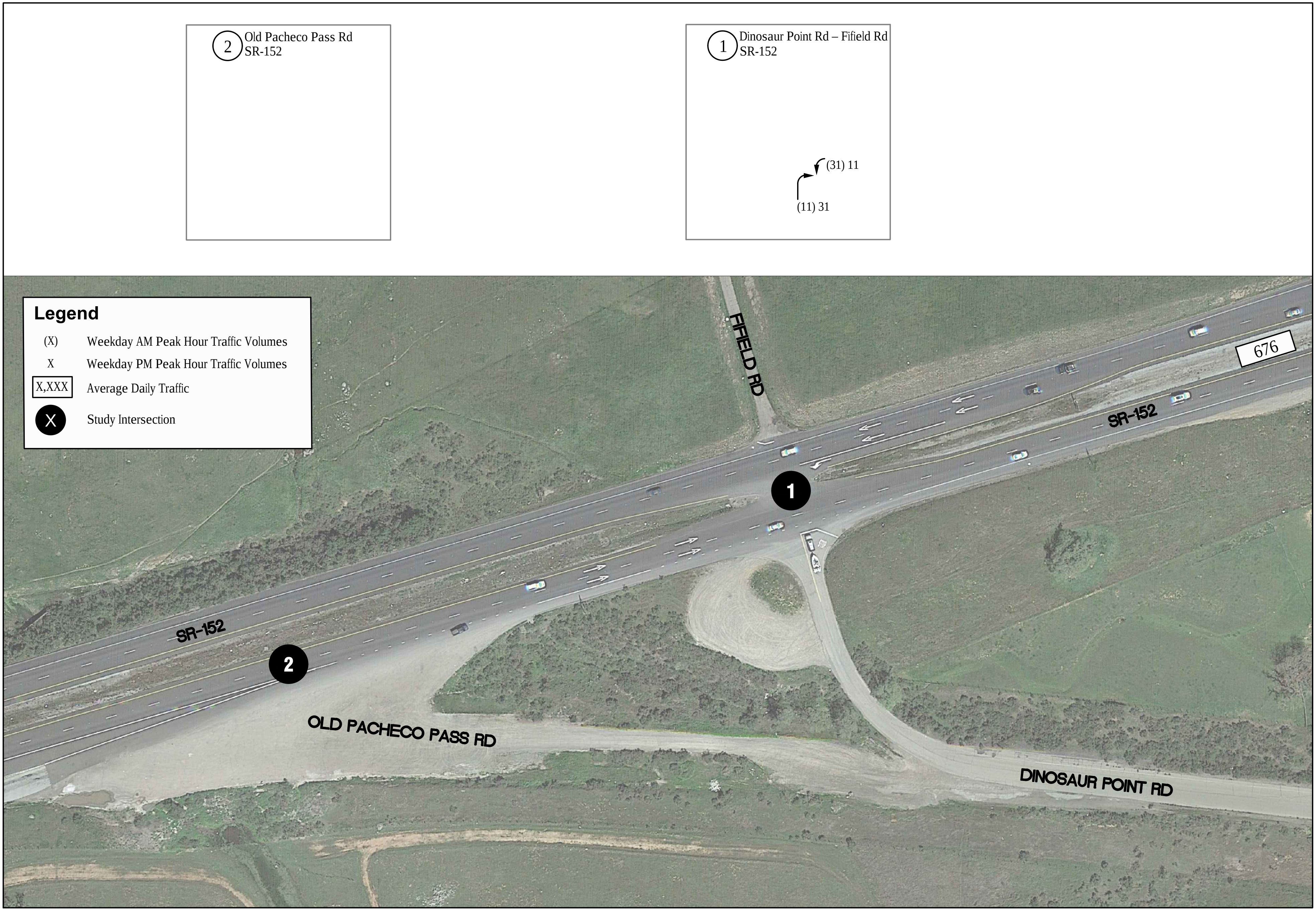

SOURCE: Google Maps, 03/2018

FIGURE 3.3-6
Total Project Trip Assignment (Peak Construction)
Gonzaga Ridge Wind Repowering Project

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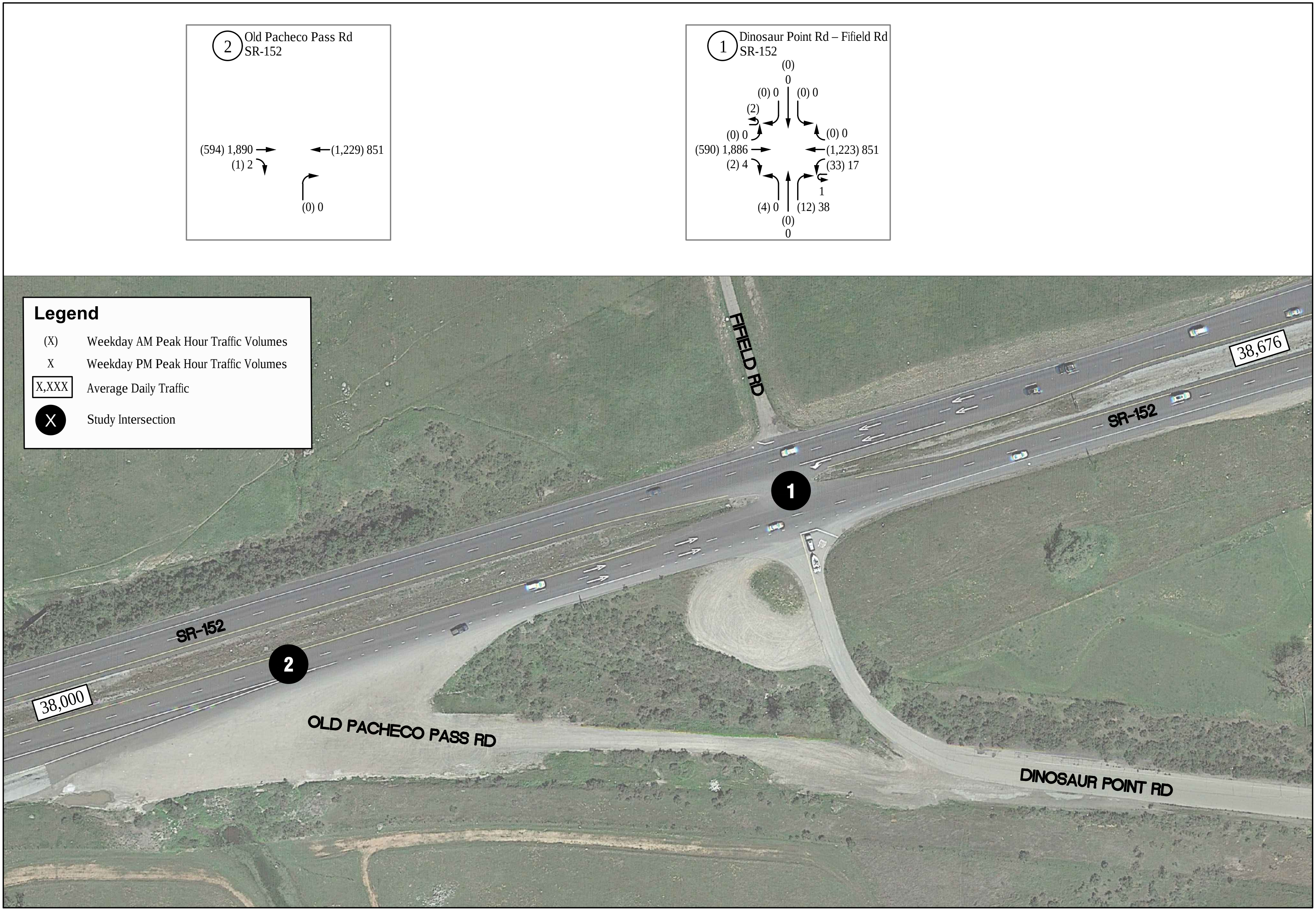

SOURCE: Google Maps, 03/2018

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FIGURE 3.3-7

Existing Plus Project AM, PM and Daily Traffic Volumes (Peak Construction)

Gonzaga Ridge Wind Repowering Project

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Project Operation Traffic Volumes

Existing traffic volumes were collected in September 2018, shown in Figure 3.3-2. As shown under the Existing Conditions analysis, traffic volumes in the study area are relatively low, and as such, no new significant growth is anticipated in the short term horizon. Therefore, Project impacts were calculated for the Existing plus Project (Permanent Operations) condition.

Project trip assignments shown in Figure 3.3-8 for permanent operations traffic (full-time workers), were added to the existing traffic volumes shown in Figure 3.3-2 to derive the Existing plus Project (Permanent Operations) traffic volumes. Figure 3.3-9 illustrates the Existing plus Project (Permanent Operations) traffic volumes that were used to evaluate Existing plus Project (Permanent Operations) traffic conditions.

Intersection Operations

An intersection operations analysis was conducted for the study area to evaluate the Existing plus Project (Permanent Operations) weekday AM and PM peak hour conditions. Intersection operations were calculated using the LOS methodology described above. The following presents the results of the Existing plus Project (Permanent Operations) analysis.

Table 3.3-6 shows the results of the Existing plus Project (Permanent Operations) LOS analysis and provides a comparison to the existing (without Project) conditions for the weekday peak hours using HCM methodology for unsignalized intersections and Caltrans intersections.

Table 3.3-6
Existing Plus Project (Permanent Operations) Peak Hour Intersection LOS

		Existing				Existing plus Project (Permanent Operations)				Change		Significant Change in LOS or Delay	
		AM Peak		PM Peak		AM Peak		PM Peak					
Intersection	*Control*[1]	*Delay (sec)*	*LOS*	*Delay (sec)*	*LOS*	*Delay (sec)*	*LOS*	*Delay (sec)*	*LOS*	*AM*	*PM*	*AM*	*PM*
1. SR-152/Dinosaur Point Rd – Fifield Rd	2-way stop	35.6	E	24.4	C	35.8	E	>300	F	0.2	>300	no	yes
2. SR-152/Old Pacheco Pass Road	1-way stop	0.0	A	0.0	A	0.0	A	0.0	A	0.0	0.0	no	no

Notes: Delay – Delay reported as Control Delay and expressed in seconds
LOS – Level of Service
Two-Way Stop Control reported as worst movement. Analyzed using Highway Capacity Manual (HCM 2010) methodology.
BOLD value indicates unsatisfactory LOS

Thresholds of Significance

Consistent with Appendix G of the CEQA Guidelines, a significant impact would occur if development of the proposed Project would do any of the following:

- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, pedestrian and bicycle facilities.
- Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

It should be noted that the California Natural Resources Agency adopted a new Section in the CEQA Guidelines (Section 15064.3) and changes to Appendix G of the CEQA Guidelines, which includes a requirement to evaluate vehicle miles traveled (VMT) to assess traffic impacts along with a new question asking if a project would conflict or be inconsistent with Section 15064.3(b), "Criteria for Analyzing Transportation Impacts." The Office of Planning and Research's (OPR) regulatory text indicates that a public agency may immediately commence implementation of the transportation impact guidelines, but that the guidelines shall apply statewide by July 1, 2020. Consistency with Section 15064.3(b) is analyzed in this document, although compliance is not mandatory until July 1, 2020.

Issues Addressed in the Initial Study

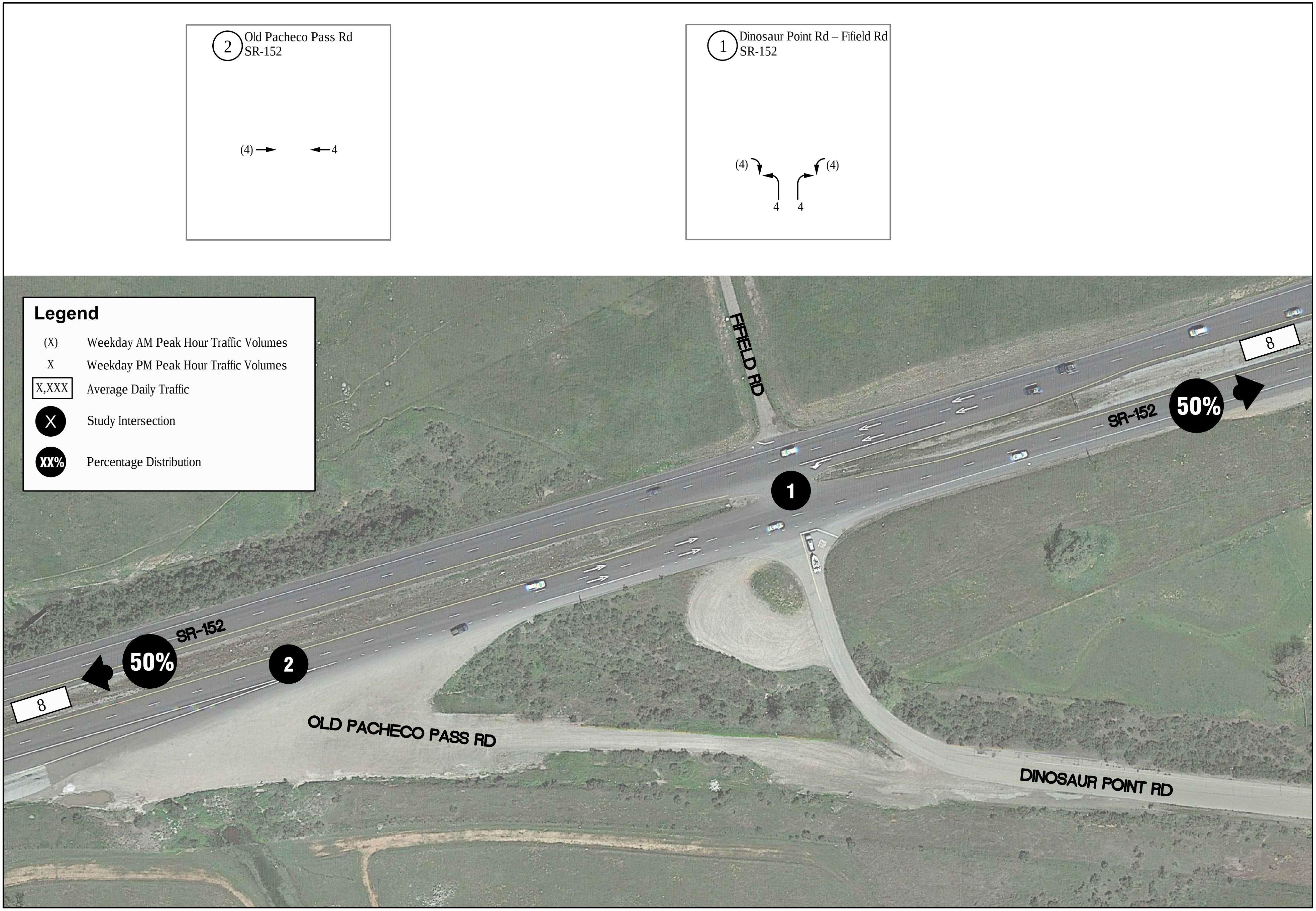
The other traffic-related issues including the potential for the Project to result in inadequate emergency access is addressed in the Initial Study included in Appendix B. Based on the analysis included in the Initial Study, impacts were all determined to be less than significant; therefore, these impacts are not further addressed in this section.

Impacts and Mitigation Measures

3.3-1: Implementation of the proposed Project under Existing plus Project conditions could degrade operations at the SR-152/Dinosaur Point Road intersection. This is considered a significant impact.

Construction

Based on the appropriate significance criteria, most of the study area intersections are forecast to continue to operate at LOS C or better with the addition of construction-related traffic, with the exception of the intersection of SR-152/Dinosaur Point Road – Fifield Road which continues to operate at LOS E (40.7) in the AM peak hour, and degrades to operate at LOS E (42.1) in the PM peak hour.



SOURCE: Google Maps, 03/2018

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FIGURE 3.3-8

Total Project Trip Distribution & Assignment (Permanent Operations)

Gonzaga Ridge Wind Repowering Project

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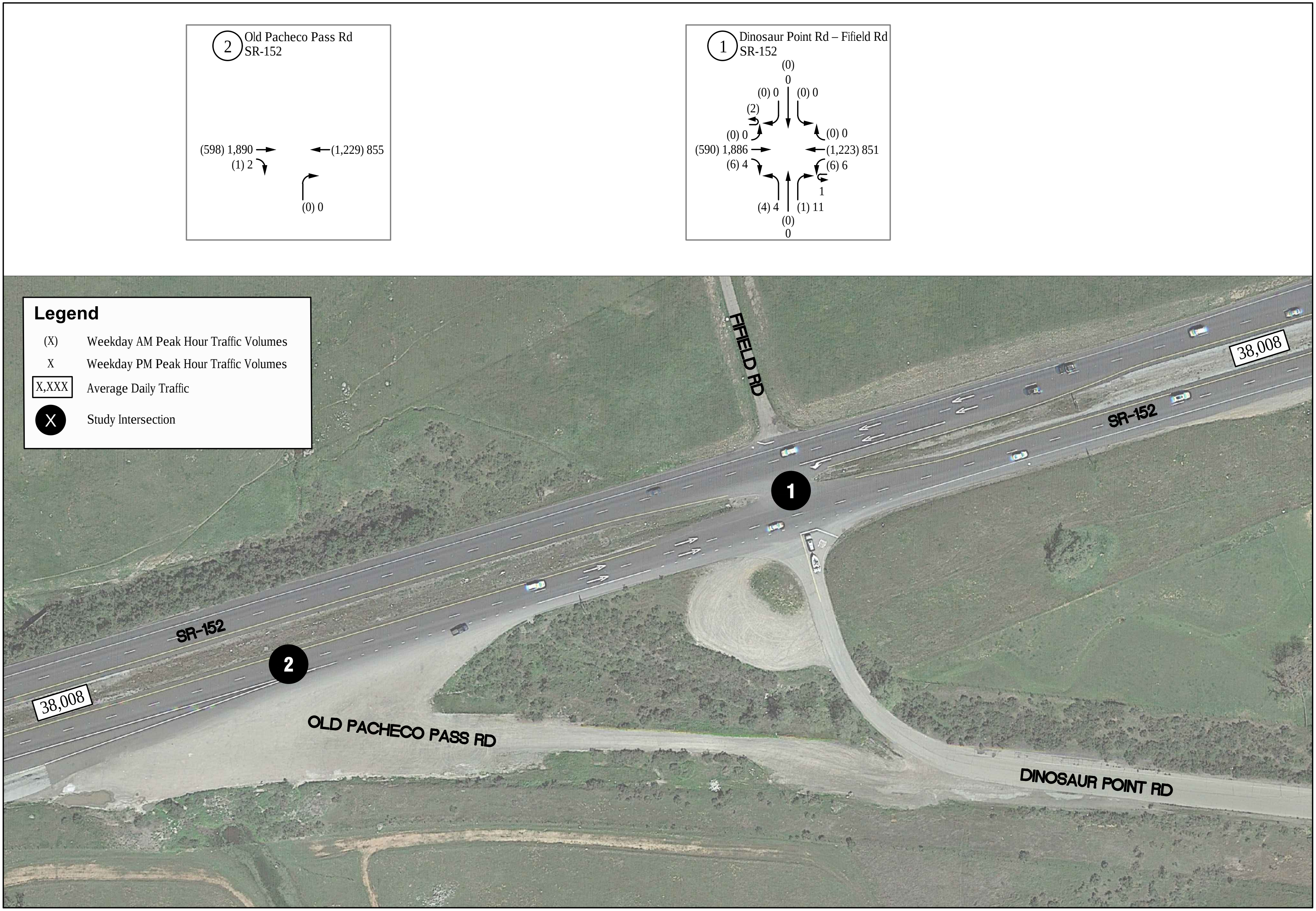

SOURCE: Google Maps, 03/2018

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FIGURE 3.3-9

Existing Plus Project AM, PM and Daily Traffic Volumes (Permanent Operations)

Gonzaga Ridge Wind Repowering Project

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Based on the Caltrans significance criteria, since LOS E is maintained with the addition of peak construction traffic, there is no significant impact in the AM peak hour. During the PM peak hour the LOS degrades from LOS C to LOS D, resulting in a significant short-term impact. The constructionrelated impact in the PM peak hour is the result of 11 vendor trucks performing a westbound left turn to access the site via Dinosaur Point Road. This movement constitutes a small and temporary increase, however due to the HCM 2010 methodology requirements for two-way stop control analysis, must be evaluated as the worst movement even though the total intersection delay is 0.7 seconds per vehicle (LOS A). As described in Chapter 2, Project Description, GRWF (or their Contractor) would prepare a Construction Transportation Management Plan (Plan) that addresses construction worker carpooling, restriction of work hours to limit egress and ingress during peak hours, and dedicated flagmen to facilitate safe movement of vehicles. The Plan would be submitted to Caltrans for their review and approval prior to initiating any construction activities. The Plan would ensure impacts associated with construction activities would be reduced to **less than significant.**

Operation

During Project operation most of the study area intersections are forecast to continue to operate at LOS C or better, with the exception of the intersection of SR-152/Dinosaur Point Road – Fifield Road which continues to operate at LOS E (35.8) in the AM peak hour, and degrades from LOS C (24.4) to operate at LOS F (>300) in the PM peak hour.

Based on the Caltrans significance criteria, since LOS E is maintained during the AM peak hour the impact is less than significant. In the PM peak hour the LOS degrades from LOS C to LOS F, due to the assumption that approximately 50% of Project workers (4 workers) would go to/from the westbound direction towards the Bay Area, resulting in four northbound left turns to proceed westbound along SR-152 from Dinosaur Point Road. The HCM 2010 methodology requirements for two-way stop control analysis states this must be evaluated as the worst movement, even though the total intersection delay is 0.7 seconds per vehicle (LOS A). Therefore, the impact during the PM peak hour is considered **significant.**

Mitigation Measures

The operational impact identified at this intersection during the PM peak hour constitutes a small proportion of the total intersection volume (less than 0.2%); therefore, it would not meet the Caltrans signal warrant criteria (due to minor approaches being substantially less than the 100 required) to install a signal at this intersection. There are no other feasible mitigation measures available to ensure workers would not turn left onto SR-152 during the PM peak hour. Because no feasible mitigation measures are available this would remain a **significant and unavoidable impact** of the Project.

3.3-2: Implementation of the proposed Project could increase VMT throughout the duration of the project construction. This is considered a less-than-significant impact.

CEQA Guidelines Section 15064.3, subdivision (b), focuses on determining the significance of transportation impacts using a project's VMT. It is further divided into four subdivisions: (1) land use projects, (2) transportation projects, (3) qualitative analysis, and (4) methodology. The proposed Project is a wind repowering Project that would generate temporary construction-related traffic and nominal operations and maintenance traffic. This Project would be categorized under subdivision (b)(3), qualitative analysis. Subdivision (b)(3) recognizes that lead agencies may not be able to quantitatively estimate VMT for every project type. In those circumstances, this subdivision encourages lead agencies to evaluate factors such as the availability of transit, proximity to other destinations, and other factors that may affect the amount of driving required by a project.

Construction

As described previously, construction of the proposed Project would result in a temporary increase in local traffic as a result of construction-related workforce traffic and material deliveries, and construction activities occurring within the public right-of-way. The primary off-site impacts from the movement of construction trucks would include short-term and intermittent effects on traffic operations because of slower movements and larger turning radii of delivery and haul trucks compared to passenger vehicles. However, during construction of the proposed Project, construction traffic would use Old Pacheco Pass Road, Dinosaur Point Road, and Windmill Road, which do not serve as through-roads and primarily provide access to and within Pacheco State Park.

Potential increases in vehicle trip generation as a result of Project construction would vary based on the construction activity, location, equipment needs, and other factors. However, once construction is completed, construction-related traffic would cease and VMT levels would return to pre-project conditions. Therefore, the proposed Project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and impacts would be **less than significant**.

Mitigation Measures

None required.

3.3-3: Delivery trucks associated with the proposed Project could increase hazards or result in incompatible uses along SR-152 and at the SR-152/Dinosaur Point Road intersection. This is considered a significant impact.

Project construction includes both removal of the existing wind turbines on the Project site and related infrastructure as well as installation of new wind turbines and ancillary infrastructure, including an overhead New Transmission Line connecting the Project site to the Los Banos

Substation. The following list provides the type and quantity of each type of specialized haul truck destined to the Project site during one day of peak construction:

- Hub Truck: 2 trucks per day
- Nose Cone Truck: 1 truck per day
- Down Tower Assembly Truck: 1 truck per day
- Tower Tube Truck: 6 trucks per day
- Nacelle Truck: 2 trucks per day
- Generator Truck: 2 trucks per day
- Blade Truck: 6 trucks per day

The size of the wind turbine components (and their specialized haul trucks) listed above necessitates oversized haul trucks that are longer than average, contain more than five axles, and require very wide turning radii. This would require coordination with Caltrans and/or affected local agencies for encroachment permits (for oversized vehicles traveling on public rights-of-way and/or State highways) due to the potential need to relocate appurtenances (signs, poles, utilities, etc.) along public streets, highways, and/or freeways to ensure clear travel of these oversized haul trucks. Coordination with the California Highway Patrol (CHP) and other affected local law enforcement may also be necessary to ensure oversized haul trucks have safe access to/from the site.

As described in Section 2.2.2.4, select portions of existing roads within the Project site would be widened during construction, including Windmill Road, and new access roads would be constructed to an approximately 35-foot-wide drivable surface with a 30-foot buffer on each side. The road surface would be graded and graveled with an all-weather surface. AutoTURN software was used to provide a preliminary analysis of the primary Project access roads, specifically Dinosaur Point Road to Windmill Road along with an approximately 2-mile stretch of Windmill Road. Although widening of the access roads would be required, the preliminary analysis showed that the specialized haul trucks would not require more than the 35-foot-wide drivable surface, nor would the wind turbine components or haul truck require more than the designated 30-foot wide buffer on either side of the roadway.

GRWF has indicated delivery trucks would access the Project site heading either eastbound or westbound along SR-152. Due to the irregular size and safety requirements associated with hauling these materials, as well as Caltrans Transportation Permit requirements, it is assumed the specialized oversized haul trucks would not deliver equipment during the AM or PM peak hours. Due to the challenges associated with maneuvering these oversized vehicles (with turbine equipment) along local streets and State highways, and the potential for hazardous conditions to occur to other vehicles on the roadway, this is considered a **significant impact.**

Mitigation Measures

Compliance with Mitigation Measure TRAFF-1, which requires coordination with Caltrans and other affected agencies would ensure the transport of oversized Project materials either to or from the Project site would be conducted in compliance with existing state and local requirements. This would ensure potential impacts due to the creation of a hazardous condition would be reduced to less than significant.

TRAFF 1: Prior to receiving an Encroachment Permit and a Transportation Permit from Caltrans, the Applicant (GRWF), or their Delivery contractor, shall prepare an Oversized Vehicle Transportation and Delivery Plan that identifies the types of oversized vehicles required to transport wind turbine components, travel route(s) on state highways and local roadways, requirements for turning radii, height and weight requirements, and any other relevant information. This Plan shall be reviewed by Caltrans and affected local agencies, and approved by Caltrans and affected local agencies to ensure the safe transport of oversized Project materials. This Plan shall be used to obtain proper permits required by Caltrans and affected local agencies.

Cumulative Impacts

Cumulative traffic impacts in the Project Area would result from an increase in traffic volumes on SR-152 as a result of regional growth. Based on review of the past five years (2013 – 2017) of annual average daily traffic volumes (AADT) reported in Caltrans' Traffic Census Program (http://www.dot.ca.gov/trafficops/census/), volumes on Post Mile 35 – Santa Clara County – Merced County line, ranged from 32,000 to 39,900 AADT. The increase of 7,900 AADT over five years results in an annual growth rate of 4.9%. The Project would contribute temporary construction-related traffic, and permanent operations and maintenance traffic to SR-152 in the cumulative condition.

3.3-4: Implementation of the proposed Project under Cumulative plus Project conditions could contribute to unsatisfactory operations at the SR-152/Dinosaur Point Road intersection under cumulative conditions. This is considered a significant impact.

Similar to the Existing plus Project condition, the Project would contribute to the degradation of the SR-152/Dinosaur Point Road intersection during operation and maintenance. Based on the Caltrans significance criteria, since LOS E is maintained during the AM peak hour the impact is less than significant. However, in the PM peak hour the LOS degrades from LOS C to LOS F, due to the assumption that approximately 50% of Project workers (4 workers) would go to/from the westbound direction towards the Bay Area, resulting in four northbound left turns to proceed westbound along SR-152 from Dinosaur Point Road. The HCM 2010 methodology requirements for two-way stop control analysis states this must be evaluated as the worst movement, even though the total intersection LOS is LOS A. Therefore, under cumulative conditions the project's contribution during the PM peak hour is considerable resulting in a **significant impact.**

Mitigation Measures

The operational impact identified at this intersection during the PM peak hour constitutes a small proportion of the total intersection volume; therefore, it would not meet the Caltrans signal warrant criteria (due to minor approaches being substantially less than the 100 required) to install a signal at this intersection. There are no other feasible mitigation measures available to ensure workers would not turn left onto SR-152 during the PM peak hour. Because no feasible mitigation measures are available this would remain a **significant and unavoidable** impact of the Project under cumulative conditions.

References

Caltrans 2016. Transportation Concept Report State Route 152, District 06. Caltrans. July 2016.

Caltrans 2019. Traffic Census Program, http://www.dot.ca.gov/trafficops/census/, 2013 – 2017.

Merced County 2013. 2030 Merced County General Plan. Merced County. December 10, 2013.

Santa Clara County 1994. Santa Clara County General Plan. Santa Clara County. December 20, 1994.

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CHAPTER 4
EFFECTS FOUND NOT TO BE SIGNIFICANT

4.0 PURPOSE

Section 15128 of the California Environmental Quality Act (CEQA) Guidelines requires that an Environmental Impact Report (EIR) shall contain a statement that briefly indicates the reasons that various possible significant effects of a project were determined not to be significant and are therefore not discussed in in further detail in the EIR. As substantiated in Section 4.2 below, implementation of the Gonzaga Ridge Wind Repowering Project (proposed Project) would have no impact or a less-than-significant impact (with or without mitigation) relative to the following issues areas: agriculture and forestry resources, air quality, cultural resources, energy, geology, soils and mineral resources, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use, noise and vibration, population and housing, and public services and recreation, public utilities, tribal cultural resources, and wildfire. As such, these issue areas are not discussed in detail in Chapter 3 of this EIR, but are discussed in the Initial Study included in Appendix B.

4.1 EFFECTS FOUND NOT TO BE SIGNIFICANT

Using the CEQA statutes and CEQA Guidelines Appendix G as a basis, this section presents the effects found not to be significant with implementation of the Project. An Initial Study Checklist was prepared for the Project and is included in Appendix B. The following summarizes the findings of the analysis contained in the Initial Study. Please see Appendix B for more information.

As noted in Chapter 2, Project Description, the Project site is defined as the 1,766-acre lease area within Pacheco State Park (Park) boundaries. The Project site includes the proposed wind turbines and associated infrastructure, including a portion of the existing transmission line, Dinosaur Point Tap (existing switchyard), and the New Transmission Line within the Park boundaries. Elements of the Project outside of the Project site are included within the larger Project Area, which includes the New Transmission Line and associated infrastructure (including temporary roads for construction and permanent roads for maintenance access).

Agriculture and Forestry Resources

The Project Area, including the existing and New Transmission Line corridors, is designated as Grazing Land, Farmland of Local Importance and Urban and Built-Up Land by the Department of Conservation Farmland Mapping and Monitoring Program (DOC 2018). Although Grazing Land is considered agricultural land under Public Resources Code Section 21060, it is not considered Prime, Unique, or Farmland of Statewide Importance. In addition, there is no forest land or timberland areas zoned in either Merced County or Santa Clara County in the vicinity of the Project site. Thus, there is no conflict with lands zoned for forest or timberland. Within the proposed Project site and New Transmission Line corridor there are trees that would require removal; however, the number of trees to be removed would not be enough to result in the loss of forest land resources, in part because oak woodland is not considered forest land. Impacts to agriculture and forestry resources would be less than significant.

Air Quality

Air emissions associated with Project construction activities, including emissions from construction equipment and dust from clearing the land, and exposed soil eroded by wind were evaluated to determine if they would exceed the air district thresholds. The air quality modeling conducted for the Project determined that energy, and mobile emissions for both construction and operation of the Project would not exceed district thresholds and impacts were determined to be less than significant.

Cultural Resources

A Cultural Resources Inventory Report was prepared for the Project Area (see Appendix B), including the New Transmission Line corridor, that included a review of all previous surveys conducted in the area. A total of six recorded archaeological resources have been identified within the Project site. Within the New Transmission Line corridor previous surveys have also identified the presence of archaeological resources. Because there are numerous recorded archaeological resources within the Project Area, additional unknown, subsurface prehistoric or historic-era resources may be present and could be disturbed by construction activities, this is considered a potentially significant impact. Compliance with Mitigation Measure CUL-1, which sets forth a protocol to follow in the event any resources are discovered and Mitigation Measure CUL-2, which requires on-site Native American monitors be present if site disturbance occurs in specific areas would ensure impacts would be reduced to less than significant.

Energy

Due to the nature of the Project, impacts relating to the wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation was determined to be less than significant, as well as the potential for the Project to conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Geology, Soils and Mineral Resources

The Project Area is not located within an Alquist-Priolo Fault Zone or any other potentially active fault. Furthermore, the Project would be designed and constructed to meet the California Building Code (CBC) seismic standards and recommendations of a site-specific geotechnical report in order to reduce potential damage due to fault rupture or soil instability (i.e., liquefaction, subsidence, lateral spreading). Adherence to the CBC and recommendations of the geotechnical report would ensure any impacts would be less than significant.

The Project Area is not identified as containing any locally-important mineral resources (Merced County 2013). Because there are no known mineral resources either on or in the vicinity of the Project Area, there would be no impact to mineral resources associated with Project implementation.

The soils within the Project Area were also evaluated to determine the potential for paleontological resources to be present. Based on the mixed nature and youthful age of the deposits it was determined there is a low potential for paleontological resources to be present and impacts were determined to be less than significant.

Greenhouse Gas Emissions

Emissions associated with Project construction and operation were modeled to determine if the Project would exceed the County's greenhouse gas (GHG) significance threshold (the state does not have a GHG threshold). Based on the modeling, the Project would not exceed the County's threshold for either construction or operation and impacts were determined to be less than significant. The Project's consistency with the Merced County Association of Governments' Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) was also evaluated and determined the Project would not conflict with the RTP/SCS.

Hazards and Hazardous Materials

A Phase 1 Environmental Site Assessment (ESA) was prepared for the Project site to determine the potential for hazardous materials or areas of contamination to exist in the area containing the existing wind turbines and associated infrastructure. The Project site is not included on a regulatory agency database related to hazardous materials/wastes. During construction activities the use of gasoline, diesel fuel, lubricating oil, grease, and other solvents would not pose a significant risk because the Contractor would be required to ensure these materials would be used and stored in accordance with existing laws and regulations. Project construction would also be governed under the Construction General Permit and handled according to a site-specific Stormwater Pollution Prevention Plan (SWPPP), prepared as part of the Project. In addition, a Spill Prevention, Control and Countermeasure (SPCC) plan would be prepared as part of the Project. All SPCCs must have a spill response and implementation element which requires, among other things, that appropriate spill response personnel are assigned and trained, and that equipment and materials for cleanup of spills (i.e., spill kits) shall be available on-site. Impacts associated with construction activities were determined to be less than significant. Compliance with Mitigation Measure HAZ-1 would ensure potential impacts to construction workers in the event any hazardous materials are encountered during installation of the New Transmission Line would be reduced to less than significant.

Operation of the Project would require the storage of herbicides for weed abatement and other types of lubricating oil, grease, and other solvents required for the maintenance and operation of the wind turbines. The use, storage and disposal of these chemicals would be conducted in accordance with existing state and federal laws and would not create a significant hazard to the public or the environment through the routine transport, use or disposal. This was determined to be a less-than-significant impact.

Hydrology and Water Quality

Prior to project construction, the Contractor is required to obtain a Construction General Permit that requires preparation of a SWPPP, which includes Best Management Practices (BMPs) designed to reduce potential impacts to surface water quality through construction and operation of the Project. Compliance with the SWPPP and BMPs would ensure impacts to any surface waters would be less than significant. Water required for construction and operation of the Project would be imported to the site, reducing the potential to impact groundwater supplies.

The Project Area has not been mapped by the Federal Emergency Management Agency to assess the likelihood of flooding; however, all Project buildings and the wind turbines within the lease portion would be located on ridges or within high areas on the site. The New Transmission Line corridor traverses an area adjacent to the San Luis reservoir and crosses a small area of the reservoir. Placement of a transmission line in this area would not impede or redirect flood flows or expose people to loss, injury or death involving potential flooding. Impacts associated with impeding or redirecting flood flows or exposing people or structures to flooding was determined to be less than significant

Land Use

State Parks is not required to comply with local land use plans, policies or ordinances. With the exception of only a small portion of the New Transmission Line corridor, all Project elements are located on lands owned by the state or the federal government. The Project would obtain all necessary permits from Merced County for portions of the New Transmission Line that crosses private or county lands and for installation of a septic system. It was determined the Project would not conflict with any local land use plan, policy or ordinance and impacts are less than significant.

Noise and Vibration

Noise associated with Project construction and future operation of the wind turbines was quantified to determine if nearby sensitive receptors (residences) would be affected by a substantial increase in either short-term noise levels or a permanent increase in noise. Based on the analysis it was determined noise from short-term construction activities and future operation would be less than significant. Exposure of nearby receptors to vibration was also evaluated and determined to not be significant.

Population and Housing

The Project does not include developing new residences or adding to the population necessitating the construction of new housing. There would be no impacts to population or housing as part of the Project.

Public Services and Recreation

The Project would not increase the need for public services, including law enforcement, fire protection, school capacity, parks, or other public facilities (i.e., libraries), because it does not propose development of new housing or new commercial/employment uses that would generate an increase in population resulting in an increase in demand for public services. The Project would employ up to eight employees to operate and manage the wind farm, but the new employees would not be considered a significant increase in permanent jobs or population requiring public services from Merced County or neighboring counties. Therefore, no impacts to public services or recreation would occur.

Public Utilities

The Project site is located within a State Park and does not include any public infrastructure. The Project does not include any uses that require potable water, wastewater or storm drain infrastructure. Future operation includes an Operations and Maintenance (O&M) building that would provide on-site restrooms serviced by a septic system. Potable water would be transported to the site and stored in an on-site water tank. Thus, the Project would result in no impact to public infrastructure or capacity.

Tribal Cultural Resources

A sacred lands file search request was sent to the Native American Heritage Commission (NAHC) along with a request for the Native American contact list for the Project site. The NAHC responded that the lease portion of the Project site came back with negative results for any sacred sites. However, sacred sites were identified within the New Transmission Line corridor.

In compliance with AB 52, which requires the lead agency to initiate consultation with California Native American groups that are traditionally and culturally affiliated with a project, State Parks sent letters to four tribes that requested notification and followed up with phone calls. The Amah Mutsun Tribal Band requested that a tribal monitor from their tribe be present for ground disturbing actives within 300-feet of a water way, spring, cave, or previously documented archaeological site. No other tribes either requested consultation with the state or requested tribal monitors be present during construction. Consultation is considered complete.

Wildfire

The proposed Project is located within a State Responsibility area and is designated as being within a high fire risk area. However, the Project does not include any permanent residences and does not include any uses or activities that would exacerbate wildfire risks, and potentially expose project occupants to pollutant concentrations from a wildfire, the uncontrolled spread of a wildfire, or other significant risk associated with post-fire instability or drainage changes. This was determined to be a less-than-significant impact. The Project includes preparation and implementation of a Fire Protection Plan (FPP) which would include emergency response and evacuation procedures that would include immediate reporting notification to local fire agencies in the event of a fire. Fire risk at the project site would not be exacerbated by the installation or maintenance of roads, fuel breaks, emergency water sources, power lines, or other utilities. Although the Project does include construction of overhead power lines these lines would be routinely maintained by employees of the Project and it is not anticipated the risk of wildfire would be exacerbated. The impact is considered less than significant.

CHAPTER 5
SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL EFFECTS AND GROWTH INDUCEMENT

5.0 INTRODUCTION

Section 15126 of the California Environmental Quality Act (CEQA) Guidelines requires that all aspects of a project must be considered when evaluating its impact on the environment, including planning, acquisition, development, and operation. As part of this analysis, the Environmental Impact Report (EIR) must also identify (1) significant environmental effects of the proposed Project, (2) significant environmental effects that cannot be avoided if the proposed Project is implemented, (3) significant irreversible environmental changes that would result from implementation of the proposed Project, (4) growth-inducing impacts of the proposed Project, (5) energy consumption and conservation of the Project, and (6) alternatives to the proposed Project (evaluated in Chapter 6, Project Alternatives).

5.1 SIGNIFICANT AND UNAVOIDABLE PROJECT IMPACTS

Sections 15126(b) and 15126.2(b) of the CEQA Guidelines requires that an EIR describe any significant impacts that cannot be avoided, even with the implementation of feasible mitigation measures. The environmental effects of the proposed Project on various aspects of the environment are discussed in detail in the technical sections contained in Chapter 3, Environmental Analysis, of this Draft EIR.

This EIR has identified the following significant and unavoidable impacts.

- **Transportation and Circulation:** Under Existing plus Project and Cumulative plus Project conditions operation of the Project would degrade the level of service at the SR-152/Dinosaur Point Road intersection from LOS C to F in the PM peak hour, resulting in a significant impact. The operational impact identified at this intersection during the PM peak hour constitutes a small proportion of the total intersection volume (less than 0.2%); therefore, it would not meet the Caltrans signal warrant criteria (due to minor approaches being substantially less than the 100 required) to install a signal at this intersection. There are no other feasible mitigation measures available to ensure employees would not turn left onto SR-152 during the PM peak hour. Because no feasible mitigation measures are available this is a significant and unavoidable impact of the Project.

5.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL EFFECTS

Public Resources Code section 21100(b)(2) requires that EIRs must include a discussion of significant irreversible environmental changes of project implementation. In addition, CEQA Guidelines Section 15126.2(c) describes irreversible environmental changes as:

> Uses of nonrenewable resources during the initial and continued phases of development may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts, such as highway improvement that provides access to a previously inaccessible area, generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Adoption and implementation of the Gonzaga Ridge Wind Repowering Project is expected to result in irreversible environmental effects consisting of the following:

- Use of various new raw materials, such as lumber, sand, and gravel, for the concrete foundations required for the wind turbines, new building and to develop roads to access areas of the site. Some of these raw materials are already being depleted worldwide. The energy consumed in construction and ongoing maintenance of the wind turbines and associated infrastructure may be considered a permanent investment. Implementation of the Project would be a relatively minor consumer of these supplies when compared to a regional context. However, use of these resources would represent an incremental effect on the regional consumption of these commodities. Implementation of the Project would involve an incremental increase in consumption of energy resources, derived in part from nonrenewable resources, such as fossil fuels.

The CEQA Guidelines also require a discussion of the potential for irreversible environmental damage caused by environmental accidents associated with the Project. While the Project would result in the use, transport, storage, and disposal of minor amounts of hazardous materials during Project construction and operation, as described in the Initial Study, Section 8, Hazards and Hazardous Materials, in Appendix B, all such activities would comply with applicable state and federal laws related to the use, storage and transport of hazardous materials, which significantly reduces the likelihood and severity of accidents that could result in irreversible environmental damage. The Project itself does not include any uniquely hazardous uses that would require any special handling or storage. Further, the Project does not contain any industrial uses that would use or store acutely hazardous materials.

5.3 GROWTH INDUCEMENT

Section 15126.2(d) of the CEQA Guidelines mandates that the growth-inducing nature of the proposed project be discussed. This CEQA Guidelines section states that the growth-inducement analysis is intended to address the potential for the project to "foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." Furthermore, the CEQA Appendix G Checklist (Population and Housing) mandates that a CEQA document discuss the project's likelihood to induce substantial population growth in an area, either directly (e.g., by proposing new homes or businesses) or indirectly (e.g., through extension of roads or other infrastructure) (14 CCR 15000 et seq.).

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 (see Chapter 3, Impact Analysis). Furthermore, the CEQA Guidelines require 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."

A project may be distinguished as either facilitating planned growth or inducing unplanned growth. Facilitating growth is relating to the establishment of direct employment, population, or housing growth that would occur within a project site. Inducing growth is related to lowering or removing barriers to growth or by creating an amenity or facility that attracts new population and economic activity. However, the CEQA Guidelines do not require a prediction or speculation of where, when, and in what form such growth would occur (CEQA Guidelines, Section 15145).

According to the CEQA Guidelines, a project would have potential to induce growth if it would result in either of the following.

- Remove obstacles to population growth (e.g., through the expansion of public services into an area that does not currently receive these services), or through the provision of new access to an area, or a change in a restrictive zoning or General Plan land use designation.
- Result in economic expansion and population growth through employment opportunities and/or construction of new housing.

For the purposes of this EIR analysis, a significant growth-inducement impact would occur if the Project, and all associated infrastructure improvements, directly or indirectly removed physical or regulatory obstacles to growth such that the induced growth would significantly burden existing community services, or impact the environment through economic expansion and population growth. A physical obstacle to population growth typically involves the lack of public service infrastructure. The extension of public service infrastructure, including roadways, water mains, and sewer lines, into areas that currently do not have these services is expected to support new development.

The potential growth-inducing impacts of the Project are discussed below.

Remove Obstacles to Growth or Provide New Access

The Project would include the removal of the existing wind turbines and miscellaneous infrastructure and also the construction of permanent and temporary roads within the Project Area to install new electrical infrastructure (wind turbines, transmission line, and associated facilities). No other infrastructure including water or sewer lines would be installed as part of the Project. Currently, there are no public services available within this portion of Pacheco State Park.

Permanent roads would be used during operation to access Project facilities for maintenance. These roads would be located within the Project Area. The temporary roads may be removed and restored after initial construction; the permanent roads may be reduced in size; and/or maintained at their construction size for the life of the Project to allow for operations and maintenance access. In general, these roads would provide for access internal to the Project site and would not be accessible to the general public or provide access into other areas and would thereby not promote growth-inducing development. No other development would be anticipated as a result of these roads, and these roads would not extend outside of the Project site or provide connection points for offsite development. No other development would be anticipated as a result of these roads.

Economic, Population, and Housing Growth

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 pertinent general plans or land use plans, or projections made by local planning agencies, such as Merced County, Santa Clara County, San Benito County and regional planning agencies such as the Merced County Association of Governments (MCAG). With respect to employment, the Project would result in direct economic impacts to Santa Clara, Merced and San Benito counties through employment and the local purchase of some construction materials, as well as secondary impacts from the purchases of goods and services by those employed by the Project. The Project would not directly or indirectly promote sufficient economic growth to result in a population that would exceed the projections of the Merced, Santa Clara and San Benito counties; however the Project would require a maximum of 200 personnel to construct the Project (most of whom are expected to reside in Merced County), and construction of both phases would be completed within an approximately 28 to 32 month period. During construction, a number of construction workers are expected to be based in the nearby areas of Los Banos, Santa Nella, and/or Gustine and up to eight full-time staff would be employed during Project operation. Therefore, the Project would not result in a large increase in employment that would significantly induce growth.

While the Project would contribute to energy supply, which supports growth, the re-powering of the existing wind farm is a response to both clean energy goals established by the State and increased market demand for clean energy in California. The Project would not remove an obstacle to growth and would provide a source of renewable energy to help utilities, such as PG&E or another utility providers such as community choice groups that may buy the electricity generated by the Project, to meet the California Renewable Portfolio Standard (RPS). The California RPS was established under Senate Bill (SB) 1078 (SB 1078, Chapter 516, Statutes of 2002), which requires certain retail sellers of electricity, including PG&E, to increase the amount of renewable energy they procure each year by 1% until the renewable energy content of their electricity portfolios equals 20%. Retail sellers of electricity were required to meet this standard by December 31, 2010 (SB 107, Chapter 464, Statutes of 2006). Most recently, SB 350 which requires retail sellers and publicly owned utilities to procure 50% of their electricity from eligible renewable energy resources by 2030, was signed into law (SB 350, Chapter 547, Statutes of 2015). In addition, SB 100, signed by Governor Brown in 2018, requires California to transition to a fully renewable energy grid devoid of fossil fuels by 2045. This legislation also requires that utility providers generate 60% of their power from renewable sources by 2030.

The Project would repower the existing wind energy facility to generate up to approximately 100 MWs, which could offset power generated by a nonrenewable source if it resulted in displacing nonrenewable sources such as natural gas-fired power plants. However, it is likely that the Project's power generation would increase the utility that purchases the power developed by this Project and California's overall supplies, which are driven by statewide demand. The Project would supply electricity to accommodate and support existing demand and projected growth through power purchase agreements to be negotiated after the Project is approved. Because at this time it is not known where the electricity generated by the Project would be used any link between the Project and supporting unplanned growth throughout the state would be speculative. It is anticipated the Project would help facilitate planned growth, but would not induce unplanned growth throughout the state.

The Project does not include the construction or demolition of any housing, and would not have a direct impact on population or housing growth. Project-related construction would result in a short-term increase in construction-related job opportunities in Merced County and the larger region. However, construction workers can be expected to be drawn from the existing construction employment labor force. Therefore, opportunities provided by Project construction would not likely result in the permanent relocation of construction workers to the area. Therefore, the employment opportunities provided by construction are not anticipated to induce indirect growth in the region.

5.4 ENERGY CONSERVATION

In order to assure that energy implications are considered in project decisions, CEQA requires that EIRs include a discussion of the potential energy impacts of a project, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy (see Public Resources Code Section 21100(b)(3)). According to Appendix F of the CEQA Guidelines, the goal of conserving energy implies the wise and efficient use of energy including: (1) decreasing overall per capita energy consumption; (2) decreasing reliance on natural gas and oil; and (3) increasing reliance on renewable energy sources. The Project itself would help achieve this goal because it would develop a renewable source of power, helping to offset the use of nonrenewable resources and contribute to an overall reduction of nonrenewable resources currently used to generate electricity. As discussed above in Section 5.3, resources that would be consumed as a result of Project implementation include water, electricity, and fossil fuels during construction and operation. Additionally, construction would require the manufacture of new materials, some of which would not be recyclable at the end of the Project's lifetime, and the energy required for the production of these materials would also result in an irretrievable commitment of natural resources. The anticipated equipment, vehicles, and materials required for construction of the Project are detailed in Chapter 2, Project Description and Chapter 3. However, the amount and rate of consumption of these resources would not result in significant environmental impacts or the unnecessary, inefficient, or wasteful use of resources. No increases in inefficiencies or unnecessary energy consumption are expected to occur as a direct or indirect consequence of the Project. No mitigation measures would be necessary to offset energy consumption.

CHAPTER 6
ALTERNATIVES

6.0 INTRODUCTION

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) describes a reasonable range of project alternatives that would feasibly attain most of the basic objectives of the project but would avoid or lessen any significant environmental impacts. EIRs are also required to evaluate the comparative merits of the alternatives. This chapter of the EIR describes and evaluates project alternatives and implements the requirements set forth in the CEQA Guidelines for alternatives analysis. This chapter also identifies the Environmentally Superior Project Alternative as required by CEQA Guidelines Section 15126.6(e)(2).

Wind turbines are currently present within the Project site along with associated infrastructure. As such, the purpose of the EIR is to focus the analysis on those potential effects on the environment resulting from decommissioning the existing wind farm and implementation of the Gonzaga Ridge Wind Repowering Project (proposed Project), which includes fewer wind turbines and other ancillary infrastructure. Therefore, the alternatives analysis involves alternatives relative to the proposed Project.

6.1 ALTERNATIVES CONSIDERED IN THIS EIR

The range of alternatives and methods for selection is governed by CEQA and applicable CEQA case law. As stated in CEQA Guidelines Section 15126.6(a), the lead agency is responsible for considering a reasonable range of potentially feasible project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. This chapter includes the range of project alternatives that have been selected by State Parks, as the lead agency for examination, as well as its reasoning for selecting these alternatives.

As stated in Section 15126.6(a) of the CEQA Guidelines, there is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason. This rule is described in Section 15126.6(f) of the CEQA Guidelines and requires the EIR to set forth only those alternatives necessary to foster informed decision-making. As defined in Section 15126.6(f), the rule of reason limits alternatives analyzed to those that would avoid or substantially lessen one or more of the significant effects of a project. Of those alternatives, an EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. Other relevant provisions set forth in the CEQA Guidelines state that EIRs do not need to consider every conceivable alternative to a project, nor are they required to consider alternatives that are infeasible. When addressing feasibility, CEQA states that “among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, jurisdictional boundaries, and whether the applicant can reasonably acquire, control or otherwise have access to alternative sites." (CEQA Guidelines, Section 15126.6.) These considerations are unique for each project. The Guidelines also specify that the discussion of alternatives should not be remote or speculative; however, the assessment of alternatives need not be presented in the same level of detail as the assessment of the proposed project.

Accordingly, an EIR must describe a range of reasonable alternatives to the project or to its location but need not discuss every alternative to the project. An EIR should present "a reasonable range of potentially feasible alternatives." No set number of alternatives is necessary to constitute a legally adequate range of alternatives. Instead, the nature and scope of the alternatives to be studied in an EIR is governed by the rule of reason, which means that an EIR need only discuss those alternatives necessary to permit a reasoned choice in light of environmental considerations. The scope of alternatives comprising a reasonable range will vary depending on the nature of the project under review, the project's impacts, relevant agency polices, and other material facts. In some situations, no potentially feasible alternatives may be available that would achieve most project objectives. (See, e.g., *Mount Shasta Bioregional Ecology Center v. County of Siskiyou* (2012) 210 Cal.App.4th 184.) The lead agency has the discretion to determine, based on the nature of the project and its circumstances, how many alternatives will constitute a reasonable range.

The proposed Project would result in a significant and unavoidable effect to the environment due to an increase to a LOS E at the Project entrance off of SR-152 under project and cumulative conditions. The range of alternatives that was selected for analysis in this EIR includes those that would result in reduced impacts when compared to those of the Project, even though most of those impacts have been identified as less than significant with mitigation.

6.1.1 Proposed Project Overview

The proposed Project is the removal of an existing renewable wind energy generation development and the replacement of the existing facility with a new wind energy generation development to be constructed and operated in Pacheco State Park (Park) in Merced County, by Gonzaga Ridge Wind Farm, LLC (GRWF). GRWF has a long-term (maximum 35-year) lease on approximately 1,766 acres with the State of California, Department of Parks and Recreation (CDPR) for development, construction and operation of the Project. The Project could include additional public and/or private lands outside of the lease area or Project site required to construct and operate a transmission line (New Transmission Line) to transmit the electricity generated by the Project to the Los Banos Substation, located south of the O'Neill Forebay. The Project would replace the existing 16.5 megawatt (MW) wind energy facility that was first constructed in 1988 and currently consists of 162 wind turbines with up to 40 new turbines, with a total generating capacity of up to approximately 100 MWs. The Project would also include the continued use of the existing 70 kV transmission line that follows a path from the current wind farm linking the Project site to the Dinosaur Point Tap (existing switchyard). The New Transmission Line would be constructed on land owned by the Bureau of Reclamation (BOR) and Merced County property connecting to the Los Banos Substation. New ancillary Project facilities would include construction laydown areas, access roads, underground and overhead collector lines and associated equipment, underground and overhead communications system, an operations and maintenance (O&M) facility, meteorological or MET tower(s), relocation of a communications tower, New Transmission Line, relocation of existing transmission line poles, upgrades to the existing switchyard, upgrades to the Los Banos Substation, storage sheds, battery storage facility, and an electrical substation and associated substation components.

Project Objectives

Specific objectives of the Project include:

- Assist California in meeting its target of 100 percent carbon-free electricity by 2045 (Senate Bill 100) and reducing greenhouse gas emissions to 1990 levels by 2020 (California Global Warming Solutions Act of 2006/Assembly Bill 32).
- Continue production of wind energy within Pacheco State Park to generate income to advance the goals of CDPR for resource protection, quality visitor experience, and education in the form of various types of recreation.
- Replace outdated wind turbine infrastructure and reduce the total number of turbines and overall Project footprint on CDPR lands with state-of-the art facilities to achieve increased performance, lower cost, higher reliability, longer service life, and reduction in risk to avian species, especially raptors.
- Optimize the use of previously disturbed land within Pacheco State Park by replacing the existing wind turbines.

6.1.2 Alternatives Considered But Rejected

One of the requirements for alternatives analysis that is set forth in the CEQA Guidelines is identification of alternatives that were considered by the lead agency, but rejected as infeasible during the scoping process. As stated in Section 15126.6(c) of the CEQA Guidelines, the EIR should briefly explain the reasons underlying this determination. Among the factors that may be used to eliminate alternatives from detailed consideration in the EIR are:

(i) Failure to meet most of the basic project objectives,

(ii) Infeasibility, or

(iii) Inability to avoid significant environmental impacts (CEQA Guidelines Section 15126.6(c))

Section 15126.6(f)(1) of the CEQA Guidelines states that "among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent)." However, as stated in this subsection, no single factor establishes a fixed limit on the scope of reasonable alternatives.

Off-Site Alternative

An alternate site or off-site alternative was determined to be infeasible for the Project because the state is seeking wind energy operators to take over an existing lease to continue providing wind energy within Pacheco State Park; thus honoring the will of Ms. Fatjo, who requested that income from the wind project be used for development of the Park to further the goals of resource protection, quality visitor experience, and education. It is not possible to identify an alternate location, over a 1,000-acre area on State lands where an existing wind energy facility is located within a similar environment. Therefore, an off-site or alternate project location was dismissed from further evaluation.

6.2 TRANSMISSION ALIGNMENT ALTERNATIVES

The existing wind energy facility currently transmits power to the Dinosaur Point Tap, located northwest of the Project site off of Dinosaur Point Road. GRWF identified the Los Banos Substation, owned and operated by Pacific Gas and Electric (PG&E) company, as the preferred substation for the conveyance of additional power generated by the Project to California's electrical grid. Numerous potential power transmission routes could be used to link the generation site to the preferred substation. For purposes of analysis in this EIR, two potential power transmission routes, in addition to the preferred route, are described below.

Northern Transmission Line Alternative

The increased electrical power could be conveyed to the Los Banos Substation through an upgrade of the existing transmission infrastructure. GRWF filed an interconnection request with the California Independent System Operator in 2018.

To use the existing facilities, a total of 16.08 miles of existing transmission line infrastructure would need to be upgraded, including re-conductoring the lines and re-building poles. Various additional infrastructure, including other new transmission poles, would need to be installed to allow for the Project to interconnect. Upgrades would occur along SR-152, from Dinosaur Point Road to the Los Banos Substation. This highway section has been officially designated as a scenic highway by the County of Merced (see Section 3.1, Aesthetics). Upgrading the existing infrastructure with larger facilities immediately adjacent to this State Highway, that currently has an average annual daily traffic volume of 32,000 to 39,900 vehicles, would generate a significant impact to visual resources and the aesthetic character of this roadway segment. In addition, the environmental impacts of upgrading the existing infrastructure would be significant. As a result, this alternative alignment is not preferred.

Southern Transmission Line Alternative

Electrical power could be conveyed to the Los Banos Substation through development of a shorter transmission line, located south of the preferred New Transmission Line alignment This alignment would traverse up and over Basalt Hill (1,707 amsl), which would generate the need for longer roads, with more visible hillside scarification and greater visibility of overhead poles and wires located along the ridgeline viewshed. The amount of soil disturbance, bank and slope stabilization required to construct access roads and construct pole locations would also generate significantly greater environmental impacts, would require greater bank stabilization, and would be much more expensive to construct and maintain. The biological impacts generated by this potential alternative alignment would include increased temporary and permanent impacts required by the increased amount of road building required to meet minimum slope engineering requirements. These impacts would include the loss of habitat for burrowing animals and other species that utilize these grassland and savanna habitats. For these reasons, a southern transmission alignment is not preferred.

6.2 PROJECT ALTERNATIVES

Pursuant to Section 15126.6 of the CEQA Guidelines, a reasonable range of alternatives were selected that would feasibly attain most of the basic objectives of the Project, but would avoid or substantially lessen one or more of the significant effects of the Project. Because of the lack of significant impacts, the range of alternatives is limited to the required No Project evaluation, and a Smaller Energy Generation Site Footprint Alternative that considers using larger turbines in order to reduce the total number of turbines required to meet the generating capacity. The evaluation of these alternatives compared to the Project is provided below.

Alternative 1 – No Project Alternative

Section 15126.6(e) of the CEQA Guidelines requires that an EIR evaluate the specific alternative of "no project" along with its impact. As stated in this section of the CEQA Guidelines, the purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. As specified in Section 15126.6(e)(3)(B) of the CEQA Guidelines, the No Project alternative for a project consists of the circumstance under which a proposed project does not proceed.

Accordingly, Alternative 1 assumes that the existing wind farm and associated infrastructure would remain on-site and there would be no changes to the existing operation.

Aesthetics

Under the No Project Alternative there would be no change to the existing scenic vistas and visual environment and views of the existing turbines from various public vantage points along SR-152 and the San Luis Reservoir State Recreation Area would not change.

Biological Resources

Under the No Project Alternative, the proposed Project would not be implemented and the existing wind farm would remain. Temporary and permanent impacts to biological resources would not occur under the No Project Alternative because there would be no change to the existing wind farm.

Transportation and Circulation

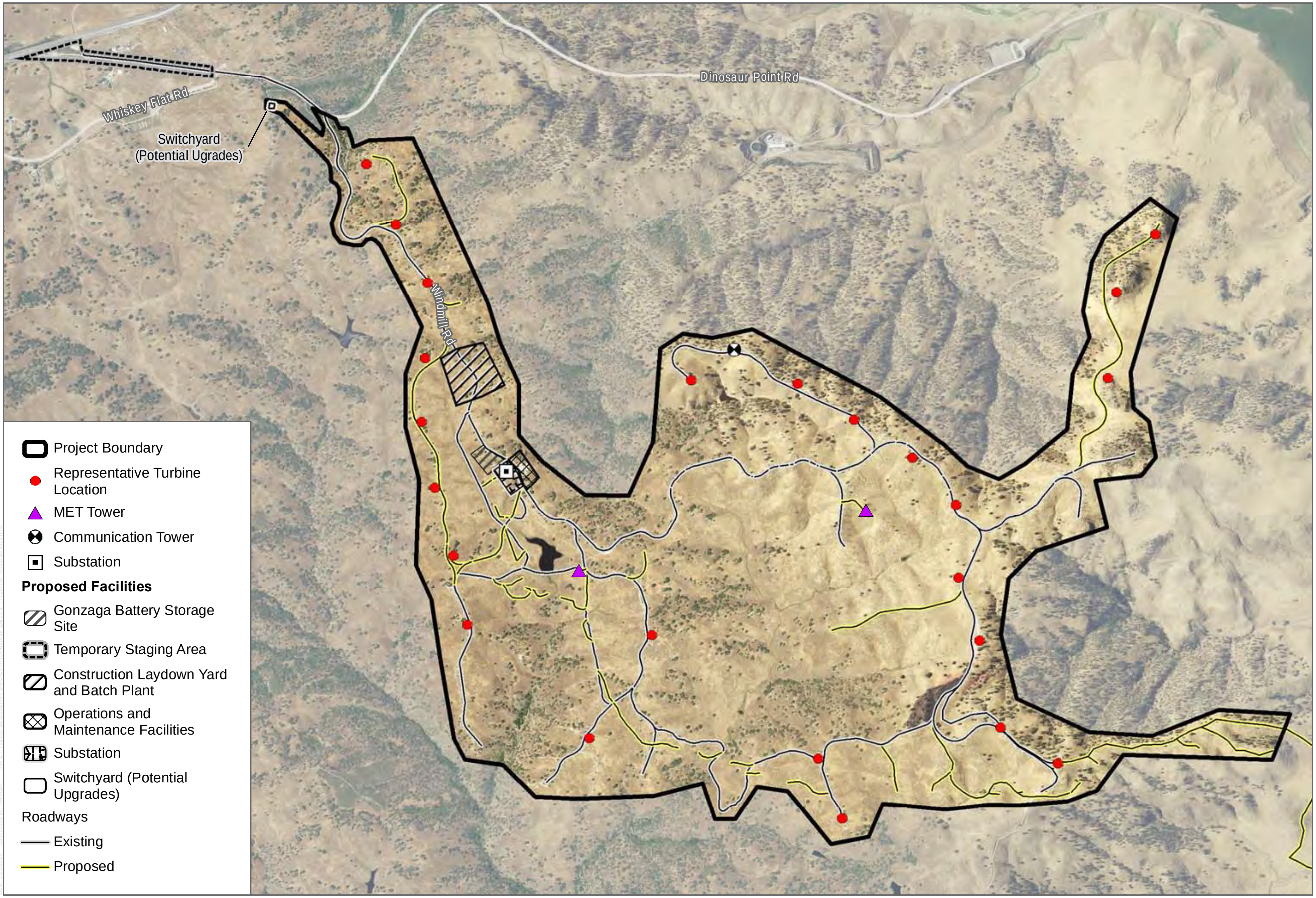
Under this alternative there would be no change to the existing level of traffic associated with Project operation. There would be no impact at the Dinosaur Point Road/SR-152 intersection at the Project level or cumulative conditions under this alternative.

Ability to Meet Project Objectives

Under the No Project Alternative a majority of the Project objectives would not be met. By maintaining the current wind farm it would not enable the state to meet SB 100 or develop up to 100 MWs of electrical capacity. The aging wind turbines would not be replaced with state-of-the art equipment that would help reach avian mortality reduction goals, as well as generate more electrical energy using new equipment with the latest technology, therefore not meeting the federal renewable electricity tax credits. Under this alternative the state would continue to produce a more limited amount of wind energy within Pacheco State Park helping to advance the goals of State Parks.

Alternative 2 – Smaller Energy Generation Site Alternative

The Smaller Energy Generation Site Alternative proposes to install 24 4.2 MW wind turbines, as compared to 40 2.5 MW turbines included as part of the Project (see Figure 6-1). Using the larger turbines would require only 24 turbines to generate up to 100 MWs of electricity. Under this alternative there would be a reduction of 16 turbines compared to the Project and 138 turbines compared to the existing wind farm. All of the other components of the Project would remain the same under this alternative including the New Transmission Line corridor and number of employees required for Project operation. It is generally assumed that because fewer turbines would be installed there would be somewhat less site disturbance. However, decommissioning of the existing wind farm would still be required under this alternative so there would be site disturbance associated with those activities.



SOURCE: USDA 2016; Scout Energy 2019

0 1,050 2,100 Feet

FIGURE 6-1

Alternative 2 - Smaller Energy Generation Site

Gonzaga Ridge Wind Repowering Project

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Aesthetics

From a visual perspective, the existing wind turbines located in the eastern portion of the Project site are the most visually apparent from key observation points (KOPs) at the San Luis Reservoir State Recreation Area (SRA) and also for motorists traveling along SR-152. The existing wind turbines are located along the same ridges as the proposed Project wind turbines and are currently visible from the same KOPs and SR-152. Compared to the Project, the number of wind turbines in these areas is reduced by approximately five. The reduction in turbines would help minimize changes to the scenic vista and changes in visual character and quality.

Under this alternative, the wind turbines would not be apparent when experienced from foreground and middle ground vantage points and visual impacts would not be any more severe when viewed from Key Views 3 through 5. The same as the Project, the introduction of fewer wind turbines would result in less-than-significant impacts to scenic vistas and existing visual character and quality.

Based on meteorological data gathered on the Project site, these locations are optimal to maximize exposure to wind; therefore, relocating the turbines elsewhere on the site would not be a feasible option. In addition, installing smaller turbines would also not be feasible because it would substantially increase the number of turbines required and would only increase the visual clutter on the site. Overall, installing fewer turbines would help reduce the visual impact as compared to the Project but impacts to scenic vistas and visual character and quality would remain less than significant the same as the Project.

Impacts associated with damage to scenic resources within a state scenic highway and an increase in light and glare would also remain the same as the Project, less than significant.

Biological Resources

Under this alternative, and as with the Project, it is assumed that the location of the 24 turbines would continue to be sited to avoid impacts to habitat potentially supporting the three special-status plant species with potential to occur on the Project site. Therefore, direct impacts to special-status plants would remain less than significant, the same as the Project. Potentially significant indirect impacts to special-status plants associated with construction adjacent to plant populations would continue to be mitigated to less than significant with implementation of mitigation measures BIO-1 through BIO-3.

The direct loss of habitat supporting or potentially supporting special-status wildlife species would be reduced by approximately 40%, assuming that similar habitat types would still be affected as with the proposed Project. The turbines under this alternative would continue to be sited to avoid aquatic habitat potentially supporting special-status amphibian species. Potentially significant indirect impacts to breeding habitat of these species from construction and ground-disturbance activities would continue to be mitigated to less than significant with implementation of measures BIO-3 and BIO-4. Potentially significant direct and indirect impacts on special-status reptile species would continue to be mitigated to less than significant with implementation of measures BIO-3 and BIO-5.

The potential for turbine collisions with bald and golden eagles, as well as other special-status avian species, would be reduced because of the 40% reduction in the number of turbines under this alternative, this would be somewhat offset by the taller height and larger rotor diameter of the turbines than that for the proposed for the Project. The maximum height of the turbine blades above the ground would be taller than turbines proposed under the proposed Project, thus there would be an increase in the total height of the rotor swept zone in which eagles (and other avian species) would potentially collide with turbines. However, there would be fewer turbines overall as compared to the Project. Potentially significant direct and indirect impacts on active golden eagle nests as well as nests of other special-status avian species that could be established in close proximity to the turbine arrays would continue to be mitigated to less than significant with implementation of mitigation measures BIO-3, BIO-6 and BIO-11. Potentially significant direct impacts to bald and golden eagles, as well as other special-status avian species, associated with collisions with the turbines as well as with the new transmission line would continue to be mitigated to less than significant with implementation of measures BIO-7 through BIO-10.

The potential for collisions of special-status bat species with the turbines would also be reduced under this alternative because of the 40% reduction in the number of turbines. Potentially significant direct and indirect impacts on bat roosts that could occur in close proximity to construction sites would continue to be mitigated to less than significant with implementation of mitigation measures BIO-3 and BIO-12. Potentially significant direct impacts on special-status bats as a result of collisions with turbines would continue to be mitigated to less than significant with implementation of measures BIO-8 and BIO-10.

While the loss of overall habitat for the American badger would be reduced under this alternative compared to the Project, potentially significant direct impacts on badger dens that could occur in close proximity to construction sites would continue to be mitigated to less than significant with implementation of mitigation measures BIO-3 and BIO-14. Potentially significant direct impacts to the San Joaquin kit fox associated with the proposed New Transmission Line would continue to be mitigated through the application of measures BIO-3 and BIO-7, and BIO-14 and BIO-15.

Ground disturbance and construction activities under this alternative would continue to avoid known occurrences of sensitive habitats on the site including holly leaf cherry chaparral, California sycamore woodlands, California buckeye grove, seasonal wetlands, seeps, and ponds. Therefore, no direct or indirect impacts to these sensitive vegetation communities would occur under this alternative. Potential impacts on wildlife movement corridors would continue to be less than significant under this alternative.

Transportation and Circulation

Under this alternative the total number of vehicle trips to transport turbine components to the Project site would be reduced, compared to the Project. For each turbine a total of 5-6 vehicle trips would be required to deliver the various turbine components, resulting in a reduction of up to six truck trips per day, as compared to the Project. However, under this alternative the applicant would still need to obtain required permits from Caltrans for oversized vehicles and would still need to prepare an Oversized Vehicle Transportation and Delivery Plan as well as a Construction Transportation Management Plan. Because the number of employees would be the same as the Project, there would still be a significant project and cumulative impact at the SR-152/Dinosaur Point Road intersection under Existing plus Project conditions. There is no feasible mitigation available to mitigate the project level or cumulative impact so it would remain significant and unavoidable, the same as the Project.

Ability to Meet Project Objectives

This alternative would generally fulfill all of the Project objectives. Even with fewer turbines the same amount of electricity would be generated and would meet State targets under SB 100. The turbines would be located within Pacheco State Park and would allow CDPR to generate income for the Park. The existing wind farm would be also be replaced under this alternative with state-of-the-art facilities and previously disturbed lands would be restored.

6.3 SUMMARY CONCLUSIONS

Table 6-1 compares the potential significant environmental impacts associated with the Project to each alternative.

Table 6-1
Comparison of the Proposed Project and Project Alternatives

Environmental Impact	Project	No Project Alternative	Smaller Energy Generation Site Alternative
3.1 Aesthetics			
3.1-1: Implementation of the proposed Project may adversely affect a scenic vista.	LTS	NI	LTS-
3.1-2: Implementation of the proposed Project may damage scenic resources within a state scenic highway.	LTS	NI	LTS
3.1-3: Implementation of the proposed Project may degrade the existing visual character or quality of public views of the site and its surroundings.	LTS	NI	LTS-

Environmental Impact	Project	No Project Alternative	Smaller Energy Generation Site Alternative
3.1-4: Implementation of the proposed Project may create a new source of substantial light or glare that could adversely affect day or nighttime views in the area.	LTS	NI	LTS
3.1-5: The proposed Project could contribute to cumulative changes affecting a scenic resource, or to an existing viewshed and visual character of the area.	LTS	NI	LTS-
3.2 Biological Resources			
3.2-1: Implementation of the proposed Project may have a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.	LTS/MM	NI	LTS/MM-
3.2-2: Implementation of the proposed Project may have a substantial adverse effect on riparian habitat or other sensitive natural community identified in regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.	LTS	NI	LTS-
3.2-3: Implementation of the proposed Project may have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	LTS	NI	LTS-
3.2-4: Implementation of the proposed Project may have a cumulative adverse effect on biological resources when viewed in connection with the effects of other past, present or future projects.	LTS	NI	LTS-
3.3 Transportation and Circulation			
3.3-1: Implementation of the proposed Project under Existing plus Project conditions could degrade operations at the SR-152/Dinosaur Point Road intersection.	SU	NI	SU
3.3-2: Implementation of the proposed Project could increase VMT throughout the duration of the project construction.	LTS	NI	LTS-

Environmental Impact	Project	No Project Alternative	Smaller Energy Generation Site Alternative
3.3-3: Delivery trucks associated with the proposed Project could increase hazards or result in incompatible uses along SR-152 and at the SR-152/Dinosaur Point Road intersection.	LTS/MM	NI	LTS/MM-
3.3-4: Implementation of the proposed Project under Cumulative plus Project conditions could contribute to unsatisfactory operations at the SR-152/Dinosaur Point Road intersection under cumulative conditions.	SU	NI	SU

Notes: SU = Significant and Unavoidable LTS/MM = Less than Significant with Mitigation NI = No impact LTS = Less than Significant
SU/M = Impacts significant and unavoidable after mitigation
"+" indicates the impact is more severe than the project impact
"-" indicates that the impact is less severe than the project impact
"=" indicates that the impact is the same as the proposed project

Environmentally Superior Alternative

An EIR is required to identify the environmentally superior alternative from among the range of reasonable alternatives that are evaluated. Section 15126.6(e)(2) of the CEQA Guidelines requires that an environmentally superior alternative be designated and states that if the environmentally superior alternative is the "No Project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.

Based on a review of the Project alternatives, the environmentally superior Alternative is Alternative 2. Under this alternative there would be a reduction in impacts to biological resources and overall site disturbance.

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CHAPTER 7
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