4.1 Introduction to the Environmental Impact Analysis

4.1.1 Introduction

The sections in this chapter present information on existing environmental conditions in the proposed Project area for each resource or issue not excluded from analysis due to the lack of potential for significant impacts (see Section 4.1.5, *Effects Not Found to be Significant*, below). These sections also describe environmental impacts that would result from the implementation of the proposed Project described in Chapter 2, *Project Description*. These analyses consider the potential direct, indirect, and cumulative impacts of the proposed Project, including short-term impacts during construction and long-term impacts during Project operation and maintenance (O&M). The sections in this chapter also identify mitigation measures to reduce or avoid significant adverse impacts and describe any adverse impacts that cannot be avoided through the implementation of mitigation measures. The scope of the impact analysis is commensurate with the level of detail for the proposed Project provided in Chapter 2 and the availability and/or quality of data necessary to assess impacts.

Because the SEIR is a supplement to the Lompoc Wind Energy Project (LWEP) EIR, the SEIR utilizes and updates information presented in the LWEP EIR that remains relevant for the proposed SWEP, including environmental setting descriptions, impact analyses, and mitigation measures. In accordance with Section 15163(b), a SEIR "need only contain the information necessary to make the previous EIR adequate" for the revised project. Where still relevant and up to date, the SEIR relies on descriptions of existing environmental conditions and applicable regulations contained in the LWEP EIR. Similarly, descriptions of environmental impacts in the LWEP EIR that remain relevant to the SWEP are utilized, with updates and adjustments applied as needed to accurately characterize the impacts of the proposed Project. Mitigation measures from the LWEP EIR have been updated and new mitigation measures proposed as needed.

4.1.2 Analytical Assumptions

The impact analysis was conducted with the following general assumptions:

- The applicable laws, regulations, and policies of Santa Barbara County and other jurisdictions with authority over the Project would be applied consistently to the Project.
- All applicable laws, regulations, and standards of the State of California would be applied consistently to the proposed Project.
- The applicant will obtain all required permits and approvals from other agencies and comply with all legally applicable terms and conditions associated with those permits and approvals.
- The proposed Project would be constructed, operated, and maintained as described in Chapter 2 (Project Description).

4.1.3 Types of Effects

The potential impacts from those actions that would have direct, indirect, and cumulative effects have been considered for each resource. This includes both short-term and long-term impacts. The terms "effect" and "impact" as used interchangeably in this document are synonymous and may refer to either detrimental or beneficial effects. The types of impacts examined in this document are described below.

- Direct effects are caused by the Project and occur at the same time and place as the Project.
- Indirect effects are caused by the Project and occur later in time or further in distance but are still reasonably foreseeable.
- Cumulative impacts are those effects resulting from the incremental impacts of the Project when combined with other past, present, and reasonably foreseeable future actions (regardless of which agency or person undertakes such actions). Cumulative impacts could result from individually insignificant but collectively significant actions taking place over a period of time.
- Short-term impacts occur only for a short time after implementation of an action. For example, noise impacts from construction activities would be considered short-term in nature.
- Long-term effects occur for an extended period after implementation of a project. For example, noise generated during facility operations would be a long-term impact as it would last for as long as the facility is in operation.

4.1.4 Mitigation Measures Included in the Analysis

CEQA requires that a significance determination be made for each adverse impact identified in a SEIR. Significance thresholds are identified for each environmental issue or resource. The significance thresholds serve as a benchmark for determining if a project would result in significant adverse environmental impacts when evaluated against the baseline (i.e. existing environmental conditions). Impacts are assessed relative to each significance threshold to determine whether the Project would have no impact, a less-than-significant impact, or a significant impact, and these determinations consider whether feasible measures are available to reduce the severity of each significant impact. Impacts are quantified to the extent possible. In addition, the determination of an impact's significance is derived from standards set by regulatory agencies, knowledge of the effects of similar past projects, professional judgment, and plans and policies adopted by governmental agencies.

CEQA requires that feasible mitigation measures be identified to reduce or avoid significant impacts. The State CEQA Guidelines Section 15370 define mitigation as:

a) Avoiding the impact altogether by not taking a certain action or parts of an action;

b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation;

c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;

d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and

e) Compensating for the impact by replacing or providing substitute resources or environments.

For significant impacts identified in the following resource/issue sections, mitigation measures have been proposed to reduce the significant impacts to the extent feasible. If impacts remain significant

after all feasible mitigation is applied (i.e. continue to exceed the relevant significance threshold), the analysis concludes that the impact is significant and unavoidable.

Some measures that serve to reduce impacts are required by agencies other than the County, and their implementation will be enforced by those other agencies. The applicant will be required to comply with the requirements of these other agencies.

4.1.5 CEQA Significance Conclusions

For the purposes of CEQA compliance, a determination has been made regarding the significance of each adverse impact identified for the proposed Project and alternatives. The CEQA Lead Agency is responsible for determining whether an impact is significant and is required to adopt feasible mitigation measures to minimize or avoid each significant impact. A series of thresholds, identified in the "Significance Thresholds" section for each resource/issue area, are used to help the Lead Agency gauge the significance of each impact.

In order to provide a systematic evaluation of potential environmental impacts, a classification system has been applied to the impacts of the proposed Project. These classifications indicate whether an identified impact is significant and whether mitigation measures can reduce the severity of the impact to a level that is not significant. The following classifications were uniformly applied to each adverse impact:

- **Class I: Significant impact.** Class I impacts are significant adverse effects that cannot be mitigated below a level of significance through the application of feasible mitigation measures. Class I impacts are significant and unavoidable.
- **Class II: Significant impact.** A Class II impact is a significant adverse effect that can be reduced to a less-than-significant level through the application of feasible mitigation measures presented in this SEIR.
- **Class III: Adverse; less than significant**. A Class III impact is a minor change or effect on the environment that does not meet or exceed the criteria established to gauge significance.
- **Class IV: Beneficial impact**. Class IV impacts represent beneficial effects that would result from project implementation.

In cases where there is a potential for a certain type of impact, but no such impact would occur for the proposed Project, the reasons for no occurrence of an impact are described and a designation of "no impact" is assigned.

A significant impact is defined by CEQA as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project" (State CEQA Guidelines §15382). Although guidance provided by CEQA is used to help determine the significance of impacts, the determination of impact significance is based on the thresholds detailed in the Santa Barbara County Environmental Thresholds and Guidelines Manual (revised March 2018) and the independent judgment of the CEQA Lead Agency. The establishment of any criteria used to evaluate the significance of impacts is also the responsibility of the CEQA Lead Agency. Some impact categories in this document lend themselves to scientific or mathematical analysis and, therefore, to quantification, while others are more qualitative. Some resource topics, such as air quality, have significance thresholds that are established by agencies with regulatory authority for that resource and have been determined by the CEQA Lead Agency to be applicable to the analysis.

4.1.6 Environmental Issues Addressed

The County of Santa Barbara, as Lead Agency, determined that a SEIR was warranted for the proposed Project due to the potential for Project implementation to result in significant environmental impacts. Agency and public input received during the scoping period (July 2 through August 1, 2018) and at the public scoping meeting held on July 19, 2018, were used, along with the previous LWEP EIR and the NOP Scope of Work, in determining the scope of evaluation for the SEIR. The environmental issues considered in this SEIR and their corresponding section numbers are listed below:

- 4.2 Aesthetics/Visual Resources
- 4.3 Agricultural Resources
- 4.4 Air Quality
- 4.5 Biological Resources
- 4.6 Cultural and Tribal Resources
- 4.7 Energy
- 4.8 Fire Hazards & Emergency Services
- 4.9 Geology and Soils
- 4.10 Greenhouse Gas Emissions
- 4.11 Hazards and Hazardous Materials
- 4.12 Hydrology and Water Quality
- 4.13 Land Use and Planning
- 4.14 Noise
- 4.15 Paleontological Resources
- 4.16 Recreation
- 4.17 Transportation and Traffic
- 4.18 Utilities and Service Systems

Sections 4.2 through 4.18 provide a description of the environmental setting, applicable regulations, impacts associated with the proposed Project, and mitigation measures designed to reduce significant impacts.

4.1.7 Effects Found Not to be Significant

An EIR is an informational document intended to identify the significant environmental impacts of a project and identify possible ways to minimize these significant impacts. The impacts of the proposed Project were analyzed using the significance thresholds identified in the County of Santa Barbara Environmental Thresholds and Guidelines Manual (ETGM), as amended March 2018 (County of Santa Barbara, 2018) and the State CEQA Guidelines Appendix G. Prior to preparing this SEIR and based on these significance thresholds, the County determined that construction and operation of the proposed Project would not result in significant impacts to mineral resources, population and housing, or public services; therefore, those topics are not analyzed in this SEIR. The reasons for these conclusions are presented in Section 6.5, *Effects Found Not to Be Significant*.

The environmental topics listed in Section 4.1.6 above are analyzed in this SEIR and, as part of that analysis, additional less-than-significant impacts have been identified. These additional less-than-significant impacts are discussed in Sections 4.2 through 4.18 and are also listed in Section 6.5.

4.1.8 Organization of the Environmental Analysis

To assist the reader in comparing information on the various environmental impacts of the proposed Project, each resource/issue section is organized in the following manner:

- **Environmental Setting**. A description of existing environmental conditions in the Project area against which the environmental effects of the Project are evaluated.

- **Regulatory Setting**. A summary of relevant laws and regulations.
- **Significance Thresholds**. Criteria used to determine the significance of identified impacts.
- **Environmental Impacts and Mitigation Measures**. An analysis of the proposed Project's direct and indirect impacts along with a conclusion regarding the significance of each identified impact. Mitigation measures are proposed to reduce or avoid significant impacts anticipated to result from Project implementation.
- **Cumulative Effects**. A discussion of effects resulting from the impacts of the Project when combined with similar effects of past, present, and reasonably foreseeable future actions.
- **Impact Significance Summary**. A summary of each identified impact, mitigation measures proposed for each significant impact, and a significance conclusion for each impact after application of the mitigation measures.

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4.2 Aesthetics/Visual Resources

This section describes the visual effects that may result in the implementation of the proposed Project. The visual effects of the LWEP were identified in the LWEP EIR Section 3.2, *Aesthetics/Visual Resources*.

Aesthetics, as addressed in CEQA, refers to important visual considerations in the physical environment. Aesthetics analysis, or visual resources analysis, is a systematic process to logically assess visible changes in the physical environment and the anticipated viewer response to those changes. This section addresses either directly by new analysis, or by reference to the LWEP EIR, the existing landscape character of the study area, important visual resources, existing views of the study area from various on-the-ground vantage points, the visual characteristics of the proposed Project, and the landscape changes that would be associated with the construction and operation of the proposed Project as seen from various vantage points. The term "aesthetics" is generally considered interchangeable with the term "visual resources".

4.2.1 Environmental Setting

4.2.1.1 Regional and Local Landscape

The regional and local landscape setting described in the LWEP EIR Sections 3.2.2.1 and 3.2.2.2 has not changed for SWEP. Please refer to those two sections.

4.2.1.2 Key Observation Points (KOPs)

KOPs are representative, stationary viewing locations selected for the purpose of analyzing and describing existing visual resources in the Project area and for preparing visual simulations and conducting impact assessments. KOPs were generally selected to be representative of the most critical or typical public viewing locations from which the Project would be seen and are typically located based on their usefulness in evaluating existing landscapes and potential impacts on the affected viewing populations, and from various vantage points. KOP locations for the Project include: (1) major or significant travel corridors or points of visual access; (2) residential areas; (3) important recreation areas; (4) locations of significant cultural value; and (5) locations that capture different viewing distances and view orientation. At each KOP, the existing landscape was characterized and photographed.

The LWEP EIR Section 3.2.5.2 describes 13 KOPs for the LWEP. For SWEP, 14 KOPs were selected to characterize the local setting and assess the Project-induced aesthetic impacts. KOP locations and view directions are shown on the KOP map presented as Figure 4.2-1 and are listed below.

- **KOP 1: Northbound SR-1**, approximately 0.72 mile south of the intersection with Jalama Road. This viewpoint captures the eastern end of the East WTG string along the ridgeline of the Santa Ynez Range (see Figures 4.2-2A/2B) and is the same viewpoint used for KOP 1 in the LWEP EIR.
- **KOP 2: Southbound SR-1**, at the southern edge of the City of Lompoc. This viewpoint captures the location of the proposed switchyard (approximately 0.12 mile to the southeast of KOP 2) adjacent to the south boundary of the City of Lompoc (see Figures 3.2-3A/3B). This viewpoint is new and replaces KOP 2 used for the LWEP EIR since SWEP has different switchyard and transmission line locations.
- **KOP 3: Southbound San Miguelito Road**, approximately 0.25 mile east of the intersection with Brazile Road and south of Miguelito County Park. This viewpoint captures a portion of San Miguelito Road that would be paralleled by the proposed transmission line (see Figures 3.2-4A/4B/4C). This

viewpoint is new and replaces KOP 3 used for the LWEP EIR since SWEP's location of the transmission line is different along San Miguelito Road.

- **KOP 4: Jalama Beach**, in Jalama Beach County Park. This viewpoint, approximately 4.1 miles south of the nearest WTG, captures a portion of Jalama Beach, the adjacent coastal bluffs, and a portion of the more distant Santa Ynez Range where the proposed WTGs would be located (see Figures 3.2-5A/5B). This viewpoint is similar to that used for KOP 4 in the LWEP EIR.
- **KOP 5: Ocean Park**, approximately 7.75 miles northwest of the nearest WTG. This viewpoint captures the foreground coastal bluffs and a very limited portion of the Santa Ynez Range where the proposed WTGs would be located (see Figure 3.2-6). This viewpoint is similar to that used for KOP 5 in the LWEP EIR.
- **KOP 6: 7th and Tangerine in the City of Lompoc**. This viewpoint, approximately 6 miles northeast of the nearest WTG, captures a foreground residential landscape in the eastern part of the City, backdropped by the Lompoc Hills and Santa Ynez Range (see Figures 3.2-7A/7B). This is the same viewpoint used for KOP 6 in the LWEP EIR.
- **KOP 7: North X Street at West Lemon Place in the City of Lompoc**. This viewpoint, approximately 4.5 miles north of the nearest WTG, captures a foreground residential landscape in the western part of the City, backdropped by the Lompoc Hills and Santa Ynez Range (see Figures 3.2-8A/8B). This is the same viewpoint used for KOP 7 in the LWEP EIR.
- **KOP 8: La Purisima Mission State Historic Park.** This viewpoint, approximately 7.4 miles northeast of the nearest WTG, captures a foreground open field at the Mission, backdropped by the distant Lompoc Hills and Santa Ynez Range where the Project would be located (see Figures 3.2-9A/9B). This viewpoint is similar to that used for KOP 8 in the LWEP EIR.
- **KOP 9: Harris Grade Road.** This viewpoint, approximately 6.8 miles north-northeast of the nearest WTG, captures a portion of the City of Lompoc backdropped by the Lompoc Hills and Santa Ynez Range, where the proposed WTGs would be located (see Figure 3.2-10). This viewpoint is similar to that used for KOP 9 in the LWEP EIR.
- **KOP 10: SR-1 North of Lompoc.** This viewpoint, approximately 8.9 miles north of the nearest WTG, would capture a foreground view of open, undeveloped fields and hills, backdropped by the distant Santa Ynez Range, where the proposed WTGs would be located (see Figure 4.2-11). This viewpoint is similar to, though farther south than, the SR-1 viewpoint used for KOP 10 in the LWEP EIR.
- **KOP 11: San Miguelito Road.** This viewpoint, in the immediate Project area, captures an upper portion of the undeveloped San Miguelito Creek Valley, backdropped by the Tranquillon Ridge, where a portion of the West WTG string would be located (see Figures 4.2-12A/12B). This viewpoint is similar to that used for KOP 11 in the LWEP EIR.
- **KOP 12: Miguelito County Park Overflow Parking Area.** This viewpoint captures the hill slopes immediately north of the park where the proposed transmission line would cross an open slope (see Figures 4.2-13A/13B). This viewpoint is new and replaces KOPs 12 and 13 used for the LWEP EIR since the locations of the transmission line and WTGs are different for SWEP.
- **KOP 13: San Miguelito Road.** This viewpoint captures an immediate-foreground view of the landscape surrounding a segment of San Miguelito Road that would be subject to road widening and tree removal to allow the transport of Project components (see Figures 4.2-14A/14B). This

viewpoint is new and was not included in the LWEP EIR since no significant road modifications along San Miguelito Road were proposed for LWEP.

- **KOP 14: East Olive Avenue in the City of Lompoc.** This viewpoint captures a portion of Beattie Park in the foreground, backdropped by the northern-most portion of the Lompoc Hills, the ridgeline of which supports an existing wood-pole electrical transmission line that would be paralleled by the proposed Project transmission line (see Figures 4.2-15A/15B). This viewpoint is new and, therefore, was not included in the LWEP EIR since SWEP's location for the transmission line is different.

4.2.2 Regulatory Setting

4.2.2.1 Federal

See LWEP EIR Section 3.2.3.1 as there is no new information for SWEP.

4.2.2.2 State

The LWEP EIR Section 3.2.3.2 lists and describes the La Purisima Mission State Historic Park General Plan. Additional State jurisdictions and programs with Aesthetic/Visual Resources guidance and policies that pertain to the Project include: California Coastal Act, the California Scenic Highway Program, and the California Historical Landmarks Registration Program

California Coastal Act

The Regulatory Setting section of the LWEP EIR did not include a discussion of the California Coastal Act, because the LWEP did not involve any work within the coastal zone. As the SWEP would involve grading and road improvements within the coastal zone, these activities would be subject to the California Coastal Act. However, no visual impacts have been identified for Project elements located in the Coastal zone. Although no other parts of the Project would be subject to the California Coastal Act, there would be visual impacts in the Coastal Zone from WTGs located in the inland area. The California Coastal Act establishes a comprehensive approach to govern land use planning along the entire California coast and sets forth general policies (Public Resources Code Section 30200 et seq.) that are used by the California Coastal Commission (Coastal Commission) to review permit applications and local plans. Coastal Act policies are implemented through the preparation of Local Coastal Programs (LCPs) by the cities and counties that are located in whole or in part within the coastal zone. The LCP consists of a land use plan (LUP) and a local implementation program that specify the relevant planning policies and zoning ordinances specific to the coastal zone within that jurisdiction. Once an LCP is certified by the Coastal Commission, coastal permitting authority is delegated to the appropriate local government, with the exception of certain specific lands for which the Coastal Commission retains original permit jurisdiction.

California Scenic Highway Program, Sections 260 through 263

The California Scenic Highway Program (Caltrans 2019a) preserves and protects scenic highway corridors throughout the State of California from changes that would diminish their aesthetic value. Caltrans designates scenic highway corridors and establishes those highways that are eligible for the program. The program was created in 1963 with the enactment of the State Scenic Highways Law. The Street and Highway Code includes a list of those highways that are either designated or considered eligible for designation (Caltrans 2019a). The purpose of the Scenic Highway Program is to enhance and protect scenic resources along California highways in the following ways (Caltrans 2019b):

- Protect the scenic corridor from encroachment of incompatible land uses, such as junkyards, dumps, concrete plants, and gravel pits.
- Mitigate activities within the corridor that detract from its scenic quality by proper siting, landscaping, or screening.
- Prohibit billboards and regulate on-site signs so they do not detract from scenic views.
- Make development more compatible with the environment and in harmony with the surroundings.
- Regulate grading to prevent erosion, cause minimal alteration of existing contours, and preserve important vegetative features along the highway.
- Preserve views of hillsides by minimizing development on steep slopes and along ridgelines.
- Prevent the need for noise barriers (sound walls) by requiring a minimum setback for residential development adjacent to a scenic highway.

When Caltrans determines that a proposed scenic highway satisfies its qualifications for designation, the local governing body, with citizen support, must adopt a program to protect the scenic corridor, i.e., a Corridor Protection Program (Caltrans 2008). Where there is more than one governing body involved, each jurisdiction shall jointly submit protection measures. The zoning and land use along the highway must meet the State's legislatively required elements for scenic highway corridor protection as stated in Section IV: Designation Process, of Caltrans' Scenic Highway Guidelines (Caltrans 2008).

A scenic corridor is the land generally adjacent to and visible from the highway and is identified by using a motorist's line of vision. A reasonable boundary is selected when the view extends to the distant horizon. Caltrans outlines the following minimum requirements for scenic corridor protection (Section 261 of the Streets and Highways Code):

1. Regulation of land use and density of development (i.e., density classifications and types of allowable land uses)
2. Detailed land and site planning (i.e., permit or design review authority and regulations for the review of proposed developments)
3. Control of outdoor advertising (i.e., prohibition of off-premise advertising signs and control of on- premise advertising signs)
4. Careful attention to and control of earthmoving and landscaping (i.e., grading ordinances, grading permit requirements, design review authority, landscaping and vegetation requirements)
5. The design and appearance of structures and equipment (i.e., design review authority and regulations for the placement of utility structures, microwave receptors, wireless communication towers, etc.)

Caltrans is authorized by statute to revoke an official scenic highway designation if it determines that the Corridor Protection Program or the scenic quality of the corridor is no longer in compliance. Caltrans defines non-compliance for a Corridor Protection Program as a program that: (1) no longer complies with the five legislatively required elements under Section 261 of the Street and Highways Code, (2) no longer affords protection because required elements have been amended or changed, or (3) no longer is being enforced by the local governing body.

California Historical Landmarks

California Historical Landmarks (CHLs) are buildings, structures, sites, or places that have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value and that have been determined to have statewide historical significance by meeting at least one of the criteria listed below (California Office of Historic Preservation 2019). The resource must also be approved for designation by the County Board of Supervisors (or the City or Town Council in whose jurisdiction it is located), be recommended by the State Historical Resources Commission, and be officially designated by the Director of California State Parks. La Purisima Mission is designated as a State Historic Landmark (CHL No. 340).

4.2.2.3 Local Agencies

Three County documents regulate Aesthetics and Visual Resources: the Santa Barbara County Comprehensive Plan (including Coastal Land Use Plan, Environmental Resources Management Element, Land Use Element, Open Space Element, and Scenic Highways Element); the Santa Barbara County Land Use & Development Code (LUDC); and the Santa Barbara County Article II Coastal Zoning Ordinance. These county documents are addressed in the Land Use Section 4.13 along with The City of Lompoc General Plan Urban Design Element, which also provides guidance relevant to scenic resources. The reader is also referred to Section 3.2.3.3 of the LWEP EIR for a discussion of local planning guidance, which is incorporated here by reference.

4.2.3 Significance Thresholds

The significance thresholds used for the LWEP were based on the thresholds identified in CEQA Appendix G. These thresholds, which have not changed since the LWEP analysis, indicate that a Project could have a significant impact if it would:

- Have a substantial adverse effect on a scenic vista
- Substantially damage scenic resources
- Substantially degrade the existing visual character or quality of the site and its surroundings
- Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

The County has adopted the following thresholds (Santa Barbara County 2015) with the intent of providing information to address the criteria specified in CEQA Appendix G. Affirmative answers to the following questions indicate possible significant impacts to visual resources:

1a. Does the Project site have significant visual resources by virtue of surface waters, vegetation, elevation, slope, or other natural or man-made features which are publicly visible?

1b. If so, does the proposed Project have the potential to degrade or significantly interfere with the public's enjoyment of the site's existing visual resources?

2a. Does the Project have the potential to impact visual resources of the Coastal Zone or other visually important area (i.e., mountainous area, public park, urban fringe, or scenic travel corridor)?

2b. If so, does the Project have the potential to conflict with the policies set forth in the Coastal Land Use Plan, the Comprehensive Plan or any applicable community plan to protect the identified views?

2. Does the Project have the potential to create a significantly adverse aesthetic impact though obstruction of public views, incompatibility with surrounding uses, structures, or intensity of development, removal of significant amounts of vegetation, loss of important open space, substantial alteration of natural character, lack of adequate landscaping, or extensive grading visible from public areas?

4.2.4 Environmental Impacts and Mitigation Measures

This section presents the findings of the impact analysis for the proposed Project. The approach used to assess the aesthetic/visual resources impacts of the LWEP is used for the SWEP and is summarized in Section 4.2.4.1. As previously mentioned, 14 KOPs were established from which Project-induced aesthetic/visual resources impacts were assessed (see Figure 4.2-1). Temporary Project construction impacts are the same as described for the LWEP and the reader is referred to the LWEP Final EIR Section 3.2.5.4 for that discussion. Some Project operation impacts are the same as the LWEP, but others are new. A summary of the previous LWEP Aesthetics impacts is presented in Section 4.2.4.2 along with a description of any changes between the LWEP and SWEP. The SWEP operation impacts are discussed in Section 4.2.4.3 by KOP and summarized under the appropriate impact headings in Section 4.2.4.4. The impact analysis is supported by visual simulations where appropriate, some of which are from the LWEP EIR and some of which are new, as noted in the discussions.

4.2.4.1 Impact Assessment Methodology

The methodology used to analyze the SWEP is the same as that used for the LWEP. Therefore, the reader is referred to the LWEP EIR Section 3.2.4 for a complete discussion of the impact assessment methodology, which is summarized here. The basic approach consists of comparing the existing landscape condition to the anticipated landscape condition that would result from implementation of the Project. This requires assessing the existing scenic qualities and viewing circumstances (e.g., viewing distance, angle of view, view duration) and comparing the likely sensitivity and reactions of viewers to the pre- and post-project conditions. Scenic quality determinations are based on professional judgment; incorporating consideration of existing natural features and the effects of positive and negative man-made alterations; and are subsequently assigned a value of High, Moderate, or Low. Visual Sensitivity encompasses an assessment of viewers, viewing conditions, and viewer sensitivity and takes into consideration viewers from public roads, recreational and cultural areas, and residential areas, where applicable. Viewers in public places would have varying sensitivities depending on their reasons for traveling or using the public facilities and their viewing expectations while doing so. Overall levels of visual sensitivity are identified as being High, Moderate, or Low. The assessment of visual impact severity was based on a simulation that provided a reasonable representation of the anticipated project and resulting landscape changes. The simulations were prepared for the various representative KOPs in order to understand project-induced visual contrast (Is the project in or out of character with the existing landscape?), project dominance (Does the project dominate the existing setting?), and view impairment (Does the project obscure or impair significant views or alter the character of a visually important scene?). As with Visual Quality and Sensitivity, the Impact Severity is rated as High, Medium, and Low.

4.2.4.2 Summary of LWEP Impacts and Mitigation Measures

Table 4.2-1 lists the impacts and mitigation measures identified for aesthetics and visual resources in the LWEP EIR. These same impacts are addressed in this section for the SWEP. The right-hand column

of the table below indicates whether the LWEP impacts or mitigation measures have been modified or augmented for the SWEP.

Table 4.2-1. LWEP Impacts and Mitigation Measures – Aesthetics/Visual Resources

Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
VIS-1	WTGs and related structures have the potential to be visible in the vicinity of the Project.	VIS-4: Landscape and Lighting Plan	Revised/updated mitigation.
VIS-2	Westernmost WTGs would be visible to users of Jalama Beach County Park; Northeastern-most WTGs would be visible to users of Miguelito County Park and La Purisima Mission.	VIS-3: Contribution to County Parks Fund	Updated impact statement. Updated impact discussion. Significance conclusion change.
VIS-3	WTGs would be visible throughout the SR-1 corridor and the Lompoc Valley.	None	Updated impact statement. Updated impact discussion.
VIS-4	Placement of the power line in the area of SR-1 introduces a significant new series of power poles that would silhouette against the skyline.	None	Updated impact statement. Updated impact discussion. Significance conclusion change.
VIS-5	Construction and operation of the power line would be visible from public roadways.	VIS-1: Materials Storage VIS-2: Location of Construction Activities	Updated impact statement. Updated impact discussion. Significance conclusion change. Revised/updated mitigation.
VIS-6	None	None	New impact statement. New impact discussion. New significance conclusion. Revised/updated mitigation.
VIS-7	None	None	New impact statement. New impact discussion. New significance conclusion. Revised/updated mitigation.
VIS-8	None	None	New impact statement. New impact discussion. New significance conclusion. Revised/updated mitigation.

4.2.4.3 SWEP Impact Discussion by KOP

KOP 1: Northbound SR-1

Although the SWEP WTGs would be placed in slightly different locations along the distant ridgeline of the Santa Ynez Range visible from KOP 1 (only the upper portions of WTGs E-6, E-7, and E-8 would be visible), the visual impact of the proposed Project on northbound SR-1 views in the vicinity of KOP 1 would be the same as for the LWEP (adverse but not significant, Class III). Therefore, the reader is referred to the KOP 1 impact discussion in the LWEP EIR and Figures 4.2-2A/2B of this SEIR.

KOP 2: Southbound SR-1

With the SWEP transmission line and switchyard adjacent to, and south of, the residential subdivision along Sheffield Drive, the original KOP 2 location on northbound SR-1 that was used for the LWEP EIR became inappropriate (due to limited visibility of the Project) and has been replaced with a new, southbound SR-1 location at the southern boundary of the City of Lompoc. As mentioned previously, this viewpoint captures the location of the proposed switchyard adjacent to the south side of the City (see Figures 4.2-3A/3B) and is representative of the southbound SR-1 foreground views of the switchyard.

The scenic qualities and viewer sensitivity are rated moderate and reflect the transition from the suburban landscape that dominates the southern portion of the City to the relatively natural, rural setting where SR-1 becomes a State-designated Scenic Highway. The view to the southwest from KOP 2 captures not only elements of the adjacent subdivision but several poles of the existing transmission line that converge on, and then span, SR-1, some of which noticeably skyline (extend above the ridgeline). Views of the switchyard site from SR-1 would be relatively brief because of the screening of the site by intervening terrain, vegetation, structures, and increasing rate of speed as southbound travelers head south out of Lompoc. Northbound viewers would have a limited view of the switchyard due to the initial screening by the intervening hill adjacent to the west side of SR-1. Once past the hill face, the switchyard would be substantially beyond the primary cone of vision of northbound travelers.

The addition of the proposed switchyard, as illustrated in the visual simulation of Figure 4.2-3B, contributes noticeable industrial character and structural complexity to the edge of the adjacent residential development. Additionally, the switchyard pad would introduce a visually prominent feature that would create substantial color and line contrast with the existing vegetation. Even though the proposed facility would be relatively small in scale and would be seen in the context of the existing, adjacent transmission line and utility poles and span of SR-1, given the moderate visual quality and viewer expectations of the existing setting and the close proximity to the portion of SR-1 designated scenic, the impact experienced at KOP 2 would be significant but mitigable (Class II). Appropriate mitigation would include the planting of screening vegetation around the switchyard pad to reduce pad visibility and, potentially, some of the lower structural elements within the fenced area. Also, the application of appropriate colorant to the gravel base would be appropriate to further reduce the color contrast of any portions of the pad visible through the screening vegetation. It should be noted that if the alternative project, Alternative Switchyard Location, described in Chapter 5, *Alternatives*, of this SEIR, were selected to reduce visual impacts at KOP 14, the impact at KOP 2 would be substantially reduced.

KOP 3: Southbound San Miguelito Road

With the change of the proposed Project transmission line to an H-Frame and multi-pole facility (from a single-pole line) with a different alignment relative to what was previously proposed for the LWEP, the original KOP 3 location on San Miguelito Road and north view orientation that was used for the LWEP EIR became inappropriate and has been replaced with a new, southbound KOP 3 location and northwest view orientation. The new KOP 3 is located south of Miguelito County Park, approximately 0.25 mile east of the intersection with Brazile Road, and captures a primarily rural, undeveloped, natural landscape setting with a prominent parallel ridge (see Figure 4.2-4A). Similar to the LWEP EIR, the scenic quality for the current KOP 3 is rated moderate, and viewer sensitivity is rated moderately high since many of the travelers would either use the road for recreational or scenic purposes or would be local residents. While the numbers of viewers would be low, views of the transmission line would be relatively extended.

The addition of steel H-frame (2/7), wood H-frame (2/8), and multi-wood-pole angle (3/1) structures along the ridgetop, as illustrated in the visual simulation presented as Figure 4.2-4B (and location of structural poles shown in Figure 4.2-16A), would contribute industrial character to a landscape presently absent such features. The skylining of the structures would exacerbate the structural prominence and visibility and contribute considerable visual contrast. Also, construction of pole/structure pads would contribute noticeable color contrast between the lighter exposed rock and soils and darker vegetation. The resulting visual impact in the vicinity of KOP 3 would be moderately high. Given the moderate scenic quality and moderately high viewer sensitivity, the impact severity experienced at KOP 3 would be significant and unavoidable (Class I). Appropriate mitigation would include revegetating the cut/fill slopes and pole pads or treating with appropriate colorant to reduce the color contrast of the lighter exposed soils against the darker vegetation as shown in the mitigation simulation presented as Figure 4.2-4C. Though reduced, the residual visual impact would still be significant. This level of impact is higher than that previously determined for the LWEP.

KOP 4: Jalama Beach

The SWEP WTGs would be placed in slightly different locations along Tranquillon Ridge compared to the LWEP. While 13 LWEP WTGs would have been visible from KOP 4 and Jalama Beach, only eight WTGs of the western string (W-4 through 6 and W-9 through 13) would be visible with the implementation of the SWEP, though some of the SWEP WTGs would extend higher above the ridgeline due to their new placement locations. As a result, the visual impact of the proposed SWEP on views from Jalama Beach would be essentially the same as for the LWEP (significant and unavoidable, Class I). Therefore, the reader is referred to the KOP 4 impact discussion in the LWEP EIR and Figures 4.2-5A/5B contained in this SEIR.

KOP 5: Ocean Park

The LWEP analysis for KOP 5 placed the KOP 5 location in the Ocean Park parking lot (also referred to as the Surf Beach parking lot in the LWEP EIR) but describes the impact as if the view is from the beach areas. Neither the LWEP configuration nor the SWEP configuration would be visible from the Ocean Park picnic area or parking lot due to visual screening by intervening terrain. Therefore, there would be no visual impact experienced from these areas. However, both projects would be visible from portions of Surf Beach during the approximately six months of the year that the beach is not closed due to snowy plover nesting. Although the SWEP WTGs would be placed in slightly different locations along the distant ridgelines of the Santa Ynez Range, the visual impact of the proposed Project on views from Surf Beach would be similar to that as described for the LWEP (adverse but not significant, Class III). Therefore, the reader is referred to the KOP 5 impact discussion in the LWEP EIR and Figure 4.2-6 in this SEIR.

KOP 6: 7th and Tangerine in the City of Lompoc

Although the SWEP WTGs would be placed in slightly different locations along the Santa Ynez Range ridgeline visible to the south from KOP 6 (only portions of WTGs E-4 through E-8 would be visible), the visual impact of the proposed Project on views from KOP 6 would be the same as for the LWEP (adverse but not significant, Class III). Therefore, the reader is referred to the KOP 6 impact discussion in the LWEP EIR and Figures 4.2-7A/7B in this SEIR.

KOP 7: North X Street at West Lemon Place in the City of Lompoc

Although the SWEP WTGs would be placed in slightly different locations along the Santa Ynez Range ridgeline visible to the south from KOP 7 (only portions of WTGs W-5, W-9, and N-9 would be visible), the visual impact of the proposed Project on views from KOP 7 would be the same as for the LWEP (adverse but not significant, Class III). Therefore, the reader is referred to the KOP 7 impact discussion in the LWEP EIR and Figures 4.2-8A/8B in this SEIR.

KOP 8: La Purisima Mission State Historic Park

The SWEP WTGs would be placed in slightly different locations along the ridgelines of the Santa Ynez Range south of Lompoc compared to the LWEP. While portions of up to 10 LWEP WTGs would have been visible from KOP 8 at the Mission La Purisima, portions of 12 SWEP WTGs (E-2 through E-8; N5, N-7, and N-9; and W-5 and W-13) would be visible from the Mission grounds. Although all of the visible SWEP WTGs would extend higher above the ridgeline due to their new placement locations, only four would be partially backdropped by the darker color of the ridge. The increased skylining would be partially offset by a reduction in visible color contrast since the light color of the WTGs would be backdropped by the light-colored sky. The color contrast of the LWEP WTGs is more apparent when backdropped by the ridge with its darker vegetation color. As a result, the overall visual impact of the proposed SWEP on views from La Purisima Mission State Historic Park would be the same as for the LWEP (adverse but not significant, Class III). Therefore, the reader is referred to the KOP 8 impact discussion in the LWEP EIR and Figures 4.2-9A/9B contained in this SEIR. This impact assessment is also applicable to residential views from the northern portion of the City of Lompoc.

KOP 9: Harris Grade Road

The SWEP WTGs would be placed in slightly different locations along the ridgelines of the Santa Ynez Range south of Lompoc compared to the LWEP, with portions of 18 SWEP WTGs visible from KOP 9 on Harris Grade Road. Although all of the visible SWEP WTGs would extend above the ridgeline, most of the increased skylining that would occur (compared to the LWEP) would be attributable to rotor blades. The resulting color contrast associated with the WTGs would be less prominent compared to the LWEP WTGs since the light color of the SWEP WTGs would be backdropped by the typically light-colored sky, while more of the LWEP WTGs would be backdropped by the ridge with its darker vegetation color. As a result, the overall visual impact of the proposed SWEP on views from Harris Grade Road would be the same as for the LWEP (adverse but not significant, Class III). Therefore, the reader is referred to the KOP 9 impact discussion in the LWEP EIR and Figure 4.2-10 contained in this SEIR.

KOP 10: SR-1 North of Lompoc

Although KOP 10 has been shifted slightly farther to the south on SR-1 compared to the KOP 10 location for the LWEP, the viewing distance to the Project is still considerable at approximately 8.9 miles to the nearest WTG. The SWEP WTGs would also be placed in slightly different locations along the ridgelines of the Santa Ynez Range south of Lompoc compared to the LWEP. However, the overall visual impact of the proposed Project on views from SR-1 would be the same as for the LWEP (adverse but not significant, Class III). Therefore, the reader is referred to the KOP 10 impact discussion in the LWEP EIR and Figure 4.2-11 contained in this SEIR.

KOP 11: Upper San Miguelito Road.

Although the larger, but fewer, SWEP WTGs would be placed in slightly different locations along Tranquillon Ridge compared to the LWEP, they would still appear as the dominant landscape features in the foreground view from KOP 11. Also, with the revised SWEP, neither the associated transmission line, nor the ancillary building would be visible in the frame of view presented for KOP 11. However, the visual impact of the proposed SWEP on views from Upper San Miguelito Road would be the same as for the LWEP (significant and unavoidable, Class I). Therefore, the reader is referred to the KOP 11 impact discussion in the LWEP EIR and Figures 4.2-12A/12B contained in this SEIR.

KOP 12: San Miguelito Road in the Vicinity of Miguelito County Park.

Two KOPs (12 and 13) were used to assess the visual impacts of the previous LWEP WTGs on views from Miguelito County Park and San Miguelito Road in the immediate vicinity of the park. Therefore, both KOPs used southerly view orientations toward the WTGs to the south. The proposed transmission line to the north of the park (screened from view by the park's surrounding vegetation) was not considered in the assessments from KOPs 12 and 13. Under the SWEP, the WTGs would be placed in slightly different locations (relative to structure placement previously proposed under the LWEP) along the Santa Ynez Range and would not be visible from Miguelito County Park or the adjacent segment of San Miguelito Road. However, the revised transmission line route, while also not be visible from within the park or the primary parking area due to screening by the surrounding tree canopy, would be intermittently visible from portions of San Miguelito Road adjacent to the park and the park's overflow parking area. Therefore, a new KOP 12 location with a view to the northwest was established for the SWEP approximately 170 feet south of the LWEP KOP 12 in the park's overflow parking area and substitutes for both KOP 12 and KOP 13 used in the previous LWEP EIR.

The existing view quality and viewer sensitivity would be the same as for the LWEP KOP 12, and the reader is referred to the LWEP EIR impact discussion for KOP 12. While the addition of the proposed wood, triple-pole angle structure (No. 3/5) and H-Frame tangent structure (No. 3/4) to the hillside north of the park (shown in the visual simulation of Figure 4.2-4B) would contribute additional industrial character and structural complexity and contrast to the predominantly natural-appearing hillside landscape under the SWEP, they would be seen in the context of the existing (hillside) wood-monopole transmission line, roadside utility line, and parking lot. Also, visible hillside grading to provide access to the angle-point structure would expose lighter-colored soils similar to other soils visible in the landscape. Although the contrast associated with the structures and graded surfaces may attract the attention of park visitors in the overflow parking area on the east side of San Miguelito Road, traveler views of the transmission line from the road would be brief and intermittent due to roadside screening by trees and vegetation and would not appear visually dominant, nor would they attract the attention of the casual observer. Therefore, the resulting visual impact would be adverse but not significant (Class III), which represents a reduction from the significant and unavoidable (Class I) impact described in the KOP 12 analysis in the LWEP EIR.

KOP 13: San Miguelito Road Tree Removal and Road Modifications.

Under the SWEP, portions of San Miguelito Road would need to be widened, and some roadside trees would need to be removed to enable the vehicular transport of large Project elements (e.g., WTG components) to the site. To assess the representative visual impact of road widening and tree removal on views from San Miguelito Road, a new KOP 13 was established on San Miguelito Road approximately 1.1 miles southwest of the intersection with Brazile Road. As shown in the existing view image

presented as Figure 4.2-14A, the view to the north-northwest encompasses a rural landscape where the narrow roadway winds around the toe of a slope and is bordered by trees that overhang the roadway. Views are generally confined to the foreground landscape as more distant sightlines are intercepted by intervening vegetation and terrain. The rural landscape is predominantly natural in appearance, and both the scenic quality and viewer sensitivity are rated moderately high. Although the number of viewers would be low, many of the travelers along this portion of San Miguelito Road would either use the road for recreational or scenic purposes or would be local residents.

Figure 4.2-14B presents a conceptual simulation of the road widening and tree removal at the KOP 13 location. As shown in the simulation, the toe of the slope on the east side of the road would be cut back, and the overhanging trees and vegetation would be removed. The simulation assumes no immediate regrowth of vegetation on the cut slope as the underlying soils would likely be less conducive to vegetation growth than the natural top soil. Attempts could be made to salvage the top soil and minimize slope erosion, but they would likely not be fully successful in restoring the vegetation on the slope. Therefore, evidence of the cut would remain visible for many years with more rock and soil showing on the slope compared to adjacent natural slopes. Over years, the vegetation would gradually fill in and make the cut less prominent, though it would still be discernable. Therefore, the visual contrast associated with the cut slope would persist over a longer term, and the overall visual impact would be significant and unavoidable (Class I). Appropriate mitigation would include revegetating the cut/fill slope and/or treating with appropriate colorant to reduce the color contrast of the lighter exposed soil and rock against the darker adjacent vegetation. Though reduced, the residual visual impact would still be significant. This impact is new under the SWEP.

KOP 14: East Olive Avenue in the City of Lompoc.

With the change of the proposed Project transmission line to a mixed steel and wood H-Frame and multi-pole facility (from a single pole line) with a different alignment relative to what was previously proposed for the LWEP, a new KOP 14 was established to assess the transmission line's impact on views from the residential area in the southern part of the City of Lompoc. KOP 14 is located on East Olive Avenue, adjacent to Beattie Park on the south side of the street and residences on the north side of the street (see Figure 4.2-15A). The view to the south from KOP 14 captures a portion of Beattie Park in the foreground, backdropped by the northern-most portion of the Lompoc Hills, the ridgeline of which supports an existing wood-pole electrical transmission line that would be paralleled by the proposed Project transmission line. With the exception of the existing transmission line and its associated access road, the hills retain a predominantly natural character. The scenic quality is rated moderate. Viewer sensitivity is rated high since most viewers would be either local residents or people accessing the park for recreation purposes. In addition, the number of viewers would be moderate to high and view durations would be extended.

The addition of the proposed steel, H-Frame transmission line structures and conductors along the ridgetops, as illustrated in the visual simulation of Structures 6/2 through 6/5 (Figure 4.2-15B and location of structural poles shown in Figure 4.2-16B), would contribute industrial character to a landscape presently absent such features. The skylining of the structures would exacerbate the structural prominence and visibility and contribute considerable visual contrast. Also, construction of pole/structure pads would contribute noticeable color contrast between the lighter exposed rock and soils and darker vegetation. The resulting visual impact in the vicinity of KOP 14 would be moderately high and would not be consistent with the City of Lompoc 2030 General Plan Urban Design Element Policy 1.2, which requires the protection of Scenic Ridgelines, including the ridgeline where the

transmission line would be sited. Given the moderate scenic quality and high viewer sensitivity, the impact severity experienced at KOP 14 would be significant and unavoidable (Class I).

Appropriate mitigation would include revegetating the cut/fill slopes and pole pads or treating with appropriate colorant to reduce the color contrast of the lighter exposed rock and soils against the darker vegetation as required under Mitigation Measure VIS-4 (Landscape and Lighting Pan) and shown in the visual simulation presented as Figure 4.2-15C. Though reduced, the residual visual impact would still be significant. It should be noted that if the alternative project, Alternative Switchyard Location, described in Chapter 5, *Alternatives*, of this SEIR, were selected, it would reduce the significant impact of the transmission line structures extending above the ridgeline at this KOP substantially. Visual impacts would be reduced because a new transmission line would not be constructed along the ridge (see pole locations 6/2 through 7/2 in Figure 4.2-16B) and the existing PG&E power line that runs along this area would be reconductored (replacement of conductor wires) instead.

Nighttime Light and Glare Impacts; Possible Visual Impacts on Private Adjacent Ranches; and Possible Visual Impacts on San Miguelito Road South of Miguelito County Park.

These three impact categories would be the same as described for the LWEP. The reader is referred to those discussions at the end of Section 3.2.5.5 of the LWEP EIR and to the discussions presented above under KOPs 3, 11, and 13 for impacts on views from San Miguelito Road South of Miguelito County Park. Also, the nighttime light and glare impact analysis in the LWEP EIR (adverse but not significant impact, Class III) assumes that only the WTGs at the end of each turbine string (six lighted WTGs total) would be required to have the red, synchronized-flashing Federal Aviation Administration (FAA) hazard lights. With SWEP, the FAA issued letters, dated November 14, 2018, require each WTG to have red, synchronized-flashing FAA hazard lights. The resulting visual impact would be significant and unavoidable (Class I) when viewed from Jalama Beach County Park and other locations in the northern Lompoc Valley including Harris Grade Road (KOP 9), SR-1 (KOP 10), Mission Hills, Vandenberg Village, and other public roads and residential areas in the north portion of the City of Lompoc where the synchronized flashing of the hazard lights would be visible. From much of the night-lighted urban landscape of the City, few of the hazard lights would be visible, and the existing night lighting context would be considerable; therefore, the resulting nighttime lighting impact would be adverse but not significant (Class III).

4.2.4.4 Synthesis of SWEP Impacts

Based upon the analysis presented above, the following Project-level impacts could occur with implementation of the proposed Project.

VIS-1 WTG Visibility. <u>Construction and operation of the</u> WTGs and related structures have the potential to be visible in the vicinity of the Project.

The LWEP EIR found that construction and operation of the Project would be visible from San Miguelito Road, near its intersection with Sudden Road and near its western terminus at the VAFB property line. Visual impacts would be caused by the WTGs, O&M facility, electric substation, and other Project structures, signage, and onsite electrical lines, access roads, lighting, landscaping, and facility upkeep practices, including materials and equipment storage. The LWEP EIR stated that San Miguelito Road is considered a public viewing area, and its remote location and dead end at the Project site create a

unique environment for motorists, motorcyclists, bicyclists, runners, and birdwatchers. It is lightly traveled by the public but offers recreational and sightseeing opportunities and, therefore, is considered of moderate-high visual sensitivity and high impact severity. Visual impacts were considered significant and unavoidable (Class I).

For the SWEP, this significant and unavoidable impact would be the same as described for the LWEP. The reader is referred to the discussion of KOP 11 above and the analysis for Impact VIS-1 presented in the LWEP EIR.

LWEP EIR Mitigation Measures (MMs) VIS-1 (Materials Storage During Construction) and VIS-2 (Location of Construction Activities), which would require proper storage of construction material and construction activities to limited areas, respectively, as well as VIS-4 (Landscape and Lighting Plan), which would reduce the visual contrast of graded areas, are recommended for the SWEP to reduce the severity of Impact VIS-1. LWEP's MM VIS-4 has been modified from what was presented in the LWEP EIR to include more specificity pertaining to lighting control measures. The residual impact would remain significant and unavoidable (Class I).

Mitigation Measures

MM VIS-1 **Materials Storage During Construction.** All construction materials and excavated materials shall be stored away from San Miguelito Road, whenever possible, to reduce impacts on mountain views. Materials storage shall be confined to within the WTG pads, staging areas, and the Project Substation and Operations and Maintenance (O&M) facility areas.

Plan Requirement. County staff will confirm that a notation regarding materials storage is denoted on building plans.

Timing. County staff will review and approve the plan notation prior to zoning clearance for construction.

Monitoring. County staff will conduct inspections during construction activities along San Miguelito Road to confirm and enforce compliance.

MM VIS-2 **Location of Construction Activities.** Construction activities shall be confined to within the WTG pads and access roads; staging areas; the Project substation and O&M facility areas; transmission line right-of-way, structure pads, pull sites and switchyard; and sections of San Miguelito Road designated for modifications in the approved, final construction plans.

Plan Requirement. County staff will confirm that a notation regarding construction activities is denoted on building plans.

Timing. County staff will review and approve the plan notation prior to zoning clearance for construction.

Monitoring. County staff will conduct inspections during construction activities to confirm and enforce compliance.

MM VIS-4 **Landscape and Lighting Plan.** In accordance with the Santa Barbara County Land Use Element, Visual Resources Policies, Policy 1, the applicant shall be required to submit a landscaping plan to the County for review and approval.

The landscaping portion of the Landscape and Lighting Plan shall include but not be limited to (as appropriate): (1) salvaging top soil for reuse; (2) revegetating cut and fill slopes and graded areas visible to the public; (3) applying appropriate colorants to reduce the visual contrast between lighter-colored exposed rock and soils or introduced gravel and the adjacent darker vegetation; and (4) planting vegetation to screen the switchyard pad from public view discussed under KOP 2 and Impact VIS-6).

Any facility lighting shall be included in the lighting portion of the Landscape and Lighting Plan. Measures to minimize the attraction of birds to facility lighting shall be developed and presented in the Plan. Also, the lighting portion of the Plan shall require that all permanent exterior and security lighting be hooded (shielded) and that lamps and reflectors are directed downward and are not visible from beyond the Project site. Also, night lighting shall not cause excessive reflected glare or illuminate the nighttime sky except for required FAA hazard lighting.

Plan Requirement and Timing. The Landscape and Lighting Plan shall be reviewed and approved by the County prior to zoning clearance for construction.

Monitoring. County staff shall conduct inspections during operations to confirm and enforce compliance.

VIS-2 Views from Jalama Beach County Park, Miguelito County Park, and La Purisima Mission. Westernmost WTGs could be visible to users of Jalama Beach County Park; Northeastern-most WTGs could be visible to users of La Purisima Mission**.**

The LWEP EIR stated construction and operation of WTGs in the westernmost arrays of the Project area would be visible to users of Jalama Beach County Park both during daytime and nighttime periods. The EIR stated that 3 to 4 WTGs would be visible from San Miguelito Road for one half-mile as one approaches Miguelito County Park from the north, and that one WTG would be visible from within the Park. The EIR concluded that impacts to Jalama Beach and Miguelito County Park were significant and unavoidable (Class I).

In addition, the LWEP EIR stated that up to 10 WTGs could be visible from La Purisima Mission; however, given the distance of the WTGs from the Mission (seven miles), limited skylining of blades due to the reduced WTG heights, typical atmospheric conditions (haze and fog), and likely blade orientation due to northwest prevailing winds (blades would be perpendicular to the view from the Mission), the visual impact from the Mission was considered adverse but not significant (Class III).

For the SWEP, the significant and unavoidable (Class I) visual impact at Jalama Beach County Park and the adverse but not significant (Class III) visual impact at La Purisima Mission would be essentially the same as described for the LWEP, though the actual number of visible WTGs for the SWEP would vary slightly from the LWEP due to different WTG sizes and placement. The reader is referred to the discussions of KOP 4 (for Jalama Beach County Park) and KOP 8 (for La Purisima Mission) above, and the discussion of Impact VIS-2 (pertaining to Jalama Beach and La Purisima Mission county parks) in the LWEP EIR.

Under the SWEP, the WTGs would be placed in slightly different locations (relative to structure placement previously proposed under the LWEP) along the Santa Ynez Range and would not be visible

from Miguelito County Park or the adjacent segment of San Miguelito Road, which is different from the previous finding in the LWEP EIR. Therefore, there would be no visual impacts to users of Miguelito County Park.

LWEP's MMs VIS-3 (Contribution to County Parks Fund) and VIS-4 (Landscape and Lighting Plan) are recommended to reduce the impact to Jalama Beach, although the impact on Jalama Beach County Park would remain significant and unavoidable (Class I). MM VIS-3 would require payment of money to be used by the County Parks Department exclusively to preserve and enhance the natural beauty of Jalama Beach County Park. The LWEP MM VIS-3 required money to also be used at Miguelito County Park; however, since there was no impact found at this park for SWEP, the MM removes mention of that park. MM VIS-4 would reduce the visual contrast of graded areas visible from La Purisima Mission County Park.

Mitigation Measures

MM VIS-3 **Contribution to County Parks Fund.** The applicant shall make a one-time $100,000 payment to the County. This money shall be used by the County Parks Department exclusively to preserve and enhance the natural beauty of Jalama Beach County Park.

Plan Requirement and Timing. The applicant shall provide the payment prior to the Zoning Clearance.

Monitoring. County staff will confirm receipt of payment prior to the Zoning Clearance.

MM VIS-4 **Landscape and Lighting Plan.** See the discussion of Impact VIS-1 above.

VIS-3 Views from State Route 1. WTGs could be visible ~~throughout~~ from the SR-1 corridor and the Lompoc Valley.

The LWEP EIR found that WTGs visible throughout the SR-1 corridor and the Lompoc Valley would result in adverse, but less-than-significant impacts during both daytime and nighttime periods (Class III).

For SWEP, with respect to SR-1 (KOPs 1 and 10) and the Lompoc Valley (KOPs 5, 7, and 9), this adverse, but less-than-significant (Class III) impact would be essentially the same as described for the LWEP, though the actual number of visible WTGs for the SWEP would vary slightly from the LWEP due to different WTG sizes and placement. The reader is referred to the discussions of KOPs 1, 5, 7, 9, and 10 above and the relevant discussion of Impact VIS-3 in the LWEP EIR.

The discussion of Impact VIS-3 in the LWEP EIR fails to reference KOP 6 for Lompoc Valley views though the visual impact at KOP 6 would also be Class III, similar to KOP 7. The SWEP Class III impact for KOP 6 would be the same as described for the LWEP, and the reader is referred to the SWEP KOP 6 discussion above, as well as the KOP 6 discussion in the LWEP EIR.

Also, the discussion of Impact VIS-3 in the LWEP EIR incorrectly references KOP 3, which actually views north toward the proposed transmission line and not south toward the WTGs. The SWEP KOP 3, which is a new location, addresses the transmission line rather than the WTGs and is discussed under VIS-5 below.

Because this impact is not significant (Class III), no mitigation measures are required. However, implementation of MM VIS-4 (Landscape and Lighting Plan) would help reduce this adverse impact.

Mitigation Measures

MM VIS-4 **Landscape and Lighting Plan.** See the discussion of Impact VIS-1 above.

VIS-4 **Transmission Line Skyline Silhouette.** Placement of the transmission ~~power~~ line in the area of SR-1 introduces ~~a significant new series of power poles~~ three new structures that could partially silhouette against the skyline.

The LWEP EIR stated that placement of the transmission line in the area of SR-1 introduces a significant new series of power poles that would silhouette against the skyline. This impact was found to be significant and unavoidable (Class I). However, the environmentally superior power line route alternative that was approved for the LWEP largely avoided skylining, and the visual impacts were not significant.

For the SWEP, unlike LWEP, the visual impact of the transmission line on views from SR-1 in the vicinity of the original LWEP KOP 2 would not be significant and unavoidable (Class I). Under the SWEP, the impact on this portion of SR-1 would now be adverse but not significant (Class III) since only the upper portions of three transmission line structures (now located farther to the west) would be visible above the ridgeline. As a result, under the SWEP a new KOP 2 location (approximately one mile to the north) was established for the purpose of evaluating the visual impact of the proposed switchyard on views from SR-1 and is discussed under new Impact VIS-6 below. Because this impact is not significant (Class III), no mitigation measures are required.

VIS-5 **Transmission Line Visibility.** Construction and operation of the transmission ~~power~~ line could be visible from public roadways and residential areas.

The LWEP EIR found construction and operation of the transmission line visible from public roadways such as San Miguelito Road would result in adverse but less-than-significant impacts (Class III).

With implementation of the SWEP, the majority of the views of the transmission line (construction and operation) from San Miguelito Road would experience adverse but less-than-significant (Class III) impacts, which is the same as determined for the LWEP. Views of the transmission line from SR-1 would also experience adverse but less-than-significant (Class III) impacts (except at KOP 2 with views of the switchyard as discussed under Impact VIS-6 below). Previously, the LWEP EIR identified a significant and unavoidable impact for KOP 2 on SR-1 (at a different location than used for the SWEP) under Impact VIS-4 (see Impact VIS-4 above and in the LWEP EIR).

However, two segments of San Miguelito Road would experience significant and unavoidable (Class I) visual impacts from views of the transmission line, as would some public roads and residential areas in the southern portion of the City of Lompoc.

The two San Miguelito Road segments that would experience the Class I impacts would include the road segment with views of transmission line structures 0/4 through 1/2 and the road segment with views of structures 2/7 through 3/1, which are the subject of the KOP 3 analysis (above) and are shown in the visual simulation presented as Figure 4.2-4b. Transmission line structures 0/4 through 1/2 were not evaluated with a KOP or simulation but would be comparable to the KOP 3 impact analysis and

conclusion for structures 2/7 to 3/1. Both of these short route segments are shown in Figure 4.2-16A. This is a new impact specific to the SWEP.

Views of transmission line structures 6/2 through 7/2 (locations shown in Figure 4.2-16B) from some roads and residential areas in the southern portion of the City would also experience significant and unavoidable (Class I) visual impacts as discussed under KOP 14 above and illustrated in the visual simulation presented as Figure 4.2-15B. This is a new impact specific to the SWEP.

The LWEP's MMs VIS-1 (Materials Storage During Construction), VIS-2 (Location of Construction Activities), and VIS-4 (Landscape and Lighting Plan, as modified) are recommended to reduce the adverse but less-than-significant (Class III) impacts and significant and unavoidable (Class I) impacts (though not to a level that would not be significant) associated with Impact VIS-5. LWEP MM VIS-4 (Landscape and Lighting Plan) is recommended to reduce the significant (Class I) impact associated with Impact VIS-5, though the residual visual impact would still be significant.

Mitigation Measures

MM VIS-1 **Materials Storage During Construction.** See the discussion of Impact VIS-1 above.

MM VIS-2 **Location of Construction Activities.** See the discussion of Impact VIS-1 above.

MM VIS-4 **Landscape and Lighting Plan.** See the discussion of Impact VIS-1 above.

VIS-6 Transmission Line and Switchyard Visibility from State Route 1. Placement of the transmission line switchyard in the area of SR-1 introduces a new industrial facility that could be visible from SR-1.

This is a new impact that was not addressed in the LWEP EIR. With implementation of the SWEP, a new switchyard would be built near SR-1 and the southern boundary of the Lompoc city limits. (The LWEP switchyard was proposed to be built in the City of Lompoc, adjacent to the PG&E substation.) Although the switchyard would be relatively small in scale and would be seen in the context of the existing, adjacent transmission line, utility poles, and span of SR-1, the facility would introduce noticeable industrial character and structural complexity to the edge of the adjacent residential development. Additionally, the switchyard pad would introduce a visually prominent feature that would create substantial color and line contrast with the existing vegetation in close proximity to that portion of SR-1 designated scenic. The resulting visual impact would be significant but mitigable (Class II) as discussed under KOP 2 above.

Implementation of MM VIS-4 (Landscape and Lighting Plan) would reduce this significant impact to a less-than-significant level by reducing the color contrast of the lighter, graded and disturbed soils with the darker vegetation.

Mitigation Measure

MM VIS-4 **Landscape and Lighting Plan.** See the discussion of Impact VIS-1 above.

VIS-7 San Miguelito Road Landscape. Vehicular transport of Project components would require road widening and tree removal that could alter the landscape characteristics along portions of San Miguelito Road.

This impact is similar to that referenced in the section *Possible Visual Impacts on San Miguelito Road South of Miguelito County Park*, at the end of Section 3.2.5.5 in the LWEP Final EIR, but which was not inserted as an Impact Statement in the EIR. The LWEP would have required some tree trimming and possible removal of a small number of trees to allow transport of WTG components, and the visual impacts were considered adverse but not significant (Class III). With implementation of the SWEP, portions of San Miguelito Road would be widened, embankments cut back, and a significant number of roadside native oak trees would be removed to enable the transport of substantially larger WTG blades to the site. Based on the analysis for new KOP 13 (see above), the resulting visual impact would be significant and unavoidable (Class I). Implementation of MM VIS-4 (Landscape and Lighting Plan) is required to reduce this impact, though the residual impact would remain significant.

Mitigation Measure

MM VIS-4 Landscape and Lighting Plan. See the discussion of Impact VIS-1 above.

VIS-8 Nighttime Lighting. The Project could result in nighttime lighting impacts.

This impact is the same as that referenced in the section *Nighttime Light and Glare Impacts* in the LWEP EIR Section 3.2.5.5, but which was not inserted as an Impact Statement in the EIR. Similar to the LWEP, the proposed Project would require only minor amounts of security night lighting at the Project site (substation and switchyard), and there would be limited public access and exposure to the lighting. Therefore, facility and security night lighting would be adverse but not significant (Class III). However, to ensure that significant night lighting impacts do not occur, MM VIS-4 (Landscape and Lighting Plan) is recommended to help reduce this potentially adverse impact.

The LWEP EIR assumed that the FAA would require red, synchronized-flashing FAA hazard lights at both ends of each WTG string and lights at intervals of 0.5 mile or less in between. This lighting pattern is the standard pattern described in the FAA Advisory Circular AC No. 70/7460-1L Change 2 (8/17/18). Impacts to Jalama Beach from FAA-required lighting were found to be a significant and unavoidable impact (Class I).

The LWEP EIR found impacts from FAA lighting would be adverse but not significant (Class III) from other public viewing locations given the considerable viewing distance (approximately five miles or greater) between the WTGs and the nighttime viewing population and the existing urban night lighting context of the viewing population.

For the SWEP, the FAA is initially requiring all the WTGs to have FAA hazard lights (FAA issued letters for each WTG [11/14/18]). When the final WTG layout has been approved, the applicant may resubmit the obstruction lighting plan application to FAA based on the final layout. The FAA will likely approve a lighting plan with only a fraction of the WTGs to be lighted. However, it is assumed, as a conservative (worst-case) scenario, that all WTGs would be lighted.

Although a larger number of WTGs could potentially be lighted for the SWEP than the LWEP, the lights would be located at a lower height on the SWEP WTGs and, therefore, would be less visible. The lights

would be approximately 63 feet lower for the SWEP than were modeled for the LWEP because the proposed towers were taller for the LWEP. Overall WTG heights modeled for the LWEP are nearly the same as for the SWEP, but tower height is greater and blade length is shorter for the LWEP. As a result, only a few of the hazard lights for the SWEP would be visible from Jalama Beach County Park, even if all WTGs are lighted. As was the case for the LWEP, in the context of the dark night coastal landscape visible from Jalama Beach County Park, the visibility of even a few synchronized flashing FAA hazard lights would result in a significant (Class I) visual impact. From much of the night-lighted urban landscape of the City of Lompoc, where few of the hazard lights would be visible and the existing night lighting context would be considerable, the resulting nighttime lighting impact would be adverse but not significant (Class III). However, from other locations in the northern Lompoc Valley including Harris Grade Road (KOP 9), SR-1 (KOP 10), Mission Hills, Vandenberg Village, as well as other public roads and residential areas in the north portion of the City of Lompoc, the visibility of numerous synchronized-flashing FAA hazard lights along the ridgelines south of Lompoc would result in significant and unavoidable (Class I) impacts. Implementation of MM VIS-5 (Reduced FAA Hazard Lighting Plan) is required to reduce this impact, though the residual impact would remain significant.

Mitigation Measures

MM VIS-4 **Landscape and Lighting Plan.** See the discussion of Impact VIS-1 above.

MM VIS-5 **Reduced FAA Hazard Lighting Plan.** The Applicant shall be required to reapply to the FAA with a reduced FAA hazard lighting plan after the WTG locations and WTG details are finalized in order to ensure the minimum required FAA lighting is installed.

Plan Requirement and Timing. The Reduced FAA Lighting Plan shall be submitted to the FAA and their determination received and reviewed by the County prior to zoning clearance for construction.

Monitoring. County staff shall conduct inspections during construction to confirm and enforce compliance.

4.2.5 Cumulative Effects

Impacts resulting from construction, operation, and decommissioning of the Project would result in cumulative effects on aesthetic resources with other past, present, or reasonably foreseeable future actions if they are visible within the same field of view. The geographic scope of the cumulative effects analysis for aesthetics generally consists of the broader Project region from which the Project would be seen and includes the Tranquillon ridge area of the Santa Ynez Range, Lompoc Hills, White Hills, Lompoc Valley, the SR-1 corridor, the City of Lompoc, and coastal areas generally extending from VAFB in the north to Point Conception in the south.

For the SWEP, the types of cumulative projects are essentially the same as for the LWEP with the majority of the cumulative projects in the Project region being residential, commercial, and institutional projects occurring in the urban and suburban environs in and around the City of Lompoc. None of the cumulative projects would exhibit a similar industrial character as the Project. The following paragraphs describe the extent to which the cumulative projects would combine with the SWEP impacts to produce a cumulative impact.

The cumulative projects would not combine with the **SWEP's Impact VIS-1** (WTGs and related structures visible in the Project vicinity) because none of the cumulative projects would be located in

the immediate vicinity of the WTGs (Tranquillon Ridge and upper San Miguelito Road area) and they would not appear in the same field of view as the Project. Therefore, the cumulative projects would not contribute to any alteration of the landscape immediately adjacent to the WTGs.

The cumulative projects would not combine with the **SWEP's Impact VIS-2** (WTGs visible to users of Jalama Beach County Park) because none of the cumulative projects would be visible from Jalama Beach County Park.

Although none of the cumulative projects would be visible in the same field of view as the WTGs from that portion of SR-1 designated a State Scenic Highway, some of the cumulative projects in the northern portion of the City of Lompoc and Lompoc Valley would combine with the **SWEP's Impact VIS-3** (WTGs visible from SR-1 and the Lompoc Valley) to produce a cumulative aesthetics impact because they would be visible in the same field of view as the visible WTGs. This would include Project Nos. 16 and 20 (Sepulveda Building Materials and Hilt Winery, respectively) located east of SR-1 in the vicinity of Sweeney Road and Santa Rosa Road. However, because of the extended viewing distances to the Project (typically five or more miles), the Project would appear relatively small in scale in the broader landscape context and exhibit minor visual contrast. The Project's resulting contribution to impact VIS-3 would not be considerable.

The cumulative projects would not combine with the **SWEP's Impact VIS-4** (the Project transmission line near SR-1 would partially silhouette against the skyline) because none of the cumulative projects would be visible in the same field of view as the transmission line from the brief segment of SR-1 where the transmission line would be visible.

Some cumulative projects in the southern portion of the City (including cumulative projects 16 and 20 southeast of the City) would combine with the **SWEP's Impact VIS-5** (Project transmission line would be visible from public roadways and residential areas) as it pertains to the Project's transmission line descending the north slopes of the Lompoc Hills. In this case, a cumulative aesthetics impact would be produced because the cumulative projects would be visible in the same field of view as the visible portion of the transmission line segment and switchyard. As a result, the Project's contribution to the cumulative impact would be considerable.

The cumulative projects would not combine with the **SWEP's Impact VIS-6** (Project switchyard would be visible from SR-1) to produce a cumulative aesthetics impact because none of the cumulative projects would be visible in the same field of view as the switchyard from the brief segment of SR-1 where the switchyard would be visible.

The cumulative projects would not combine with the **SWEP's Impact VIS-7** (Project would require road widening and tree removal) to produce a cumulative aesthetics impact because none of the cumulative projects would be visible from the few segments of upper San Miguelito Road where the widening and tree removal would occur.

The cumulative projects combined with the **SWEP's Impact VIS-8** produce a considerable cumulative aesthetics impact as the FAA would require hazard lights on all of the WTGs. Most if not all of the cumulative projects in Table 3-1 that would be located in the Project region would contribute at least some lighting impact to the nighttime landscape, which cumulatively would be considerable. However, the majority of the SWEP lighting would not make a considerable cumulative night lighting contribution because only minor amounts of lighting would be required at the Project site (substation and switchyard); there would be limited public access and exposure to the lighting; and the lighting would

generally not be visible in the same field of view as the cumulative projects given the SWEP's distance from other planned development. In the latter case, no cumulative contribution would occur.

Since the FAA would require red, synchronized-flashing hazard lights on all of the WTGs, the synchronized flashing across the dark ridgeline landscape above the night-lighted urban landscape of the greater Lompoc Valley would attract a casual viewer's attention and would be a considerable contribution to the night lighting cumulative impact.

4.2.6 Residual Impacts

As summarized in Section 4.2.4, Impacts VIS-2 (at La Purisima Mission), VIS-3, VIS-4, VIS-5 (majority of San Miguelito Road and SR-1), and VIS-8 (facility lighting) would not be significant. With the implementation of proposed mitigation, residual effects from Impact VIS-6 would be less than significant. The residual effects from Impacts VIS-1 (operation), VIS-2 (at Jalama Beach County Park only), VIS-5 (south Lompoc roads and residential areas and two segments of San Miguelito Road), VIS-7, and VIS-8 (FAA hazard lighting) would remain significant.

4.2.7 Impact and Mitigation Summary

Table 4.2-2 below provides a summary of the SWEP's impacts related to aesthetics and visual resources. The table also indicates the mitigation measures proposed to reduce each significant impact.

Table 4.2-2 SWEP Impact and Mitigation Summary – Aesthetics/Visual Resources

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
VIS-1	WTG Visibility. Construction and operation of the WTGs and related structures have the potential to be visible in the vicinity of the Project.	VIS-1: Materials Storage During Construction. VIS-2: Location of Construction Activities. VIS-4: Landscape and Lighting Plan.	Class I (Operation)
VIS-2	Views from Jalama Beach County Park, Miguelito County Park, and La Purisima Mission. Westernmost WTGs could be visible to users of Jalama Beach County Park; Northeastern-most WTGs could be visible to users of La Purisima Mission.	VIS-3: Contribution to County Parks Fund. VIS-4: Landscape and Lighting Plan.	Class I (Jalama Beach County Park) Class III (La Purisima Mission) No impact (Miguelito Park)
VIS-3	Views from State Route 1. WTGs could be visible from the SR-1 corridor and the Lompoc Valley.	VIS-4: Landscape and Lighting Plan (recommended).	Class III
VIS-4	Transmission Line Skyline Silhouette. Placement of the transmission line in the area of SR-1 introduces three new structures that could partially silhouette against the skyline.	None.	Class III
VIS-5	Transmission Line Visibility. Construction and operation of the transmission line could be visible from public roadways and residential areas.	VIS-1: Materials Storage During Construction. VIS-2: Location of Construction Activities. VIS-4: Landscape and Lighting Plan.	Class III (Majority of San Miguelito Road & SR-1) Class I (South Lompoc roads

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
			and residential areas and two segments of San Miguelito Road)
VIS-6	Transmission Line and Switchyard Visibility from State Route 1. Placement of the transmission line switchyard in the area of SR-1 introduces a new industrial facility that could be visible from SR-1.	VIS-4: Landscape and Lighting Plan	Class II
VIS-7	San Miguelito Road Landscape. Vehicular transport of Project components would require road widening and tree removal that could alter the landscape characteristics along portions of San Miguelito Road.	VIS-4: Landscape and Lighting Plan	Class I
VIS-8	Nighttime Lighting. The Project could result in nighttime light impacts.	VIS-4: Landscape and Lighting Plan (for facility lighting - recommended). VIS-5: Reduced FAA Hazard Lighting Plan	Class III (Facility lighting) Class I (FAA hazard lighting)

Class I. Significant unavoidable adverse impact.

Class II. Significant environmental impacts that can be feasibly mitigated or avoided.

Class III. Adverse impacts found not to be significant.

Class IV. Impacts beneficial to the environment.

4.2.8 References

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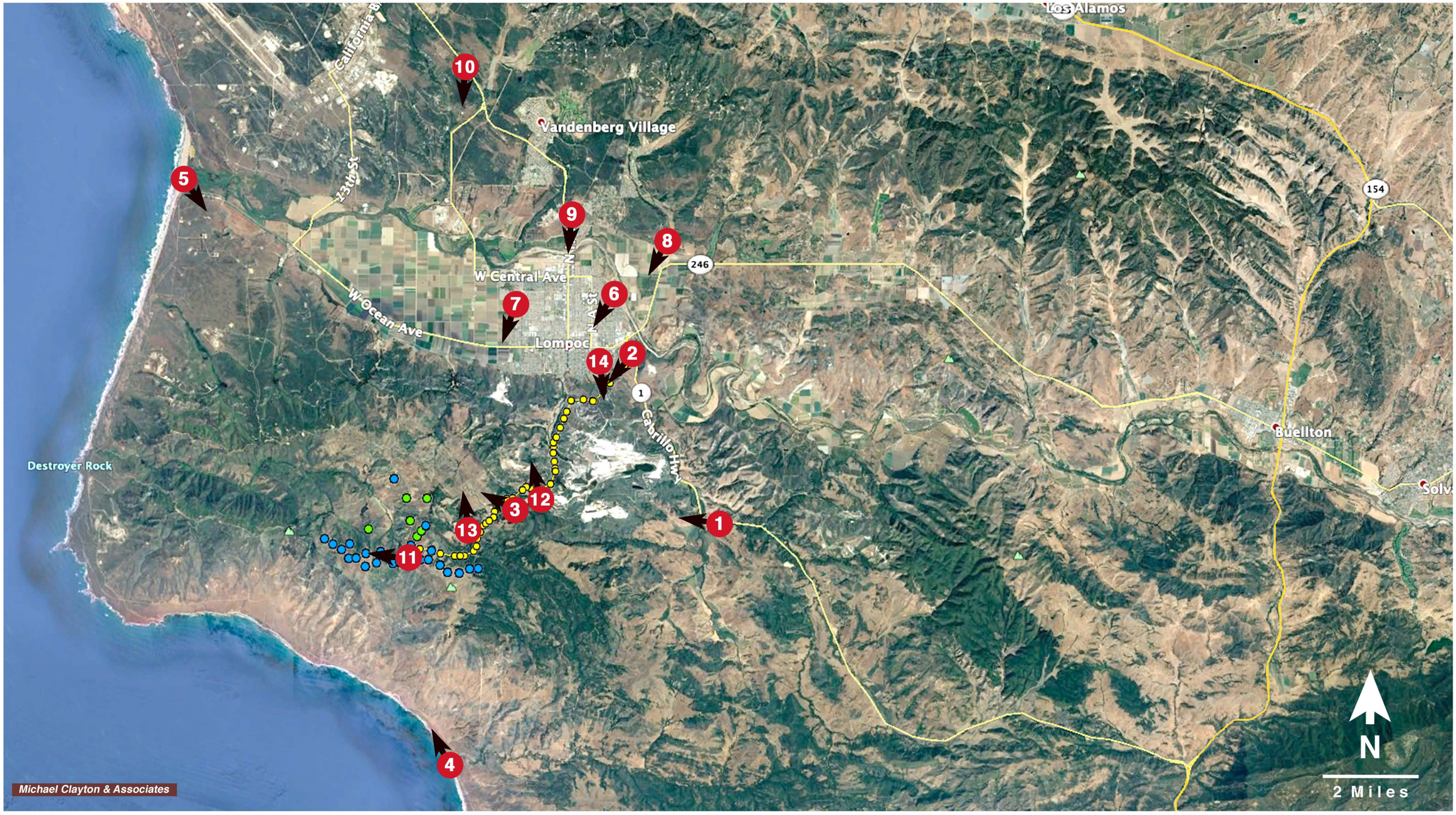

LEGEND			KOP Map	Strauss Wind Energy Project SEIR Aesthetics/Visual Resources **Figure 4.2-1**
3.8 MW Wind Turbine Generator (WTG)	Proposed Transmission Line			
1.79 MW WTG	Key Observation Point (KOP)			



A Baseline photo of the proposed project as seen from KOP 1 - Highway 1 western view



B Simulation of the proposed project as seen from KOP 1

The above image pair for **KOP 1** on **northbound SR-1** is from the previous **LWEP EIR** and is presented here to illustrate the limited visibility of the WTGs along the distant ridgeline to the west. For the currently proposed Strauss Wind Energy Project, only the upper portions of WTGs E-6, E-7, and E-8 would be visible to northbound SR-1 travelers in the vicinity of KOP 1.

KOP 1 - Northbound State Route 1
from the
Lompoc Wind Energy Project EIR

Figures 4.2-2A / 2B



This image presents the **Existing View** to the southwest from **KOP 2** on southbound SR-1 near the southern boundary of the Lompoc city limits and immediately north of where SR-1 becomes a State Designated Scenic Highway. This view captures the toe of a hill slope where the proposed Project switchyard would be located just south of the City limits and a residential subdivision. The existing landscape includes the undeveloped hillside and several existing electric transmission and utility poles.	**KOP 2** **Southbound SR-1** **Existing View**	**Strauss Wind Energy Project SEIR** **Aesthetics/Visual Resources** **Figure 4.2-3A**



This image presents a **Visual Simulation** of the proposed switchyard as viewed from **KOP 2** on southbound SR-1. As illustrated in this conceptual simulation, the low-profile switchyard would add several vertical, structural elements to the foreground landscape, which already includes several electric transmission and utility poles. However, the view duration of the switchyard from SR-1 would be very brief from either direction of travel (north or south) given the presence of visual screening by terrain and vegetation.

KOP 2
Southbound SR-1

Visual Simulation

Strauss Wind Energy Project SEIR
Aesthetics/Visual Resources
Figure 4.2-3B



This image presents a conceptual **Mitigation Simulation** of the application of a colorant to the road cuts and facility pads to reduce the color contrast between the lighter, exposed soils and gravel, and the darker vegetation. Following implementation of the measure, the color contrast is substantially reduced. The contrast of structure pads can be further reduced by planting screening vegetation around structure and facility pads.	**KOP 2** **Southbound SR-1** **Mitigation Simulation**	**Strauss Wind Energy Project SEIR** **Aesthetics/Visual Resources** **Figure 4.2-3C**



This image presents the **Existing View** to the northwest from **KOP 3** on San Miguelito Road, approximately 0.25 mile east of the intersection with Brazile Road. This open and unobstructed view captures a portion of the visually prominent ridge that parallels San Miguelito Road to the north. The rural landscape along this portion of San Miguelito Road is predominantly natural in appearance.	**KOP 3** **San Miguelito Road** **Existing View**	**Strauss Wind Energy Project SEIR** **Aesthetics/Visual Resources** **Figure 4.2-4A**



This image presents a **Visual Simulation** of a portion of the proposed transmission line as visible from **KOP 3** on San Miguelito Road, approximately 0.25 mile east of the intersection with Brazile Road. This view captures (from left to right) transmission structures 2/7 (75 feet tall, steel H-frame), 2/8 (100 feet tall, wood H-frame), and 3/1 (70 feet tall, steel 3-pole angle structure), and associated land modification. As shown in the simulation, the transmission line would be prominently visible as it passes along the ridge that parallels San Miguelito Road to the north. The three structures (and conductors) would be visible above the ridgeline (skylining), which would exacerbate the visual prominence of the inconsistent structural designs and associated visual contrast and industrial character.

KOP 3
San Miguelito Road

Visual Simulation

Strauss Wind Energy Project SEIR
Aesthetics/Visual Resources
Figure 4.2-4B



This image presents a conceptual **Mitigation Simulation** of the revegetation of the cut/fill slopes and pole pads, or treatment with an appropriate colorant to reduce the color contrast between the lighter, exposed soils and darker vegetation. Following implementation of the measure, the color contrast is substantially reduced, leaving the proposed structures as the primary contributor of visual contrast. The residual impact can only be mitigated to a level that would be less than significant by rerouting the transmission line segment to a lower elevation on the slope such that the structures would no longer skyline. Optimal routing would be at the bottom of the slope (similar to the original proposal), thereby reducing structural visibility to travelers on San Miguelito Road.

KOP 3
San Miguelito Road
Mitigation Simulation

Strauss Wind Energy Project SEIR
Aesthetics/Visual Resources
Figure 4.2-4C



This image presents the **Existing View** to the north-northwest from **KOP 4** on Jalama Beach in Jalama Beach County Park. This view captures portions of Jalama Beach, the adjacent coastal bluffs, and the more distant coastal mountain ranges that comprise this natural setting. The park's camping area and convenience store and restaurant are located immediately to the right of this frame of view.

KOP 4
Jalama Beach

Existing View

Strauss Wind Energy Project SEIR
Aesthetics/Visual Resources
Figure 4.2-5A



This image presents a **Visual Simulation** of the proposed Project from **KOP 4** on Jalama Beach in Jalama Beach County Park. This view captures portions of eight WTGs in the west string sited along the middle ridge in the center of the image. The viewing distance from KOP 4 to the visible WTGs would range from approximately 4.6 to 5.2 miles.

KOP 4
Jalama Beach

Visual Simulation

Strauss Wind Energy Project SEIR
Aesthetics/Visual Resources
Figure 4.2-5B



This image presents the **Existing View** to the southwest from **KOP 5** at Ocean Park. This view captures a portion of the Ocean Park day use area and the wetlands beyond, backdropped by a low ridge that effectively screens the proposed Project WTGs from view. The label in the image indicates the approximate location of the WTGs, the closest of which would be approximately 7.75 miles southeast of Ocean Park.	**KOP 5** **Ocean Park** **Existing View**	**Strauss Wind Energy Project SEIR** **Aesthetics/Visual Resources** **Figure 4.2-6**



A Baseline photo of the proposed project as seen from KOP 6 - 7th and Tangerine southwest view



B Simulation of the proposed project as seen from KOP 6

The above image pair for **KOP 6** is from the previous **LWEP Final EIR**, and is presented here to illustrate the limited visibility of the general Project area to residential views in the City of Lompoc. As illustrated in these images, wind turbines along the distant ridgelines to the south of the City would have limited to no visibility when viewed from many residential and public viewpoints in the central and southern portions of the City.

KOP 6 - 7th and Tangerine in the City of Lompoc
from the
Lompoc Wind Energy Project EIR

Figures 4.2-7A / 7B



A Baseline photo of the proposed project as seen from KOP 7 - Lemon Ave. southern view



B Simulation of the proposed project as seen from KOP 7

The above image pair for **KOP 7** is from the previous **LWEP Final EIR**, and is presented here to illustrate the limited visibility of the general Project area to residential views in the City of Lompoc. As illustrated in these images, wind turbines along the distant ridgelines to the south of the City (including those of the presently proposed Project) would have limited visibility when viewed from many residential and public viewpoints in the central and southern portions of the City.

KOP 7 - Lemon Avenue in the City of Lompoc
from the
Lompoc Wind Energy Project EIR

Figures 4.2-8A / 8B



This image presents the **Existing View** to the southwest from **KOP 8** in the La Purisima Mission State Historic Park. This view captures a foreground portion of the Mission grounds backdropped by the coastal ranges south of the City of Lompoc. The proposed turbine strings would be located along the ridgeline in the central portion of the image.	**KOP 8** **La Purisima Mission State Historic Park** **Existing View**	**Strauss Wind Energy Project SEIR** **Aesthetics/Visual Resources** **Figure 4.2-9A**



This image presents a **Visual Simulation** of the proposed Project from **KOP 8** in the La Purisima Mission State Historic Park. This view captures portions of all three turbine strings (North, East, and West). As shown in the simulation above,12 WTGs would exhibit some visibility along the central ridgeline in the center of the image. The viewing distances from KOP 8 to the visible WTGs would range from approximately 7.4 to 9.5 miles.

KOP 8
La Purisima Mission State Historic Park
Visual Simulation

Strauss Wind Energy Project SEIR
Aesthetics/Visual Resources
Figure 4.2-9B



This image presents the **Existing View** to the south from **KOP 9** on Harris Grade Road, approximately 0.15 mile north of its intersection with SR-1 in Lompoc. This view captures the central portion of Lompoc, backdropped by the Lompoc Hills and Santa Ynez Mountains beyond. Approximately 18 WTGs would be visible along the ridgeline (as indicated above) and would appear similar to those shown for KOP 8 in Figure 4.2-9B. The viewing distance to the WTGs would range from 6.9 to 8.7 miles.	**KOP 9** **Harris Grade Road** **Existing View**	**Strauss Wind Energy Project SEIR** **Aesthetics/Visual Resources** **Figure 4.2-10**



This image presents the **Existing View** to the south from **KOP 10** on SR-1, approximately mid-way between the City of Lompoc and the entry to Vandenberg AFB. This view captures a portion of the undeveloped lands of Vandenberg AFB, backdropped by the Lompoc Hills and Santa Ynez Mountains. Approximately 24 WTGs would be visible along the distant ridgeline (as indicated above). The viewing distance to the WTGs from KOP 10 would range from 8.9 to 10.8 miles.	**KOP 10** **SR-1 North of Lompoc** **Existing View**	**Strauss Wind Energy Project SEIR** **Aesthetics/Visual Resources** **Figure 4.2-11**



This image presents the **Existing View** to the west from **KOP 11** on upper San Miguelito Road at the intersection with Sudden Road. This view captures a portion of the open, undeveloped, rolling, grass- and shrub-covered hills and Tranquillon Ridge west of Tranquillon Mountain in the western Santa Ynez Mountains.	**KOP 11** **Upper San Miguelito Road** **Existing View**	**Strauss Wind Energy Project SEIR** **Aesthetics/Visual Resources** **Figure 4.2-12A**



This image presents a **Visual Simulation** of the proposed Project from **KOP 11** on upper San Miguelito Road at the intersection with Sudden Road. As shown in the simulation above, seven WTGs of the proposed western string along Tranquillon Ridge would be visible in this frame of view. The viewing distances from KOP 11 to the visible WTGs illustrated above would range from approximately 0.26 mile to 1.15 miles and would appear as visually dominant, built structures.	**KOP 11** **Upper San Miguelito Road** **Visual Simulation**	**Strauss Wind Energy Project SEIR** **Aesthetics/Visual Resources** **Figure 4.2-12B**



This image presents the **Existing View** to the northwest from **KOP 12** at the overflow parking area for Miguelito County Park, adjacent to San Miguelito Road. This view captures the hill-slopes immediately north of the park with the large, cleared opening and the existing electric transmission line. The northern parking area is also visible in the immediate foreground adjacent to San Miguelito Road.	**KOP 12** **Miguelito County Park & San Miguelito Road** **Existing View**	**Strauss Wind Energy Project SEIR** **Aesthetics/Visual Resources** **Figure 4.2-13A**



This image presents a **Visual Simulation** of the proposed Project transmission line from **KOP 12** at the overflow parking area for Miguelito County Park adjacent to San Miguelito Road. As shown in the simulation, the proposed transmission line would cross the open hillside north of Miguelito County Park. Two wood-pole structures are shown in this simulation - Structure 3/4 would be the H-frame at the top of the hill, and Structure 3/5 would be the three-wood-pole angle structure in the clearing.

KOP 12
Miguelito County Park & San Miguelito Road
Visual Simulation

Strauss Wind Energy Project SEIR
Aesthetics/Visual Resources
Figure 4.2-13B



This image presents the **Existing View** to the northwest from **KOP 13** on San Miguelito Road, approximately 1.1 miles southwest of the intersection with Brazile Road. This view to the north-northwest encompasses a location along San Miguelito Road where road widening and tree removal would be required to transport Project elements to the site.

As shown in the image to the left, the road winds around the toe of a slope and is bordered by dense vegetation. A grouping of oak trees provides a canopy that overhangs a portion of the road.

Views are generally confined to the foreground landscape along the narrow road corridor as more distant sightlines are intercepted by intervening vegetation and terrain. The rural landscape along this portion of San Miguelito Road is predominantly natural in appearance.

KOP 13
San Miguelito Road
Road Improvements and Tree Removal

Existing View

Latitude: 34.582370° Longitude: -120.494050°

Strauss Wind Energy Project SEIR
Aesthetics/Visual Resources
Figure 4.2-14A



This image presents a conceptual **Visual Simulation** of the road widening and tree removal that would be required at this location on San Miguelito Road, to enable the vehicular transport of large Project elements to the site.

As shown in this simulation from **KOP 13**, the slope to the right (east) of the road would be cut back, the grouping of oak trees (and overhanging canopy) and vegetation would be removed, and the road would be widened.

The simulation assumes no immediate regrowth of vegetation on the cut slope as the underlying soils would likely be less conducive to vegetation growth than the natural top soil. Attempts could be made to salvage the top soil and minimize slope erosion, but they would likely not be fully successful in restoring the vegetation on the slope. Therefore, evidence of the cut and associated color contrast between the lighter-colored soils and rock and darker vegetation on the adjacent natural slope would persist for many years.

KOP 13
San Miguelito Road
Road Improvements and Tree Removal

Visual Simulation

Latitude: 34.582370° Longitude: -120.494050°

Strauss Wind Energy Project SEIR
Aesthetics/Visual Resources
Figure 4.2-14B



This image presents the **Existing View** to the south from **KOP 14** on East Olive Avenue adjacent to Beattie Park in the City of Lompoc. This view captures a portion of Beattie Park in the foreground, backdropped by the northern-most portion of the Lompoc Hills, the ridgeline of which supports an existing wood-pole power line that would be paralleled by the proposed Project power line. With the exception of the existing distribution line and its associated access road, the hills retain a predominantly natural character.

KOP 14
East Olive Avenue in Lompoc

Existing View

Strauss Wind Energy Project SEIR
Aesthetics/Visual Resources
Figure 4.2-15A



This image presents a **Visual Simulation** of the proposed Project transmission line from **KOP 14** on East Olive Avenue adjacent to Beattie Park. As shown in the simulation, the proposed transmission line would parallel the existing wood-pole power line that crosses a series of low, rolling hills just south of the park. The transmission line would add a series of vertical, and slightly more structurally complex, features to the hill top landscape (Structure Nos. 6/5, 6/4, 6/3, and 6/2 left to right).	**KOP 14** **East Olive Avenue in Lompoc** **Visual Simulation**	**Strauss Wind Energy Project SEIR** **Aesthetics/Visual Resources** **Figure 4.2-15B**



This image presents a conceptual **Mitigation Simulation** of the revegetation of the cut/fill slopes and pole pads, or treatment with an appropriate colorant to reduce the color contrast between the lighter, exposed soils and darker vegetation. Following implementation, the color contrast is substantially reduced, leaving the proposed structures as the primary contributor of visual contrast which could only be mitigated by rerouting the power line segment to a lower elevation on the slope and eliminating the skylining.	**KOP 14** **East Olive Avenue in Lompoc** **Mitigation Simulation**	**Strauss Wind Energy Project SEIR** **Aesthetics/Visual Resources** **Figure 4.2-15C**



LEGEND

Transmission Line

Transmission line southern segments that would cause significant and unavoidable (Class I) visual impacts on views from San Miguelito Road due to visible structure skylining. Segments would include Structures 0/4 through 1/2 and Structures 2/7 through 3/1.

Transmission Line Southern Segments Class I Impacts

Strauss Wind Energy Project SEIR
Aesthetics/Visual Resources
Figure 4.2-16A



LEGEND

Transmission Line

Transmission line northern segment that would cause significant (Class I) visual impacts on views from public roads and residential areas in south Lompoc due to visible structure skylining. Segment would include Structures 6/2 through 7/2.

Transmission Line Northern Segment Class I Impacts

Strauss Wind Energy Project SEIR
Aesthetics/Visual Resources
Figure 4.2-16B

4.3 Agriculture Resources

This section describes effects on agriculture resources resulting from construction and operation of the Project. The LWEP EIR addressed agriculture in the LWEP EIR Section 3.3, *Agricultural Resources*, and concluded that impacts to agricultural resources would be adverse but not significant. The following discussion identifies any changes to the existing agricultural resources in the Project area since 2008, and provides an update to applicable policies, potential impacts, and recommended mitigation measures.

4.3.1 Environmental Setting

Agricultural Preserve Contracts. The primary wind site extends over approximately 2,971 acres, all of which is zoned for agricultural use (AG-II) and currently under Williamson Act agricultural preserve contracts. Table 4.3-1 lists the Agricultural Preserve Numbers and their corresponding Assessor's Parcel Numbers that would be utilized for Project construction or operation.

Table 4.3-1. Agricultural Preserves Utilized for Project Components

Agricultural Preserve Number	Assessor's Parcel Number
71AP077	083-080-004
73AP026	083-090-001
73AP026	083-090-002
69AP039	083-090-003
73AP027	083-090-004
78AP019	083-100-004
78AP004	083-100-007
73AP029	083-100-008
73AP029	083-250-011
73AP029	083-250-016
73AP029	083-250-019
01AP006	083-110-002

Important Farmland. Project activities would occur on land designated by the California Department of Conservation (DOC) as Grazing Land. Since the LWEP EIR was released in 2008, the DOC has revised the Important Farmland maps illustrating the location and acreage of farmland relative to the Project. The following Important Farmland is within the Project area (DOC, 2019):

- **Prime Farmland.** This 6.6-acre property is located west of San Miguelito Road, approximately 800 feet from the transmission line route as it turns east towards the POI. None of the proposed Project activities would occur within this Prime Farmland.
- **Unique Farmland.** This 0.8-acre property is contiguous with the Prime Farmland. It is also located west of San Miguelito Road, approximately 760 feet from the transmission line route as it turns east towards the POI. None of the proposed Project activities would occur within this Unique Farmland.
- **Farmland of Local Importance.** The nearest Farmland of Local Importance is a 10.5-acre property located west of San Miguelito Road, approximately 710 feet from the transmission line as it parallels San Miguelito Road. This farmland is located west of San Miguelito Road, while the transmission line route is proposed east of the road. No Project activities would occur

within this farmland. The second property containing Farmland of Local Importance is a 45.9-acre property located along the terminus of San Miguelito Road, approximately 0.4 mile northeast of the Project's western string and 0.4 mile southwest of the northern string. The proposed access roads for Project construction and maintenance would not utilize the portion of San Miguelito Road that bisects this farmland. No project activities would occur within this farmland.

Cattle Grazing and Active Agriculture. The Project is surrounded by rural land that is primarily used for cattle grazing. Within the primary wind site, there is a scattering of fields that are developed for dryland farming along the Project's northern string. Approximately five acres of active agriculture would be permanently disturbed as a result of the placement of WTGs along that string (Dudek 2019). None of the proposed WTG sites have been designated by the DOC as Important Farmland.

4.3.2 Regulatory Setting

No applicable federal regulations were identified in the LWEP EIR.

4.3.2.1 State

The LWEP EIR identified one applicable State regulation: the California Land Conservation Act of 1965. There have been no relevant changes to this regulation since 2008. Please refer to the LWEP for a description of this regulation.

4.3.2.2 Local

The following local planning documents were identified in the LWEP EIR, and their description remains relevant to the SWEP. Please refer to the LWEP for a discussion of these plans, and to Section 4.13, *Land Use and Planning*, for an analysis of policy consistency:

- Santa Barbara County Comprehensive Plan
- Santa Barbara County Land Use and Development Code
- Uniform Rules for Agricultural Preserves and Farmland Security Zones

4.3.3 Significance Thresholds

Since the release of the LWEP EIR, the County has updated its environmental thresholds and guidelines, which are reflected in the revised agricultural thresholds below.

The Project would have a significant impact to agriculture resources if it would:

- Result in the conversion of prime agricultural land to non-agricultural use, impairment of agricultural land productivity (whether prime or non-prime), or conflict with agricultural preserve programs.
- Result in any effect [potentially significant adverse effect] upon any unique or other farmland of State or Local Importance.

4.3.4 Environmental Impacts and Mitigation Measures

Table 4.3-2 below lists the agriculture resources impact identified in Section 3.3 of the LWEP EIR. This same impact is addressed in this section for the SWEP. The right-hand column of the table below

indicates whether the SWEP impact has been modified for the LWEP. No mitigation measures specific to agricultural resources were recommended in the LWEP.

Table 4.3-2. LWEP Impacts and Mitigation Measures – Agriculture Resources

Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
AG-1	Important Farmland/Williamson Act Contract Lands. Development of the LWEF and power line installation would result in the temporary and permanent disturbance of farmland and provide financial support to property owners.	None identified.	Modified impact statement. Updated impact discussion.

During the scoping period for this SEIR, a comment was submitted requesting that the SEIR examine the effects of shadow flicker on cattle. Shadow flicker is defined as the modulation of light levels resulting from the periodic passage of a rotating wind turbine blade between the sun and a viewer (DNV GL, 2017). The effect of shadow flicker is most noticeable inside buildings, where the flicker appears through a window opening. The likelihood and duration of the effect depends on several variables that include: orientation of the building relative to the turbine, wind direction, distance from turbine, turbine height and rotor diameter, time of year and day, weather conditions, vegetation and obstacles that mask shadows, and operational status of the turbines (DNV GL 2017).

There is limited research on the adverse effects of shadow flicker on residential receptors and very little research on potential effects to livestock. According to *Veterinary Medicine: A Textbook of the Diseases of Cattle, Horses, Sheep, Pigs, and Goats*, no adverse health effects to livestock have been identified from exposure to wind farms (Constable et al. 2017). Given the lack of evidence that shadow flicker could have a detrimental effect on livestock, this topic was not discussed in further detail in the SWEP impact analysis.

The agricultural impacts of the proposed SWEP as determined by the significance thresholds (identified in Section 4.3.3) are discussed below.

AG-1 Important Farmland/Williamson Act Contract Lands. Development of the SWEP ~~LWEF~~ and power line installation ~~would~~ could result in the temporary and permanent disturbance of farmland ~~and provide financial support to property owners~~.

The LWEP concluded that impacts to Important Farmland/Williamson Act Contract Lands would be less than significant (Class III). The type and severity of impacts under the SWEP would be comparable to those discussed for the LWEP. Under the LWEP approximately 40 acres of designated Grazing Land would have been permanently disturbed, while under the SWEP approximately 22 acres of designated Grazing Land would be permanently disturbed. Of these 22 acres of disturbance, approximately five acres of an actively farmed area would be disturbed along the northern string. The remaining acreage of permanent disturbance would occur on lands that are used for grazing and are not actively farmed. All impacts would occur to designated Grazing Land, and similar to the LWEP, there would be no impact to Important Farmland (i.e., Prime or Unique Farmland, Farmland of Statewide Importance or Farmland of Local Importance). Furthermore, the Project would not require an extension of service, nor would it improve roads to a degree that would threaten agriculture. Project-related impacts to

agricultural lands are limited to the onsite disturbance that would occur from constructing the WTGs, substation, and supporting components. None of the activities associated with Project construction and operation would disturb adjoining agricultural lands outside of the SWEP site, or in any way affect agricultural operations to adjoining lands. See Section 6.4, *Growth-Inducing Impacts*, for a discussion of growth-related effects associated with the Project.

The Applicant has designed the SWEP to minimize adverse impacts to agriculture. First, the Applicant has entered into long-term leases with all affected property owners, which will provide financial compensation for the use of their land. Second, the Applicant would avoid siting Project infrastructure within Important Farmland. Third, the Applicant would minimize disruptions to grazing by installing temporary gates/fences that would prevent cattle from entering active construction in a particular area (County of Santa Barbara, 2018a).

Given the Applicant's commitments to compensate property owners and to minimize disruptions to grazing, the Project would not significantly impair agricultural productivity. No temporary or permanent disturbance would occur to Important Farmland. Under the SWEP, the disturbance to grazing activities would remain an adverse but less-than-significant impact (Class III).

4.3.5 Cumulative Effects

Geographic Extent/Context

The geographic context for agriculture considers the extent to which the Project's adverse effects to agricultural land productivity or a preserve program would combine with the impacts from other projects to create an effect that is cumulatively considerable. The geographic extent of cumulative agriculture impacts includes designated agricultural land within the County's Lompoc planning area. The LWEP identified less-than-significant cumulative impacts to agricultural resources given that grazing would be able to continue during and after construction, and the permanent loss of Grazing Land would not significantly impair agricultural productivity. SWEP Table 3-1 identifies the most recent list of cumulative projects applicable to this SEIR.

Cumulative Effects

Important Farmland/Williamson Act Contract Lands. Cumulative impacts associated with permanent conversion or long-term conflicts with agriculture would occur from multiple projects that develop Farmland for non-agricultural uses. Per the DOC's FMMP, the following projects identified in Section 3.3, Table 3-1, would be located on Important Farmland: No. 16 (Sepulveda Building Materials Mining Rev) located on Prime Farmland and Unique Farmland; No. 20 (Hilt Winery) located on Unique Farmland; and No. 114 (Annex 76 Bailey Ave) located on Prime Farmland and Unique Farmland (DOC, 2019). Project numbers 16 and 20 would also be located on designated Williamson Act lands (DOC, 2015). Although the SWEP would introduce a non-agricultural use within an agricultural region, the SWEP would not impact Important Farmland. Furthermore, the SWEP is required to reclaim all disturbed areas following decommissioning, which would allow affected properties to maintain their agricultural uses at the end of the Project's operational life. The Applicant's commitments to restore areas of temporary disturbance per a County-approved restoration and revegetation plan would avoid any substantial impacts from the SWEP. Consequently, the SWEP's contribution to a cumulative impact would not be significant.

4.3.6 Residual Impacts

Residual impacts to agriculture resources would be less than significant.

4.3.7 Impact and Mitigation Summary

Table 4.3-3 below provides a summary of the SWEP's impact to agriculture resources. No mitigation measures are required to reduce impacts on this resource.

Table 4.3-3. SWEP Impact and Mitigation Summary – Agriculture Resources

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
AG-1	Important Farmland/Williamson Act Contract Lands. Development of the SWEP and power line installation could result in the temporary and permanent disturbance of farmland.	None required.	Class III

Class I. Significant unavoidable adverse impact.
Class II. Significant environmental impacts that can be feasibly mitigated or avoided.
Class III. Adverse impacts found not to be significant.
Class IV. Impacts beneficial to the environment.

4.3.8 References

Constable, P.D., Hinchcliff, K.W., Done, S.H., and W. Grünberg. Veterinary Medicine: A Textbook of the Diseases of Cattle, Horses, Sheep, Pigs, and Goats. Edition 11. Volume 1. Elsevier Ltd. 2017.

County of Santa Barbara. 2018a. Conditional Use Permit Application for Strauss Wind Energy Project. Tab E: Agricultural Activities Supplement. Revised. September 14.

_____. 2018b. Santa Barbara County Land Use and Development Code. Published December 2011, Updated September 2018.

_____. 2018c. Agricultural Preserve Program. [online]: https://countyofsb.org/agcomm/agpreserve.sbc. Accessed October 4, 2018.

_____2010. Santa Barbara County Comprehensive Plan, Conservation Element. Adopted 1979, Amended August 2010.

DNV GL. 2017. Bitter Root Wind Project Shadow Flicker Report. Flying Cow Wind, LLC. October.

DOC (California Department of Conservation). 2019. California Important Farmland Finder. January. [online]: https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed January 22.

_____. 2015. Santa Barbara County Williamson Act FY 2015/2016. [online]: ftp://ftp.consrv.ca.gov/pub/dlrp/wa/Santa_Barbara_15_16_WA.pdf. Accessed October 11, 2018.

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4.4 Air Quality

This section describes effects on air quality that would be caused by the implementation of the proposed Project. The following discussion addresses existing environmental conditions in the affected area, identifies and analyzes environmental impacts for the proposed Project, and recommends measures to reduce or avoid adverse impacts anticipated from Project construction, and Project operation and maintenance. In addition, existing laws and regulations relevant to air quality are described. In some cases, compliance with these existing laws and regulations would serve to reduce or avoid certain impacts that would occur with the implementation of the Project. The analysis of the impacts from the Project's direct and indirect greenhouse gas emissions is provided separately in Section 4.10, *Greenhouse Gas Emissions*.

The following discussion addresses existing environmental conditions that affect air quality in the affected area, addresses the applicable air quality regulations, and identifies and analyzes environmental impacts for the proposed Project's construction and operation. For this Supplemental Environmental Impact Report (SEIR), the discussion of the environmental conditions and applicable regulations focus on the changes that have occurred since the Lompoc Wind Energy Project (LWEP) EIR was approved in 2009.

4.4.1 Environmental Setting

The Strauss Wind Energy Project (SWEP) is located in southwestern Santa Barbara County, in the South Central Coast Air Basin, under the jurisdiction of the Santa Barbara County Air Pollution Control District (APCD). The South Central Coast Air Basin also includes the neighboring San Luis Obispo and Ventura County local air districts. These local air districts oversee programs to improve air quality in the region.

4.4.1.1 Physical Setting

The environmental setting has not changed much since the LWEP EIR; however, there have been changes to the ambient air quality standards, applicable rules and regulations, and one minor change to the site area's ambient air quality standards attainment status.

Regional Meteorology and Climate

The basic physical characteristics of the Project site, including the climatic and meteorological conditions have not changed since the publication of the LWEP Final EIR. Please see Section 3.4.1.1 of the LWEP Final EIR for this description.

Pollutants Subject to Air Quality Management

Table 4.4-1 provides a list of the current and Project-relevant criteria air pollutant national ambient air quality standards (NAAQS) and California ambient air quality standards (CAAQS) showing the changes in the standards since the publication of the LWEP EIR.

Table 4.4-1. National and California Ambient Air Quality Standards and Relevant Health Effects

Pollutant	Averaging Time	California Standards	National Standards	Relevant Health Effects
Ozone	1-hour	0.09 ppm	—	(a) Short-term exposures: (1) Pulmonary function decrements and localized lung edema in humans and animals (2) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (b) Long-term exposures: Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (c) Vegetation damage; (d) Property damage.
	8-hour	0.070 ppm	0.070 ppm	
Respirable Particulate Matter (PM10)	24-hour	50 µg/m^3	150 µg/m^3	(a) Excess deaths from short-term exposures and exacerbation of symptoms in sensitive patients with respiratory disease; (b) Excess seasonal declines in pulmonary function, especially in children.
	Annual Mean	20 µg/m^3	—	
Fine Particulate Matter (PM2.5)	24-hour	—	35 µg/m^3	Decreased lung function from exposures and exacerbation of symptoms in sensitive patients with respiratory disease, elderly, and children.
	Annual Mean	12 µg/m^3	12.0 µg/m^3	
Carbon Monoxide (CO)	1-hour	20 ppm	35 ppm	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; (d) Possible increased risk to fetuses.
	8-hour	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO_2)	1-hour	**0.18 ppm**	**0.100 ppm**	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra- pulmonary biochemical and cellular changes and pulmonary structural changes; (c) Contribution to atmospheric discoloration.
	Annual Mean	**0.030 ppm**	0.053 ppm	
Sulfur Dioxide (SO_2)	1-hour	0.25 ppm	**0.075 ppm**	Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma.
	24-hour	0.04 ppm	~~0.14 ppm~~	
	Annual Mean	—	~~0.03 ppm~~	

Notes: ppm=parts per million; µg/m^3= micrograms per cubic meter; "—" = no standard.

Source: ARB, 2016. Ambient Air Quality Standards Chart. http://www.arb.ca.gov/research/aaqs/aaqs2.pdf.

Standards that are new or revised after the LWEP EIR are shown in **bold**, standards that have been revoked since the LWEP EIR are shown with ~~strikeout~~.

Criteria Air Pollutants. Criteria air pollutants are also categorized as inert or photo-chemically reactive, depending on their subsequent behavior in the atmosphere. By definition, inert pollutants are relatively stable, and their chemical composition remains stable as they move and diffuse through the atmosphere. The photochemical pollutants may react to form secondary pollutants. For these pollutants, adverse health effects may be caused directly by the emitted pollutant or by the secondary pollutants created by atmospheric reactions. The reactive pollutants of primary concern are the ozone precursors, ozone, and the precursors to particulate matter.

Toxic Air Contaminant (TACs)

TACs are chemicals or substances that are known or suspected to cause cancer, genetic mutations, birth defects, or other serious illnesses in humans. TACs may be emitted from three main source categories: (1) industrial facilities, (2) internal combustion engines (stationary and mobile), and (3) small "area sources" (such as solvent use). The ARB publishes lists of Volatile Organic Compound Species Profiles for many industrial applications and substances, some of which are classified as TACs. This Project's TAC emissions are primarily in the form of diesel particulate matter (DPM) from the construction period's off-road equipment and heavy on-road truck use. Operations would have minimal TAC emissions.

The Project site is located closely to an area of mapped ultramafic rock, which are designated by the State of California Department of Conservation, Division of Mines and Geology as areas more likely to contain naturally occurring asbestos (DOC, 2000). However, the geotechnical report did not find any of this ultramafic rock in areas that the Project would disturb, and it is believed this ultramafic rock occurrence, which may or may not contain naturally occurring asbestos, is located to the northwest of the Project site.

Odorous Compounds

Odorous compounds can come from a number of types of sources, including: naturally occurring decomposition products or geogenic sources (hot springs vents); agricultural sources such as feedlots and certain crop fields; industrial processes or products such as rendering plants, waste water treatment plants, painting/solvent use, and reduced sulfur compounds from oil and gas production activities. The proposed Project would not have substantial emissions of odorous compounds; essentially none during operation and during construction the most notable odorous compound would be asphalt used to pave roads.

Local Ambient Air Quality and Attainment Status

The U.S. Environmental Protection Agency (EPA), California Air Resources Board (CARB), and local air districts work together to classify local areas in California as in attainment, unclassified, or nonattainment. The classification depends on whether the monitored ambient air quality data show compliance (attainment), insufficient data available (unclassified), or non-compliance (nonattainment) with the ambient air quality standards. The general air quality attainments status for the Project area has not changed since the LWEP EIR, with the area being designated as attainment or unclassified for all NAAQS and designated as non-attainment of the ozone and PM10 CAAQS, and in attainment or unclassified for all other CAAQS. However, the state non-attainment designation level for ozone has been upgraded from moderate to transitional nonattainment (SBCAPCD, 2018a).

A review of long-term trends in Lompoc since the year 2000 show that, with known exceptional events excepted, ozone concentrations have had a very slowly decreasing trend or a flat trend, and that PM10 and PM2.5 concentrations have had a relatively flat trend.

The 2004 through 2006 monitoring site ambient air quality data presented in the LWEP EIR is now outdated. Therefore, the most recent local air quality monitoring data is provided below in Table 4.4-2 below.

Table 4.4-2. Summary of Ambient Air Quality Data, Lompoc Monitoring Station

Pollutant	Most Restrictive Standard	2015	2016	2017
Ozone (1-hour, ppm)	0.09 (CAAQS)	0.063	0.068	0.063
Ozone (8-hour, ppm)	0.070 (CAAQS)	0.060	0.061	0.056
Ozone (days over the 8-hour State standard)	—	0	0	0
PM10 (24-hour, µg/m^3)	50 (CAAQS)	52.8	48.0	112.4[1]
PM10 (annual average, µg/m^3)	20 (CAAQS)	21.4	20.0	23.6[1]
PM10 (days over the 24-hour State standard)	—	1	0	15[1]
PM2.5 (24-hour, µg/m^3)	35 (NAAQS)	21.2	30.9	53.4[1]
PM2.5 (annual average, µg/m^3)	12 (CAAQS)	7.0	7.0	—
PM2.5 (days over the 24-hour federal standard)	—	0	0	4
NO_2 (1-hour, ppm)	0.100 (NAAQS)	0.025	0.024	0.027
NO_2 (annual average, ppm)	0.030 (CAAQS)	0.004	0.003	0.004

Notes: ppm=parts per million; µg/m3= micrograms per cubic meter; "—" =not applicable or not available.

Source: ARB, 2018a. Air Quality Data Statistics for Lompoc (S. H Street).

[1] – These elevated PM10 and PM2.5 concentrations are exceptional events that occurred in December during a period with large active wildfires, such as the Thomas Fire, or were highly influenced by the high concentrations that occurred during these wildfires, and do not represent normal conditions.

The monitoring data shows that the Lompoc area, not including the wildfire-related particulate monitoring results for 2017, continues to have exceedances of the State PM10 standard, but the Lompoc area did not have any other AAQS exceedances indicated in the available 2015 to 2017 monitoring data.

4.4.1.2 County Criteria Pollutant Emission Inventory

The Santa Barbara County emissions inventory estimated by CARB for 2017 is shown in Table 4.4-3.

Emissions of criteria air pollutants are inventoried by CARB into four main sources: stationary, areawide, mobile, and natural with subcategories under each. The inventory provided in Table 4.4-2 shows that natural sources (composed of biogenic sources, geogenic sources, and wildfires) emit substantial percentages of the county-wide emissions for all pollutants except NO_X and SO_X. Otherwise, there are no singularly dominating emissions sources beside the NO_X, CO, and SO_X emissions from the other mobile sources category that are primarily from ocean-going vessels. Construction emissions are not separately inventoried but are rather included in several of the areawide and mobile source subcategories.

Table 4.4-3. Santa Barbara County Emissions Estimate for 2017 (tons per year)

Source Category	NO_X	ROG	PM10	PM2.5	CO	SO_X
Stationary Sources						
Fuel Combustion	351	120	120	119	2,810	162
Waste Disposal	32	5	5	4	19	1
Cleaning and Surface Coatings	--	2,187	--	--	--	--
Petroleum Production and Marketing	29	1,272	9	9	112	95
Industrial Processes	60	86	262	47	106	130
— Total Stationary Sources	1,866	3,929	396	179	3,047	389
Areawide Sources						
Solvent Evaporation	--	2,646	--	--	--	--
Miscellaneous Processes	310	690	4,179	868	2,658	12
— Total Areawide Sources	310	3,336	4,179	868	2,658	12
Mobile Sources						
On-Road Motor Vehicles	2,236	1,128	219	102	8,523	15
Other Mobile Sources	20,827	1,914	266	241	14,785	416
— Total Mobile Sources	23,063	3,042	485	343	23,309	432
Total Anthropogenic Sources	25,238	10,307	5,060	1,389	29,014	832
Natural Sources						
— Total Natural Sources	148	31,437	1,524	1,292	15,913	97
Grand Total for Santa Barbara County	25,386	41,744	6,584	2,682	44,927	929

Note: NO_X – Nitrogen Oxides (NO_2 and NO_2 precursor, ozone precursor, and PM10/PM2.5 precursor), ROG – Reactive Organic Gases (ozone precursor), PM10 – respirable particule matter, PM2.5 – fine particulate matter, CO – Carbon monoxide, SO_X – Sulfur oxides (SO_2 and PM10/PM2.5 precursor.

Source: ARB, 2018b. California Emissions Projection Analysis Model - CEPAM: 2016 – Standard Emission Tool Projections. Includes ocean going vessel emissions out to 24 nautical miles.

4.4.2 Regulatory Setting

The regulatory structure for air quality planning in California includes federal, state, regional, and local agencies. These agencies either have actual regulatory authority or are responsible for the development and implementation of programs and plans designed to reduce air pollution levels. The regulatory setting has not changed substantially since the LWEP EIR. The following summarizes what remains the same and provides any new regulatory information that is applicable to the Project.

4.4.2.1 Federal

Other than the noted changes to the NAAQS discussed above there have been no substantial changes to federal regulations that would affect the Project. Please see federal regulatory discussion in Section 3.4.2.1 of the LWEP EIR.

4.4.2.2 State

As noted above there have been revisions to the state NO_2 ambient air quality standards. However, other than that there have limited revisions or additions to State air quality regulations that would directly affect the Project. There are a number of new and updated state regulations that impact, and

are reducing, the tailpipe emissions from on-road vehicles and off-road equipment use. However, with a few exceptions these regulations would not directly regulate the construction or operations of the proposed Project. The one updated State regulation that may be directly applicable to Project construction and operation is listed below.

CARB Portable Equipment Registration Program (PERP)

The Portable Equipment Registration Program allows owners or operators of portable engines and associated equipment commonly used for construction or farming to register their units under a statewide portable program that allows them to operate their equipment throughout California without having to obtain individual permits from local air districts. In order to qualify for this statewide registration program specific engine emissions standards (aka engine Tier standards) must be met. This program has been updated since 2009 to remove all Tier 0 engines and require that all newly registered engines under the PERP program be Tier 4, full Tier 4 for all engines 750 horsepower and lower and interim Tier 4 for all engines above 750 horsepower. This program also serves as the mechanism that administers the CARB Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower or Greater.

4.4.2.2 Local

Santa Barbara County Air Pollution Control District

The SBCAPCD has local jurisdiction for air pollution control. The SBCAPCD has completed three State ozone attainment plan revisions; 2010 Clean Air Plan, 2013 Clean Air Plan, and 2016 Ozone Plan since the certification of the LWEP EIR in 2009 (SBCAPCD, 2018b). However, these ozone attainment plans do not include control measures that would be applicable to the Project.

There have been limited revisions or additions to the SBCAPCD air quality regulations since 2009 that would directly affect the Project (SBCAPCD, 2018c). The following applicable regulation was promulgated after certification of the LWEP EIR:

Rule 345 – Control of Fugitive Dust from Construction and Demolition Activities

This regulation's applicable requirements and performance standards are:

- Visible dust limitations
- Truck hauling bulk material control measure requirements for off-site hauling
- Track-out/Carry-out control measure requirements

The Project will be required to comply with dust control measures and performance standards included in this rule.

SBCAPCD updated its two CEQA guideline documents since the LWEP was approved[1]. The current relevant operations and construction significance criteria recommendations and their recommended construction emissions mitigation measures are as follows:

[1] These guidelines are the 2015 update of the *Environmental Review Guidelines for the Santa Barbara County Air Pollution Control District* (SBCAPCD, 2015) and the 2017 update of the *Scope and Content in Air Quality Sections in Environmental Documents* (SBCAPCD, 2017).

Significance Criteria:

A proposed project will not have a significant impact on air quality, either individually or cumulatively, if operation of the project will:

- *emit (from all project sources, both stationary and mobile) less than the daily trigger for offsets or Air Quality Impact Analysis set in the APCD New Source Review Rule, for any pollutant (i.e., 240 pounds/day for ROC or NOx; and 80 lbs/day for PM10[2]). There is no daily operational threshold for CO; it is an attainment pollutant); and*
- *emit less than 25 pounds per day of NOx or ROC from motor vehicle trips only; and*
- *not cause or contribute to a violation of any California or National Ambient Air Quality Standard (except ozone); and*
- *not exceed the APCD health risk public notification thresholds adopted by the APCD Board (10 excess cancer cases in a million for cancer risk and a Hazard Index of more than one (1.0) for non-cancer risk; and*
- *be consistent with the latest adopted federal and state air quality plans for Santa Barbara County.*

Additionally, the District's Scope and Content guideline document notes:

> *The District does not currently have quantitative thresholds of significance in place for short-term or construction emissions; however, the APCD uses 25 tons per year for ROC or NOx as a guideline for determining the significance of construction impacts.*

Construction Mitigation Measures:

The recommended construction mitigation measures are separated into PM10 mitigation measures (fugitive dust control measures) and equipment exhaust mitigation measures.

Construction PM10 Mitigation Measures

- During construction, use water trucks or sprinkler systems to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this should include wetting down such areas in the late morning and after work is completed for the day. Increased watering frequency should be required whenever the wind speed exceeds 15 mph. Reclaimed water should be used whenever possible. However, reclaimed water should not be used in or around crops for human consumption.
- Minimize amount of disturbed area and reduce on site vehicle speeds to 15 miles per hour or less.
- If importation, exportation and stockpiling of fill material is involved, soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting fill material to and from the site shall be tarped from the point of origin.
- Gravel pads shall be installed at all access points to prevent tracking of mud onto public roads.

[2] These significance triggers are based on the APCD's NSR regulation approved at the time the guidelines were originally approved (1995 version of the NSR rule), which had offset thresholds of 240 pounds per day for NOx and VOC and 80 pounds per day for PM10.

- After clearing, grading, earth moving or excavation is completed, treat the disturbed area by watering, or revegetating, or by spreading soil binders until the area is paved or otherwise developed so that dust generation will not occur.
- The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the Air Pollution Control District prior to grading/building permit issuance and/or map clearance.

Construction equipment exhaust mitigation measures:

The following measures are required by state law:

- All portable diesel-powered construction equipment shall be registered with the state's portable equipment registration program OR shall obtain an APCD permit.
- Fleet owners of mobile construction equipment are subject to the CARB Regulation for In-Use Off-Road Diesel Vehicles (Title 13, California Code of Regulations (CCR), §2449), the purpose of which is to reduce oxides of nitrogen (NOx), diesel particulate matter (DPM), and other criteria pollutant emissions from in-use off-road diesel-fueled vehicles. Off-road heavy-duty trucks shall comply with the State Off-Road Regulation. For more information, see: www.arb.ca.gov/msprog/ordiesel/ordiesel.htm.
- Fleet owners of mobile construction equipment are subject to the CARB Regulation for In-Use (On-Road) Heavy-Duty Diesel-Fueled Vehicles (Title 13, CCR, §2025), the purpose of which is to reduce DPM, NOx and other criteria pollutants from in-use (on-road) diesel-fueled vehicles. On-road heavy-duty trucks shall comply with the State On-Road Regulation. For more information, see: www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm.
- All commercial off-road and on-road diesel vehicles are subject, respectively, to Title 13, CCR, §2449(d)(3) and §2485, limiting engine idling time. Idling of heavy-duty diesel construction equipment and trucks during loading and unloading shall be limited to five minutes; electric auxiliary power units should be used whenever possible.

The following measures are recommended by SBCAPCD:

- Diesel equipment meeting the CARB Tier 3 or higher emission standards for off-road heavy-duty diesel engines should be used to the maximum extent feasible.
- On-road heavy-duty equipment with model year 2010 engines or newer should be used to the maximum extent feasible.
- Diesel powered equipment should be replaced by electric equipment whenever feasible.
- Equipment/vehicles using alternative fuels, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel, should be used on site where feasible.
- Catalytic converters shall be installed on gasoline-powered equipment, if feasible.
- All construction equipment shall be maintained in tune per the manufacturer's specifications.
- The engine size of construction equipment shall be the minimum practical size.

- The number of construction equipment operating simultaneously shall be minimized through efficient management practices to ensure that the smallest practical number is operating at any one time.
- Construction worker trips should be minimized by requiring carpooling and by providing for lunch on site.

Santa Barbara County

Environmental Thresholds and Guidelines Manual

The County has updated their Environmental Thresholds and Guidelines Manual (County of Santa Barbara, 2018) twice since the LWEP was approved, most recently in February 2018. The County's current air quality quantitative significance thresholds are as follows:

a. Ozone Precursors (NO_x and ROC). A proposed project will not have a significant air quality effect on the environment, if:

Operation of the project will:

- emit (from all project sources,[3] mobile and stationary), less than the daily trigger for offsets set in the APCD New Source Review Rule, for any pollutant; and
- emit less than 25 pounds per day of oxides of nitrogen (NOx) or reactive organic compounds (ROC) from motor vehicle trips only; and
- not cause or contribute to a violation of any California or National Ambient Air Quality Standard (except ozone); and
- not exceed the APCD health risk public notification thresholds adopted by the APCD Board; and
- be consistent with the adopted federal and state Air Quality Plans.

b. Carbon Monoxide (CO). A project will have a significant air quality impact if it causes, by adding to the existing background CO levels, a carbon monoxide "hot spot" where the California one-hour standard of 20 parts per million carbon monoxide is exceeded. This typically occurs at severely congested intersections.

Project Screening for CO Impacts:

1) If a project contributes less than 800 peak-hour trips, then CO modeling is <u>not required</u>.
2) Projects contributing more than 800 peak-hour trips to an existing congested intersection at level of service (LOS) D or below, or will cause an intersection to reach LOS D or below, may be required to model for CO impacts. However, projects that will incorporate intersection modifications to ease traffic congestion, are not required to perform modeling to determine potential CO impacts.

The proposed Project's traffic is below the screening levels for CO Impacts, so no additional CO "hot spot" impact assessment is necessary.

[3] Portable equipment registered under and in compliance with the ARB PERP shall not be included as part of a proposed Project's emission total for comparison with these thresholds.

The County does not have approved significance thresholds for construction emissions. However, the County does have a requirement for construction projects to provide a construction dust control plan with control measures to reduce fugitive dust (PM10 and PM2.5) emissions.

Comprehensive Plan – Land Use Element, Air Quality Supplement

The County's Comprehensive Plan includes an Air Quality Supplement in the Land Use Element (County of Santa Barbara, 2009). This supplement was adopted in 1981 and republished in 2009. This supplement primarily addresses land use control measures related to population growth, residential development, and related transportation effects on air quality; as well as integrating long-range planning and project approval with air quality planning requirements. There are no goals, policies, or measures in the air quality supplement that directly relate to the construction and operation of a utility scale renewable energy power plant.

Please also see the local regulatory discussion in Section 3.4.2.3 of the LWEP EIR.

4.4.3 Significance Thresholds

Project construction, although limited in duration, will produce substantial amounts of criteria pollutants, most notably NOx emissions from off-road equipment and on-road vehicles and PM10 from fugitive dust emissions sources, such as, unpaved vehicle travel and various earth-moving activities (scraping, dozing, excavating, grading, loading and unloading).

Project operations would produce small amounts of criteria pollutants from Project off-road equipment and from worker on-road vehicle emissions. The Santa Barbara County Environmental Thresholds and Guidelines Manual (Santa Barbara County, 2018) defines separate significance thresholds for operational activities and construction activities as described below.

4.4.3.1 County Thresholds for Construction Air Pollutants

Emissions from construction activities are normally short term in nature. Currently, the County does not have emission thresholds established for short-term construction emissions. PM10 impacts from dust emissions should be discussed and standard mitigation measures implemented (e.g., watering) as required in the Scope and Content of Air Quality Sections in Environmental Documents (SBCAPCD, 2017) and the County Environmental Thresholds and Guidelines Manual (Santa Barbara County, 2018). However, SBCAPCD notes the following regarding construction impacts assessment in its most recent Scope and Content guidance document:

> *The District does not currently have quantitative thresholds of significance in place for short-term or construction emissions; however, the APCD uses 25 tons per year for ROC or NOX as a guideline for determining the significance of construction impacts.*

The County recommends use of this annual emissions threshold for all criteria pollutants, except CO (i.e. NOx, ROC, SOx, PM10 and PM2.5).

4.4.3.2 County Thresholds for Operational Air Pollutants

A project would not have a significant air quality effect on the environment if operation of the project would:

- Emit (from all project sources, mobile and stationary) less than the daily triggers of 55 pounds/day for ROC or NOx; and 80 lbs/day for PM10 Because PM10 includes PM2.5, emissions of PM2.5 are presumed to be subject to the PM10 threshold;
- Emit less than 25 pounds per day of NOx or ROC from motor vehicle trips only;
- Not cause or contribute to a violation of any California or National Ambient Air Quality Standard (except ozone);
- Not allow land uses that create objectionable odors or does not expose sensitive receptors to objectionable odors;
- Not exceed the APCD health risk public notification thresholds adopted by the APCD Board for air toxics; and
- Be consistent with the adopted federal and state Air Quality Plans.

The daily and annual trigger noted in the first bullet above have been revised, and are higher than those used in the LWEP, to reflect the changes in the referenced SBCAPCD New Source Review (NSR) rule offset triggers that form the basis for the County approved emissions significance thresholds.

4.4.4 Environmental Impacts and Mitigation Measures

Table 4.4-4 below lists the impacts and mitigation measures identified for air quality in the LWEP Final EIR. These same impacts are addressed in this section for the SWEP. The right-hand column of the table below indicates whether the LWEP impacts or mitigation measures have been modified for the SWEP.

Table 4.4-4. LWEP Impacts and Mitigation Measures – Air Quality

Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
AQ-1	Short-term Construction NOx and ROC. Exhaust emissions from construction equipment would result in short-term emissions of NOx and ROC.	None.	Analysis that was included in Impacts AQ-1 and AQ-2 combined into revised Impact AQ-1.
AQ-2	Short-term Construction PM10 Emissions. Particulate matter emissions during construction would result from soil disturbance, travel on unpaved roads, mobile source exhaust emissions, and concrete batch plants.	AQ-1: Construction Equipment Emission Reduction Plan AQ-2: Dust Control Plan	Analysis that was included in Impacts AQ-1 and AQ-2 combined into revised impact Statement AQ-1. Updated MM AQ-1 to match SBCAPCD Tier 3 engine mitigation recommendation that is needed to ensure that the construction NOx emissions are below the significance threshold.
AQ-3	Long-term Emissions. Exhaust emissions from workers driving on site and a forklift would result in long-term emissions of NOx and ROC. Fugitive dust emissions from workers driving on unpaved roads would result in long-term emissions of PM10.	None.	This impact has been revised and is now Impact AQ-2. No other changes are recommended.

The air quality impacts of the proposed SWEP are discussed below.

Consistency with Plans

As discussed in the LWEP EIR, the proposed Project would be consistent with the SBCAPCD Clean Air Plan. The Project would generate electricity with minimal impacts to air quality, would be in compliance with Attainment Plan emissions control measures, and would not affect population growth or substantially add to the regional vehicle miles traveled.

Sensitive Receptor Impacts

The proposed Project site is not located near any schools or other sensitive receptors. While there will be substantial short-term construction emissions, the distance from sensitive receptors is substantial. The main Project construction areas are located more than three miles from any schools and the transmission construction is located more than three quarters of a mile from the nearest school. Residences are located adjacent to the San Miguelito Road improvement construction areas and some of the transmission line construction areas, but these construction activities will be limited in duration and in emissions impacts.

The operation emissions would be minimal and would not create significant impacts to sensitive receptors. The combination of the construction and operation TAC emissions, due to distance to receptors and duration of the higher construction emissions, would have minimal health impacts.

Odor Impacts

The proposed Project's construction and operation would not involve emissions of significantly malodorous substances. The primary emissions sources are diesel and gasoline engine exhausts and fugitive dust which have limited odor impacts. Construction would include asphalt road paving operations on San Miguelito Road, but road paving odors are not unusual or highly objectionable.

Short-term Construction Emissions

Impacts AQ-1 and AQ-2 from the LWEP EIR, which both address short-term air pollutant emissions during construction, have been combined into a single impact discussion for the SWEP.

~~**AQ-1 Exhaust emissions from construction equipment would result in short-term emissions of NOx and ROC.**~~

~~**AQ-2 Particulate matter emissions during construction would result from soil disturbance, travel on unpaved roads, mobile source exhaust emissions, and concrete batch plants.**~~

AQ-1 Short-Construction Emissions. Construction emissions could result in a considerable net increase of pollutants that would violate air quality standards or contribute substantially to an existing or projected air quality violation.

The proposed Project's construction emissions have been estimated using the SBCAPCD-approved CalEEMod emissions estimating model, and additional calculations to address emissions not covered in the CalEEMod program. The Applicant provided initial CalEEMod inputs and separate emissions calculations. The County has reviewed, revised as necessary, and approved the CalEEMod model inputs

and additional emissions calculations and resulting construction emissions estimates. Please see Appendix B, which includes a list of the emission estimate additions and revisions that were performed, for the construction emissions estimate details. Table 4.4-5 provides the unmitigated construction emissions estimate.

Table 4.4-5. Unmitigated Construction Emissions (tons per year)

	NO_X	ROG	PM10	PM2.5	CO	SO_X
Total Emissions	26.80	8.83	85.87	9.94	15.07	0.28
Significance Thresholds	25	25	25	25	-	25
Significant?	Yes	No	Yes	No	NA	No

Source: Appendix B

Table 4.4-5 indicates that the unmitigated construction NOx and PM10 emissions would exceed the significance thresholds. The LWEP has two approved mitigation measures (MMs), MM AQ-1 that would reduce NOx emissions and MM AQ-2 that would require fugitive dust controls and a Dust Control Plan per County requirements. These two measures have been updated for SWEP to reflect the changes in the recommendations or requirements of these measures since the approval of the LWEP.

Mitigation Measures

The changes in MM AQ-1 (below) include removing the idling restriction item due to it being a regulation. Other noted emissions reduction regulations in the SBCAPCD guideline document that will be complied with during construction, and that are not necessary to be included in a mitigation measure are the PERP or local air district permitting requirements for portable equipment, and the fleet owner regulatory requirements for owners of mobile off-road construction equipment and on-road vehicles.

MM AQ-1 Construction Equipment Emission Reduction Plan. A Construction Equipment Emission Reduction Plan shall be prepared by the Applicant that contains the following elements.

a. ***Off-Road Engine Tier*** – Diesel equipment shall be powered with engines certified to comply with Tier 3 or better standards, as defined in the California Emission Standards for Off-Road Compression-Ignition Engines in California Code of Regulations (CCR) Title 13, Division 3, Chapter 9, Article 4, Section 2423, or newer or more stringent emissions performance standards.

b. ***On-Road Heavy Truck Age*** – On-road heavy-duty equipment with model year 2010 engines or newer shall be used.

c. ***Equipment Replacement*** – Diesel-powered equipment will be replaced by electric equipment whenever feasible.

d. ***Alternative Fuel Vehicles*** – Equipment/vehicles using alternative fuels, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel, should be used on-site where feasible.

e. ***Catalytic Converters*** – Ensure that catalytic converters are installed on all gasoline- powered equipment, if feasible.

f. ***Engine Maintenance*** – Maintain engines and emission systems in proper operating condition.

g. ***Engine Size*** – The engine size of construction equipment will be the minimum practical size.

h. ***Number of Equipment*** – The number of construction equipment operating simultaneously will be minimized through efficient management practices to ensure that the smallest practical number is operating at any one time.

i. ***Worker Trips*** – Construction worker trips will be minimized by requiring carpooling and by providing for lunch on site.

Plan Requirements. All requirements shall be shown on grading and building plans prior to the issuance of zoning clearance for the first phase of construction and prior to issuance of zoning clearance for subsequent Project phases**.**

Timing. County staff will ensure measures are included in the Construction Equipment Emission Reduction Plan. A Construction Equipment Emission Reduction Plan shall be prepared prior to Zoning Clearance.

Monitoring. Condition will be enforced throughout all construction periods. County staff shall perform periodic site inspections of construction contractor maintenance activities.

The changes to MM AQ-2 provide more specificity on the mitigation requirements, add requirements for monitoring personnel, add track-out controls, and add the Applicant's proposal to gravel or pave all onsite Wind Turbine Generator (WTG) access roads.

MM AQ-2 **Dust Control Plan.** A Dust Control Plan shall be prepared by the Applicant that contains the following elements.

a. ***Water Application –*** Apply water sprays to all disturbed active construction areas a minimum of two times per day, except when soil water content would exceed the level recommended by the soils engineers for compaction or when weather conditions warrant a reduction in water application. At a minimum, this should include wetting down active areas in the late morning and after work is completed for the day. Additionally, use adequate dust control to keep fugitive dust from being transmitted outside of the Project site boundary. Perform increased dust control watering when wind speeds exceed 15 miles per hour. The amount of additional watering would depend upon soil moisture content. Reclaimed water should be used whenever possible. However, reclaimed water should not be used in or around crops for human consumption.

b. ***Soil Stabilization –*** Minimize the amount of disturbed area and stabilize any disturbed area that would not be covered with base or paving within 14 days after completion of disturbing activities by use of soil coating mulch, dust palliatives, compaction, reseeding, or other approved methods. Soil stockpiled for more than 2 days shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting soil or other fine bulk materials will be covered in transit.

c. ***Construction Monitoring –*** The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as

necessary, to prevent transport of dust offsite. Their duties will include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the Air Pollution Control District prior to grading/building permit issuance and/or map clearance.

d. ***Limit Traffic Speed*** – Reduce traffic speeds on all unpaved roads to 15 miles per hour or less.

e. ***Track-out Controls*** – Gravel pads or other wheel washing controls will be installed at all access points to prevent tracking of mud onto public roads.

f. ***On-site Access Road Treatment*** – The on-site WTG access road segments to each WTG shall be graveled or paved prior to beginning installation of that WTG and the associated collection system.

Plan Requirements. All requirements shall be shown on grading and building plans prior to the issuance of zoning clearance**.**

Timing. Condition will be enforced throughout all construction periods.

Monitoring. County staff will ensure measures are included in the Dust Control Plan and shall perform periodic site inspections to ensure compliance.

The mitigated construction emissions estimate, also completed using the CalEEMod program and additional separate calculations provided in Appendix B, is shown in Table 4.4-6.

Table 4.4-6. Mitigated Construction Emissions (tons per year)

	NO_X	ROG	PM10	PM2.5	CO	SO_X
Total Emissions	20.33	8.48	22.11	3.07	18.53	0.28
Significance Thresholds	25	25	25	25	-	25
Significant?	No	No	No	No	NA	No

Source: Appendix B

As Table 4.4-6 indicates the NOx and PM10 emissions after implementation of MMs AQ-1 and AQ-2 are below the significance thresholds, so the construction emissions impacts would not be significant after mitigation (Class II).

The proposed SWEP has an anticipated Project life of 30 years. At the end of the Project's useful life, it could be repowered, renovated, upgraded, or decommissioned. The air pollutant emission impacts of these activities would be similar to, although likely smaller than, Project construction. In particular, the tailpipe emissions from off-road equipment and on-road vehicles used after the 30-year Project life would be expected to be cleaner than those from currently available equipment and vehicles. Given the fact that similar MMs, if necessary for off-road and on-road engines and for fugitive dust control, would be required during any type of major post-Project-life activity, decommissioning or other events that could occur at the end of the Project life would have similar impacts to Project construction (Class II).

AQ-2 **Long-term Operation Emissions.** Operational emissions could result in an increase of pollutants that could violate air quality standards or contribute substantially to an existing or projected air quality violation. ~~Exhaust emissions from workers driving on site and a forklift would result in long-term emissions of NOx and ROC. Fugitive dust emissions from workers on unpaved roads would result in long-term emissions of PM10.~~

The operation emissions were calculated by the Applicant using CalEEMod and the model input assumptions were reviewed, amended as necessary, and approved by the County. Please see Appendix B, which includes a list of the emission estimate additions and revisions that were performed, for the construction emissions estimate details. The operation emissions consist of employee commute trips, off-road equipment use for Project operations and road maintenance, on-site WTG maintenance and inspection trips, and area emissions (such as consumer goods ROG emissions). Table 4.4-7 provides the maximum daily emissions summaries applicable to the County significance thresholds.

Table 4.4-7. Unmitigated Maximum Daily Operation Emissions (pounds per day)

	NO_X	ROG	PM10	PM2.5	CO	SO_X
Total Daily Emissions	12.57	1.27	63.36	21.58	6.86	0.01
Significance Thresholds	55	55	80	80	--	--
Significant?	No	No	No	NA	NA	NA
On-Road Mobile Emissions Only	0.09	0.02	0.08	0.02	0.28	0.00
Significance Thresholds	25	25	-	-	-	-
Significant?	No	No	NA	NA	NA	NA

Source: Appendix B

As shown above in Table 4.4-7 the proposed Project's estimated normal worst-case daily ongoing operations emissions would be below all of the County significance thresholds, so the proposed Project's operation emissions impacts would not be significant (Class III).

At the end of the Project's useful life it could be repowered, renovated or upgraded or decommissioned. The air pollutant emissions from these activities could be similar to the minor operations emissions estimated for the proposed Project if the Project is renovated or repowered, or if the Project is decommissioned then there would be no ongoing operations emissions. Therefore, Project decommissioning or other end of Project life activities would result in less-than-significant operations emissions impacts (Class III).

4.4.5 Cumulative Effects

Geographic Extent/Context

The geographic area of analysis for cumulative air quality impacts is the South Central Coast air basin, because the vast majority of Project-related and cumulative project emissions would be confined to the region. Cumulative effects may also be experienced within the immediate vicinity of the sources. Therefore, this analysis focuses on cumulative projects that are shown on Figure 3-1 that are within the immediate area of the proposed Project. Cumulative projects include new or modified projects

that are reasonably foreseeable and have the potential to generate substantial air pollutant emissions, above existing baseline conditions, during their construction or operation that would occur at the same time as the Project's construction or operation. Other existing land uses, such as the existing nearby agricultural land uses and industrial uses like the Imerys diatomaceous earth mining and processing facility, that are located in the immediate vicinity of proposed Project are part of the air quality baseline and are not considered cumulative projects for the purposes of the cumulative air quality impact assessment.

Cumulative Effects

As listed in Table 3-1 and shown in Figure 3-1, there are no cumulative projects within three miles of the Project site or any cumulative projects within two miles of the San Miguelito Road improvement construction area. There are a few cumulative projects located near or adjacent to areas of minor road work needed through the City of Lompoc for trucking in the wind turbine blades and two within a half-mile of the northern most portion of the Project's proposed transmission line construction route and new switchyard location near Highway 1 and Somerset Place and Sheffield Drive. However, the minor road work needed in the City of Lompoc; such as tree removals, bus bench removal, and later replacement of these removals, would have minimal air pollutant emissions and so would not have the potential to create substantial cumulative air quality impacts. Additionally, a small amount of power line reconductoring is also required north of the new switchyard, but that would also create minimal air pollutant emissions that would not have the potential to create substantial cumulative air quality impacts. Therefore, the Project activity with the only potential to create substantial air quality cumulative effects is the transmission line and switchyard construction. Table 4.4-8 provides relevant description of the cumulative projects that are within a half-mile of the proposed transmission line construction route and new switchyard.

Table 4.4-8. Cumulative Projects Relevant to Air Quality

Map Key #	Project Name	Project Description/Status	Discussion of Relevance to Cumulative Impacts
16	Sepulveda Bldg Materials Mining Rev	Continuation of existing Rock Mining Operations through 2045 with up to 2,000 tons per year of finished product.	Small mining operation with limited off-road equipment use and fugitive dust emissions.
84, 102	Santa Rita Hills Wine Center 300 North Twelfth Street	Phase 1 of the project (Wine storage and production facility) is complete, no applications have been submitted for anticipated/planned additional phases.	Initial project elements are complete, additional elements (Resort Hotel/Spa and Retail Buildings) will be applied for later, with no known date for construction/completion.

The rock mining project, where there are multiple mining locations associated with this mining activity, with only one within a half mile of the project, would not change or increase activities; and so would not create any new cumulative air quality impacts. Phase 1 of the Santa Rita Hills Wine Center facility has been constructed, and the other potential elements of this project (hotel/spa and retail shops) has no known date for construction.

Construction. Cumulatively adverse air quality impacts would occur if the projects identified above were constructed concurrently with the Project and within 0.5 mile of a sensitive receptor. The potential for cumulative construction emissions to cause excessive air pollutant concentrations would be greatest for any sensitive receptors located proximate to two or more work sites that are active at the same time. The potential for construction activities to overlap cannot be predicted. However, there is no current schedule for the additional phases of the Santa Rita Hills Wine Center project, so it does

not appear that there would be any overlap in construction emissions. Therefore, given the lack of nearby cumulative emissions sources, there does not appear to be the potential for substantive cumulative air quality emissions during Project construction and the construction cumulative air quality impacts would not be significant.

Operation and Maintenance. A significant cumulative air quality impact could occur if the proposed Project would provide a substantial contribution to a combination of nearby projects' total emissions of PM10 or ozone precursors (NOx or ROC) that could exceed the County thresholds because emissions over these levels could contribute substantially to existing nonattainment conditions. However, as can be seen in reviewing Table 4.4-7 the proposed Project does not have significant operation emissions, and is not located nearby any cumulative projects, and so would not substantially contribute to any cumulative projects' exceedance of County thresholds. Therefore, the proposed Project's contribution toward a cumulative operational air quality impact would not be significant.

4.4.6 Residual Impacts

As summarized in Section 4.4.4, Impact AQ-2 would be less than significant. With implementation of proposed mitigation measures, residual effects from Impact AQ-1 would be less than significant.

4.4.7 Impact and Mitigation Summary

Table 4.4-9 below provides a summary of the SWEP's impacts related to air quality. The table also indicates the mitigation measures proposed to reduce each significant impact.

Table 4.4-9. SWEP Impact and Mitigation Summary – Air Quality

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
AQ-1	Short-Construction Emissions. Construction emissions could result in a considerable net increase of pollutants that would violate air quality standards or contribute substantially to an existing or projected air quality violation.	AQ-1: Construction Equipment Emission Reduction Plan AQ-2: Dust Control Plan	Class II
AQ-2	Long-term Operation Emissions. Operation emissions could result in a considerable net increase of pollutants that would violate air quality standards or contribute substantially to an existing or projected air quality violation.	None required.	Class III

Class I. Significant unavoidable adverse impact.
Class II. Significant environmental impacts that can be feasibly mitigated or avoided.
Class III. Adverse impacts found not to be significant.
Class IV. Impacts beneficial to the environment.

4.4.8 References

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4.5 Biological Resources

This section describes the effects on biological resources that may result from the implementation of the proposed Project. The following discussion addresses the existing environmental conditions in the affected area, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid adverse impacts anticipated from Project construction and operation. Section 4.5.1, *Environmental Setting*, includes a detailed description of the baseline conditions for the Project area. Existing laws and regulations relevant to biological resources are described in Section 4.5.3, *Regulatory Setting*. Section 4.5.4, *Environmental Impacts and Mitigation Measures,* presents the impact analysis for biological resources.

4.5.1 Environmental Setting

There are three main portions of the Project: (1) the 2,971.41-acre "wind site" which includes the WTGs, the substation, the O&M building, on-site communication system and collection power lines, meteorological towers and associated access roads; (2) the 17.8-acre transmission line route corridor which consist of the transmission line, poles and pull locations, switchyard and associated access roads; and (3) PG&E upgrades which consist of recontouring an existing PG&E power line from the Project's switchyard location to PG&E's Cabrillo substation in Lompoc. The Project would interconnect with PG&E's distribution grid. Throughout this section of the SEIR, "Project site" refers to the wind site. The "Project area" includes the wind site plus the external features (transmission line and access roads) outside of the site. "Project footprint" refers to the portion of the Project area that would be directly affected by SWEP construction and operations.

Section 4.5.1.1 describes the data and information sources used to update the description of existing conditions at the Project site, transmission line and access road corridors, and surrounding vicinity. Section 4.5.1.2 presents a summary of the vegetation and habitats in the Project area as presented in the LWEP EIR and updated to reflect current conditions in the Project area. Section 4.5.1.3 addresses the common wildlife and plant species present (or likely to be present) in the Project area, and Section 4.5.1.4 addresses special-status wildlife and plant species. Wetlands and other sensitive aquatic features are described in Section 4.5.1.5. A detailed discussion of the regional and local setting is presented in Section 3.5 of the LWEP EIR.

4.5.1.1 Methods

Biological resources in the Project area were described in Sections 3.5.1 through 3.5.5 of the LWEP EIR. The description of biological resources has been updated for the SWEP to reflect the new project configuration and design, and to include additional survey results, literature review, and database searches conducted since the publication of the LWEP EIR. The following sections describe the updated data sources and methodology.

Literature and Database Review

Information used to update the description of existing biological conditions was derived from the LWEP EIR, post-LWEP EIR survey reports, SWEP survey reports and analyses, data provided by the Applicant, review of relevant local literature, database searches, and coordination with local biological resources experts and biologists from the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW; formerly the California Department of Fish and Game [CDFG]).

SWEP survey reports and analyses are compiled in Appendix C and include the following:

- *Strauss Wind Energy Project Biological Resources Technical Report [BRTR]* (Sapphos, 2018),
- *Biological Resources Technical Report Addendum No. 1 for the Strauss Wind Energy Project* (Dudek, 2018a),
- *Biological Resources Technical Report Addendum No. 2 for the Strauss Wind Energy Project* (Dudek, 2018b),
- *Wetland Delineation and Jurisdictional Determination for the Strauss Wind Energy Project* [Appendix C of the BRTR Addendum No. 2] (Dudek, 2018c), and
- *Strauss Wind Energy Project – Gap Area Survey Results* (Dudek, 2019).

Appendix A of the BRTR (Sapphos, 2018) contains the following LWEP and SWEP survey reports:

- Lompoc Wind Energy Project Biological Resources Technical Report (February 2006)
- Lompoc Wind Energy Project Results of Winter Bird Surveys (February 2007)
- Memorandum for the Record No. 6 Habitat Suitability for the Federally Endangered El Segundo Blue Butterfly at the Lompoc Wind Energy Project Site (February 2008)
- Memorandum for the Record No. 7 Habitat Suitability for Sensitive Terrestrial Species at the Lompoc Wind Energy Project Site (February 2008)
- Memorandum for the Record No. 8 Habitat Suitability for Three Listed Aquatic Species at the Lompoc Wind Energy Project Site (February 2007)
- Memorandum for the Record No. 9 Plant Communities at the Lompoc Wind Energy Project Site (January 2008)
- Memorandum for the Record No. 10 Areas Subject to the Jurisdiction of the USACE and CDFG at the Lompoc Wind Energy Project Site (February 2008)
- Analysis of WSR-88d Data to Assess Nocturnal Bird Migration Over the Lompoc Wind Energy Project Final Report (June 2008)
- Lompoc Wind Energy Project Final Winter Season Avian Pre-Construction Survey Technical Report (June 2008)
- Lompoc Wind Energy Project Final Avian Spring Migration Pre-Construction Survey Technical Report (July 2008)
- Memorandum for the Record No. 16 Areas Subject to the Jurisdiction of the USACE, CDFG, and the County of Santa Barbara, Lompoc Wind Energy Project Site (July 2008)
- Lompoc Wind Energy Project Final Avian Breeding Season Pre-Construction Survey Technical Report (August 2008)
- Memorandum for the Record No. 1 Results of Directed Surveys for the Federally Endangered El Segundo Blue Butterfly in Support of the Lompoc Wind Energy Project (November 2008)
- Lompoc Wind Energy Project Final Avian Autumn Migration Pre-Construction Survey Technical Report (December 2008)

- Lompoc Wind Energy Project Final Spring and Autumn Bat Migration Pre-Construction Survey Technical Report (December 2008)
- Memorandum for the Record No. 1 Fall 2016 Bat Surveys (December 2016)
- Memorandum for the Record No. 2 Autumn 2016 Avian Migration Survey (December 2016)
- Memorandum for the Record No. 3 Autumn 2016 Aerial Raptor Survey (December 2016)
- Memorandum for the Record No. 6 Spring 2017 Botanical Surveys (October 2017)
- Memorandum for the Record No. 7 Spring 2017 Avian Migration Survey (October 2017)
- Memorandum for the Record No. 8 Spring 2017 Bat Surveys (October 2017)

Databases and other information sources used in updating the environmental setting for biological resources:

- CDFW's CNDDB special-status species records for the Moss Landing, Soquel, Watsonville West, Watsonville East, Prunedale, Salinas, and Marina United States Geological Survey (USGS) 7.5-minute topographic quadrangles (CDFW, 2018a);
- CDFW's Special Animals List (CDFW, 2018b);
- CDFW's California Sensitive Natural Communities List (CDFW, 2018c);
- CDFW's Special Vascular Plants, Bryophytes, and Lichens List (CDFW, 2018d);
- CNPS On-Line Electronic Inventory (CNPS, 2018);
- Calflora (2018);
- California Moss e-Flora (Wilson et al, 2018);
- eBird on-line inventory (eBird, 2018), and
- iNaturalist on-line inventory (iNaturalist, 2018).

Field Surveys

A variety of field surveys, including vegetation and habitat assessments, focused surveys for special-status plants and wildlife, general reconnaissance surveys, and avian and bat migration surveys have been conducted in the Project area for both the LWEP and the SWEP since certification of the LWEP EIR; these surveys are summarized in Table 4.5-1. The BRTR and addenda in Appendix C detail the survey methodologies for SWEP surveys, and the LWEP EIR details surveys conducted for the LWEP.

Table 4.5-1. Summary of Surveys Conducted at the Project Site

Dates	Survey Type	Survey Area/Project Configuration
Nov. 2018	Tree Inventory and Impact Summary	SWEP site, transmission line, and access road corridors
Jul.–Aug. 2018	Summer rare plants surveys	SWEP site, transmission line, and access road corridors
Jul.–Aug. 2018	Gaviota tarplant surveys	SWEP site, transmission line, and access road corridors
Aug. 2018	*Horkelia cuneata* assessment	SWEP site, transmission line, and access road corridors
Apr.–Jun., Dec. 2018	Wetland delineation and jurisdictional determination	The wetland delineation field surveys were conducted within the proposed grading area, laydown yard, substation, and a 100-foot buffer of these areas. The

Table 4.5-1. Summary of Surveys Conducted at the Project Site

Dates	Survey Type	Survey Area/Project Configuration
		wetland delineation surveys were also conducted along the proposed 100-foot-wide transmission line corridor and approx. 60-foot-wide associated vehicle access corridor.
May–Jun. 2018	Spring rare plants (i.e., floristic) surveys	The survey area for spring floristic surveys for special-status plant species included the proposed grading area, laydown yard, substation and a 100-foot buffer of these areas. The survey area also included the proposed 100-foot-wide transmission line corridor and approx. 60-foot-wide associated vehicle access corridor.
May–Jun., Aug., Dec. 2018	Vegetation mapping	The survey area for vegetation and habitat mapping included the proposed 100-foot-wide transmission line corridor and approx. 60-foot-wide associated vehicle access corridor. Vegetation and habitat mapping on the site was conducted previously by consultants (Sapphos 2017) and revised by Dudek in 2018.
May–Jun., Dec. 2018	El Segundo blue butterfly habitat mapping	The survey area for El Segundo blue butterfly host plant, seacliff buckwheat (*Eriogonum parvifolium*), included the proposed grading area, laydown yard, substation and a 100-foot buffer of these areas. The survey area also included the proposed 100-foot-wide transmission line corridor and approx. 60-foot-wide associated vehicle access corridor.
June 2018	Native grassland mapping	SWEP site and transmission line
April 2017	Spring 2017 botanical survey	SWEP site
March–April 2017	Spring acoustic bat surveys	SWEP site
March–April 2017	Spring 2017 Avian Migration Survey	SWEP site
Nov.–Dec. 2016	Autumn 2016 Avian Migration Survey	SWEP site
Nov. 13-15, 2016	Fall acoustic bat surveys	SWEP site
Nov. 7, 2016	Aerial raptor surveys conducted by helicopter	10-mile radius surrounding the SWEP site
March 18-19, 2013	Aerial raptor surveys conducted by helicopter	10-mile radius surrounding the SWEP site
May–June and Aug.– Sept. 2008	Bat roosting surveys in May–June 2008; acoustical monitoring in May–June and August–September 2008; active monitoring in August–September 2008	LWEP site
Aug.– Nov. 2008	Early morning flight counts; line transect surveys of riparian areas; diurnal raptor surveys; single-point count raptor surveys; dusk surveys; and general reconnaissance surveys of entire Project site	LWEP site
Aug. 14, 2008	Directed surveys for El Segundo blue butterfly within areas determined to contain suitable habitat	LWEP site

4.5.1.2 Vegetation and Habitats

Vegetation and habitats mapped for the LWEP were updated in 2017 and 2018 to reflect current conditions on the Project site and at proposed impact areas along the transmission line. Vegetation types are mapped on Figure 4.5-1.

Eight general plant communities were mapped on the wind site. Three other land cover types were mapped: agricultural fields, disturbed, and developed areas. Six of the plant communities are identified as sensitive by CDFW or the County of Santa Barbara (discussed below). Plant communities in the proposed transmission line corridor have not been mapped. All plant communities are briefly described in the paragraphs that follow, and detailed descriptions can be found in Appendices C-1, C-2, C-3, and C-5 (Dudek, 2018a, 2018b, and 2019; Sapphos, 2018).

Common Vegetation

Non-Native Grassland and Forb Dominated Habitats. Non-native upland grassland and forb-dominated habitats at the Project Area are composed of five individual vegetation communities. They include two grasslands (annual brome grassland herbaceous semi-natural alliance and wild oats grassland herbaceous semi-natural alliance) and three forb-dominated vegetation communities (ice plant mats herbaceous semi-natural alliance, poison hemlock patches herbaceous semi-natural alliance and upland mustards herbaceous seminatural alliance). See Dudek, 2018a in Appendix C-2 for detailed descriptions of each alliance.

Non-Native Woodland. Two woodland alliances dominated by non-native species were identified in the Project site: eucalyptus grove woodland semi-natural alliance and myoporum groves woodland semi-natural alliance. See Dudek, 2018a in Appendix C-2 for detailed descriptions of each alliance.

Sensitive Vegetation

Native Grassland. A total of four native grassland types identified in MCV2 (Sawyer et al., 2009) were mapped on site: creeping rye grass turfs, foothill needle grass grasslands, meadow barley patches, and purple needle grass grasslands. All four alliances are ranked S3 (sensitive) and native grasslands are identified as ecological communities of greatest interest by Santa Barbara County. The County of Santa Barbara defines a native grassland as an area where native grasses comprise 10 percent or more of the relative cover, and CDFW uses the same threshold, even where non-native species make up the bulk of the total cover (Sawyer et al., 2009). See Dudek, 2018b in Appendix C-3 for detailed descriptions of each alliance.

Coastal Scrub. Ten coastal scrub alliances were mapped within the Project site: California brittle bush scrub, California coffee berry scrub, California sagebrush scrub, coyote brush scrub, deer weed scrub, Menzies's golden bush scrub, sawtooth golden bush scrub, purple sage scrub, silver bush lupine scrub, and toyon chaparral. California brittle bush scrub, Menzies's golden bush scrub, sawtooth golden bush scrub, and toyon chaparral are considered sensitive by CDFW. Although the remaining alliances are ranked S4 or S5, they are generally considered sensitive in the County due to their habitat value and ongoing loss within the State. See Dudek, 2018a, 2018b, and 2019 in Appendices C-2, C-3, and C-5 for detailed descriptions of each alliance.

Riparian Scrub. Three riparian scrub alliances were mapped within the Project site: arroyo willow thickets shrubland alliance, blue elderberry stands shrubland alliance, and poison oak scrub shrubland alliance. Blue elderberry stands are ranked S3 (sensitive). While arroyo scrub and poison oak scrub are

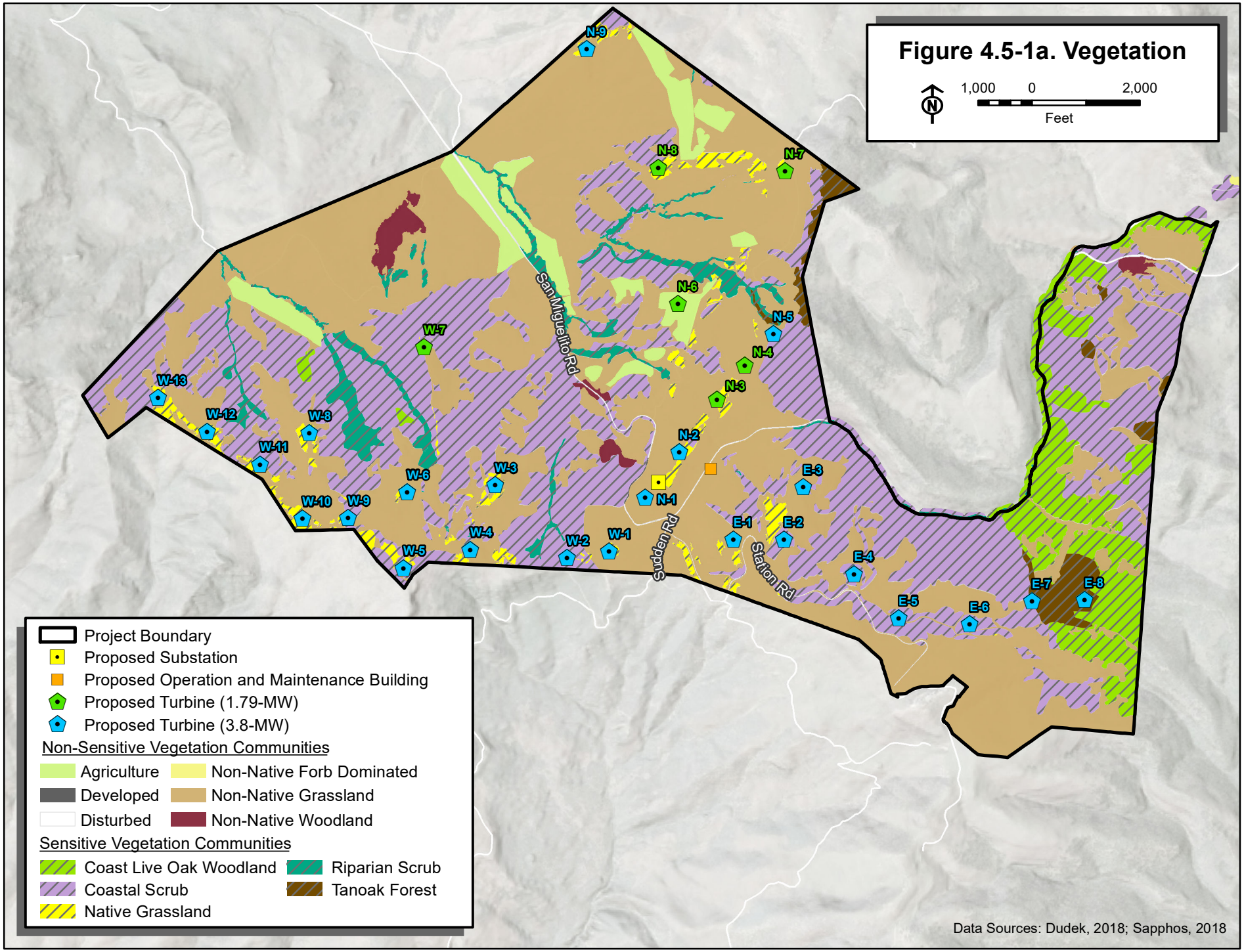
Figure 4.5-1a. Vegetation
1,000
0
2,000
Feet
N-9
N-8
N-7
N-6
N-5
N-4
N-3
N-2
N-1
W-13
W-12
W-11
W-10
W-9
W-8
W-7
W-6
W-5
W-4
W-3
W-2
W-1
E-1
E-2
E-3
E-4
E-5
E-6
E-7
E-8
San Miguelito Rd
Sudden Rd
Station Rd
Project Boundary
Proposed Substation
Proposed Operation and Maintenance Building
Proposed Turbine (1.79-MW)
Proposed Turbine (3.8-MW)
Non-Sensitive Vegetation Communities
Agriculture
Developed
Disturbed
Non-Native Forb Dominated
Non-Native Grassland
Non-Native Woodland
Sensitive Vegetation Communities
Coast Live Oak Woodland
Coastal Scrub
Native Grassland
Riparian Scrub
Tanoak Forest
Data Sources: Dudek, 2018; Sapphos, 2018

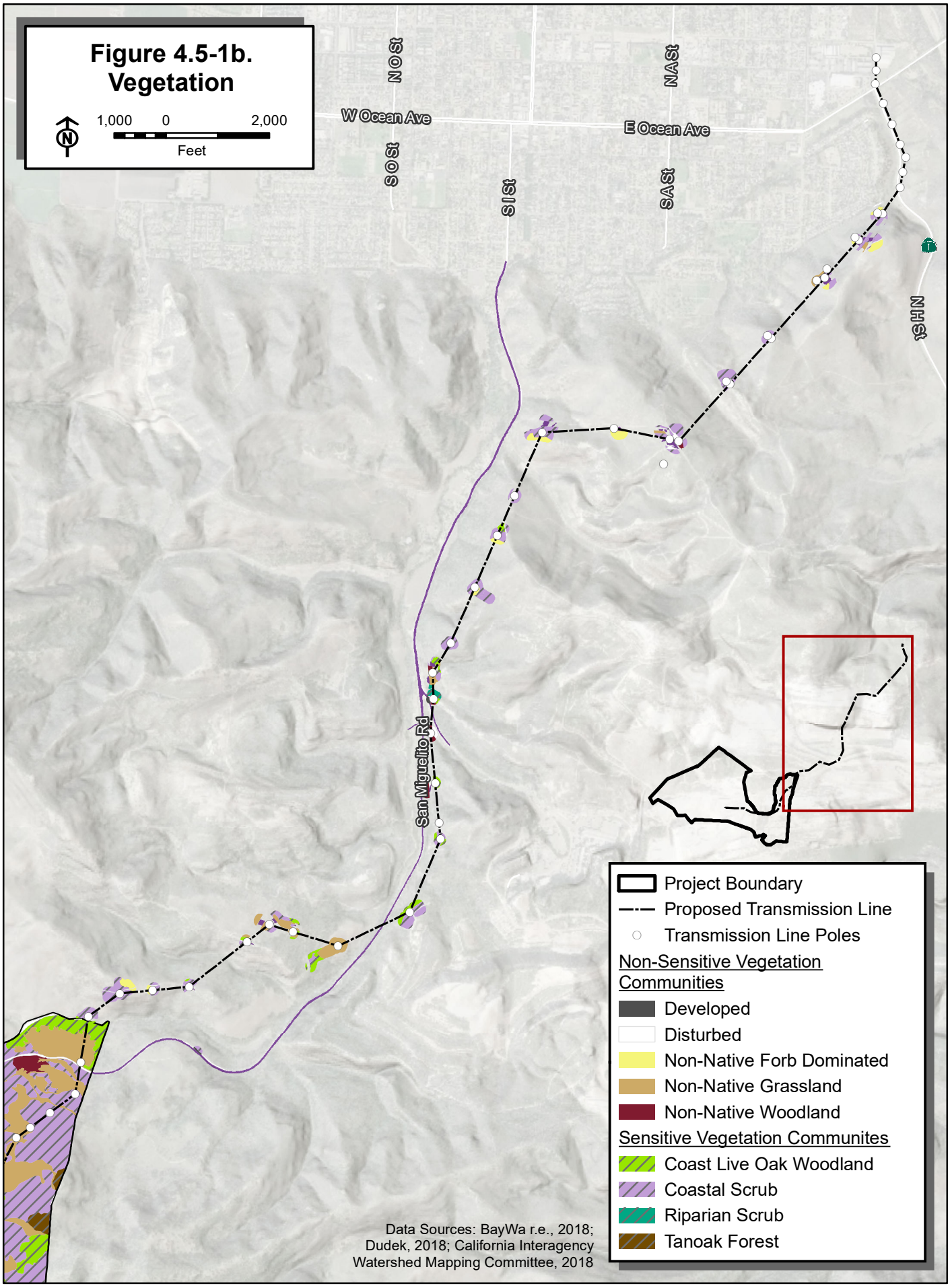
Figure 4.5-1b.
Vegetation
1,000 0 2,000
Feet
N
W Ocean Ave
E Ocean Ave
N O St
S O St
S I St
N A St
S A St
N H St
San Miguelito Rd
Project Boundary
Proposed Transmission Line
Transmission Line Poles
Non-Sensitive Vegetation Communities
Developed
Disturbed
Non-Native Forb Dominated
Non-Native Grassland
Non-Native Woodland
Sensitive Vegetation Communites
Coast Live Oak Woodland
Coastal Scrub
Riparian Scrub
Tanoak Forest
Data Sources: BayWa r.e., 2018; Dudek, 2018; California Interagency Watershed Mapping Committee, 2018

ranked S4, they are riparian communities, generally subject to special consideration due to high wildlife habitat value and close association with surface waters. See Dudek, 2018a in Appendix C-2 for detailed descriptions of each alliance.

Fremont Cottonwood Forest. This alliance is ranked S3.2 (sensitive). It is a riparian woodland with high habitat value. See Dudek, 2018a in Appendix C-2 for a detailed description of this alliance.

Tanoak Forest. Tanoak forest is ranked as S3.2 by CDFW and is identified as an ecological community of greatest interest by Santa Barbara County as a mixed evergreen forest. Tanoak forest is uncommon in Santa Barbara County, but more common to the north, along the coastal ranges and Sierra Nevada foothills. Lichens and bryophytes are more common in this forest type than elsewhere on the site. Tanoak woodlands and tanoak trees are not subject to the California Oak Woodlands Conservation Act (SB 1334, enacted 2004; see California Public Resources Code Section 21083.4; Section 4.5.3) or Santa Barbara County oak protection policies because they apply only to true oaks (genus *Quercus*). See Dudek, 2018a and Sapphos, 2018 in Appendices C-1 and C-2 for a detailed description of this alliance.

Coast Live Oak Woodland. Coast live oak is dominated by coast live oak trees, with native shrubs in the understory. It is identified as an ecological community of greatest interest by Santa Barbara County. It is common at the lower elevations in Miguelito Canyon and towards the east end of the site. In some areas, it covers much of the hillsides downslope from the tanoak forest, and the two trees are codominant where the mapped communities converge. Coast live oak woodlands and coast live oak trees are subject to the California Oak Woodlands Conservation Act (California Public Resources Code Section 21083.4) and Santa Barbara County oak protection policies. See Dudek, 2018a in Appendix C-2 for a detailed description of this alliance.

Other Land Cover Types

Agricultural Fields. There are four large areas on the western portion of the site under cultivation for forage crops such as red fescue. These areas are void of almost all native and non-native vegetation and are dominated by agricultural species and bare ground.

Disturbed. These areas are characterized by limited native vegetation resulting in low function ecological processes. Many have been altered from their natural states for human uses and provide little habitat or foraging potential for wildlife due to the lack of significant cover by native vegetation. Vegetation in these areas, if present at all, is usually sparse, dominated by weedy herbaceous species, or part of the landscaping associated with development. Disturbed habitats often have frequent disturbance from vehicle traffic or manual manipulation and are mostly absent of vegetation. Areas mapped as disturbed include dirt roads. Parks and ornamental plantings are also included in this category.

Developed. Developed areas consist of the areas around residential and business structures, parking lots, roads, staging areas, and other paved, gravel or mechanically compacted earth.

4.5.1.3 Wildlife

The LWEP EIR describes common wildlife species observed or expected to be in the Project area in Sections 3.5.2 and 3.5.3.

Important Bird Areas

The VAFB and Santa Ynez Estuary Important Bird Areas (IBA) designated by the Audubon Society borders the Project site to the west and south (see Figure 4.5-2). This IBA is over 94,000 acres and

supports a high concentration of migratory birds and wide range of habitats ranging from coastal Bishop pine forest to cottonwood-willow riparian woodland to tidal marsh. An endemic plant community, Burton Mesa chaparral, is found only within this IBA and nowhere else. Barka Slough, along San Antonio Creek, is an extensive natural freshwater marsh (Audubon, 2013).

The Project site has the potential to serve as habitat for a similarly high concentration of migratory birds but to a lesser extent than the adjacent IBA, given the difference in land use and habitats available. Nonetheless, a wide variety of migratory and resident birds have been recorded on site (see eBird, 2018; Appendix C-1; and the LWEP EIR).

Avian Migration

Regional avian migration patterns are described in Section 3.5.3 of the LWEP EIR.

The following discussion of avian migration at the Project site reflects the current knowledge, as informed by studies conducted for the LWEP and additional studies performed on site since the certification of the LWEP EIR and updates the information as presented in that document. The Applicant has implemented avian surveys consistent with the *U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines* (USFWS, 2012), *Eagle Conservation Plan Guidance: Module 1 – Land-based Wind Energy Version 2* (USFWS, 2013); and surveys were conducted with the concurrence of the USFWS Migratory Bird Division staff. See the Biological Resources Technical Report (Sapphos, 2018; see Appendix C-1) for a detailed discussion of avian migration and use at the Project site.

Waterfowl and Shorebird Migration. Waterfowl and shorebirds generally migrate along the Pacific coastline and were not typically abundant on the Project site during surveys. During the 2017 spring survey, 2 (6 percent) of 36 species of spring migrants on site were migratory water birds: greater yellowlegs (*Tringa melanoleuca*) and solitary sandpiper (*Tringa solitaria*). During the 2008 spring survey, of the 52 species of spring migrants recorded, only one migratory water bird (greater yellowlegs) was observed.

During the 2016 autumn survey, 3 of 28 species (11 percent) of passage autumn migrants were migratory water birds: great egret (*Ardea alba*), common loon (*Gavia immer*), and California brown pelican (*Pelecanus occidentalis*). California brown pelican was a state and federally listed species, but it has been delisted at the state and federal level. It remains a CDFW Fully Protected species. The 2008 autumn survey recorded common loon, greater yellowlegs, and Wilson's snipe (*Gallinago delicata*). Birds were recorded flying up to 150 feet under light winds (>7 mph), less than 100 feet for moderate winds (8–15 mph), and less than 30 feet above ground level during strong winds.

Local Migration. The abundance of diurnal avian migrants (waterbirds, raptors, and songbirds) recorded during the autumn migration studies averaged 30–40 passage migrants per day (Appendix C-1). The number of avian migrants recorded at the Project area in autumn is approximately three times greater than recorded in spring, when weather conditions were poor for avian migration.

Spring and Fall Avian Migration at the Project Site. Daytime avian migratory surveys were conducted at the Project site in the spring and autumn of 2008, autumn of 2016, and spring of 2017. A total of 61 species of migratory birds were observed, indicating that the Project site probably serves as a migratory corridor.

During the 2017 spring survey, 83 different species were observed, of which 36 were migratory. The most numerous migrants were black-headed grosbeak (21 individuals), barn swallow (21 individuals), white-crowned sparrow (20 individuals), and orange-crowned warbler (16 individuals). Three special-

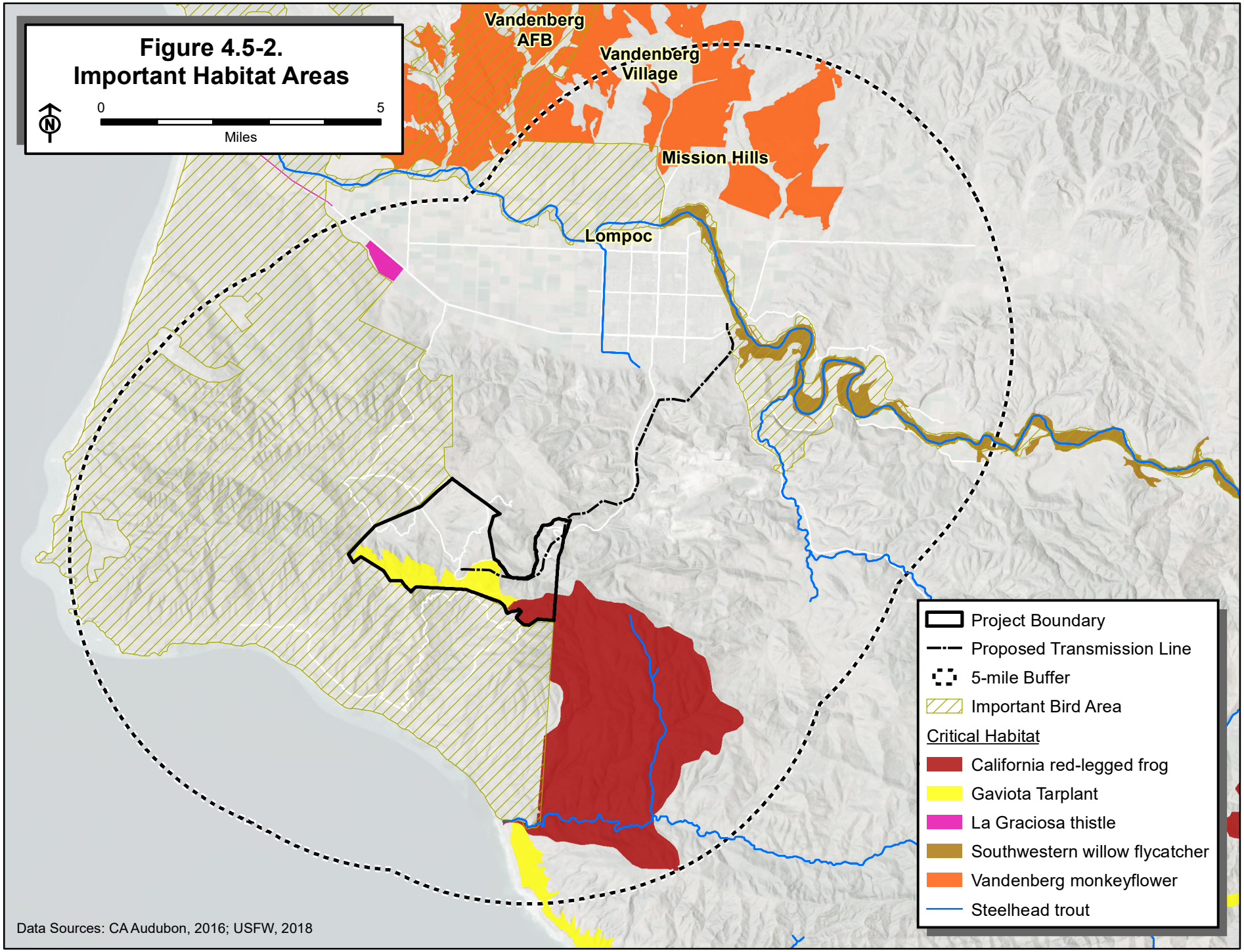
Figure 4.5-2.
Important Habitat Areas
0
5
Miles
Vandenberg AFB
Vandenberg Village
Mission Hills
Lompoc
Project Boundary
Proposed Transmission Line
5-mile Buffer
Important Bird Area
Critical Habitat
California red-legged frog
Gaviota Tarplant
La Graciosa thistle
Southwestern willow flycatcher
Vandenberg monkeyflower
Steelhead trout
Data Sources: CA Audubon, 2016; USFW, 2018

status migratory bird species were observed: northern harrier (*Circus cyaneus*), ferruginous hawk (*Buteo regalis*), and grasshopper sparrow (*Ammodramus savannarum*). Two locally important migratory species were observed: blue grosbeak (*Passerina caerulea*) and Swainson's thrush (*Catharus ustulatus*).

During the 2008 spring survey, 93 total species were observed, in which 52 were migratory. The most numerous migrants were: cedar waxwing (38 individuals), barn swallow (23 individuals), cliff swallow (20 individuals), and western gull (16 individuals). Four special-status migratory birds were observed: sharp-shinned hawk (*Accipiter striatus*), Vaux's swift (*Chaetura vauxi*), olive-sided flycatcher (*Contopus cooperi*), and yellow-breasted chat (*Icteria virens*). Swainson's thrush, a locally important migratory species, was also observed.

During the 2016 autumn survey, 82 different species were observed, in which 28 were migratory. The most numerous migrants were yellow-rumped warbler (420 individuals), white-crowned sparrow (182 individuals), American pipit (179 individuals), and golden-crowned sparrow (115 individuals). Eight special-status migratory species were observed: sharp-shinned hawk, great egret, ferruginous hawk, northern harrier, common loon, red-breasted sapsucker (*Sphyrapicus ruber*), California brown pelican, and merlin (*Falco columbarius*).

During the 2008 autumn survey, 133 total species were observed, in which 56 were migratory. The most numerous migrants were: yellow-rumped warbler (513 individuals), American pipit (103 individuals), western gull (129 individuals), and white-crowned sparrow (96 individuals). Eleven special-status migratory species were observed: northern harrier, Vaux's swift, yellow warbler (*Setophaga petechia*), yellow-breasted chat, grasshopper sparrow, common loon, double-crested cormorant (*Phalacrocorax auritus*), sharp-shinned hawk, ferruginous hawk, merlin, and prairie falcon (*Falco mexicanus*). Blue grosbeak, a locally important migratory bird, was also observed.

Bat Migration

The following discussion of bat migration at the Project site summarizes studies conducted for the LWEP as well as additional surveys conducted in fall of 2016 and spring 2017. The discussion is excerpted from the Biological Resources Technical Report (Sapphos, 2018; see Appendix C-1).

During the spring and autumn bat surveys conducted at the Project site in 2008, 2016, and 2017, a total of nine bat species were recorded. In 2017, six species were recorded. Three were special-status resident species, including pallid bat (*Antrozous pallidus*), Yuma myotis (*Myotis yumanensis*), and long-eared bat (*Myotis evotis*), and three were common residents, including the big brown bat (*Eptesicus fuscus*), California myotis (*Myotis californicus*), and Mexican free-tailed bat (*Tadarida brasiliensis*). In 2016, only one bat call was recorded before surveys were cancelled due to low temperatures, high winds, and dense fog. The species was identified as belonging to the genus *Myotis*, either California myotis or Yuma myotis.

In 2008, eight species were identified during the spring and autumn migration period (from 85 total recordings during 672 hours recorded hours). Six were special-status residents: pallid bat, long-eared bat, Yuma myotis, and western mastiff bat (*Eumops perotis*). Two were special-status migratory species: western red bat (*Lasiurus blossevillii*) and hoary bat (*Lasiurus cinereus*).

Although bat activity was relatively low at most sampling sites, resident and common bats have been recorded using the Project site for foraging. Migrating bats may find suitable foraging habitat as well, given the variety of vegetation communities available and may use the site as a layover during migration. Bats may day-roost nearby for a period of time to forage in an area before moving on to migratory

destinations. There is suitable habitat for the migratory bat species silver-haired bat (*Lasionycteris noctivagans*; not recorded in the Project area), western red bat (recorded in 2008), and hoary bat (recorded in 2008); however, no migratory species were recorded in 2016 and 2017. Western red bat and silver-haired bat would be expected to fly primarily at elevations no higher than 20 feet above the ground surface or water, and hoary bat would be expected to occur up to 40 feet above the ground surface.

4.5.1.4 Endangered, Threatened, Rare, and Other Sensitive Species

As defined in the LWEP EIR, wildlife and plant species that have special conservation status may be protected under policies of federal, state, and local agencies. These include species formally proposed or listed for protection under the Federal or California Endangered Species acts (ESA and CESA, respectively) as well as species that are not protected by Endangered Species legislation but are recognized by various authorities including the California Native Plant Society (CNPS), the California Department of Fish and Wildlife (CDFW; formerly known as California Department of Fish and Game), and other authorities as rare, declining, or species of local concern. These are collectively termed "other sensitive species."

In this SEIR, the term "special-status species" refers to plants or animals that meet one or more of the following criteria:

- Have been designated as either rare, threatened, or endangered by CDFW or the USFWS, and are protected under the California or federal Endangered Species Act (ESA);
- Are candidate species being considered or proposed for listing under these same acts;
- Are considered Species of Special Concern by CDFW;
- Are fully protected by the California State Fish and Game Code, Sections 3511, 4700, 5050, or 5515;
- Are classified as California Rare Plant Rank (CRPR) 1, 2, 3, or 4 by CDFW and CNPS; or are of express concern to resource/regulatory agencies, or local jurisdictions;
- Considered locally rare and important by the County; or
- Are listed on watch lists or provided with special conservation designations by professional working groups/societies (e.g., the Santa Barbara Botanical Garden, the La Purisima Audubon Society, Environmental Defense Center, or other local agencies and organizations).

Figures 4.5-3 and 4.5-5 identify the locations of special-status species reported in the CNDDB. It is important to note that the CNDDB does not represent all of the special-status species that occur in a given area and is limited to only those occurrences that have been reported by users. Therefore, it is not an exhaustive list of potentially occurring species. Figure 4.5-4 also identifies special-status plants detected during Project surveys.

Critical Habitat. Several federally listed species occur in the region, and the Project site contains designated critical habitat for both Gaviota tarplant and California red-legged frog. There is critical habitat for six species designated at locations within 5 miles of the Project area. These include steelhead, California red-legged frog, southwestern willow flycatcher, Gaviota tarplant, La Graciosa thistle, and Vandenberg monkeyflower. Figure 4.5-2 identifies the locations of designated critical habitat for federally listed species in the region.

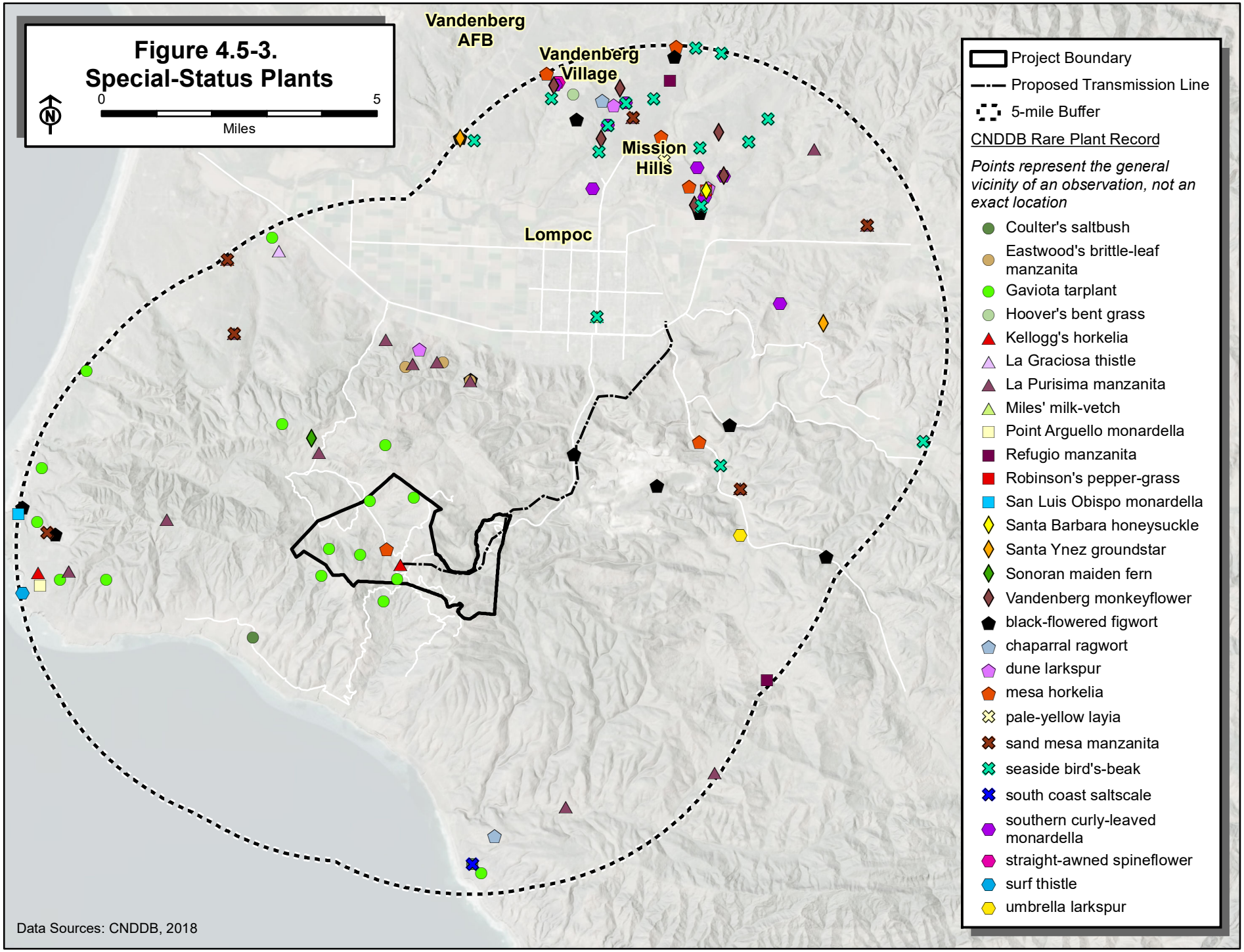
Figure 4.5-3.
Special-Status Plants
0
5
Miles
Vandenberg AFB
Vandenberg Village
Mission Hills
Lompoc
Project Boundary
Proposed Transmission Line
5-mile Buffer
CNDDB Rare Plant Record
Points represent the general vicinity of an observation, not an exact location
Coulter's saltbush
Eastwood's brittle-leaf manzanita
Gaviota tarplant
Hoover's bent grass
Kellogg's horkelia
La Graciosa thistle
La Purisima manzanita
Miles' milk-vetch
Point Arguello monardella
Refugio manzanita
Robinson's pepper-grass
San Luis Obispo monardella
Santa Barbara honeysuckle
Santa Ynez groundstar
Sonoran maiden fern
Vandenberg monkeyflower
black-flowered figwort
chaparral ragwort
dune larkspur
mesa horkelia
pale-yellow layia
sand mesa manzanita
seaside bird's-beak
south coast saltscale
southern curly-leaved monardella
straight-awned spineflower
surf thistle
umbrella larkspur
Data Sources: CNDDB, 2018

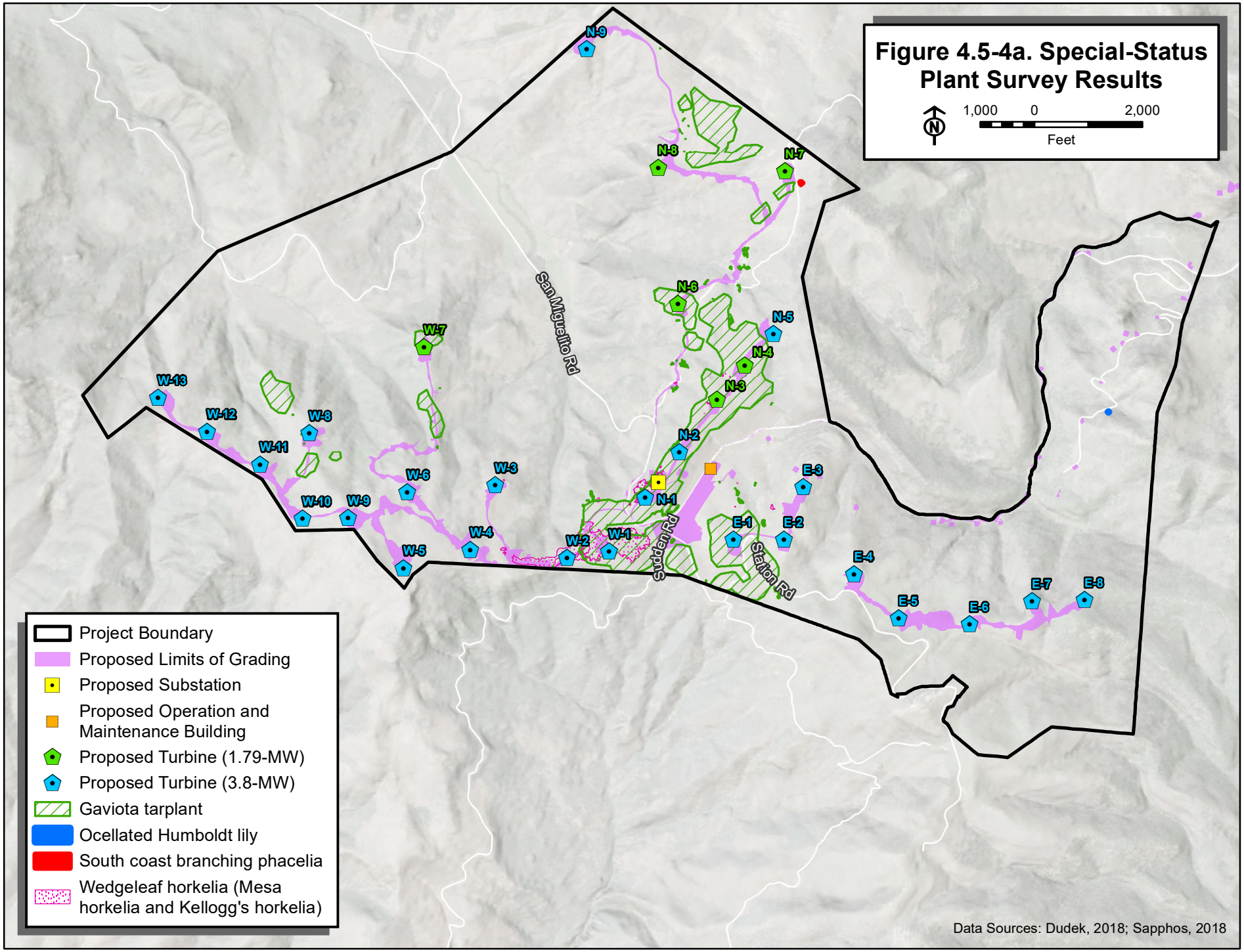
Figure 4.5-4a. Special-Status Plant Survey Results
1,000 0 2,000
Feet
N-9
N-8
N-7
N-6
N-5
N-4
N-3
N-2
N-1
W-13
W-12
W-11
W-10
W-9
W-8
W-7
W-6
W-5
W-4
W-3
W-2
W-1
E-1
E-2
E-3
E-4
E-5
E-6
E-7
E-8
San Miguelito Rd
Sudden Rd
Station Rd
Project Boundary
Proposed Limits of Grading
Proposed Substation
Proposed Operation and Maintenance Building
Proposed Turbine (1.79-MW)
Proposed Turbine (3.8-MW)
Gaviota tarplant
Ocellated Humboldt lily
South coast branching phacelia
Wedgeleaf horkelia (Mesa horkelia and Kellogg's horkelia)
Data Sources: Dudek, 2018; Sapphos, 2018

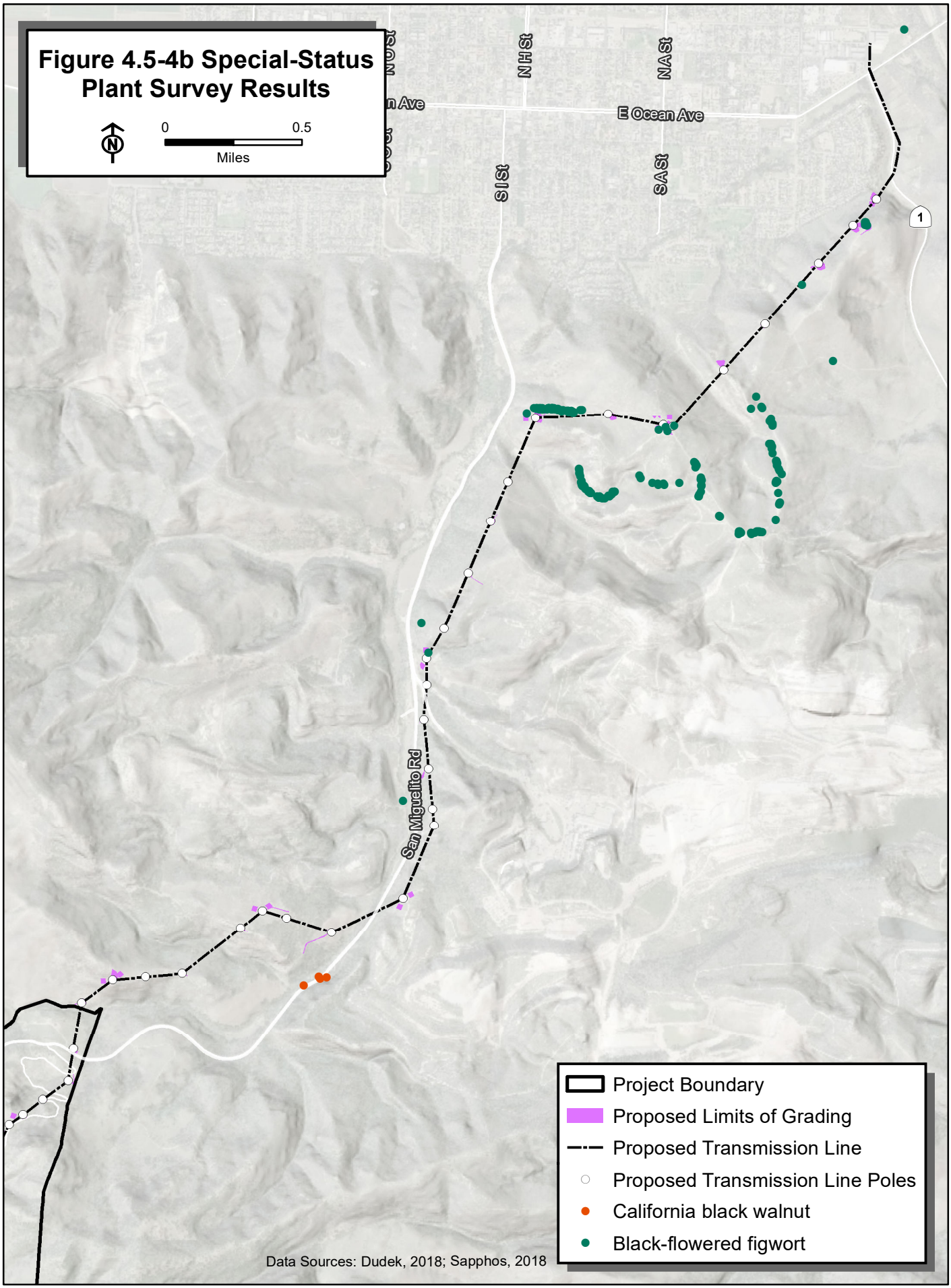
Figure 4.5-4b Special-Status Plant Survey Results
0
0.5
Miles
N H St
N A St
S I St
S A St
E Ocean Ave
San Miguelito Rd
1
Project Boundary
Proposed Limits of Grading
Proposed Transmission Line
Proposed Transmission Line Poles
California black walnut
Black-flowered figwort
Data Sources: Dudek, 2018; Sapphos, 2018

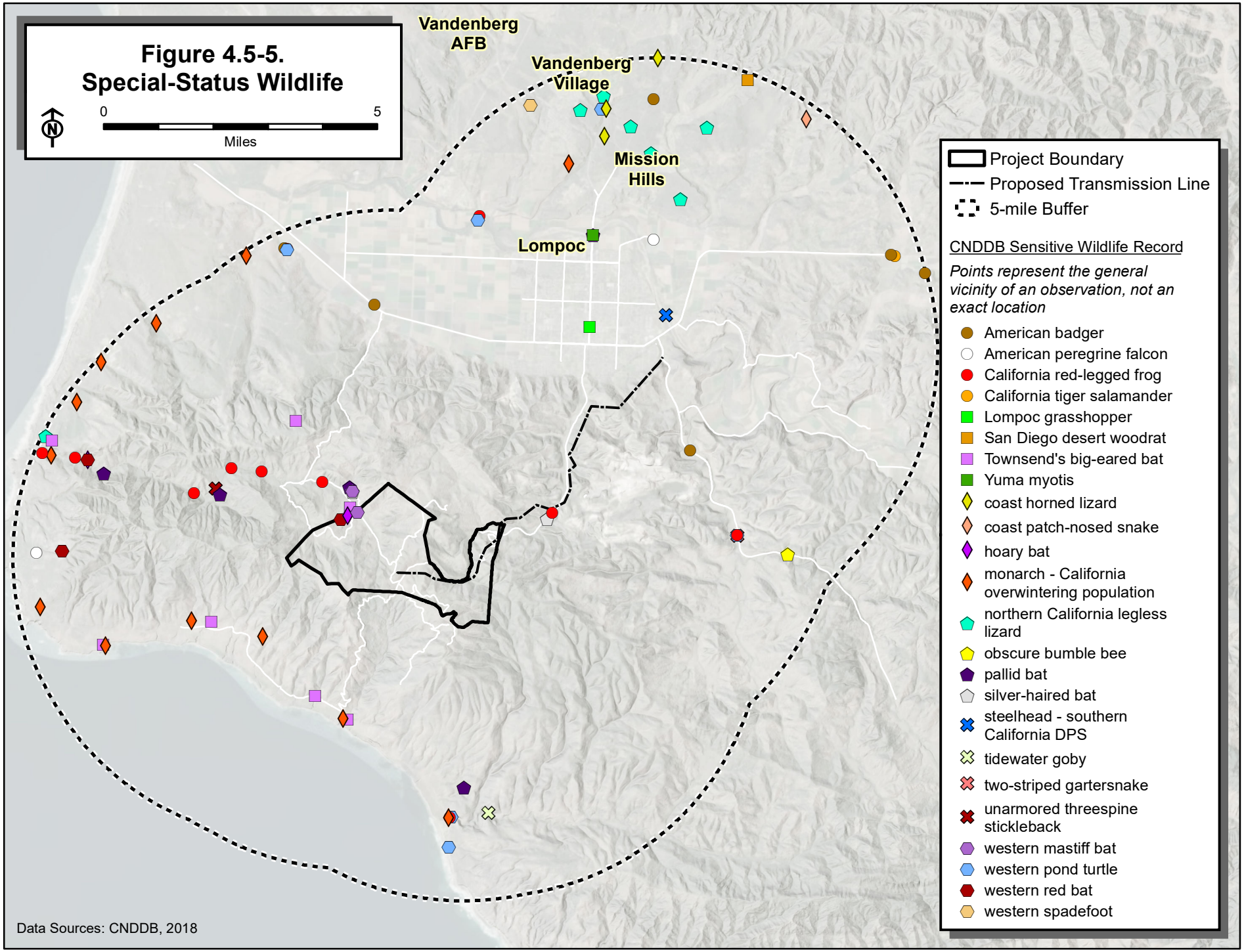
Figure 4.5-5.
Special-Status Wildlife
0
5
Miles
Vandenberg AFB
Vandenberg Village
Mission Hills
Lompoc
Project Boundary
Proposed Transmission Line
5-mile Buffer
CNDDB Sensitive Wildlife Record
Points represent the general vicinity of an observation, not an exact location
American badger
American peregrine falcon
California red-legged frog
California tiger salamander
Lompoc grasshopper
San Diego desert woodrat
Townsend's big-eared bat
Yuma myotis
coast horned lizard
coast patch-nosed snake
hoary bat
monarch - California overwintering population
northern California legless lizard
obscure bumble bee
pallid bat
silver-haired bat
steelhead - southern California DPS
tidewater goby
two-striped gartersnake
unarmored threespine stickleback
western mastiff bat
western pond turtle
western red bat
western spadefoot
Data Sources: CNDDB, 2018

Special-Status Plants

Eighty-two (82) special-status plants were considered for their potential to occur in the vicinity of the Project area, based on known ranges, habitat associations, and regional records. Fourteen special-status plants have been identified in the Project area identified during surveys for the LWEP and SWEP. Five of the 14 rare plants were discovered during surveys for the SWEP and were not known from the site at the time the LWEP EIR was published; these include La Purisima manzanita (*Arctostaphylos purissima*; CRPR 1B.1), southern California black walnut (*Juglans californica*; CRPR 4.2), ocellated Humboldt lily (*Lilium humboldtii* ssp. *ocellatum*; CRPR 4.2), south coast branching phacelia (*Phacelia ramosissima* var. *austrolitoralis*; CRPR 3.2), and black-flowered figwort (*Scrophularia atrata*; CRPR 1B.2). One federally and state-listed endangered plant, Gaviota tarplant (*Deinandra increscens* ssp. *villosa*) occurs on site. No special-status non-vascular plants or lichens were identified as having a potential to be present on site, based on the habitat present and a review of numerous literature sources and database searches.

Special-status plants that are present or have the potential to occur in the Project area are listed in Appendix C-6 and shown on Figures 4.5-3 and 4.5-4. Refer to LWEP EIR Section 3.5.4, *Endangered, Threatened, Rare, and Other Sensitive Species*, for a description of the following rare plants that were known from the Project area at the time that document was published: seaside agoseris (locally rare), western dichondra (CRPR 4.2), seaside heuchera (locally rare), sickle-leaved rush (locally rare), and California globemallow (locally rare).

The following species accounts describe plants that have been discovered on site since the LWEP EIR was published, and those for which occurrence data has been updated (i.e., Gaviota tarplant, mesa horkelia, and Kellogg's horkelia).

Gaviota Tarplant (*Deinandra increscens* ssp. *villosa*). Gaviota tarplant is federally and state-listed endangered and is a CRPR 1B.1 plant. Gaviota tarplant occurs in coastal California in Santa Barbara County. It is an annual herb that is native to California and is endemic (limited) to California. Gaviota tarplant occurs in coastal bluff scrub, coastal scrub, and valley and foothill grasslands habitats at elevations of 66 feet (20 meters) to 1,411 feet (430 meters) amsl. The blooming period of Gaviota tarplant is between May and October.

This plant was documented on-site during surveys for the LWEP, and a Gaviota tarplant assessment was conducted for the proposed SWEP configuration in summer 2018 to better understand the distribution of this listed plant within and near the current Project footprint (Dudek, 2018b). Gaviota tarplant occurrences were called a "population" if the occurrence was separated from another occurrence by a distance greater than 10 feet (Dudek, 2018b). The number of individual plants was estimated for each population. A total of 103 populations of Gaviota tarplant were documented totaling 4,542,342 individual plants covering 8,366,608 square feet (192 acres) (Dudek, 2018b). See Figure 4.5-4 for the locations of the Gaviota tarplant populations. Annual plant populations are not stable during any one year or from one year to the next. Their numbers may vary by orders of magnitude from year to year, reflecting rainfall, temperatures, soil disturbance, grazing (by livestock, insects, or other animals), or other (often unknown) ecological factors. Nonetheless, the large number of Gaviota tarplants inventoried in 2017 would indicate a large and well-established population occupying approximately 92 acres on the Project area.

The entire 791-acre Sudden Peak Unit of critical habitat for Gaviota tarplant is located within the Project site.

Mesa Horkelia (*Horkelia cuneata* var. *puberula*) and Kellogg's Horkelia (*Horkelia cuneata* var. *sericea*). Mesa horkelia and Kellogg's horkelia are both CRPR 1B.1 plants. These two special-status varieties of wedgeleaf horkelia (*Horkelia cuneata*), along with a third common variety (*H. cuneata* var. *cuneata*) have been documented intergrading across the Project site. An assessment was conducted in August 2018 to determine the composition of the three different varieties on site, which are described below (Dudek, 2018b). Both mesa horkelia and Kellogg's horkelia were documented on site during surveys for the LWEP and are addressed in the LWEP EIR; however, the *Horkelia cuneata* assessment conducted for the proposed Project refines the identification on known populations and documents newly identified populations within and near the current project configuration.

Wedgeleaf horkelia (*Horkelia cuneata* var. *cuneata*) is a common plant not ranked as special-status at the federal, state, or local level or by CNPS. It is a perennial herb that is native and endemic (limited) to California. It occurs in coastal California from San Francisco County south through San Diego County and blooms from February through July.

Mesa horkelia (CRPR 1B.1) occurs in coastal California counties from San Luis Obispo County south through northern San Diego County. It occupies sandy or gravelly, chaparral (maritime), cismontane woodland, and coastal scrub habitats at elevations of 230 feet (70 meters) to 2,657 feet (810 meters) amsl. The blooming period is February through July and sometimes through September.

Kellogg's horkelia (CRPR 1B.1) occurs in coastal California counties from Marin County south through Santa Barbara County. It occupies sandy or gravelly openings, closed-cone coniferous forest, chaparral (maritime), coastal dune, and coastal scrub habitats at elevations of 33 feet (10 meters) to 656 feet (200 meters) amsl. The blooming period is April through September.

A total of 37 populations of these three wedgeleaf horkelia varieties were documented totaling 120,537 individual plants covering 829,462 square feet (19.0 acres). Of these, twelve populations totaling 1,107 individual plants were determined to be mesa horkelia and fifteen populations totaling 16,763 individual plants were determined to be Kellogg's horkelia. The remaining wedeleaf horkelia populations were considered to be the common variety. See the *Biological Resources Technical Report Addendum No. 2* (Dudek, 2018b) in Appendix C-3 for more details, including the data sheets from the *Horkelia cuneata* assessment.

La Purisima Manzanita (*Arctostaphylos purissima*). La Purisima manzanita is a CRPR 1B.1 plant that is known only from western Santa Barbara County. It is native and endemic (limited) to California. It is a shrub that occurs in sandy soils in chaparral and coastal scrub, and blooms between November and May. La Purisima manzanita was not observed during surveys for the LWEP. However, a manzanita specimen identified as the globose La Purisima manzanita (*Arctostaphylos purissima ssp. globosa*), a subspecies of the La Purisima manzanita, was observed during the SWEP tree survey in winter 2018. The specimen had characteristics that resemble both the globose La Purisima manzanita as well as the Refugio manzanita (*A. refugioensis*; a CRPR 1B.2 plant). The individual plant was observed in isolated chaparral, forest/woodland canopy opening, on a hilltop where the tanoak forest and coast live oak woodland transition, northeast of Sudden Peak, within the WTG E-4 impact area. It was observed early in the flowering stage. Ultimately it was determined to be La Purisima manzanita. Manzanitas are well known for hybridization among related species in their zones of overlap, and individual specimens often cannot be clearly assigned to any single species. A fruit sample may further support the identification, as there is a considerable difference in fruit size and features between the globose La Purisima manzanita (5–8 mm wide) and the Refugio manzanita (12–15 mm wide). The Project area is located in the overlapping ranges of both the La Purisima and Refugio manzanitas. (Sapphos, 2018).

Black-Flowered Figwort (*Scrophularia atrata*). Black-flowered figwort is a CRPR 1B.2 plant that occurs in coastal California in Santa Barbara County and San Luis Obispo County. It is a perennial herb that is native to California and is endemic (limited) to California. Black-flowered figwort occurs in closed-cone coniferous forest, chaparral, coastal dunes, coastal scrub, and riparian scrub habitats at elevations of 33 feet (10 meters) to 1,640 feet (500 meters) amsl. The blooming period of black-flowered figwort is between March and July. Not observed during surveys for the LWEP, it was considered likely to occur in the LWEP EIR. Surveys in the summer of 2018 for the SWEP documented a total of 173 populations totaling 1,152 individual plants covering 8,669 square feet in the Project area (Dudek, 2018a and 2018b).

South Coast Branching Phacelia (*Phacelia ramosissima* var. *austrolitoralis*). South coast branching phacelia is a CRPR 3.2 plant that occurs in coastal California from southern San Luis Obispo County south through middle San Diego County. It occupies sandy, sometimes rocky, chaparral, coastal dunes, coastal scrub, and marsh and swamp (coastal salt) habitats at elevations of 16 feet (5 meters) to 984 feet (300 meters) amsl. The blooming period is between March and August. It was not documented during surveys for the LWEP. Two populations of south coast branching phacelia were documented during summer 2018 surveys for the SWEP. The populations contained an estimated total of 64 individual plants covering 583 square feet (Dudek, 2018b).

Southern California Black Walnut (*Juglans californica*). Southern California black walnut is a CRPR 4.2 plant that occurs throughout much of southern California (higher mountains and deserts excluded). It is a winter-deciduous tree that is native and endemic (limited) to California. It occurs in alluvial, chaparral, cismontane woodland, coastal scrub, and riparian woodland habitats at elevations of 164 feet (50 meters) to 2,953 feet (900 meters) amsl. The blooming period is between March and August, but it can be dependably identified whenever leaves are present. The LWEP EIR noted a population of southern California black walnut on VAFB near the Project site, but none were identified during surveys for the LWEP. A total of four populations were documented in the Project area during summer 2018 surveys for the SWEP; these populations total five individual plants covering 2,714 square feet (Dudek, 2018b).

Ocellated Humboldt Lily (*Lilium humboldtii* ssp. *ocellatum*). Ocellated Humboldt lily is a CRPR 4.2 plant that occurs in mostly coastal California counties from Santa Barbara County south through San Diego County. It is a perennial herb (bulb) that is native and endemic (limited) to California. Ocellated Humboldt lily occurs in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and riparian woodland habitats at elevations of 98 feet (30 meters) to 5,906 feet (1,800 meters) amsl. The blooming period is between March and July. It was not observed during surveys for the LWEP, but the LWEP EIR noted that potential habitat was present. Surveys in the summer of 2018 for SWEP found one population consisting of 6 plants and covering 37 square feet (Dudek, 2018b).

Special-Status Wildlife

Seventy-nine (79) special-status wildlife species were considered for their potential to occur in the vicinity of the Project area, based on known ranges, habitat associations, and regional records. Forty-three (43) special-status wildlife species have been identified in the Project area identified during surveys for the LWEP and SWEP. Most of these are birds recorded during avian migration surveys. Nine special-status bird species and three special-status bat species that were not known from the Project area at the time of the LWEP EIR publication have been observed or detected during SWEP surveys. Newly recorded birds include merlin (*Falco columbarius*), great egret (*Ardea alba*), common loon (*Gavia immer*), California gull (*Larus californicus*), California brown pelican (*Pelecanus occidentalis*), double-crested cormorant (*Phalacrocorax auritus*), yellow-billed magpie (*Pica nuttalli*), red-breasted

sapsucker (*Sphyrapicus ruber*), and Lawrence's goldfinch (*Spinus lawrencei*). Newly recorded bats include western mastiff bat (*Eumops perotis californicus*), western red bat (*Lasiurus blossevillii*), and long-eared myotis (*Myotis evotis*). One federally endangered invertebrate, El Segundo blue butterfly (*Euphilotes battoides allyni*) occurs on site. Three California fully protected birds, golden eagle (*Aquila chrysaetos*), American peregrine falcon (*Falco peregrinus anatum*), and white-tailed kite (*Elanus leucurus*), are routinely observed on site and the California brown pelican, also fully protected in California, has been recorded migrating through the site. No special-status terrestrial snails were identified as having a potential to be present on site, based on the habitat present and a review of numerous literature sources and database searches.

Special status wildlife species that are present or have the potential to occur in the Project area are listed in Appendix C-7. Potential for occurrence is defined the same as identified for special-status plants in Appendix C-6.

Refer to LWEP EIR Section 3.5.4, *Endangered, Threatened, Rare, and Other Sensitive Species*, for a description of the special-status wildlife that were known from the Project area at the time that document was published. The following species accounts describe special-status wildlife that have been discovered on site since the LWEP EIR was published, and those for which occurrence information or regulatory status has been updated (i.e., El Segundo blue butterfly, California condor, tricolored blackbird, southwestern willow flycatcher, and California red-legged frog).

Newly Documented in the Project Area

Merlin (*Falco columbarius*). Merlin is a CDFW Watch List bird and a locally important species. It was determined to have a low potential to occur on site in the LWEP EIR; however, suitable foraging habitat is present in grasslands and coastal sage scrub mosaic within the Project area. Several individuals were observed in such habitat during avian surveys conducted at the site in autumn 2016 (Appendix C-1). It is expected to be present from September to May in California sagebrush scrub and grasslands on site (Sapphos, 2018).

Great Egret (*Ardea alba*). The great egret is a CDFW California Special Animal. One individual was observed flying over the Project area during avian surveys conducted in 2016 (Appendix C-1). However, great egrets have not been documented foraging or roosting on site. The Project site is located within the winter range for the species, but it is more likely that this species is a passage migrant through the site only. Its primary foraging activity would be expected to occur at the ground surface in grasslands (Sapphos, 2018).

Common Loon (*Gavia immer*). The common loon is a CDFW Species of Special Concern. Several flocks were observed flying over the Project area during avian surveys conducted in autumn 2008 and 2016 (Appendix C-1). The Project site is located within the winter range for the species; however, suitable roosting and foraging habitat is not present due to the lack of wetland habitats. Therefore, it is more likely that this species is a passage migrant through the site only. Its primary foraging activity would be expected to occur at and below the water surface (Sapphos, 2018).

California Gull (*Larus californicus*). The California gull is a CDFW Watch List species. An individual was observed flying over the Project area during avian surveys conducted in autumn 2008 (Appendix C-1). The Project site is located within the winter and migratory range for the species. They feed opportunistically along the coast and inland grasslands and shrublands. Suitable foraging habitat is present in open areas on the site, although California gull is probably primarily a passage migrant through the site. Its primary foraging activity would be expected to occur at the ground surface (Sapphos, 2018).

California Brown Pelican (*Pelecanus occidentalis*). The California brown pelican is a Fully Protected species in California, a locally important species, and has been delisted at both the federal and state levels. An individual was observed flying over the Project area during avian surveys conducted in autumn 2016 (Appendix C-1). The Project site is located within the winter range for the species; however, suitable roosting and foraging habitat is not present due to the distance of the site to the shoreline. Therefore, it is more likely a passage migrant through the site only. Its primary flying activity would be expected to occur up to 66 feet above the water surface (Sapphos, 2018).

Double-Crested Cormorant (*Phalacrocorax auritus*). The double-crested cormorant is a CDFW Watch List species. It was observed flying over the Project area during avian surveys conducted in fall 2008 and fall 2016 (Appendix C-1). The Project site is located within the year-round range for the species; however, suitable roosting and foraging habitat is not present due to the distance of the site to the shoreline. Therefore, it is more likely to be a passage migrant through the site only. Its foraging activity would be expected to occur at and below the water surface (Sapphos, 2018).

Yellow-Billed Magpie (*Pica nuttalli*). The yellow-billed magpie is a USFWS Bird of Conservation Concern. Suitable habitat is present in oak woodlands, grasslands, and agricultural fields within the Project area. One individual was observed during avian surveys conducted in fall 2008 (Appendix C-1). The Project site may be just outside the typical geographic range for this species, and it is not expected to occur frequently on site. Its primary flight activity is expected to occur up to 80 feet above the ground surface (Sapphos, 2018).

Red-Breasted Sapsucker (*Sphyrapicus ruber*). The red-breasted sapsucker is a CDFW California Special Animal. Suitable habitat is present in woodlands within the Project site. An individual was observed flying over the site on Sudden Road at the border of VAFB during avian surveys conducted in fall 2017 (Appendix C-1). It would generally be present in winter using coast live oak woodland and tanoak forest. Its primary flight activity would be expected to occur up to 115 feet above the ground surface (Sapphos, 2018).

Lawrence's Goldfinch (*Spinus lawrencei*). Lawrence's goldfinch is a USFWS Bird of Conservation Concern and a locally important species. Suitable habitat is present in oak woodland and chaparral within the Project area. This species was observed on Sudden Road at the border of VAFB during avian surveys conducted during spring 2017 (Appendix C-1) (Sapphos, 2018).

Western Mastiff Bat (*Eumops perotis*). The western mastiff bat is a CDFW Species of Special Concern. Suitable habitat is present in grasslands, woodlands, and coastal sage scrub throughout the Project area. Calls identified as this species were recorded during bat surveys conducted in fall 2008 (Appendix C-1). It would generally be present year-round using a variety of habitats: arroyo willow thickets, tanoak forest, coast live oak woodland, California sagebrush scrub, grasslands, eucalyptus groves, and agricultural fields. Its primary flying activity would be expected to occur up to 195 feet from the ground surface (Sapphos, 2018).

Western Red Bat (*Lasiurus blossevillii*). The western red bat is a CDFW Species of Special Concern. Suitable habitat is present in woodlands within the Project area. Calls identified as possibly this species were recorded during bat surveys conducted in fall 2008 (Appendix C-1). However, these calls could not be distinguished from the common canyon bat (*Parastrellus hesperus*) calls due to their acoustic similarity. These calls could have been from either species or a combination of both. The nearest occurrence in the CNDDB was recorded 0.3 mile east of the Project area. Its primary flying activity would be expected to occur no higher than 20 feet above ground surface or water (Sapphos, 2018).

Long-Eared Myotis (*Myotis evotis*). The long-eared myotis is a CDFW California Special Animal. Suitable habitat is present in woodlands within the Project area. Calls identified as this species were recorded in oak woodlands in the eastern portion of the Project site during bat surveys conducted in 2008 and 2017 (Appendix C-1). It would generally be present year-round using coast live oak woodland and tanoak forest, and its primary flying activity would be expected to occur up to 40 feet from the ground surface (Sapphos, 2018).

Occurrence Potential or Regulatory Status Revised Since the LWEP EIR

El Segundo Blue Butterfly (*Euphilotes battoides allyni*). The El Segundo blue butterfly is federally listed endangered. Critical habitat has not been designated for this species. Known occurrences are closely associated with its host plant, coast buckwheat (*Eriogonum parvifolium*). The larvae feed and develop in the developing seed heads, pupate under the bush, and the adults feed on nectar produced by the flowers. El Segundo blue butterflies typically stay within 200 feet of this food plant over their entire lifetime.

Until 2005, the El Segundo blue butterfly was known from only three extant populations in coastal dune habitat in Los Angeles County, including El Segundo, near the Los Angeles International Airport, and at Malaga Cove on the Palos Verdes Peninsula. The Los Angeles County populations are over 120 miles southeast of the Project site. In 2005, butterflies tentatively identified as El Segundo blue butterflies were identified on VAFB and were also associated with coast buckwheat. During directed surveys for this species at the Project site in August 2008, 26 adult butterflies and 3 larvae were identified, along with approximately 51.1 acres of suitable coast buckwheat habitats concentrated in the southern portion of the Project area, adjacent to VAFB (Sapphos, 2018). For the purposes of this report, and consistent with current USFWS guidance, the butterflies on the Project site are considered to be the federally listed El Segundo blue butterfly.

During the spring 2018 rare plant surveys for the SWEP, biologists mapped the locations and extent of coast buckwheat to better quantify the distribution of El Segundo blue butterfly habitat within the current Project configuration (see Figure 4.5-6). A total of 681 populations of coast buckwheat were documented, totaling 28,912 individual plants covering 781,882 square feet (17.9 acres) (Dudek, 2018a).

California Condor (*Gymnogyps californianus*). The California condor is federally and state-listed endangered and is Fully Protected in California. At the time that the LWEP EIR was published, extant populations of the condor had not been recorded in western Santa Barbara County and the nearest extant individual record was over 43 miles from the site. However, the California condor's range has been expanding over the last decade. The USFWS tracks individual condors in the wild, and the most current data (from 2017) shows four points recorded within 20 miles of the Project site (USFWS, 2017). The closest record was approximately 8 miles south of the Project site over the ocean, but all other records are north and east of the Project. It is unknown whether these points represent the movements of a single condor or multiple individuals. Nonetheless, the site and surrounding area supports suitable foraging habitat, and given the current population trends and the proximity to the Project site (condors are known to travel over 50 miles during foraging events), condors are expected to visit the Project area at least on occasion over the course of the Project lifespan.

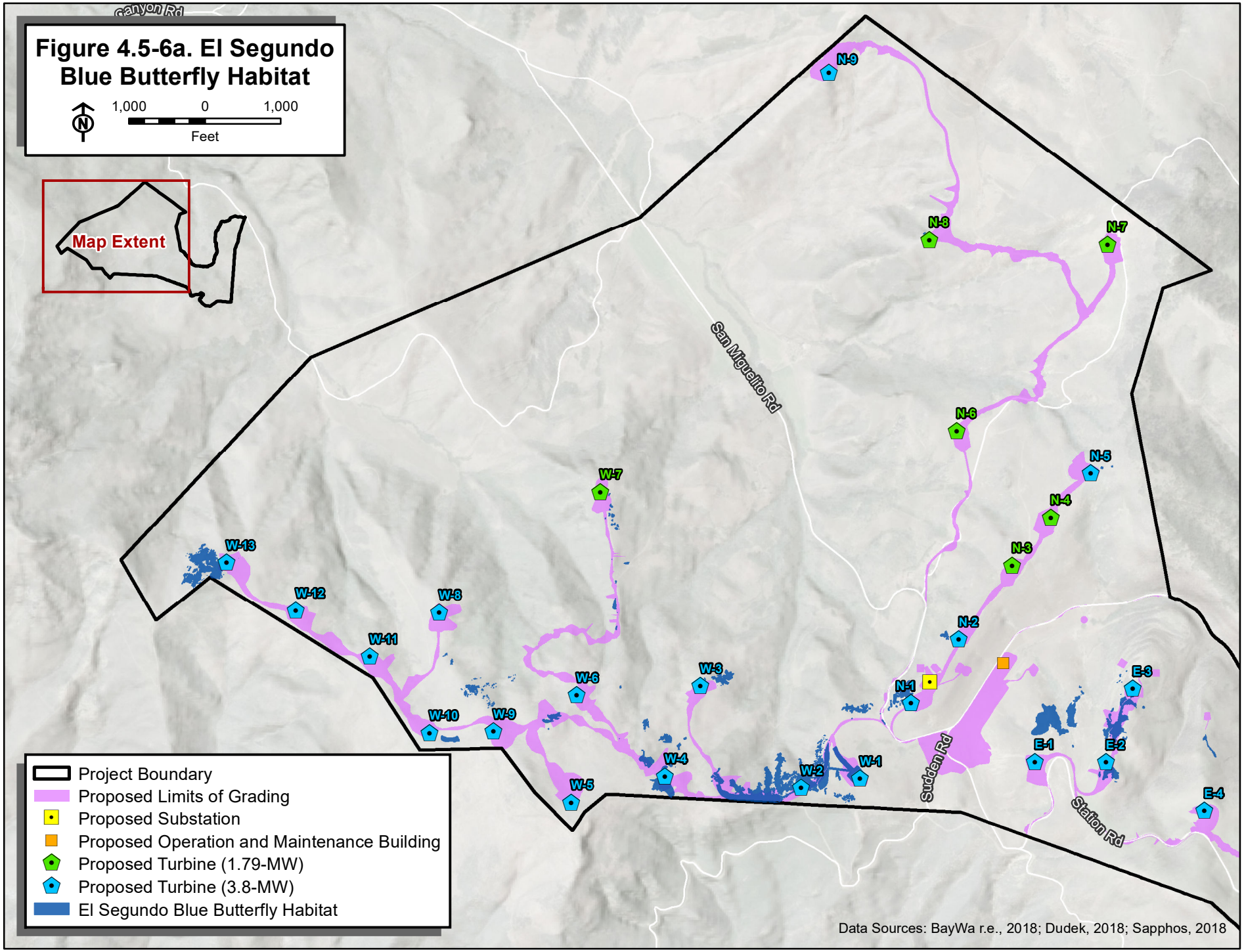
Figure 4.5-6a. El Segundo Blue Butterfly Habitat
1,000 0 1,000
Feet
Map Extent
Canyon Rd
San Miguelito Rd
Sudden Rd
Station Rd
N-9
N-8
N-7
N-6
N-5
N-4
N-3
N-2
N-1
W-7
W-13
W-12
W-8
W-11
W-6
W-3
W-10
W-9
W-4
W-5
W-2
W-1
E-3
E-1
E-2
E-4
Project Boundary
Proposed Limits of Grading
Proposed Substation
Proposed Operation and Maintenance Building
Proposed Turbine (1.79-MW)
Proposed Turbine (3.8-MW)
El Segundo Blue Butterfly Habitat
Data Sources: BayWa r.e., 2018; Dudek, 2018; Sapphos, 2018

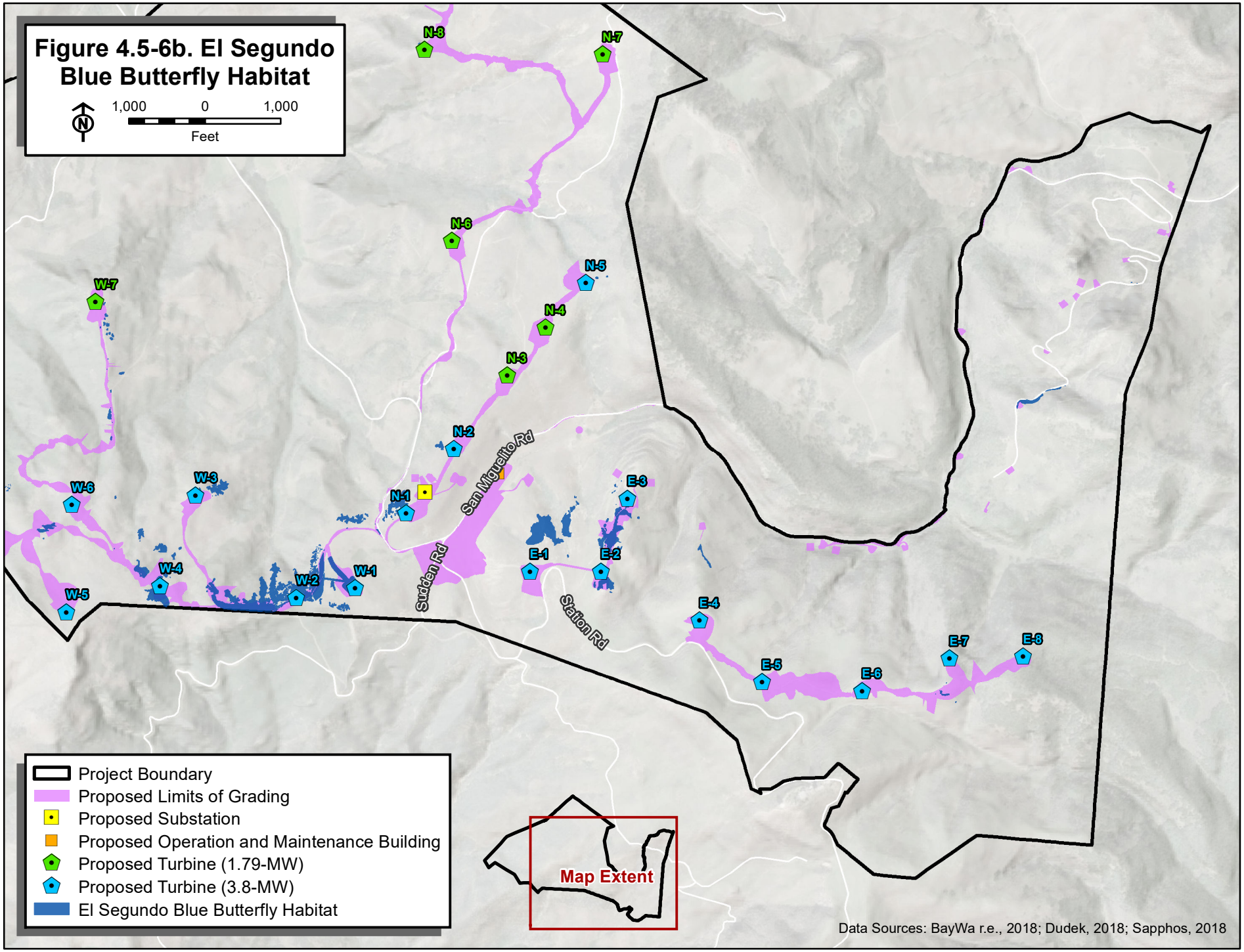
Figure 4.5-6b. El Segundo Blue Butterfly Habitat
1,000 0 1,000
Feet
N-8
N-7
N-6
N-5
N-4
N-3
N-2
N-1
W-7
W-6
W-3
W-4
W-5
W-2
W-1
E-3
E-1
E-2
E-4
E-5
E-6
E-7
E-8
San Miguelito Rd
Sudden Rd
Station Rd
Project Boundary
Proposed Limits of Grading
Proposed Substation
Proposed Operation and Maintenance Building
Proposed Turbine (1.79-MW)
Proposed Turbine (3.8-MW)
El Segundo Blue Butterfly Habitat
Map Extent
Data Sources: BayWa r.e., 2018; Dudek, 2018; Sapphos, 2018

Southwestern Willow Flycatcher (*Empidonax traillii extimus*). *E. traillii extimus* is federally listed endangered, and all three subspecies of *E. traillii* are state-listed endangered. The LWEP EIR considered this species unlikely to occur on site due to a lack of willow vegetation, although it is known from nearby VAFB. However, riparian willow thickets in the Project area provide suitable migratory stopover habitat and possibly breeding habitat, particularly along San Miguelito Creek and along portions of the transmission line and an eBird record of willow flycatcher (subspecies unknown) was reported from Miguelito County Park adjacent to transmission line corridor (eBird, 2018). Although willow flycatchers have not been observed during Project surveys, the nearby records and presence of suitable habitat suggest that this species has a high potential to occur in the Project area.

Tricolored Blackbird (*Agelaius tricolor*). As described in the LWEP EIR, flocks of tricolored blackbirds were documented on site during surveys in 2002 and 2008. At the time of LWEP EIR publication, this species was a California Species of Special Concern. However, in December 2015 it was designated a Candidate for Listing under the CESA by the CDFW. The Fish and Game Commission voted to list the tricolored blackbird as threatened under the CESA on April 19, 2018. The official Notice of Findings is pending.

California Red-Legged Frog (*Rana draytonii*). The California red-legged frog is federally listed threatened and a California Species of Special Concern. The LWEP EIR reported that it occurs in Honda Creek west of Tranquillion Peak, and tadpoles have been observed in a trough near a northern tributary to Miguelito Canyon near the boundary between VAFB and the Project site. The LWEP EIR concluded that marginal habitat for this species is present on the Project site in Honda Creek and stockponds. The LWEP EIR determined that California red-legged frog may be present on the Project site during infrequent migration events and may persist in stockponds located throughout the LWEF site.

Approximately 204 acres of critical habitat for California red-legged frog has been designated within the southeast portion of the Project area. No suitable riparian habitat is present for this species within the critical habitat area; however, upland dispersal habitats are present. The nearest occurrence in the CNDDB was recorded 0.23 mile north of the Project area in San Miguelito Creek in 2008, near the proposed transmission line corridor. There are five other occurrences within 1 mile east of the Project site, along Cañada Honda Creek in VAFB, that were recorded in 2008. Due to the Project's proximity to known records, potential aquatic breeding habitats, and the presence of suitable upland dispersal habitat on site, including portions of the Project footprint, this species is considered to have a high likelihood to occur on site during dispersal events.

4.5.1.5 Wetlands and Other Sensitive Aquatic Features

Wetlands and other sensitive aquatic features are defined and described in Section 3.5.5 of the LWEP EIR. The Applicant's consultant Sapphos Environmental, Inc. (Sapphos) prepared a wetland delineation at the Project site in 2008 for the LWEP, and the Applicant's consultant Dudek revised and expanded the wetland delineation and jurisdictional determination with emphasis on those features that would be impacted by the SWEP, including along the transmission line corridor. See Appendix C-4 for the *Wetland Delineation and Jurisdictional Determination Report* (Dudek, 2018c). Jurisdictional features in the Project area are shown on Figure 4.5-7 and described in detail below.

Major Hydrologic Features

Most of the Project development would be located along ridgelines and steep terrain, and the majority of the hydrologic features identified during the wetland delineation consisted of upper watershed

features that begin as minor concavities at the upper elevations and develop into defined channels in the lower elevations. The proposed transmission line would be constructed largely in the lower elevations of the Project area. The transmission line alignment crosses over one named stream, San Miguelito Creek, at several points along the alignment. Ultimately, nearly all of the hydrologic features identified within the Project area flow into named streams including Canada Honda, which discharges into the Pacific Ocean and San Miguelito Creek and Salispuedes Creek, which discharge into the Santa Ynez River. (Dudek, 2018c)

Jurisdictional Delineation Results

The wetland delineation completed by Sapphos in 2008 concluded that three features were under the jurisdiction of the USACE, RWQCB, CDFW, as well as the County of Santa Barbara in association with the previously proposed substation, laydown, and staging areas for the LWEP. The wetland delineation field assessment completed by Dudek for the SWEP re-assessed the previously mapped wetland features and, in addition, identified a total of 23 ephemeral channels, 4 intermittent streams, 2 adjacent wetlands, 2 isolated wetlands, as well as associated riparian habitats within the overall survey area. In addition, a total of 40 swale features were identified throughout the survey area. (Dudek, 2018c)

The Project area is located within two major watersheds; the South Coast watershed in the western and far southeastern portions of the Project area and Santa Ynez watershed in the eastern and far north-central portions of the Project area, which includes the entire transmission line corridor. Results of the wetland delineation presented below are excerpted from the *Wetland Delineation and Jurisdictional Determination Report* and are separated by major watershed due to characteristic differences in the hydrologic features between each watershed. (Dudek, 2018c)

South Coast Watershed

The portion of the Project area within the South Coast watershed falls into two separate sub-watersheds; Canada Honda Creek-Frontal Santa Barbara Channel and Jalama Creek.

The Canada Honda Creek-Frontal Santa Barbara Channel sub-watershed drains the majority of the western portion of the Project area. The north-, west-, and south-facing slopes within the Project area support a hydrologic connection to Canada Honda Creek through a series of swales, ephemeral channels, and intermittent streams across the hillslopes. Canada Honda Creek, which is located entirely outside of the Project area, ultimately flows into the Pacific Ocean approximately 6.7 miles west of the Project area on Vandenberg Air Force Base.

The Jalama Creek sub-watershed drains a relatively small area in the southeastern portion of the Project area. Within this sub-watershed, the south- and east-facing slopes in the Project area support one swale, which continues downslope and out of the Project area further to the southeast, eventually connecting to Jalama Creek. Jalama Creek ultimately flows into the Pacific Ocean 5.6 miles south of the Project area at Jalama Beach County Park.

A portion of the Project area falls into the Coastal Zone within the South Coast watershed, and coastal wetlands, non-wetland waters, and riparian habitat were included in the delineation.

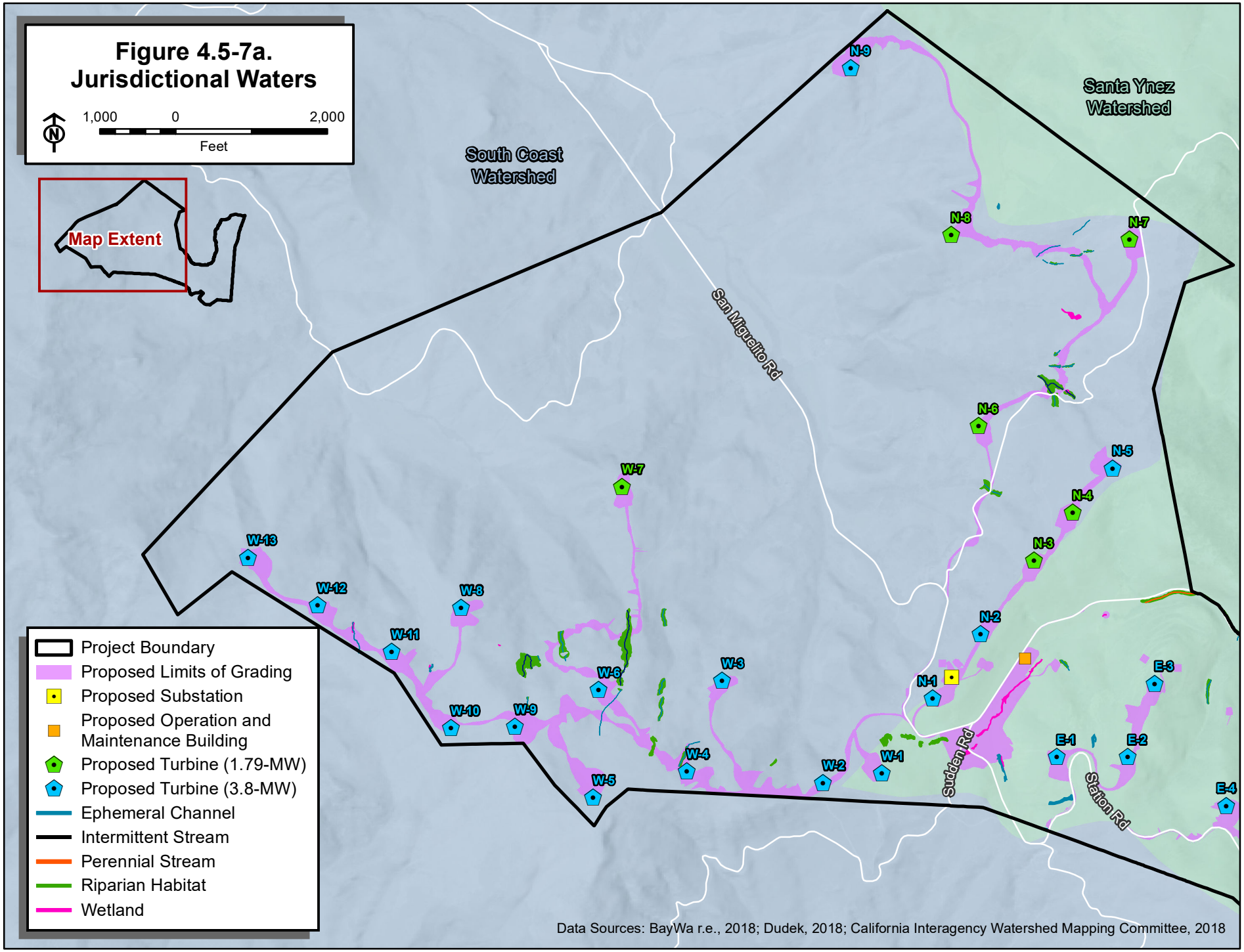
Figure 4.5-7a.
Jurisdictional Waters
1,000
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2,000
Feet
Map Extent
South Coast Watershed
Santa Ynez Watershed
San Miguelito Rd
Sudden Rd
Station Rd
N-9
N-8
N-7
N-6
N-5
N-4
N-3
N-2
N-1
W-7
W-13
W-12
W-8
W-11
W-6
W-3
W-10
W-9
W-4
W-5
W-2
W-1
E-3
E-1
E-2
E-4
Project Boundary
Proposed Limits of Grading
Proposed Substation
Proposed Operation and Maintenance Building
Proposed Turbine (1.79-MW)
Proposed Turbine (3.8-MW)
Ephemeral Channel
Intermittent Stream
Perennial Stream
Riparian Habitat
Wetland
Data Sources: BayWa r.e., 2018; Dudek, 2018; California Interagency Watershed Mapping Committee, 2018

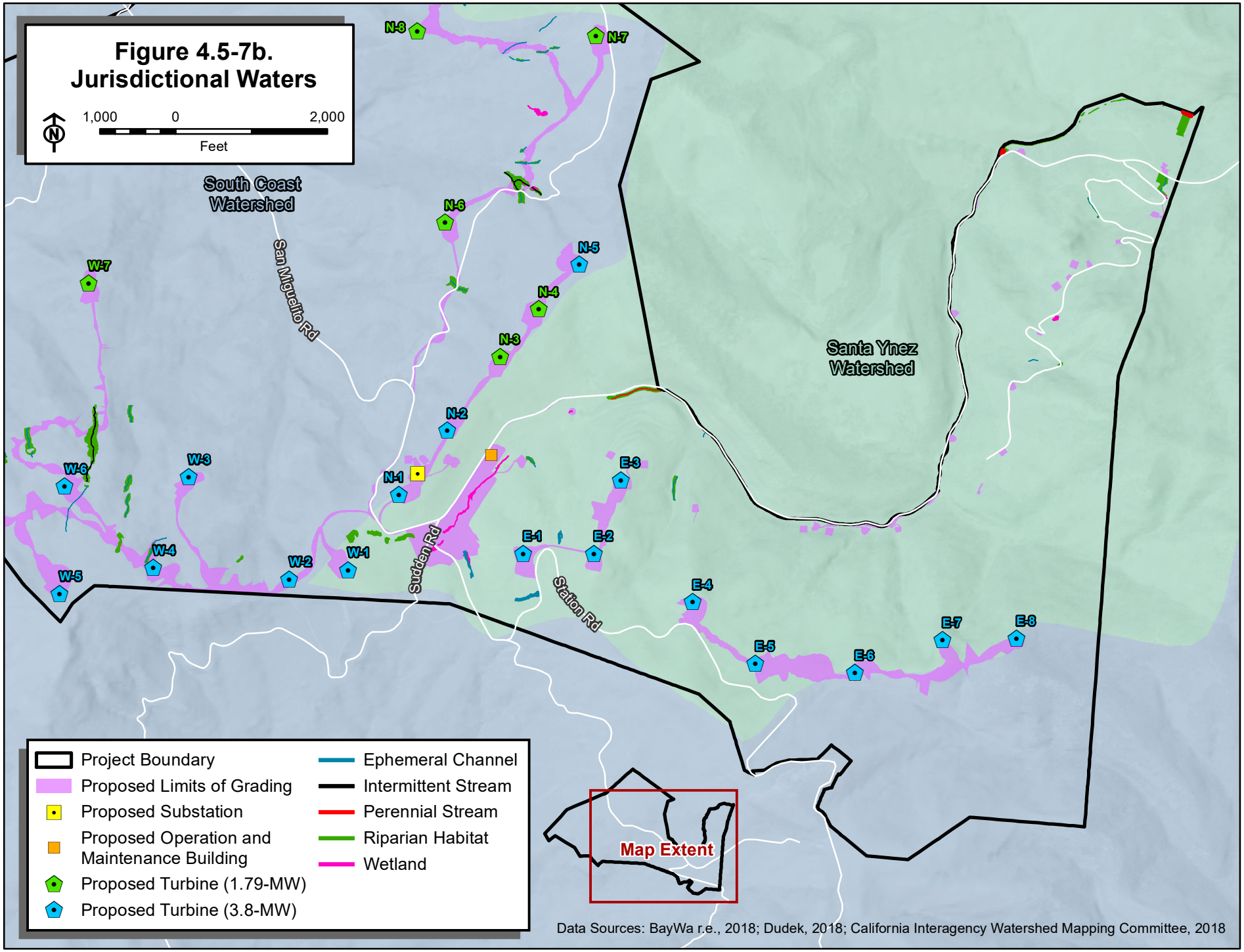
Figure 4.5-7b.
Jurisdictional Waters
1,000
0
2,000
Feet
South Coast Watershed
Santa Ynez Watershed
San Miguelito Rd
Sudden Rd
Station Rd
N-8
N-7
N-6
N-5
N-4
N-3
N-2
N-1
W-7
W-6
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W-4
W-5
W-2
W-1
E-3
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E-8
Project Boundary
Proposed Limits of Grading
Proposed Substation
Proposed Operation and Maintenance Building
Proposed Turbine (1.79-MW)
Proposed Turbine (3.8-MW)
Ephemeral Channel
Intermittent Stream
Perennial Stream
Riparian Habitat
Wetland
Map Extent
Data Sources: BayWa r.e., 2018; Dudek, 2018; California Interagency Watershed Mapping Committee, 2018

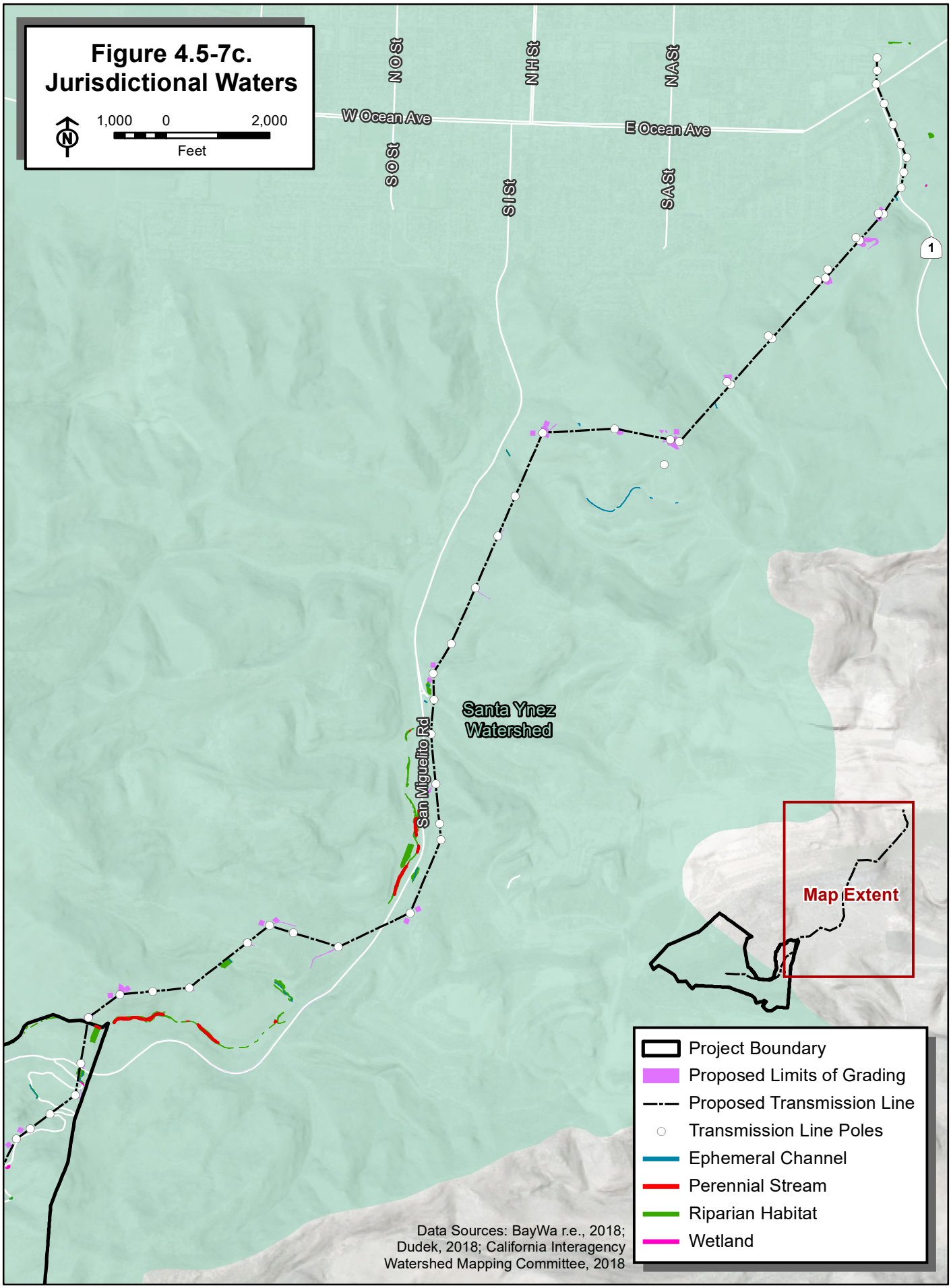
Figure 4.5-7c.
Jurisdictional Waters
1,000 0 2,000
Feet
N O St
N H St
N A St
W Ocean Ave
E Ocean Ave
S O St
S I St
S A St
1
Santa Ynez
Watershed
San Miguelito Rd
Map Extent
Project Boundary
Proposed Limits of Grading
Proposed Transmission Line
Transmission Line Poles
Ephemeral Channel
Perennial Stream
Riparian Habitat
Wetland
Data Sources: BayWa r.e., 2018;
Dudek, 2018; California Interagency
Watershed Mapping Committee, 2018

Ephemeral channels and intermittent streams supporting clear ordinary high-water mark (OHWM) indicators as well as features supporting evidence of wetland hydrology were identified at various locations throughout the Project area. Evidence of an OHWM and defined bed and bank was identified in a total of 14 mapped ephemeral channels and four intermittent streams within the South Coast watershed. These features were designated as ephemeral or intermittent based on the presence or absence of surface flow during the field assessment. Each of the intermittent streams supported surface flow during the field assessment and individual seeps were found to be associated with these features. It is not known whether these seeps provide a year-round water supply to the intermittent streams.

A total of 18 swale features were also identified and mapped within the South Coast watershed portion of the Project area during the field assessment. These features were generally located in the uppermost portion of the watershed and lacked clear indicators of hydrology. Swales, in the context of the Project area, were defined based on the lack of an OHWM or defined bed and bank and were typically dominated by upland species within their confines. These features were, however, located in topographical concavities on hillsides and primarily convey rainfall runoff downslope. Swales were the most commonly encountered feature within the survey area during the field assessment, the majority of which continue downslope into ephemeral channels either inside or outside of the survey area and are presumed to be hydrologically connected to Canada Honda based on an evaluation of the local topography and on a visual assessment.

Santa Ynez Watershed

Within the Santa Ynez watershed, the Project area falls into two separate sub-watersheds; Santa Lucia Canyon-Santa Ynez River and San Miguelito Creek-Santa Ynez River.

The Santa Lucia Canyon-Santa Ynez River sub-watershed drains a very small area in the northwestern portion of the survey area. Within this sub-watershed, the north-facing slopes in the Project area support one swale, which continues downslope and out of the Project area further to the north, eventually connecting to Santa Lucia Canyon, which discharges into the Santa Ynez River approximately 6.5 miles north of the Project area through a series of natural channels and man-made drainage features. The Santa Ynez River ultimately flows into the Pacific Ocean at Surf Beach, approximately 6.7 miles west of the confluence with Santa Lucia Canyon.

The San Miguelito Creek-Santa Ynez River sub-watershed drains the majority of the eastern portion of the Project area as well as the entirety of the transmission line corridor. Within this sub-watershed, the north-, south-, east-, and west-facing slopes in the Project area support a hydrologic connection to San Miguelito Creek through a network of swales and ephemeral channels across the hillslopes. Within the Project area, San Miguelito Creek begins in the southern limit as a wide swale, narrowing as the canyon steepens to the north to a densely forested intermittent stream. San Miguelito Creek eventually connects to the Santa Ynez River approximately 3.5 miles north of the Project area via man-made drainage features. Salispuedes Creek traverses the Project area in the northeastern portion of the transmission line corridor and connects to the Santa Ynez River just outside of the Project limits. The Santa Ynez River ultimately flows into the Pacific Ocean at Surf Beach, approximately 8.7 miles west of the confluence with San Miguelito Creek.

As the majority of the Project is to occur in the upper elevations of the overall site, on or just below ridgelines, the hydrologic features encountered within the Project area during the field assessment are largely contained within the upper watershed and consist of first and second order tributaries. San Miguelito Creek is the main exception as this feature is a third order stream that contained surface

water during the field assessment. Salispuedes Creek is also present within the survey area; however, this hydrologic feature is limited to the far northeastern portion of the survey area and is not anticipated to be impacted by the Project. These upper watershed features vary greatly in size and formation, from discontinuous swales to ephemeral channels, which directly influences the presence of hydrologic indicators including, but not limited to, an OHWM. However, each feature mapped during the field assessment and presented herein retains a hydrologic connection to downslope waters within the overall watershed as described above.

Evidence of an OHWM and defined bed and bank was identified in a total of three mapped ephemeral channels and one perennial stream (San Miguelito Creek). Those areas supporting wetland hydrology, both associated with ephemeral channel and perennial stream features as well as those isolated from these features, were identified and mapped following completion of USACE wetland delineation data forms. One wetland feature was identified and mapped in the uppermost portion of the San Miguelito Creek watershed, which was separated into three-parameter and two-parameter (County) wetlands based on the indicators observed. In contrast to the features identified in the South Coast watershed, no springs were identified within the Santa Ynez watershed and the only surface flow/ ponding was observed in San Miguelito Creek.

A total of 12 swale features were also identified and mapped within the Santa Ynez watershed portion of the Project area during the field assessment. These features were generally located in the uppermost portion of the watershed and lacked clear indicators of hydrology. Swales, in the context of the Project area, were defined based on the lack of an OHWM or defined bed and bank and, within the Santa Ynez watershed, were dominated entirely by upland species within their confines. These features were, however, located in topographical concavities on hillsides and primarily convey rainfall runoff downslope. Swales were the most commonly encountered feature within the survey area during the field assessment, the majority of which continue downslope into ephemeral channels either inside or outside of the survey area and are presumed to be hydrologically connected to San Miguelito Creek or Salispuedes Creek based on an evaluation of the local topography and on a visual assessment.

4.5.2 Regulatory Setting

4.5.2.1 Regulatory Framework Identified in LWEP EIR

The majority of regulations related to biological resources that were disclosed in the LWEP EIR are relevant to the currently proposed Project and are summarized below. See Section 3.5.6, *Regulatory Framework*, of the LWEP EIR for a detailed description of each.

Federal Regulations that pertain to the proposed Project include:

- Endangered Species Act
- Migratory Bird Treaty Act
- Bald and Golden Eagle Protection Act

State Regulations that pertain to the proposed Project include:

- California Endangered Species Act
- California Species Preservation Act

- California Fully Protected Wildlife Species (California Fish and Game Code §§ 3511, 4700, 5050, and 5515)
- California Fish and Game Code §§ 3503, 3503.5 and 3513

4.5.2.2 New, Updated, and Revised Regulations

Additional regulations related to biological resources that were not addressed in the LWEP EIR and that apply to the proposed Project include the following.

Federal Regulations that pertain to the proposed Project include:

- **Clean Water Act.** The Clean Water Act (33 USC 1251 et seq.) establishes legal requirements for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters.

  Section 401. Section 401 requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the United States must obtain a State certification that the discharge complies with other provisions of the Clean Water Act. The Regional Water Quality Control Boards (RWQCBs) administer the certification program in California.

  Section 404. Section 404 establishes a permit program administered by the U.S. Army Corps of Engineers (USACE) regulating the discharge of dredged or fill material into waters of the United States, including wetlands. Implementing regulations by the USACE are found at 33 CFR Parts 320-330. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines and were developed by the EPA in conjunction with the USACE (40 CFR Parts 230). The Guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

- **Wetlands – Executive Order 11990.** Issued in May 1977, mandates that all new construction should be designed to the greatest extent possible to avoid long- and short-term adverse impacts that would lead to the destruction or the modification of wetlands, in order to preserve and enhance the natural and beneficial values of wetlands. Federal agencies cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds that: (1) there is no practicable alternative to the construction and (2) the proposed project includes all practicable measures to minimize harm.
- **Plant Protection Act of 2000.** Prevents importation, exportation, and spread of pests that are injurious to plants, and provides for the certification of plants and the control and eradication of plant pests. The Act consolidates requirements previously contained within multiple federal regulations including the Federal Noxious Weed Act, the Plant Quarantine Act, and the Federal Plant Pest Act.

State Regulations that pertain to the proposed Project include:

- **Streambed Alteration Agreements – California Fish and Game Code Sections 1600-1616.** Under these sections of the Fish and Game Code, an applicant is required to notify CDFW prior to constructing a project that would divert, obstruct, or change the natural flow, bed, channel, or bank of a river, stream, or lake. Preliminary notification and project review generally occur during the environmental review process. When a fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable project changes to protect the

resource. These modifications are formalized in a Streambed Alteration Agreement that becomes part of the plans, specifications, and bid documents for the project. CDFW jurisdiction is determined to occur within the water body of any natural river, stream, or lake. The term "stream," which includes creeks and rivers, is defined in Title 14, CCR, Section 1.72.

- **California Porter-Cologne Water Quality Control Act.** Pursuant to the California Porter-Cologne Water Quality Control Act, the State Water Resources Control Board (SWRCB) and the nine RWQCB may require permits ("waste discharge requirements") for the fill or alteration of "Waters of the State." The term "Waters of the State" is defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code, Section 13050[e]). Although "waste" is partially defined as any waste substance associated with human habitation, the SWRCB interprets this to include fill discharge into water bodies. The SWRCB and the RWQCB have interpreted their authority to require waste discharge requirements to extend to any proposal to fill or alter "Waters of the State," even if those same waters are not under the jurisdiction of the USACE.

  Pursuant to this authority, the SWRCB and the RWQCB may require the submission of a "report of waste discharge" under Water Code Section 13260, which is treated as an application for a waste discharge requirement.

- **Oak Woodlands Conservation.** California Public Resources Code Section 21083.4 requires each county in California to consider a project's impacts to oak woodlands during the CEQA environmental review process. If a county determines that there would be significant impacts to oak woodlands, it must require one or more specified mitigation alternatives to mitigate the significant effect of the conversion of oak woodlands.

- **California Coastal Act (Section 30001**). Section 30001 of the California Coastal Act of 1976 lists the California Coastal Zone as a distinct and valuable natural resource and includes measures to protect the state's coastal natural and scenic resources. Pursuant to the act, all development should be located, designed, and constructed as to minimize any potential adverse effects on Coastal Zone resources. Additionally, habitats that are determined to be environmentally sensitive should be protected against any significant disruption of habitat value.

- **Furbearing Mammals (Fish and Game Code Section 4000).** According to the State Fish and Game Code, Division 4, Part 3, Chapter 2, Article 1, Section 4000, the list of furbearing mammals includes, but is not limited to, kit fox (*Vulpes macrotis*) and badger (*Taxidea taxus*). The regulations on take of fur-bearing mammals are established within the California Code of Regulations (CCR), Title 14, Division 1 (Subdivision 2), Chapter 5, Sections 460-464. Under these provisions, take of kit fox is prohibited, and take of badger is regulated. Title 14, Sections 460–464 of the CCR are supported by Sections 200, 203, and 4009.5 of the Fish and Game Code.

Santa Barbara County Plans, Policies, and Regulations. Santa Barbara County land use policies recognizes several habitat types as being worthy of protection. These are communities that support high plant and animal diversity, are limited in extent, or tend to be vulnerable to human impacts. These habitats include native grasslands, oak woodlands, coastal sage scrub, rivers and streams, and wetlands. The County's Land Use and Development Code (SBC, 2018a) and Environmental Thresholds and Guidelines Manual (SBC, 2018b) contain specific recommendations for protection of these resources. Santa Barbara County's Comprehensive Plan Land Use Element contains resource protection policies for biological resources.

- **Santa Barbara County Comprehensive Plan.** Projects within the County are subject to plans and policies intended to protect biological resources contained in elements of the Santa Barbara County Comprehensive Plan, including the Conservation Element, Land Use Element, and Coastal Land Use Plan. These documents identify sensitive habitats and species and provide measures to direct Project design and policies to protect biological resources.
  - ***Conservation Element.*** Santa Barbara County's natural and cultural resources are the subject of the Conservation Element. It identifies "species and ecological communities of particular value." Ecological communities of greatest interest listed in the Conservation Element include: high montane coniferous forest (mixed coniferous forest), mixed evergreen forest, closed cone pine forest, Douglas fir forest, southern oak woodland, coastal dune and strand, coastal salt marsh, coastal bluff, native grassland, interior cypress forest, canyon oak – big cone spruce, Coulter pine forest, rare freshwater habitats, and rare freshwater habitats.
  - ***Oak Tree Protection in the Inland Rural Areas of Santa Barbara County: Supplement to the Mapped Areas and Communities Section of the Conservation Element.*** Provides for the protection of native oak trees in the inland rural areas of Santa Barbara County. Oak species discussed in this section include coast live oak (*Quercus agrifolia*), valley oak (*Q. lobata*), blue oak (*Q. douglasii*), canyon live oak (*Q. chrysolepis*), black oak (*Q. kelloggii*), and interior live oak (*Q. wislizenii*).

  Development Standard 1 for protection of all species of mature oak trees (other than valley oaks) states:

  All development shall avoid removal of or damage to mature oak trees, to the maximum extent feasible. Mature oak trees are considered to be live oak trees six inches or greater diameter at breast height and blue oak trees four inches or greater diameter at breast height, or live and blue oaks six feet or greater in height. Native oak trees that cannot be avoided shall be replanted on site. When replanting oak trees on site is not feasible, replanting shall occur on receiver sites known to be capable of supporting the particular oak tree species, and in areas contiguous with existing woodlands or savannas where the removed species occurs. Replanting shall conform to the County's Standard Conditions and Mitigation Measures.

- **Coastal Land Use Plan.** This is the Santa Barbara County Local Coastal Program, a local implementation of the California Coastal Act. The Coastal Land Use Plan establishes land uses within the Coastal Zone and includes numerous policies applicable to development projects. Pursuant to the Coastal Land Use Plan, the State Coastal Commission exercises permit jurisdiction over development projects within the California Coastal Zone. Other elements of the County's Comprehensive Plan are applicable within the Coastal Zone, however, where conflicts exist, the Coastal Land Use Plan takes precedence. A portion of the Proposed Project is located within the Coastal Zone.

  The Coastal Land Use Plan designates Environmentally Sensitive Habitat Areas (ESHAs) within the County's Coastal Zone, which are defined by Section 30107.5 of the Coastal Act as "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments." The proposed Project does not fall within any mapped ESHA. However, according to Section 3.9.4 of the Coastal Land Use Plan, native plant communities are considered a county-wide ESHA that "are not designated on the land use maps because they occur in so many areas," and as such, "the policies will have to be applied on a

case-by-case basis as projects are reviewed." Native plant communities include coastal sage scrub, chaparral, California native oak woodland and individual oak trees, and endangered, rare, or endemic plant species.

Regarding oak trees in particular, Policy 9-35 of the Coastal Land Use Plan states:

> *Oak trees, because they are particularly sensitive to environmental conditions, shall be protected. All land use activities, including cultivated agriculture and grazing, should be carried out in such a manner as to avoid damage to native oak trees. Regeneration of oak trees on grazing lands should be encouraged.*

In addition, Policy 9-36 states:

> *When sites are graded or developed, areas with significant amounts of native vegetation shall be preserved. All development shall be sited, designed, and constructed to minimize impacts of grading, paving, construction of roads or structures, runoff, and erosion on native vegetation. In particular, grading and paving shall not adversely affect root zone aeration and stability of native trees.*

4.5.3 Significance Thresholds

Santa Barbara County's Environmental Thresholds and Guidelines Manual (County, 2018) includes guidelines for assessing impacts to biological resources. Impacts would be significant if the proposed Project would:

- Substantially reduce or eliminate species diversity or abundance.
- Substantially reduce or eliminate quantity or quality of nesting areas.
- Substantially limit reproductive capacity through losses of individuals or habitat.
- Substantially fragment, eliminate, or otherwise disrupt foraging areas and/or access to food sources.
- Substantially limit or fragment range and movement (geographic distribution or animals and/or seed dispersal routes).
- Substantially interfere with natural processes, such as fire or flooding, upon which the habitat depends.

In addition, Appendix G of the CEQA Statute and Guidelines states that a project would have a significant effect on biological resources if it would:

- 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 CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404, of the Clean Water Act (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means;

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites; or
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Criteria used in determining impact significance for the proposed Project were based on those identified above. An impact to biological resources would be considered significant (before considering offsetting mitigation measures) if the lead agency determines that Project implementation would result in one or more of the following:

- The potential for reduction, loss, or degradation of habitat for threatened, endangered, or special-status species;
- The potential for loss or "take" of any federal- or state-listed plant or animal species; fully protected species; special-status species, or species protected by the MBTA or other regulations;
- A net loss or permanent change in the extent or functional value of any habitat or biotic community considered biologically, scientifically, recreationally, or economically significant by federal, state, or local policies, statutes, and regulations;
- Adverse effect on federally protected wetlands as defined in Section 404 of the Clean Water Act;
- Alteration or destruction of habitat that precludes reestablishment of native populations of plants and animals;
- Impairment of movement, migration, or dispersal of resident and migratory fish and wildlife species; or
- Substantial loss of habitat or population decline of any native fish, wildlife or plant species, or overall reduction in biological diversity.

4.5.4 Environmental Impacts and Mitigation Measures

4.5.4.1 Impact Assessment Methodology

Direct impacts are defined under CEQA as those effects that result from a project and occur at the same time and place. For biological resources, direct impacts can include the removal of vegetation, disturbance to wildlife from project-related activities, and the crushing of burrows. Indirect impacts are caused by a project, but can occur later in time or are farther removed in distance but are reasonably foreseeable and related to the project. Indirect impacts can include the disruption of native seed banks, spread of invasive plant species, changes to soil or hydrology that adversely affects native species over time, disruption of prey base, or increased predation through alterations of the physical landscape from project features. Indirect impacts may also include increased traffic and human disturbance.

Permanent or long-term Project-related impacts include the conversion of land to a new use, such as the construction of new roads, substation, and WTG pads. It also includes removal of woodland even with post-construction restoration due to the length of time required to re-establish mature trees and the original functional value. Temporary or short-term impacts result from activities that are of short

duration (i.e., six to 12 months) and that do not result in a permanent land use conversion. Temporary impacts of the proposed Project include ground disturbance, noise, human activity, and vehicle traffic associated with the construction phase.

Impacts from the proposed Project are assessed for the construction and operation phases. Construction activities include grading, WTG installation, transmission line installation, appurtenant structure construction, and associated activities. Operations include WTG operation, transmission line operation, emergency repairs, and routine maintenance.

Mitigation measures (MMs) have been revised from the LWEP EIR where needed to ensure impacts to biological resources from the SWEP are minimized or avoided to the extent feasible. Where appropriate, the Applicant's recommended mitigation (see the *Biological Resources Technical Report* [Sapphos, 2018] in Appendix C-1) has been incorporated into the MMs presented below.

4.5.4.2 Proposed Project Impacts and Mitigation Measures

Table 4.5-2 lists the impacts and MMs identified for biological resources in the LWEP EIR. These same impacts are addressed in this section for the SWEP. The right-hand column of the table below indicates whether the LWEP impacts or MMs have been modified for the SWEP.

Table 4.5-2. LWEP Impacts and Mitigation Measures – Biological Resources

Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
BIO-1	Vegetation and Wildlife Habitat. Approximately 127 acres of vegetation and wildlife habitat will be temporarily impacted by construction, with an additional 43 acres being permanently disturbed (e.g., by construction of roads, pads, facilities sites). The temporarily disturbed areas would be available to be revegetated upon completion of construction. Although most of the habitat is relatively common in the region, the affected habitat includes areas that qualify for special regulatory protection, including Central Coast riparian scrub and may include areas with a prevalence of native perennial grasses and other native grassland species. Only minor disturbances to common vegetation are expected during O&M.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-3: Site Restoration and Revegetation Plan BIO-8: Native Perennial Bunchgrass BIO-11b: Fencing BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Divided impact into BIO-1a (construction) and BIO-1b (operation). Updated impact discussion. Revised/updated mitigation. Significance conclusion change (operation).

Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
BIO-2	Woodland and Forest. Tree trimming or removal may be required during transport of WTGs or power line installation. A small portion of the proposed roadway network would affect tree-dominated vegetation; power line construction would occur close to wooded areas. Only minor disturbances to common vegetation are expected from ongoing vegetation clearances for fire management and safety.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-3: Site Restoration and Revegetation Plan BIO-4: Tree Protection and Replacement Plan BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Divided impact into BIO-2a (construction) and BIO-2b (operation). Updated impact discussion. Revised/updated mitigation. New mitigation. Significance conclusion change (construction).
BIO-3	Wetlands, Seeps, and Springs, and Features Subject to Regulation by the USACE, Santa Barbara County, or CDFG. Direct loss of wetlands and seeps would occur at creek crossings and the proposed O&M facility. Direct loss of wetlands and seeps within the WTG corridor are not expected; however, there is potential for loss should the project configuration change. Additionally, soil erosion or spills could reduce water quality during construction.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-3: Site Restoration and Revegetation Plan BIO-9: Protection of Creeks, Springs, and Wetlands BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Updated impact discussion. Revised/updated mitigation.
BIO-4	Riparian Vegetation. A minor amount of riparian vegetation (several square feet) would be removed during bridge construction at Honda Creek; soil erosion would result in minor impacts on water quality.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-3: Site Restoration and Revegetation Plan BIO-4: Tree Protection and Replacement Plan BIO-9: Protection of Creeks, Springs, and Wetlands BIO-10: Riparian Habitat Restoration BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Deleted impact.
BIO-5	Gaviota Tarplant. Construction would result in 10.3 acres (8.1% of site total) of permanent and 22.3 acres (17.4% of site total) of temporary loss or disturbance to Gaviota tarplant and its habitat. Occasional disturbance to small areas of Gaviota tarplant habitat may occur as a result of operations or maintenance activities involving clearing or vehicle operation in occupied habitat.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-3: Site Restoration and Revegetation Plan BIO-5: Pre-construction Plant Surveys BIO-6: Gaviota Tarplant Disturbance BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Divided impact into BIO-5a (construction) and BIO-5b (operation). Updated impact discussion. Revised/updated mitigation.
BIO-6	Other Special-status Plant Species. A number of other special-	BIO-1: Worker Education and Awareness Program	Updated impact discussion. Revised/updated mitigation.

Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
	status plant species may be present on site or in the power line corridor and could be lost during construction.	BIO-2: Ground Disturbance BIO-3: Site Restoration and Revegetation Plan BIO-5: Pre-construction Plant Surveys BIO-7: Kellogg's and Mesa Horkelia Habitats BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	New mitigation.
BIO-7	Common Wildlife. Individual animals could be injured or killed by vehicles, equipment, explosives, or large holes during construction.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-11a: Pre-construction Wildlife Surveys BIO-11b: Fencing BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Updated impact discussion. Revised/updated mitigation. Significance conclusion change.
BIO-8	Nesting Birds. Nesting birds could potentially lose nests through destruction or abandonment.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-11a: Pre-construction Wildlife Surveys BIO-11b: Fencing BIO-11c: Biological Monitoring BIO-11d: Monitoring Report BIO-12a. Schedule ground disturbance to avoid nesting season BIO-12b. Buffer Zones BIO-14e: Sensitive Avian Species	Updated impact discussion. Revised/updated mitigation.
BIO-9	Construction and Maintenance Impacts to Special-status Wildlife Species. Direct and indirect impacts may occur to special-status wildlife species. Those with higher potential for injury or fatalities by vehicles or equipment, loss of habitat, or disturbance of burrows and nests include reptiles, raptors, and passerines and mammals.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-11a: Pre-construction Wildlife Surveys BIO-11b: Fencing BIO-11c: Biological Monitoring BIO-11d: Monitoring Report BIO-13: Pre-construction Surveys and Conservation of El Segundo Blue Butterfly BIO-14a: California Horned Lizard BIO-14b: Silvery Legless Lizard BIO-14c: San Diego Desert Woodrat BIO-14d: American Badger BIO-14e: Sensitive Avian Species	Updated impact discussion. Revised/updated mitigation. New mitigation. Significance conclusion change.
BIO-10	Avian and Bat Collisions with WTGs. Unknown numbers of special status and non-sensitive birds and bats are at risk of dying through collisions with the WTGs over the duration of the Project.	BIO-15a: Siting BIO-15b: Appropriate WTG and Project-Element Design BIO-16: Monitoring and Adaptive Management Plan BIO-16a: Before-After/Control-impact Study BIO-16b: Bird/Bat Mortality Study	Updated impact discussion Revised/updated mitigation.

Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
		BIO-16c: Reduce Prey Base Near Turbines BIO-16d: Adaptive Management Plan	
BIO-11	Avian and Bat Collisions with Power Lines and Meteorological Towers. Birds and bats may collide with power poles and meteorological towers.	BIO-15a: Siting BIO-15b: Appropriate WTG and Project-Element Design BIO-16: Monitoring and Adaptive Management Plan BIO-16a: Before-After/Control-impact Study BIO-16b: Bird/Bat Mortality Study BIO-16c: Reduce Prey Base Near Turbines BIO-16d: Adaptive Management Plan	Updated impact discussion.
BIO-12	Avian Displacement from WTGs. Birds with habitat within 200 feet of WTG towers may be displaced.	BIO-16: Monitoring and Adaptive Management Plan BIO-16a: Before-After/Control-impact Study BIO-16b: Bird/Bat Mortality Study BIO-16c: Reduce Prey Base Near Turbines BIO-16d: Adaptive Management Plan	Updated impact discussion.
BIO-13	Indirect Impacts (Wildlife). Indirect impacts to wildlife during construction would result from a variety of sources, which could result in temporary displacement. During operations, increases to impacts compared to pre-Project levels would be minor.	BIO-11a: Pre-construction Wildlife Surveys BIO-11b: Fencing	Divided impact into BIO-13a (construction) and BIO-13b (operation). Updated impact discussion.
BIO-14	Indirect Impacts (Vegetation). Invasive species carried from other work sites may establish on site and displace native plant species or interfere with revegetation; and topsoil removal and equipment operation may reduce the ability of soils to support vegetation.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-6: Gaviota Tarplant Disturbance BIO-10: Riparian Habitat Restoration BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Updated impact discussion. New mitigation.

Overview of Construction Impacts

Section 3.5.7.3, *Project Impacts*, of the LWEP EIR provides a summary of the impacts expected during construction of the LWEP. While the same general types of impacts would occur from construction of the SWEP, the acreage of disturbance would be different due to the revised project configuration. These differences are detailed in the impact analysis that follows.

Overview of Operation and Maintenance Impacts

The summary of O&M impacts provided in Section 3.5.7.3, *Project Impacts*, of the LWEP EIR remains applicable to the SWEP.

BIO-1a Vegetation and Wildlife Habitat Impacts during Construction. Vegetation and wildlife habitat could be temporarily and permanently lost during construction. ~~Approximately 127 acres of vegetation and wildlife habitat will be temporarily impacted by construction, with an additional 43 acres being permanently disturbed (e.g., by construction of roads, pads, facilities sites). The temporarily disturbed areas would be available to be revegetated upon completion of construction. Although most of the habitat is relatively common in the region, the affected habitat includes areas that qualify for special regulatory protection, including Central Coast riparian scrub and may include areas with a prevalence of native perennial grasses and other native grassland species.~~

The LWEP EIR assessed impacts to vegetation and wildlife habitat under Impact BIO-1. Under the LWEP, approximately 127 acres of vegetation and wildlife habitat would be temporarily impacted by construction, with an additional 43 acres being permanently disturbed (e.g., by construction of roads, pads, facilities sites). The temporarily disturbed areas could be revegetated upon completion of construction. Although most of the impacted habitat is relatively common in the region, the affected habitat includes areas that qualify for special regulatory protection, including Central Coast riparian scrub, oak woodland, and native grassland.

The SWEP would result in similar types of impacts to vegetation and wildlife habitat as described in the LWEP EIR, but the reconfigured project would result in additional acres of impacts and impacts to additional vegetation types. Table 4.5-3 summarizes the impacts to vegetation and wildlife habitat from the SWEP. It should be noted that the Applicant is considering most of the Project impacts to be permanent. The SWEP would also be subject to fuel management zones around structures, where vegetation would be managed in accordance with the County Fire Department's Defensible Space Standards (see footnote to Table 4.5-3). Temporary impacts identified in Table 4.5-3 are limited to pull sites for the transmission line installation.

In addition to the impacts identified above, the LWEP EIR reported that approximately 33.2 acres would be disturbed by transmission pole installation (184 poles assumed), which includes 1.33 acres of permanent disturbance. The SWEP would disturb approximately 11.96 acres for the transmission pole installation (approximately 44 poles), including 7.87 acres of permanent impacts.

The SWEP would result in the same types of vegetation and habitat impacts as reported in the LWEP EIR, but would be of higher magnitude. The SWEP would impact additional sensitive vegetation types, including tanoak forest and sensitive coastal scrub. It would also have greater impacts to coast live oak woodland, see Impact BIO-2a.

The LWEP avoided impacts in the Coastal Zone. However, under the proposed SWEP approximately 6.5 acres of road grading and widening would occur within the Coastal Zone. The remaining Project components, including all WTGs and appurtenant structures, would be located within the inland area. See Section 4.13, *Land Use*, for a full discussion of Project impacts within the Coastal Zone.

Table 4.5-3. Impacts to Vegetation and Landforms

Vegetation/ Landform	Project Component Permanent Impacts (acres) / Temporary Impacts (acres)											TOTAL Perm. / Temp.	GRAND TOTAL
	Cut/Fill	WTG Pads	WTG Access	Laydown Yard	O&M Facility	Sub-station	Switching Station	Road Modifi-cations	Trans-mission Line	Water Well	Fuel Manage-ment Zones[1]		
Common Vegetation													
Non-Native Grassland	0.64 / -	-	-	0.58 / -	-	-	-	-	0.87 / 0.53	0.01 / -	0.48 / -	2.59 / 0.53	3.12
Non-Native Forb-Dominated	0.56 / -	-	-	-	-	-	0.13 / -	-	0.39 / 0.28	-	0.50 / -	1.58 / 0.28	1.86
Non-Native Woodland	0.23 / -	-	-	-	-	-	-	-	0.32 / 0.02	-	0.04 / -	0.59 / 0.02	0.61
Subtotal	*1.43 / -*	-	-	*0.58 / -*	-	-	*0.13 / -*	-	*1.58 / 0.83*	*0.01 / -*	*1.02 / -*	*4.76 / 0.83*	*5.59*
Sensitive Vegetation													
Native Grassland	6.44 / -	6.67 / -	2.09 / -	0.11 / -	-	0.01 / -	-	-	0.04 / -	-	0.95 / -	16.31 / -	16.31
Coastal Scrub	61.65 / -	26.10 / -	22.67 / -	12.60 / -	0.71 / -	0.71 / -	0.27 / -	0.46 / -	5.53 / 2.97	0.01 / -	10.25 / -	140.96 / 2.97	143.93
Riparian Scrub	1.98 / -	0.02 / -	0.58 / -	0.08 / -	-	-	-	0.30 / -	-	-	0.06 / -	3.02 / -	3.02
Fremont Cotton-wood Forest	-	-	-	-	-	-	-	-	-	-	-	-	-
Tanoak Forest	2.12 / -	1.31 / -	0.85 / -	-	-	-	-	-	-	-	0.64 / -	4.92 / -	4.92
Coast Live Oak Woodland	0.73 / -	-	-	-	-	-	-	1.24 / -	0.26 / 0.10	-	0.16 / -	2.39 / 0.10	2.49
Subtotal	*72.92 / -*	*34.10 / -*	*26.19 / -*	*12.79 / -*	*0.71 / -*	*0.72 / -*	*0.27 / -*	*2.00 / -*	*5.83 / 3.07*	*0.01 / -*	*12.06 / -*	*167.60/ 3.07*	*170.67*
Other Landforms													
Agricultural Fields	0.82 / -	1.43 / -	2.75 / -	-	-	-	-	-	-	-	1.19 / -	6.19 / -	6.19
Disturbed	0.24 / -	-	-	-	-	-	0.05 / -	-	0.43 / 0.14	-	0.09 / -	0.81 / 0.14	0.95
Developed	0.17 / -	-	0.53 / -	0.13 / -	-	-	-	0.16 / -	0.03 / -	0.09 / -	0.42 / -	1.53 / -	1.53
Subtotal	*1.23 / -*	*1.43 / -*	*3.28 / -*	*0.13 / -*	-	-	*0.05 / -*	*0.16 / -*	*0.46 / 0.14*	*0.09 / -*	*1.70 / -*	*8.53 / 0.14*	*8.67*
Total Impacts	75.58 / -	35.53 / -	29.47 / -	13.50 / -	0.71 / -	0.72 / -	0.45 / -	2.16 / -	7.87 / 4.09	0.11 / -	14.78 / -	180.88 / 4.04	184.92

1 – Fuel management zones estimated consistent with Development Standard 6 of the County Fire Department's Defensible Space Standards, which requires 100-foot reduced fuel zone around structures. This requirement is expected to apply to the Project's main structures (WTGs, O&M building, substation, and switchyard). The reduced fuel zone would consist of a 30-foot zone clear of flammable vegetation adjacent to each structure and a managed vegetation zone from 30 to 100 feet from each structure. In addition, private roads on the Project site will need to maintain 10 feet of mowed area on each site of the roadways and a 15-foot reduced fuel area would be maintained around each transmission structure. These distances may be reduced upon Fire Department review of the Project. For this SEIR, the entire reduced fuel zone is considered permanent impacts.

As similarly concluded in the LWEP EIR, SWEP construction impacts on vegetation and wildlife habitat are classified as significant because of: (1) the magnitude of the disturbances to native vegetation and wildlife habitat; (2) the propensity to erosion related to the steepness of the terrain in many parts of the site; and (3) the role of the habitat in supporting wildlife, including declining native wildlife species dependent on open grassland habitats. MMs BIO-1 through BIO-3, BIO-8, and BIO-11b through BIO-11d, are recommended to avoid or minimize impacts to vegetation and habitat, including sensitive vegetation types. These measures require development and implementation of a Worker Education and Awareness Program, minimizing the amount of ground disturbance, development and implementation of a Site Restoration and Revegetation Plan, native grassland restoration, clearly marking disturbance limits and environmentally sensitive habitats in the field, and biological monitoring and reporting. With the implementation of these measures, impacts would be mitigated to a less-than-significant level (Class II).

Mitigation Measures

The following MMs from the LWEP EIR have been modified for the SWEP.

MM BIO-1 **Worker Education and Awareness Program.** The Applicant shall fund a County-approved biologist to develop and implement a worker education and awareness program (WEAP) specific to the Project. The program shall be presented to all individuals involved in the construction and O&M phases of the Project. The program shall include information focused on sensitive habitats and species and shall include, but not be limited to, the following:

- The natural history, including sensitive species and habitats, shall be described as well as the current status, reasons for decline, and protection measures relevant to the species and habitats.
- Contact points shall be provided for workers to report sightings of sensitive biological resources such as El Segundo blue butterfly, California red-legged frog, active bird nests, badger dens, and roosting bats and raptors in the vicinity of Project facilities.
- Workers shall be provided with photographs of sensitive biological resources including sensitive wildlife and plant species, den and burrow entrances, and nest structures. Qualified biologists, familiar with El Segundo blue butterfly (ESBB) and Gaviota tarplant, will provide a brief educational program for all personnel prior to initiation of any construction activities within the Project site. The program will include identification of ESBB, its host plant, coast buckwheat, and Gaviota tarplant; the general provisions and protections afforded to ESBB and Gaviota tarplant by the Endangered Species Act; and measures to be implemented during the Project to avoid and minimize adverse effects to ESBB and Gaviota tarplant.
- Workers shall be informed verbally and in writing of the various Project tasks that require biological surveys and monitoring for resource protection.
- Workers shall be provided with a photograph or description of the markers for active bird nests, trees, salvaged topsoil piles and windrows, or other mitigation areas, so that they shall know these are not to be disturbed without a biological monitor present.
- Workers shall be provided with photographs of invasive weeds and instructed to report to the biologist any new populations observed near Project facilities.

- Workers shall be informed not to litter. All trash and litter shall be picked up and removed from the construction sites at the end of each day.
- Workers shall be informed to obey a speed limit of 15 miles per hour while traveling on the Project site to avoid collisions with wildlife.
- Workers shall avoid driving over or otherwise disturbing areas outside the designated construction areas.

Plan Requirements. The Applicant shall submit the WEAP to the County for review and approval 30 days prior to implementation. All workers, contractors, and visitors shall attend the WEAP prior to entering the Project site and performing any work. The Applicant shall provide copies of the training attendance sheets to County staff as a record of compliance with this measure on a monthly basis. Trained crew members shall receive a sticker for their hardhat from the County Environmental Quality Assurance Program (EQAP) Inspector demonstrating WEAP training.

Timing. The WEAP shall be reviewed and approved by the County prior to Zoning Clearance. Implementation of WEAP training shall occur prior to the start of construction and as new crew members are added to the Project.

Monitoring. The County will ensure compliance with the WEAP throughout all phases of construction and operation by review of attendance sheets and hardhats, inspection of the site, and interviewing workers, as appropriate.

MM BIO-2 **Ground Disturbance.** The Applicant shall minimize the amount of disturbance, to meet or exceed the commitments made in the CUP application, including areas devoted to WTGs; power line poles; temporary and permanent access roads; stockpiles; staging, parking and lay down areas; areas where spoil shall be used to control erosion, build new roads, and improve road shoulders; and areas for associated facilities. Construction activities shall avoid sensitive areas, such as riparian zones, forests, etc., where feasible. Construction shall avoid all wetlands regulated by Santa Barbara County, CDFW, and USACE (see MM BIO-9) where feasible. Parking, lay down, storage areas, and other sites of surface disturbance shall be located in previously disturbed areas or in annual grassland (except in Gaviota tarplant habitat) and will be mowed, versus graded, where feasible to keep root structures in place; thereby, facilitating future revegetation. Any disturbed area that is not covered with base or paving within 14 days of its disturbance shall be stabilized through use of soil coating mulch, dust palliatives, compaction, reseeding, or other approved methods.

A biologist shall conduct a sweep of the site before mowing or removing vegetation and monitor for special-status species during work activities. Permanent access roads shall follow routes used for construction access to reduce the amount of new road construction. Vehicles and equipment access shall follow marked routes. Indiscriminate cross-country vehicle travel shall not be allowed.

Plan Requirements. The detailed plans, showing the limits of the grading, ground disturbance, access routes, and installation of facilities will be reviewed and approved by County staff.

Timing: The plans shall be approved by the County prior to Zoning Clearance.

Monitoring. County staff will inspect the Project plans and site, as well as review the restoration plan to ensure compliance with this measure as appropriate. County staff will monitor construction and revegetation activities to ensure the plan is fully implemented.

MM BIO-3 **Site Restoration and Revegetation Plan.** The Applicant shall retain a County-approved botanist to prepare and implement a site restoration and revegetation plan for all native vegetation communities subject to temporary impacts during construction and ground-disturbing O&M activities. The plan shall include, but not be limited to, the following requirements and other provisions:

- The site restoration and revegetation plan will identify quantitative success criteria for all habitat restoration that is based on both native vegetation percent cover and native species richness. Long-term performance standards shall include, but not be limited to, criteria such as requiring that restoration areas support at least 80 percent of the native species abundance and percent cover and is relatively weed free or demonstrates similar weed cover to surrounding, good quality habitat. All restoration activities and monitoring will be designed and implemented with the objective of achieving the success criteria.
- Native grassland communities shall be avoided to the greatest extent feasible.
- Top soil, and the seed bank it contains, shall be conserved on areas where soil is excavated such as WTG sites, access roads, and transmission pole locations.
- Woody material shall be removed from the soil surface and piled in an area that will be out of the way during construction. The upper 6 to 8 inches of soil shall be scraped from the disturbance footprint and piled into a stockpile in an area that will not be disturbed during construction.
- Topsoil stockpiles shall be clearly marked for avoidance.
- Stockpiles shall be immediately protected from wind erosion by covering them or hydromulching them to protect the pile from wind erosion. Wind erosion protection shall be renewed as needed.
- Any disturbed area that is not covered with base or paving within 14 days of its disturbance shall be stabilized through use of soil coating mulch, dust palliatives, compaction, reseeding, or other approved methods.
- Salvaged topsoil shall be redistributed on areas that will be revegetated following construction.
- Hydroseed with soil stabilization seed mixture shall be applied to temporarily disturbed areas, as appropriate, to facilitate revegetation and avoid erosion of bare soils. The hydroseed mix shall contain a mulch and binder to retard wind erosion by providing a crust over the soil surface. Native plant seeds shall be added to the hydroseed mixture or hand broadcasted onto the site just prior to hydroseeding. Care shall be taken to avoid premature germination of native species caused by prolonged immersion in the hydroseeder. On slopes, the Applicant shall augment the erosion control seed mixture with seed of native coastal scrub species native to the site and collected from the Project region. Appropriate seed mixtures for use on grassland and coastal scrub areas shall be developed in consultation with and approved by CDFW and County staff using seed of native species originating from the area between the Santa Ynez River and Hollister Ranch, and inland as far as California State Highway 1.

Recommendations from USDA Natural Resources Conservation Service for reseeding of agricultural grazing areas will be sought and incorporated as approved by the above agencies. The use of non-native species considered detrimental to agricultural grazing will be avoided.

- Where central coast scrub or central coast scrub/grassland mosaic has been removed by construction, revegetation will include coast buckwheat in the seed mix.
- The new plantings shall be irrigated with drip irrigation on a timer, and shall be weaned off of irrigation over a period of two to three years prior to P&D acceptance of the restoration habitat. The site restoration and revegetation plan shall include the irrigation requirements and schedule.
- Permanent impacts to vegetation will be mitigated by replacement (preferably onsite) of all habitats except disturbed and developed areas at a 3:1 ratio per impacted vegetation type for sensitive vegetation and a 1:1 ratio for non-sensitive vegetation. Replacement will occur via permanent protection of existing habitat (provided the habitat meets the same functional value as impacted habitat), onsite restoration, or both. Impacted vegetation types must be proportionally represented within proposed habitat compensation area(s) to ensure in-kind mitigation.
- The restoration areas shall be monitored for a minimum of 5 years by a qualified botanist, and the botanist shall submit annual progress reports to P&D. Weed control shall be started within 3 months of planting, or earlier if weeds have begun to flower. Weeding shall proceed as frequently as necessary to prevent weeds from spreading off the Project site into the adjacent area and to prevent seed set. An effort shall be made to cut weeds before they develop seeds to minimize the spread of invasive weeds. Cut mustard shall be hauled off the site and disposed of where the toxins in the stems shall not affect other plants. Any new weed species not present in the Project area prior to construction shall be eradicated.
- At the end of the five-year monitoring period the qualified biologist shall prepare a monitoring report detailing the success of the restoration efforts. The report will identify whether or not new habitat is established, self-sustaining, and capable of surviving drought, and if it meets or does not meet the quantitative success criteria by objective evaluation. The report shall provide recommendations for further restoration treatment, if success criteria have not been met. This monitoring report shall be submitted to the County for review and approval.

Plan Requirements. The Applicant shall prepare a restoration plan and submit it to County staff for approval. The plan shall be designed to address restoration during all phases of development of the site and shall include success criteria to determine whether restoration is proceeding as expected. Annual monitoring reports shall be submitted to the County for the duration of the site restoration and revegetation efforts (minimum 5 years). A final report shall be submitted at the end of the initial 5-year monitoring period. If additional restoration is required because success criteria have not been met at the end of 5 years, additional annual reports will be submitted until the restoration is demonstrated to be successful and complete.

Timing. The detailed grading plan, showing the limits of the grading, and the Restoration and Revegetation Plan shall be approved by the County prior to Zoning Clearance. The Applicant shall file a performance security with the County to complete restoration prior to Zoning Clearance.

Monitoring. County staff will inspect the Project plans and site as well as review the restoration plan, annual reports, and final monitoring report for compliance with this measure as appropriate. County staff will monitor construction and revegetation activities to ensure the plan is fully implemented.

MM BIO-8 **Native Grassland Restoration.** The Applicant shall retain a County-approved botanist to determine the total area of native grassland to be removed (temporary and permanent) during Project construction, following final engineering.

Impacts to native grassland shall be mitigated through a combination of seeding with salvaged topsoil (seedbank salvage), seed collected on site, and purchased seed from locally-grown stock. Seed shall be collected from the populations of native grasses and native grassland species on the Project sites prior to the start of construction. The seed shall be stored dry and included in the seed mixture applied to the restored areas. Drill seeding shall be performed for mixtures that include native grass seed. Native grassland revegetation techniques, locations, and success criteria shall be incorporated into the Restoration and Revegetation Plan (MM BIO-3).

Plan Requirements. The detailed grading plan, showing the limits of the grading will be reviewed and approved by County staff. The Applicant shall file a performance security with the County to complete restoration.

Timing. The mitigation plan shall be approved by the County prior to Zoning Clearance.

Monitoring. County staff will inspect the Project plans and site as well as review the mitigation plan to ensure compliance with this measure as appropriate. County staff will monitor construction and revegetation activities to ensure the plan is fully implemented.

MM BIO-11b **Fencing.** To minimize the amount of disturbance to wildlife habitat and sensitive biological resources, the Applicant shall clearly mark environmentally sensitive areas for avoidance in the field. These areas include, but are not limited to, occurrences of special-status plants, trees to be avoided, sensitive vegetation communities adjacent to work areas, and jurisdictional resources. Project boundaries shall be clearly marked with fencing or staking that shall be replaced as needed.

Plan Requirements. The detailed fencing plan, showing the location of required fencing shall be reviewed and approved by County staff prior to approval of the tentative Project map. This condition shall be printed on all Project plans.

Timing. The detailed fencing plan, showing the location of required fencing shall be reviewed and approved by County staff prior to Zoning Clearance.

Monitoring. County will inspect the Project plans and site, to ensure compliance with this measure as appropriate. County staff will review construction monitoring reports to ensure the plan is fully implemented.

MM BIO-11c **Biological Monitoring.** The Applicant shall fund a County-approved, Environmental Monitor during Project construction to monitor construction activities and to ensure compliance with all mitigation measures. The Environmental Monitor shall be present on site during all vegetation removal and during all of the initial ground disturbance activities for all aspects of the Project and shall regularly inspect the Project site as

needed after the initial ground disturbances to ensure that all mitigation measures are being implemented. The Environmental Monitor shall ensure that wildlife do not become entrapped in the excavations during installation of the WTGs and associated underground collection system from the WTGs to the substation (i.e., open trenches). Safeguards shall be implemented during daytime periods of non-activity and overnight, such as a placing a platform over the entire excavation site, flush with the ground surface, installing escape ramps in trenches, or exclusionary fencing. The Environmental Monitor shall be responsible for ensuring these safeguards are in place on a daily basis. Should relocation be required, construction shall be halted until the Designated Biologist arrives on site and clears the work area (in compliance with all applicable permits and authorizations).

Plan Requirements. The Environmental Monitor shall work closely and cooperatively with County staff and County's consultants on a daily basis or as needed.

Timing. The Environmental Monitor shall be designated prior to the start of construction.

Monitoring. County staff will work with the Environmental Monitor throughout construction.

MM BIO-11d **Monitoring Report.** On a bi-weekly basis, the County-approved, Environmental Monitor shall provide the County a Construction Monitoring and Biological Resources Mitigation Report. This report shall include a description of the activities that have occurred on site, wildlife species encountered, relocation efforts, wildlife mortalities and injuries, violations or issues with construction activities, and any Project-related resolutions.

Plan Requirements. The Applicant shall consult and obtain any necessary permits from the appropriate regulatory agencies and provide copies to County staff. On a bi-weekly basis, the Applicant shall report compliance with this measure in writing to County staff on survey and monitoring activities.

Timing. The format of the Construction Monitoring and Biological Resources Mitigation Report shall be submitted by the Applicant and approved by the County prior to start of construction.

Monitoring: The Environmental Monitor shall submit the Construction Monitoring Report on the first and third week of each month to detail the previous two week's activities. This report may be submitted electronically. County staff will review the Construction Monitoring Report throughout construction.

BIO-1b Vegetation and Wildlife Habitat Impacts during O&M. Vegetation and wildlife habitat could be impacted during O&M. ~~Only minor disturbances to common vegetation are expected during~~ ~~O&M~~.

Impacts from routine O&M would be the same as described in the LWEP EIR. In the event that O&M activities, such as emergency repairs, would result in new ground disturbance, the Applicant shall implement the same mitigation as required for construction-phase activities as described under Impact BIO-1a. These include MMs BIO-1 through BIO-3, BIO-8, and BIO-11b through BIO-11d. These measures require development and implementation of a Worker Education and Awareness Program, minimizing

the amount of ground disturbance, development and implementation of a Site Restoration and Revegetation Plan, native grassland restoration, clearly marking disturbance limits and environmentally sensitive habitats in the field, and biological monitoring and reporting. With the implementation of these measures, impacts from ground-disturbing O&M activities would be mitigated to a less-than-significant level (Class II).

Mitigation Measures

MM BIO-1 **Worker Education and Awareness Program.** See full text under Impact BIO-1a.

MM BIO-2 **Ground Disturbance.** See full text under Impact BIO-1a.

MM BIO-3 **Site Restoration and Revegetation Plan.** See full text under Impact BIO-1a.

MM BIO-8 **Native Grassland Restoration.** See full text under Impact BIO-1a.

MM BIO-11b **Fencing.** See full text under Impact BIO-1a.

MM BIO-11c **Biological Monitoring.** See full text under Impact BIO-1a.

MM BIO-11d **Monitoring Report.** See full text under Impact BIO-1a.

BIO-2a Construction Impacts to Woodland and Forest. Oak woodland and tanoak forest could be impacted during construction. ~~Tree trimming or removal may be required during transport of WTGs or power line installation. A small portion of the proposed roadway network would affect tree-dominated vegetation; power line construction would occur close to wooded areas~~.

Oak trees and the woodland habitats they constitute provide important habitat values for many wildlife species, including listed species and other special-status species. In addition, oak woodlands and forests are identified as ecological community of greatest interest by Santa Barbara County, and coast live oak woodlands and the trees themselves are subject to the California Oak Woodlands Conservation Act (California Public Resources Code Section 21083.4) and Santa Barbara County oak protection policies.

The LWEP EIR's Impact BIO-2 assessed permanent impacts to 0.1 acre of oak woodland, and temporary impacts to less than 0.1 acre. Those impacts would consist mainly of tree trimming and some potential for tree removal along the transmission line route. The LWEP EIR concluded that MM BIO-4 (Tree Protection and Replacement Plan) would reduce potential impacts to woodland and forest to a less-than-significant level.

The proposed SWEP would have substantially greater impacts to oak woodland and forest than assessed in the LWEP EIR. The SWEP would directly affect 2.49 acres of coast live oak woodland and 4.92 acres of tanoak forest. The Applicant's consultant Dudek estimated that 607 coast live oak and tanoak trees would be removed for construction of SWEP turbines and access roads, using a combination of on-site tree inventories and desktop estimates of tree numbers for inaccessible parts of the Project site (see Table 4.5-4). Trees that do not need to be removed for construction may still be directly impacted by trenching or grading that could cut through root zones or compact soils around trees. In addition, trees with limbs overhanging access roads and turbine pads could need to be pruned back to allow access. Additional trees may be impacted for transmission line construction and access.

The Santa Barbara County Environmental Thresholds and Guidelines Manual (2018), Section 6.D.4.b provides impact assessment guidelines for oak woodlands and forest habitat areas and states, "Project-created impacts may be considered significant due to changes in habitat value and species composition such as the following: (1) habitat fragmentation, (2) removal of understory, (3) alteration to drainage patterns, (4) disruption of the canopy, and (5) removal of significant number of trees that would cause a break in the canopy or disruption in animal movement in and through the woodland."

Table 4.5-4. Impacts to Trees

Project Component	Number of Trees		Total Trees Impacted
	Coast Live Oak	Tanoak	
Transmission Line			
1-1 Access	2	-	2
1-1	7	-	7
1-3 Access	10	-	10
1-3	9	-	9
1-6	7	-	7
2-4	-	-	-
3-2 Access	2	-	2
3-2	3	-	3
3-3 Access	8	-	8
3-3	2	-	2
4-3	3	-	3
4-4	5	-	5
5-3	4	-	4
WTGs			
E-3	-	-	1[1]
E-7 Access	9	1	10
E-7	13	6	20[2]
E-8 Access	13	189	202
E-8	-	150	150
N-5	3	1	4
Access Roads			
San Miguelito Road	150	8	158
Total	250	355	607

1 – One Monterey cypress would be removed at WTG E-3

2 – One toyon would be removed at WTG E-7 in addition to oaks

Section 6.D.5. provides impact assessment guidelines for individual native trees and states:

a. Description. Native specimen trees, regardless of size, are potentially significant […].

b. Definition. Specimen trees are defined, for biological assessment purposes, as mature trees that are healthy and structurally sound and have grown into the natural stature particular to the species.

c. Native Tree Impact Assessment. In general, the loss of 10 percent or more of the trees of biological value on a project site is considered potentially significant.

The trees on the site meet the above criteria as "specimen trees" subject to the County guidelines. It is uncertain whether the SWEP would remove 10 percent of trees on the overall site (as identified in the guidelines). Nonetheless the SWEP's effects would be substantial, due to the large number of trees removed or damaged, as well as the widespread landscape-level pattern of direct and indirect effects

to woodlands and forests throughout the extensive proposed Project site. There would be habitat fragmentation, disruption of the canopy, and disruption of animal movement in and through the woodland.

There would also be indirect impacts to woodland and forest habitat within and adjacent to Project facilities during construction and operation including noise and vibration, night lighting, dust, potential spread of nonnative and invasive weeds, erosion, and oil spills and seeps. These indirect impacts are described under Impacts BIO-13a and BIO-14.

An additional indirect impact that could affect oaks is Sudden Oak Death (SOD). SOD is caused by a plant pathogen affects several oak species including coast live oak and tanoak, that causes SOD and causes twig and foliar diseases in many other plant species. *Phytophthora ramorum* is a type of water mold that produces spores in moist environments and can be spread by water, wind-driven rain, plant material, soils, or human activity (COMTF, 2018). SOD has been documented throughout much of the coastal and Sierra Nevada regions of northern and central California but is not currently known from Santa Barbara County. Nonetheless, construction equipment and activities have the potential to introduce and spread SOD. Contaminated soils on equipment and vehicles that are not cleaned properly could introduce the pathogen to the SWEP site. Also, imported soil and soil from nursery plants that is contaminated with the pathogen could infect the SWEP site.

The LWEP EIR identified MM BIO-4 (Tree Protection and Replacement Plan) as mitigation for that project's relatively minor woodland and forest impacts. The LWEP EIR concluded that woodland and forest impacts would not be significant with mitigation (Class II). More recently, the SWEP Applicant has provided a Tree Protection measure based partially on LWEP BIO-4 (Sapphos, 2018 in Appendix C-1). Additionally, the Applicant's consultant has identified potential restoration sites for tanoak forest and coast live oak woodland within the Project area (Figure 5.3.2-1 [Potential Forest Restoration Sites] of Sapphos, 2018; see Appendix C-1).

Because of the magnitude of the disturbances to woodland and forest, and the wildlife habitat they provide, the impacts of construction on woodland and forest are classified as significant, even with implementation of the Applicant's proposed Tree Protection Plan. MMs BIO-1, BIO-2 BIO-8, and BIO-11b through BIO-11d, are recommended to avoid or minimize impacts to woodland and forest. These measures require development and implementation of a Worker Education and Awareness Program, minimizing the amount of ground disturbance, clearly marking disturbance limits and environmentally sensitive habitats in the field, and biological monitoring and reporting. In addition, the original LWEP MM BIO-4 has been expand into three components, below, addressing protection of trees adjacent to Project activities (MM BIO-4a, Tree Protection), replacement of trees that are removed (MM BIO-4b, Tree Replacement), and prevention of the SOD pathogen (MM BIO-4c). These revised measures incorporate components of the Applicant's proposed Tree Protection measure, as well as additional performance standards.

Oak trees are very slow to regenerate, especially in areas of low annual rainfall. Oak restoration efforts have been challenging across the state and it is not an easy or guaranteed endeavor. Even with tree protection and replacement, there is a temporal habitat loss that would take several decades, and possibly longer, to replace the habitat value and ecological functions that would be lost to SWEP development. Some habitat components of mature woodlands, such as large tree cavities suitable for mammal dens or owl nests, may take even longer to replace. Therefore, impacts to woodland and forest would be significant and unavoidable (Class I).

Mitigation Measures

The following MMs from the LWEP EIR have been modified for the SWEP.

MM BIO-1 **Worker Education and Awareness Program.** See full text under Impact BIO-1a.

MM BIO-2 **Ground Disturbance.** See full text under Impact BIO-1a.

MM BIO-4a **Tree Protection Plan.** The Applicant shall retain a County-approved botanist or arborist to design and implement a tree protection plan in order to protect existing native trees and minimize adverse effects of grading and construction. The approved botanist or arborist will be on site throughout all grading and construction activities which may impact native trees. The botanist or arborist's duties shall include the responsibility to ensure all aspects of the approved Tree Protection Plan are carried out, and participation in the pre-construction meeting. The name and contact information for the approved arborist/biologist shall be submitted to the County prior to the initial on-site pre-construction meeting. All development and potential ground disturbances shall be designed to avoid the maximum number of native trees feasible. No ground disturbance, including grading for buildings, access ways, easements, and subsurface grading, shall occur within the critical root zone of any native tree unless specifically authorized by the approved tree protection and replacement plan. The Tree Protection Plan shall include the following measures:

a. The plan shall show the location, diameter at breast height (DBH), and critical root zone of all native and specimen trees that are potentially subject to disturbance due to Project construction and operational activities, including transport of large loads on San Miguelito Road or on-site access roads.

b. The Tree Protection Plan shall clearly identify any areas where grading, trenching, or other construction related activities (including but not limited to grading, soil compaction, or irrigation) would encroach within the critical root zone of any native or specimen tree. The critical (or sensitive) root zone for each tree shall be defined as the area extending from the base of the tree to a distance 1.5 times the radius of the tree's canopy. All encroachment is subject to review and approval by the County.

c. Fencing or other clearly visible marking of all native and specimen trees not designated for removal shall be installed to protect the critical root zone. Fencing shall be at least 3 feet in height of chain link, vinyl construction fence, or other material acceptable to the County and shall be staked every 6 feet. The Applicant shall place signs stating "tree protection area" at 15-foot intervals on the fence. Fencing and signs shall be shown on the tree protection exhibit, shall be installed prior to Zoning Clearance, and shall remain in place throughout all grading and construction activities.

d. The following are not permitted unless specifically authorized by the County in advance. If authorized, the following will only be conducted by hand and under the direction of a County-approved arborist/biologist. If the use of hand tools is deemed infeasible by the County, the County may authorize work with rubber-tired construction equipment weighing five tons or less. If significant large rocks

are present, or if spoil placement will impact surrounding trees, then a small tracked excavator (e.g., 215 or smaller track hoe) may be used as determined by County staff and under the direction of a County-approved biologist.

- Any trenching required within the dripline or sensitive root zone of any specimen.
- Cutting any roots of one inch in diameter or greater, encountered during grading or construction. If authorized, roots must be cut cleanly and treated as specified in the Oak Tree Protection Plan.
- Tree removal and trimming.

e. Construction equipment staging and storage areas shall be located in designated staging and lay-down areas depicted on Project plans submitted for Zoning Clearance. No construction equipment shall be parked, stored, or operated within the protected areas. No fill soil, rocks, or construction materials shall be stored or placed within the protected area.

f. All utility corridors and irrigation lines shall be shown on the tree protection exhibit. New utilities shall be located within roadways, driveways or a designated utility corridor such that impacts to trees are minimized.

g. Any tree wells or retaining walls shall be shown on the tree protection plan exhibit as well as grading and construction plans and shall be located outside of the critical root zone of all native trees unless specifically authorized by the County. Grading shall be designed and constructed to avoid ponding and ensure proper drainage within critical root zones.

h. Access routes for equipment shall be checked for clearance prior to bringing any equipment onto the site. All trees and shrubs that require limbing or pruning shall be prepared at least 2 days prior to the arrival of the equipment and adhere to the following standards:

   i. All limbing shall be done under the supervision of a licensed arborist or qualified biologist.

   ii. Any inadvertently broken limbs shall be cleanly cut under the direction of a licensed arborist or qualified biologist.

   iii. In the event that damage to a native tree is so severe that its survival is compromised, the tree shall be replaced in kind as specified in MM BIO-4b.

i. Only trees designated for removal on the approved Tree Protection Plan shall be removed. Any native trees which are removed, relocated, or damaged (more than 20 percent encroachment into the critical root zone) shall be replaced as specified in MM BIO-4b.

j. All trees located within 25 feet of buildings shall be protected from stucco and/or paint during construction. No irrigation is permitted within 6 feet of the dripline of any protected tree unless specifically authorized.

k. Any unanticipated damage (including removal) that occurs to trees resulting from construction activities shall be mitigated in a manner approved by the County. This mitigation shall include, but is not limited to, posting of a performance security,

replacing native trees on a 10:1 (15:1 for blue oak and valley oak trees) ratio, and hiring a County-qualified arborist/biologist to evaluate all proposed native tree and shrub removals within 25 feet of potential ground disturbances. The arborist/ biologist report shall present biologically favorable options for access roads, utilities, drainages, and structure placement, taking into account native tree and shrub species, age, and health with an emphasis on preservation. The required mitigation shall be undertaken immediately under the direction of the County.

l. If the County-approved arborist/biologist certifies that any tree is damaged to such an extent that it will not survive, it shall be replaced as described in MM BIO-4b, below. If the approved arborist/biologist determines that 20 percent or more of the canopy or root area of a tree is removed or damaged, the tree will be presumed removed.

m. Monitoring plan to track health and survival of all impacted trees for 7 years.

Plan Requirements. This requirement shall be recorded with the final Project plans. The Applicant shall submit grading plans, building plans, and the Tree Protection Plan to the County for review and approval. All aspects of the plan shall be implemented as approved. The Applicant shall post a performance security that is acceptable to the County to guarantee tree replacement.

Timing. The Tree Protection Plan shall be approved by the County, and evidence of having obtained the performance security shall be provided to the County prior to Zoning Clearance. Timing on each measure shall be stated where applicable; where not otherwise stated, all measures must be in place throughout all grading, construction, and operational activities.

Monitoring. The County will inspect the plans and site throughout all phases of development to ensure compliance with and evaluation of all tree protection and replacement measures.

MM BIO-11c **Biological Monitoring.** See full text under Impact BIO-1a.

MM BIO-11d **Monitoring Report.** See full text under Impact BIO-1a.

The following are new MMs recommended to reduce the impacts from the SWEP.

MM BIO-4b **Tree Replacement Plan (TRP) – Planned Removal and Unexpected Damage**. The Owner/Applicant will prepare and implement a Tree Replacement Plan (TRP). The TRP shall be prepared by a County-approved arborist or biologist to mitigate for authorized or unexpected losses of native trees. All components of MM BIO-4a (Tree Protection Plan) will apply to oak tree replacement and related activities. The TRP shall, at a minimum, include the following components as well as any other County revisions and recommendations:

a. **Conservation Easement**. Prior to Zoning Clearance, the Owner/Applicant shall identify a suitable woodland forest replacement area and record a conservation easement in a form approved by the County that protects the proposed conservation area in perpetuity. The easement shall apply to a contiguous portion of land to, at a minimum, meet the required mitigation ratio of 3:1 and for all impacts (temporary and permanent) to woodlands and forests. The easement

shall be controlled by a qualified conservation organization approved by the County.

b. **Performance security.** The owner/applicant shall determine the full cost of implementing and monitoring tree replacement and shall post a performance security with the County. The performance security may be upon inspection and approval of successful restoration, as specified in the final approved TRP.

c. Specific woodland and forest performance standards (i.e., quantitative success criteria) addressing both short- and long-term objectives for consistency with standards of (1) six self-sufficient coast live oak trees for each mature oak tree removed due to proposed Project activities, and (2) three acres of restored woodland or forest for each acre impacted. The numbers of planted acorns or nursery stock trees shall clearly correspond to the 6:1 performance standard regarding self-sufficient trees at the end of the monitoring period, anticipating that not all acorns or plantings will be successful. Similarly, the planting patterns and other restoration techniques will clearly correspond to the 3:1 performance standard regarding woodland or forest acreage.

d. Detailed schedule (e.g., a Gantt chart) of all restoration activities, including obtaining plant propagules, issuing contracts, and performing all phases of planting and restoration work during the appropriate season[1]. The schedule shall identify the responsible party for each task and identify each "critical path" for successful restoration. The schedule will specify completion dates for each requirement, relative to application or issuance of grading permits.

e. Description of existing woodlands and forests, in terms of aerial extant, habitat diversity (structure, shrub/herb associates, wildlife use), sustainability (documentation of mortality, oak tree and associated shrub/herb health assessment), tree and associated shrub inventories/counts, densities (i.e., trees per acre) of trees and any co-dominant species, analysis of habitat functions and values as a basis for quantitative woodland and forest performance standards.

f. Explanation and applicability of the oak tree and oak woodland quantitative success criteria in terms of their conformity to applicable county and state oak mitigation requirements.

g. Replacement of damaged oak trees or those planned for removal shall occur at 10:1 ratio (acorns/saplings) or greater, to be planted and maintained in a manner that will yield the required final 6:1 replacement rate[2]. Alternate ratios may be applicable for saplings (identified below), also planted and maintained in a manner that will yield the required 6:1 replacement rate. Replanting and mitigation tree locations will be shown on plans. The TRP shall include a detailed planting methodology (including spacing among planted acorns or saplings) so that replacement acorns or saplings will result in the required 6:1 ratios.

[1] Acorns should be collected in mid- to late summer for maximum viability; planting should occur after the onset of fall/winter rains and no later than late February.

[2] Note that planting two viable acorns per hole, followed by culling to yield one live seedling per hole yields good establishment rates, but would necessitate at minimum 12 live acorns per removed tree, assuming 100 percent establishment.

h. **Nurture trees.** As an alternative to tree replacement, for no more than five percent of mature trees removed, naturally occurring tree saplings between six inches and six feet tall may be protected and nurtured in areas of the SWEP site unaffected by proposed Project disturbance, at a 10:1 ratio (i.e., 10 established sapling/nurture trees for one removed tree). Nurturing will only be applicable for seedling or sapling size trees that would otherwise be vulnerable to damage or loss, not yet meeting criteria as "established," and in suitable locations for establishment (e.g., not located beneath an existing closed canopy). Saplings selected for nurturing will be subject to County approval.

i. If using replacement trees rather than acorns, the nursery stock must be 15-gallon or larger size containers, with saplings grown from locally obtained seed at minimum 6:1 ratio to yield six established self-sufficient trees for each mature tree removed (assuming 100 percent success). All replacement trees will be obtained from a nursery source certified free of SOD pathogen and free of gold-spotted oak borer and polyphagous shot-hole borer damage.

j. Selected trees shall be boxed and transplanted if feasible. If a County-approved arborist certifies that it is not feasible to replant the tree, it shall be replaced according to the TRP specifications. The TRP shall include an estimated survival likelihood for transplanted trees and specify a minimum 7-year monitoring period for health and vigor of transplanted trees, and shall include remedial measures for any transplanted trees that fail to become established.

k. Detailed and quantitative description of viable acorn collection methods and seasonality; storage location, methods and conditions; inventory management methodology; and schedule. The description will specify the number of fertile acorns to be collected in August and September and stored pursuant to best practices (e.g. storage bags with vermiculite, checked weekly[3]), including a 20 percent allowance for anticipated non-viable acorns.

l. Detailed and quantitative description of tree sapling production, nursery management, and the locations and capacity of contract nurseries.

m. Identify suitable locations for woodland and forest restoration, including demonstration that in-kind tree planting would be feasible in terms of habitat suitability, land ownership, and long-term control of the mitigation site.

n. A detailed Maintenance and Monitoring Program and a detailed Adaptive Management Plan shall be components of the TRP. The Maintenance and Monitoring Program shall include weed control techniques and strategies, necessary replacement planting activities, and monitoring (both qualitative horticultural/progress monitoring and quantitative success monitoring). The Maintenance and Monitoring Program shall also include information about how the habitat value and ecological function of the restoration area will be evaluated and will identify specific success criteria. The Adaptive Management Plan shall describe the restoration approach and strategy.

o. Criteria for demonstrating self-sufficiency of planted and nurtured trees, based on a minimum 7-year monitoring period (including tree survival during a minimum of

[3] See http://sactree.com/pages/346, Storing Acorns.

two years without irrigation) with demonstrable continued growth and absence of pests. Trees not meeting success criteria will be monitored for an additional 7 years following replanting or relocation.

p. The trees shall be irrigated with drip irrigation on a timer until established (a period to be established by the County approved arborist). The trees shall be weaned off of irrigation over a period of two to three years.

q. No permanent irrigation shall occur within the dripline of any native tree.

r. All new and replanted trees shall be protected from predation by wild and domestic animals and from human interference by the use of staked, chain link fencing and gopher fencing during the maintenance period.

s. Restoration activities shall be performed by workers familiar with restoration work and supervised by a qualified restoration biologist/ecologist/environmental scientist or certified arborist. Contractors and subcontractors will be subject to County review and approval, to be based on experience with previous oak tree and oak woodland restoration projects.

t. Detailed explanation of long-term conservation management of the oak planting and restoration site(s). This section must be consistent with planned conservation management of the site as planned according to Paragraph a. of this measure.

u. For any proposed off-site tree planting or nurturing (i.e., areas outside the proposed Project area and proposed conservation easement), the TRP will identify potentially suitable sites and acreages and specify terms for long-term protection of those sites. Planting or nurturing trees in burned areas will only be acceptable if the burned areas are demonstrably failing to recover naturally from fire (i.e., failing to resprout from above-ground limbs or basal burls).

v. Reporting requirements, including a schedule and content for progress reports. The reports must provide sufficient detail to document progress completed to date and confirm that materials and contractors are available to complete each phase according to the approved restoration schedule.

w. An appendix, containing the full text of applicable county or State oak mitigation requirements.

x. **Guarantee**. As part of the contract price, the Owner/Applicant shall guarantee and maintain all work for a period of not less than seven years and extending beyond seven years of monitoring for any needed replacement plantings and warrant that the Performance Standards specified above will be met. The guarantee shall cover both workmanship and plant materials, replacing any and all plants that die at appropriate intervals, and maintaining such replacements until the minimum survival rate is achieved. In addition, a 100 percent survival rate over the first year is required. All plants dead at the end of each month during the year after planting shall be replaced immediately. The Owner/ Applicant will provide a copy of the guarantee to the County for its review and approval.

Plan Requirements and Timing. Prior to Zoning Clearance, the Owner/Applicant shall: (1) submit the open space/ conservation easement for review and approval; (2)

implement the requirements of the easement as specified in the approved easement; (3) submit the Tree Replacement Plan to the County for review and approval; and (4) provide the County a copy of the signed contract with the restoration contractor. The Owner/Applicant shall post a performance security to ensure installation and a minimum 7-year maintenance period for replacement trees prior to initial brushing or grading. The performance security shall be based upon the itemized plants within the aforementioned contract.

Monitoring. The County will inspect the plans and site throughout all phases of development to ensure compliance with and evaluation of all tree protection and replacement measures.

MM BIO-4c **Invasive Plant Pathogen Abatement (SOD Prevention).** A County-approved biologist will ensure that the spread or introduction of plant pathogens will be avoided to the maximum extent feasible. To reduce the potential for spread of sudden oak death and other pests, all grubbed woody material shall be chipped, spread out to dry, and disposed of on site or at an appropriate facility. To minimize the unintended movement of host material, soil, and water from areas infested with *Phytophthora spp.* the following Best Management Practices will be implemented:

a. Prior to commencement of construction, the approved biologist shall evaluate the level of currently known *Phytophthora* infestations (e.g., viewable in SODmap) along the entirety of the Project area. In the event that there is a risk of infestation at any Work Area, establish a vehicle and equipment power wash station to remove potentially contaminated accumulations of soil, mud, and organic debris. The station will be located within the potentially infested area, paved or rocked, well-drained so that vehicles exiting the station do not become contaminated by the wash water, and sited where wash water and displaced soil does not have the potential to carry fines to a watercourse.

b. Prior to entry to any proposed Project area for the first time, equipment must be free of soil and debris on tires, wheel wells, vehicle undercarriages, and other surfaces (a high-pressure washer and/or compressed air may be used to ensure that soil and debris are completely removed).

c. Compliance with the provision is achieved by demonstrating that the vehicle or equipment has been cleaned at a commercial vehicle or appropriate truck washing facility.

d. The interior of equipment (cabs, etc.) must be free of mud, soil, gravel and other debris (interiors may be vacuumed or washed).

e. Footwear and small tools must be thoroughly cleaned and sanitized before moving to a new job site. Shoe soles must be free of debris and soil. Water, a stiff brush, screwdriver or similar tool can be used to remove soil from shoe treads. Once soil or debris have been removed, an appropriate sanitizing agent of ethyl or isopropyl alcohol (at least 70 percent concentration) must be used to kill pathogen spores which may be present on boot soles or tools (sanitizing agent may be applied by using spray bottles filled with alcohol to thoroughly wet the surface). Boot soles and hand tools must be sprayed with enough alcohol that surfaces are fully coated

and wet. Brushes and other implements used to help remove soil will be cleaned after use with alcohol.

Plan Requirements. The conditions identified above shall be implemented for any soil-disturbing activities throughout the life of the Project. All SOD prevention activities will be included in monthly and final reports.

Timing. The Owner/Applicant shall prepare a reporting format or log sheet for of all related compliance activities, to be submitted to the County for review and approval prior to Zoning Clearance.

Monitoring. County staff will monitor construction and revegetation activities to ensure the measure is fully implemented.

BIO-2b O&M Impacts to Woodland and Forest. Oak woodland and tanoak forest could be impacted during Project operations. ~~Only minor disturbances to common vegetation are expected from ongoing vegetation clearances for fire management and safety.~~

This impact would be the same as described in the LWEP EIR and would not be significant (Class III).

BIO-3 Wetlands, Seeps, and Springs, and Features Subject to Regulation by the USACE, Santa Barbara County, or ~~CDFG~~ CDFW. Direct loss of wetlands and seeps could occur at creek crossings, the laydown yard, water well, road improvement and access road locations, pole locations along the transmission line, and WTG pads. ~~and the proposed O&M facility. Direct loss of wetlands and seeps within the WTG corridor are not expected; however, there is potential for loss should the project configuration change.~~ Additionally, soil erosion or spills could reduce water quality during construction.

Under the LWEP configuration, impacts to jurisdictional wetlands and waters were anticipated at creek crossings and the O&M facility. As reported in the LWEP EIR, an estimated 0.045 acre of habitat within the footprint of the proposed crossings was determined to be Santa Barbara County defined wetlands and federally jurisdictional (non-wetland) Waters of the U.S. These areas would also be regulated under Section 1600 of the Fish and Game code as State wetlands and be subject to a Streambed Alteration Agreement. Approximately 0.19 acre of Federal wetlands would be lost associated with the siting of the proposed O&M facilities. The LWEP did not anticipate impacts to jurisdictional features within the WTG corridors, but noted approximately 13 acres of rush seep, riparian scrub, and native grassland seeps occur within the LWEP WTG corridors.

Under the SWEP, impacts to jurisdictional features would occur at road crossings over creeks, the laydown yard, water well, road improvement (cut/fill) and new access road locations, WTG pads, and along the transmission line. Table 4.5-5 summarizes the estimated SWEP impacts to jurisdictional resources by feature type and agency jurisdiction. Note that these calculations have been revised from those reported in the *Wetland Delineation and Jurisdictional Determination Report* (Dudek, 2018c) in Appendix C-4 to reflect minor revisions to the Project footprint that occurred subsequent to that report.

Table 4.5-5. Impacts to Jurisdictional Resources

Agency Jurisdiction	Feature Type	Feature Class	Total Impacts (acres)[1]
USACE/ RWQCB/ CDFW/ County	Ephemeral Channel	Non-Wetland Waters of the U.S./ State	0.09
USACE/ RWQCB/ CDFW/ County	Intermittent Stream	Non-Wetland Waters of the U.S./ State	0.03
USACE/ RWQCB/ CDFW/ County	Perennial Stream	Non-Wetland Waters of the U.S./ State	0.01
USACE/ RWQCB/ CDFW/ County	Wetland	Waters of the U.S./ State	0.40
RWQCB/ CDFW/ County	Isolated Wetland	Waters of the State	--
CDFW/ County	Ephemeral Channel - Top of Eroded Bank	Riparian Habitat	0.06
CDFW/ County	Riparian	Riparian Habitat	1.73
County	Two Parameter Wetland	County Wetland	0.19
California Coastal Commission	Wetland and Riparian	Coastal Waters	--
Grand Total			2.51

Total Impact Acreage by Jurisdiction	
Impacts to USACE/ RWQCB/ CDFW/ County Non-Wetland Waters of the U.S./State	0.13
Impacts to USACE/ RWQCB/ CDFW/ County Wetland Waters of the U.S./State	0.40
Impacts to RWQCB/ CDFW/ County Waters of the State	--
Impacts to CDFW/ County Top of Eroded Bank	0.06
Impacts to CDFW/ County Riparian Vegetation	1.73
Impacts to County Two-Parameter Wetlands	0.19
Impacts to California Coastal Commission Wetland and Riparian	--

1 – All impacts are permanent

Source: Dudek, 2018c (revised to reflect current Project layout)

Impacts to jurisdictional resources from erosion, sedimentation, spills of hazardous substances, and impacts to water quality would be the same as described in the LWEP EIR, and impacts would be significant absent mitigation. MM BIO-9 is proposed to minimize or avoid direct and indirect impacts and would require the preparation and implementation of a Wetland Avoidance and Riparian Habitat Restoration Plan. MMs BIO-1 through BIO-3, BIO-11c, and BIO-11d are also required to avoid or minimize impacts to jurisdictional resources. These measures require development and implementation of a Worker Education and Awareness Program, minimizing the amount of ground disturbance, clearly marking disturbance limits and environmentally sensitive habitats in the field, and biological monitoring and reporting. With the implementation of these measures, impacts would be mitigated to a less-than-significant level (Class II).

Mitigation Measures

The following MMs from the LWEP EIR have been modified for the SWEP.

MM BIO-1 **Worker Education and Awareness Program.** See full text under Impact BIO-1a.

MM BIO-2 **Ground Disturbance.** See full text under Impact BIO-1a.

MM BIO-3 **Site Restoration and Revegetation Plan.** See full text under Impact BIO-1a.

MM BIO-9 **Wetland Avoidance and Riparian Habitat Restoration Plan.** The Applicant shall make every effort to minimize the area and degree of impact to State and Federal wetlands and other Waters of the U.S. associated with placement of bridges, siting of the O&M facility, and other construction-related tasks through a Wetland Avoidance and Riparian Habitat Restoration Plan.

All final construction design plans and mapped wetland features shall be clearly presented in the Wetland Avoidance and Riparian Habitat Restoration Plan for approval by the County, CDFW, USACE, and RWQCB, as applicable. The plan shall present an approach for the restoration of lost and/or disturbed features including calculations, proposed restoration locations, cattle or other disturbance barriers, plant mixes, quantitative restoration goals (maximum criteria for weedy species and minimum criteria for native hydrophytic plants), and temporal and native plant composition success criteria. At a minimum, any temporarily disturbed wetlands or other jurisdictional feature shall be restored to its former condition at an aerial ratio of 1:1 with a clearly defined temporal goal and success criteria. If any jurisdictional feature is permanently lost, it shall be mitigated by the creation of the same type of feature in the Project area at an aerial ratio of 3:1.

Best Management Practices. All wetland areas within 50 feet of ground disturbance shall be protected from siltation by placement of silt fence, straw bales (composed of certified weed-free straw), or other barriers. Barriers shall be in place prior to ground disturbance.

No fueling of vehicles or equipment shall occur within 100 feet of the top of any creek bank or within 100 feet of any seep or spring. Further, spill containment measures shall be implemented at all refueling sites. In the event that petroleum products escape into a creek, seep, or spring, every effort will be made to immediately remove the material using plastic sheets, absorbent blankets, or other materials, as necessary.

Runoff from fresh concrete shall be directed away from the top of any creek bank and from any seep or spring into a plastic-lined hollow. Any washout from concrete trucks shall be collected within a designated contained and lined area and removed from the site. Dried concrete scraps shall be removed and all trash and litter shall be picked up and removed from the construction sites at the end of each day.

Riparian Habitat Restoration. The riparian habitat restoration component of the plan shall be designed using state-of-the-industry practices and monitored to ensure attainment of performance criteria within five years, or remedial actions shall be undertaken until the performance criteria are achieved. The plan shall include, but not be limited to, specific elements that would normally be required for the successful achievement of the performance standard:

- Restoration shall include native riparian species from locally obtained plants and seed stock.
- The new plantings shall be monitored for a minimum of five years to ensure successful establishment. Dead plants shall be replaced in kind, and monitoring shall continue until performance criteria are met.

- The new plantings shall be irrigated with drip irrigation on a timer and shall be weaned off of irrigation when root zones are established.
- Removal of native species in the creek shall be prohibited.
- Non-native species located in the work area shall be removed from the creek.

Plan Requirements. The detailed Wetland Avoidance and Riparian Habitat Restoration Plan will be reviewed and approved by County staff prior to approval of the tentative Project map. The Applicant shall also file a performance security with the County to complete restoration. This condition shall be printed on all Project plans. A biological/wetland monitor shall be present for all activities that have the potential to directly or indirectly affect regulated wetland features.

Timing. Any proposed removal or temporary disturbance to jurisdictional features shall be approved by the County, CDFW, and the USACE prior to any construction that may affect wetland features. Site-specific wetland creation/restoration plans shall be developed by the Applicant and approved by the County, in consultation with CDFW, and USACE as appropriate, prior to Zoning Clearance. The Applicant shall independently consult with CDFW and USACE as necessary. The plan shall be implemented within one year of the disturbance and in consultation with CDFW and County staff. County will inspect the Project plans and site, as well as review the mitigation plan to ensure compliance with this measure as appropriate prior to Zoning Clearance.

Monitoring. County staff will monitor construction and revegetation activities to ensure the plan is fully implemented.

MM BIO-11c **Biological Monitoring.** See full text under Impact BIO-1a.

MM BIO-11d **Monitoring Report.** See full text under Impact BIO-1a.

~~**BIO-4 Riparian Vegetation.** A minor amount of riparian vegetation (several square feet) would be removed during bridge construction at Honda Creek; soil erosion would result in minor impacts on water quality.~~

This impact from the LWEP EIR is not applicable to the proposed SWEP as the previously proposed bridge is not a part of the current Project. The Project would affect riparian habitat and jurisdictional features at multiple locations throughout the site; see Impact BIO-3 for details. Construction impacts to sensitive vegetation, including riparian habitat, are described under Impact BIO-1a.

BIO-5a Construction Impacts to Gaviota Tarplant. Impacts to Gaviota tarplant and designated critical habitat could occur during construction. ~~Construction could result in 10.3 acres (8.1 percent of site total) of permanent and 22.3 acres (17.4 percent of site total) of temporary loss or disturbance to Gaviota tarplant and its habitat.~~

Construction impacts to Gaviota tarplant and its habitat would be of the same type as described in the LWEP EIR and would include direct removal and habitat fragmentation. As described in SEIR Section 4.5.1.4, a Gaviota tarplant assessment was conducted for the proposed SWEP configuration in summer 2018 to better understand the distribution of this listed plant within and near the current Project

footprint (Dudek, 2018b). A total of 27.1 acres of permanent impacts to Gaviota tarplant occupied habitat would occur from construction of the SWEP (14.2 percent of site total), compared with 10.3 acres under the LWEP. The SWEP would result in 0.001 acre of temporary impacts (less than 0.001 percent of site total), compared with 22.3 acres under the LWEP. While the LWEP EIR did not report any impacts to Gaviota tarplant designated critical habitat, the SWEP would permanently impact 94.51 acres and temporarily impact 0.46 acres of critical habitat (12.3 percent and 0.06 percent of the total mapped on site, respectively).

As similarly concluded in the LWEP EIR, SWEP impacts to Gaviota tarplant and its habitat, including occupied, suitable, and designated critical habitat, would be significant absent mitigation. MMs BIO-1 through BIO-3, BIO-5, BIO-6, BIO-11c, and BIO-11d are necessary to reduce or avoid impacts to Gaviota tarplant and its habitat. These measures require that workers undergo environmental awareness training, ground disturbance is minimized, the site is restored following construction, Gaviota tarplant mitigation is implemented, and monitoring and reporting occur. These measures would ensure construction impacts to Gaviota tarplant remain less than significant (Class II).

Mitigation Measures

The following MMs from the LWEP EIR have been modified for the SWEP.

MM BIO-1 **Worker Education and Awareness Program.** See full text under Impact BIO-1a.

MM BIO-2 **Ground Disturbance.** See full text under Impact BIO-1a.

MM BIO-3 **Site Restoration and Revegetation Plan.** See full text under Impact BIO-1a.

MM BIO-5 **Pre-construction Rare Plant Surveys and Restoration.** The Applicant shall retain a County-approved botanist to conduct appropriately timed pre-construction surveys for sensitive native plant species, bryophytes, and lichens in all areas to be disturbed, including power line pole locations and access roads. In the unlikely event that a federally listed plant species is found on or near an area to be disturbed by the Project, other than Gaviota tarplant impacts evaluated in this SEIR, which are addressed in MM BIO-6, the USFWS will be consulted and the Project will be adjusted to avoid impacts to the extent feasible. Other species protection measures recommended by the USFWS will be implemented, as needed. In impact areas where avoidance of CRPR 1, 2, 3, or 4 plants or locally rare species is not feasible, for herbaceous species, for every one (1) acre of occupied habitat loss, three (3) acres of occupied habitat shall be re-established and protected by collection of seeds or other propagules from the plants during the appropriate time of year. For shrubs and trees, for every plant lost, three (3) plants will be re-established and protected. The seed or propagules shall be used for restoration in the immediate area (if suitable habitat continues to be present) or on a nearby, suitable location. In the case of lichens with regional significance, a qualified lichenologist shall recommend feasible methods to relocate and re-establish the lichens at a suitable nearby site, if avoidance is not feasible. Methods may include collecting, moving, and emplacing a sample of substrate supporting the lichen at a suitable site nearby.

The topsoil and seedbank) shall be salvaged in all areas where the terrain allows it. Topsoil shall be windrowed or stockpiled and marked to keep it separated from subsoil. Topsoil piles shall be stabilized by covering the windrows or by spraying with

hydromulch and binder to protect the soil from wind erosion. Salvaged topsoil shall be spread over all restored areas.

Plan Requirements. The detailed grading plan, showing the limits of the grading, shall be reviewed and approved by County staff prior to approval of the tentative Project map. If surveys indicate that replacement of sensitive native plants is necessary, the Applicant shall prepare a detailed mitigation plan as a component of the Site Restoration and Revegetation Plan (MM BIO-3) and submit it to the County for approval. The Applicant shall file a performance security with the County to complete restoration.

Timing. County staff will inspect the Project plans and site as well as review the mitigation plan to ensure compliance with this measure as appropriate. The mitigation plan shall be approved by the County prior to Zoning Clearance for the first and all subsequent construction phases.

Monitoring. County staff will monitor construction and revegetation activities to ensure the plan is fully implemented

MM BIO-6 **Gaviota Tarplant Disturbance.** The Project owner/operator shall retain a qualified botanist approved by the County, USFWS, and CDFW to obtain an Incidental Take Permit (CDFW) and Biological Opinion (USFWS) for impacts to Gaviota Tarplant. Gaviota tarplant habitat will include all areas of previously identified habitat plus any additional areas that are discovered during preconstruction surveys prior to ground disturbance. Gaviota tarplant will be assumed to be present within all areas where it had been previously mapped even if it is not evident during preconstruction surveys (because seedbank may be present that could germinate and establish under different environmental conditions). A determination shall be made of the total areas of (1) permanent habitat loss, (2) temporary excavations, and (3) surface disturbance for the construction phase of the Project. CDFW and USFWS will be consulted regarding an appropriate mitigation strategy, which could include offsite preservation of existing populations. Compensatory mitigation for Gaviota tarplant shall be implemented to offset take; compensation lands will be managed according to the Gaviota Tarplant Mitigation Plan prepared in support of the Incidental Take Permit and Biological Opinion. Permanent disturbance to Gaviota tarplant shall be mitigated at a minimum 3:1 ratio. Areas of temporary disturbance shall be restored to pre-disturbance conditions and compensated at a 3:1 ratio. Temporary impacts to Gaviota tarplant habitat will be mitigated as permanent impacts unless monitoring demonstrates full recovery of Gaviota tarplant occurrences (plant density and extent of occupied area) in the temporarily impacted areas. To account for annual variability, the final density and extent of the Gaviota tarplant occurrence in the restored area can be adjusted to compare to pre-disturbance levels using metrics obtained from a nearby reference population, to demonstrate full recovery has occurred.

Plan Requirements. The Project owner/operator shall submit the Gaviota Tarplant Mitigation Plan, CDFW ITP, and USFWS Biological Opinion to the County along with the detailed grading plan. The detailed grading plan, showing the limits of the grading shall be reviewed and approved by County staff prior to approval of the final plans. The Applicant shall file a performance security with the County to complete restoration. The mitigation plan should address ongoing impacts during the operations phase of

the Project as well as the more extensive impacts that will result from Project construction.

Timing. The CDFW ITP and USFWS Biological Opinion shall be submitted by the Project owner/operator prior to approval of the Land Use Permit for the first and all subsequent construction phases.

Monitoring. P&D staff shall verify that the perimeter of all approved work areas in Gaviota tarplant habitat are properly flagged prior to any ground disturbance in the area and shall monitor construction and revegetation activities to ensure the plan is fully implemented per the CDFW ITP and USFWS Biological Opinion.

MM BIO-11c **Biological Monitoring.** See full text under Impact BIO-1a.

MM BIO-11d **Monitoring Report.** See full text under Impact BIO-1a.

BIO-5b **O&M Impacts to Gaviota Tarplant.** Occasional disturbance to small areas of Gaviota tarplant habitat ~~may~~ could occur as a result of operations or maintenance activities involving clearing or vehicle operation in occupied habitat.

Impacts to Gaviota tarplant habitat during O&M would be the same as described in the LWEP EIR. Implementation of MMs BIO-1 through BIO-3, BIO-5, BIO-6, BIO-11c, and BIO-11d would ensure that if ground disturbance is conducted in Gaviota tarplant habitat during O&M, workers undergo environmental awareness training, ground disturbance is minimized, the site is restored, Gaviota tarplant mitigation is implemented, and monitoring and reporting occur. These measures would ensure impacts to Gaviota tarplant during O&M remain less than significant (Class II).

Mitigation Measures

MM BIO-1 **Worker Education and Awareness Program.** See full text under Impact BIO-1a.

MM BIO-2 **Ground Disturbance.** See full text under Impact BIO-1a.

MM BIO-3 **Site Restoration and Revegetation Plan.** See full text under Impact BIO-1a.

MM BIO-5 **Pre-construction Rare Plant Surveys and Restoration.** See full text under Impact BIO-5a.

MM BIO-6 **Gaviota Tarplant Disturbance.** See full text under Impact BIO-5a.

MM BIO-11c **Biological Monitoring.** See full text under Impact BIO-1a.

MM BIO-11d **Monitoring Report.** See full text under Impact BIO-1a.

BIO-6 **Other Special-Status Plants.** A number of other special-status plant species may be present on site or in the ~~power~~ transmission line corridor and could be lost during construction.

As reported in the LWEP EIR, Gaviota tarplant is the only federally and state-listed plant that is known to occur on site. No other listed plants have been found on site since the publication of the LWEP EIR. As shown in Appendix C-6 and described in Section 4.5.1.4, several special-status plants with

designations ranging from CRPR 1B, 3, and 4 to locally rare are known from the Project site and transmission line corridor. In addition to the special-status plants known from the site at the time the LWEP EIR was published, the following plants have been found during surveys for the SWEP:

- La Purisima manzanita (CRPT 1B.1): Outside impact area
- Black-flowered figwort (CRPR 1B.2): Transmission line and access road
- South coast branching phacelia (CRPR 3.2): Outside impact area
- Southern California black walnut (CRPR 4.2): Along San Miguelito Road
- Ocellated Humboldt lily (CRPR 4.2): Outside impact area

Impacts to special-status plants could include direct and indirect impacts as described in the LWEP EIR. MMs BIO-1 through BIO-3, BIO-5, BIO-7, BIO-11c, and BIO-11d are recommended to reduce or avoid impacts to special-status plants. These measures require that workers undergo environmental awareness training, ground disturbance is minimized, the site is restored following construction, and monitoring and reporting occur. In addition, MM BIO-7 includes specific measures to minimize disturbance within Kellogg's and mesa horkelia habitat and to facilitate recovery post-construction. These measures would ensure construction impacts to special-status plants remain less than significant (Class II).

Mitigation Measures

The following MMs from the LWEP EIR have been modified for the SWEP.

MM BIO-1 **Worker Education and Awareness Program.** See full text under Impact BIO-1a.

MM BIO-2 **Ground Disturbance.** See full text under Impact BIO-1a.

MM BIO-3 **Site Restoration and Revegetation Plan.** See full text under Impact BIO-1a.

MM BIO-5 **Pre-construction Rare Plant Surveys and Restoration.** See full text under Impact BIO-5a.

MM BIO-7 **Kellogg's and Mesa Horkelia Habitats.** For Kellog's and mesa horkelia occupied habitats identified during pre-construction surveys (see MM BIO-5, above) and the 2018 *Horkelia cuneata* assessment (Dudek, 2018b), the Applicant shall minimize plant removal to the extent feasible and facilitate in situ conservation of extant Kellogg's and mesa horkelia through methods such as adjusting disturbance area boundaries and tracking over Kellogg's and mesa horkelia habitat, where the terrain shall safely allow it, rather than widening roads beyond the permanent road width to minimize plant removal. The seedbank shall be salvaged and stockpiled separately from other spoil along roads and adjacent to other facilities constructed in Kellogg's and mesa horkelia habitat as described for Gaviota tarplant (MM BIO-6). Salvaged stockpiles shall be covered or sprayed with hydromulch and binder to crust the surface to minimize soil loss to wind erosion and to protect from rain and mold. Salvaged seedbank shall be spread over restored areas as described for Gaviota tarplant except that a normal mixture of mulch and binder shall be used. If the area is within Gaviota tarplant habitat, methods for the latter shall be used.

Plan Requirements. The detailed grading plan, showing the limits of the grading will be reviewed and approved by County staff prior to approval of the tentative Project map. If surveys indicate that replacement of horkelia is necessary, the Applicant shall prepare a detailed mitigation plan as a component of the Site Restoration and Revegetation Plan (MM BIO-3) and submit it to the County for approval. The Applicant shall file a performance security with the County to complete restoration.

Timing. County staff shall inspect the Project plans and site as well as review the mitigation plan to ensure compliance with this measure as appropriate. The mitigation plan shall be approved by the County prior to Zoning Clearance.

Monitoring. County staff shall monitor construction and revegetation activities to ensure the plan is fully implemented.

MM BIO-11c **Biological Monitoring.** See full text under Impact BIO-1a.

MM BIO-11d **Monitoring Report.** See full text under Impact BIO-1a.

BIO-7 Common Wildlife. Individual animals could be injured or killed by vehicles, equipment, ~~explosives,~~ or large holes during construction.

Impacts to common wildlife from the construction of the proposed SWEP would be the same as described in the LWEP EIR. MMs BIO-1, BIO-2, and BIO-11a through BIO-11d are recommended to minimize or avoid impacts. These measures require that workers undergo environmental awareness training, ground disturbance is minimized, pre-construction wildlife surveys are conducted and animals relocated out of harm's way, disturbance areas and environmentally sensitive habitats are clearly marked in the field, excavations are covered or otherwise prevented from entrapping wildlife, and biological monitoring and reporting. Implementation of these measures would ensure impacts remain less than significant (Class II).

Mitigation Measures

The following MMs from the LWEP EIR have been modified for the SWEP.

MM BIO-1 **Worker Education and Awareness Program.** See full text under Impact BIO-1a.

MM BIO-2 **Ground Disturbance.** See full text under Impact BIO-1a.

MM BIO-11a **Pre-construction Wildlife Surveys.** The Applicant shall retain a County-approved biologist to perform a wildlife survey prior to ground disturbance, including grading and the excavation of the WTG sites. The biologist shall survey the surrounding area (where access allows) out to a 300-foot radius from the WTG site, the WTG footings, access roads, and staging, parking, and lay down areas prior to grading. Surveys shall be completed daily before the start of initial vegetation clearance or ground disturbance in any affected area. If any wildlife species are found, they shall be relocated to similar habitat at least 300 feet away from construction activity.

Plan Requirements. This condition shall be printed on all Project plans. The Applicant shall report compliance with this measure in the Monitoring Report (MM BIO-11d) to County staff on survey and relocation activities.

Timing. Results of wildlife surveys shall be submitted to County staff prior to ground disturbance. This measure shall be implemented throughout all ground disturbances for the first and all subsequent construction phases.

Monitoring. County staff will inspect the Project plans and site, as well as review the monthly reports to ensure compliance with this measure, as appropriate.

MM BIO-11b **Fencing.** See full text under Impact BIO-1a.

MM BIO-11c **Biological Monitoring.** See full text under Impact BIO-1a.

MM BIO-11d **Monitoring Report.** See full text under Impact BIO-1a.

BIO-8 Nesting Birds. Nesting birds could potentially lose nests through destruction or abandonment.

Impacts to nesting birds from construction and operation of the SWEP during nesting season (generally between February 1 and August 31) would be the same as described in the LWEP EIR. Implementation of MMs BIO-1, BIO-2, BIO-11a through BIO-11d, BIO-12, and BIO-14e are necessary to minimize impacts to nesting birds. These measures require that workers undergo environmental awareness training, ground disturbance is minimized, pre-construction wildlife surveys are conducted, disturbance areas and environmentally sensitive habitats are clearly marked in the field, and biological monitoring and reporting. MM BIO-12 requires that the Applicant schedule ground disturbance to avoid the nesting season to the extent feasible, and requires nesting bird surveys and buffers around active nests if activities must occur during the nesting season. MM BIO-14e requires focused spring surveys for nesting special-status birds, protective buffers around nests, and a 15-mile speed limit during construction and O&M to minimize collisions with birds and adverse impacts to ground-nesting birds. Implementation of these measures would ensure impacts remain less than significant (Class II).

Mitigation Measures

The following MMs from the LWEP EIR have been modified for the SWEP.

MM BIO-1 **Worker Education and Awareness Program.** See full text under Impact BIO-1a.

MM BIO-2 **Ground Disturbance.** See full text under Impact BIO-1a.

MM BIO-11a **Pre-construction Wildlife Surveys.** See full text under Impact BIO-7.

MM BIO-11b **Fencing.** See full text under Impact BIO-1a.

MM BIO-11c **Biological Monitoring.** See full text under Impact BIO-1a.

MM BIO-11d **Monitoring Report.** See full text under Impact BIO-1a.

MM BIO-12 **Avoidance Measures for Nesting Birds.** All trees and brush to be removed as part of Project-related construction activities shall be removed outside of the bird breeding season (February 1 to August 31) to avoid additional impacts to nesting raptors and other birds. Vegetation clearing shall occur outside the bird breeding season whenever feasible to minimize impacts to nesting birds. If construction must take place in or near areas with potential for breeding birds during the breeding season (February 1 to August 31), the County-approved biological monitor(s) shall oversee pre-construction breeding bird surveys within 7 days of construction commencement (i.e., mobilization,

staging, vegetation clearing, or excavation). Surveys shall be conducted in all areas within 500 feet of proposed disturbance areas, or a lesser distance if dense vegetation or site access restrictions renders a 500-foot survey radius infeasible. Surveys shall be conducted to include all structural components of the on-site equipment and existing infrastructure, including construction equipment. All birds observed, breeding behaviors, and bird nests within areas of suitable breeding bird habitat in the construction zone shall be noted. The required survey dates may be modified based on local conditions with the approval of P&D.

If breeding birds with active nests are found prior to (or during) Project activities including vegetation clearing and excavations, a biological monitor shall oversee the establishment of a buffer (typically 300 feet for passerines and 500 feet for raptors) around the nest; no activities will be allowed within the buffer(s) until the young have fledged from the nest or the nest fails. If appropriate, temporary construction fencing may be installed to mark the buffer area around active nests to prevent construction activities from occurring in the buffer area. The prescribed buffers may be adjusted to reflect existing conditions, including but not limited to ambient noise, topography, and disturbance, with the approval of the County of Santa Barbara in coordination with CDFW.

If birds are found to be nesting in existing infrastructure proposed for removal, buffers as described above shall be implemented and removal shall be postponed until the young have fledged or, if no young are present, until after the breeding season has passed. If birds are found to be nesting in construction equipment, that equipment shall not be used until the young have fledged the nest or, if no young are present, until after the breeding season has passed. The biological monitor(s) shall oversee regular monitoring of the nest to determine success/failure and to ensure that Project activities are not conducted within the buffer(s) until the nesting cycle is complete or the nest fails. The biological monitor(s) shall be responsible for the results of the surveys and providing a copy of the monitoring reports for impact areas to the County. Monitoring reports shall be produced weekly, and shall document nest locations, descriptions of nest status, actions taken to avoid impacts, and any necessary corrective actions taken. Active nest locations shall be marked on an aerial map and provided to the construction crew on a weekly basis after each survey is conducted. Active nests shall not be removed without written authorization from USFWS and CDFW.

Surveys for burrowing owls shall be conducted prior to construction within all suitable habitat in the Project area, including areas within 300 feet of all Project facilities, WTG sites, and access roads (where access allows). The survey shall be performed regardless of season of the year due to this species' being present in the winter.

During both the construction and O&M phases, a speed limit of 15 mph shall be established and enforced. The speed limit shall reduce the potential for loss of bird species, including passerines, due to collisions with vehicles.

Plan Requirements. This condition shall be printed on project plans prior to grading permit issuance.

Timing. Pre-activity clearance surveys shall be conducted by a P&D-qualified biologist each morning and/or within new work areas prior to commencement of work.

Monitoring. All pre-activity survey reports shall be submitted to P&D prior to the initiation of ground-disturbing activities.

MM BIO-14e **Roosting Bats**. If construction is to occur between February 1 and August 31, all sites to be disturbed shall be surveyed by a County-approved biologist for roosting bats immediately prior to construction in a given area. The survey shall occur at the sites of construction activity, as well as up to 300 feet away (where access allows). If an active roost is found, appropriate construction buffers shall be established based on the species, context of the roost, and activities planned as determined by the County-approved biologist in coordination with the County and CDFW as appropriate. Updated maps showing active roosting locations shall be distributed to the biological monitors, EQAP inspector, and crew foreman on a weekly basis. The roost shall be monitored to record any potential construction-related effects. Construction activities, buffer zones, and timing may be modified as directed by the County to avoid impacts to roosting bats.

Plan Requirements. This condition shall be printed on all Project plans. On a bi-weekly basis, the Biological Monitor shall report compliance with this measure in writing to County staff on survey results and buffer area design.

Timing. Surveys shall be conducted and submitted to the County prior to construction. This measure shall be implemented throughout the first nesting season from February 1 through August 31 for roosting bats during the construction phases. The Environmental Monitor shall submit the Monitoring Report on the first and third week of each month to detail the previous two week's activities. This report may be submitted electronically.

Monitoring. County staff will inspect the Project plans and site as well as review the bi-weekly reports to ensure compliance with this measure as appropriate.

BIO-9 **Special-Status Wildlife.** Direct and indirect impacts ~~may~~ could occur to special-status wildlife species. ~~Those with higher potential for injury or fatalities by vehicles or equipment, loss of habitat, or disturbance of burrows and nests include reptiles, raptors, and passerines, and mammals.~~

The LWEP EIR identified over 30 endangered, threatened, and other special-status wildlife species that have potential to occur in the Project area. Surveys for the SWEP identified several additional special-status birds and bats on site that were not previously known to be present; see Section 4.5.1.4.

Based on survey results obtained since the publication of the LWEP EIR, including pre-construction studies for the LWEP, surveys conducted for the SWEP, and recent eBird reports, the following species are now known or expected to occur at least occasionally in the Project area, and could potentially be impacted by Project activities:

- California red-legged frog – Could occur occasionally in the Project area during dispersal, although suitable aquatic breeding habitat is not present in the Project site. Suitable habitat

and known records from San Miguelito Creek; could occur in the creek adjacent to portions of the transmission line.

- Western spadefoot toad – Seasonal wetlands identified on site could provide breeding habitat for spadefoot.
- California condor – The condor's range has been expanding, and USFWS tracking data show four condor points within 20 miles of the Project as of 2017. Grasslands and savannah could provide foraging habitat, and grazing operations could attract condors to the Project area. It could potentially occur more regularly in the Project area over the life of the Project.
- Southwestern willow flycatcher – Suitable breeding habitat occurs in riparian willow thickets in the Project area, and an eBird record exists of a willow flycatcher of undetermined subspecies at Miguelito County Park adjacent to the transmission line corridor.
- Sharp-shinned hawk – Observed multiple times in the project area, and suitable habitat is present in the riparian woodlands on and near the site and transmission line corridor.
- Ferruginous hawk – Recorded multiple times in and near Project area. Project is outside breeding range, but it is expected to winter in the area or pass through as a migrant.
- Merlin – Several individuals were observed in grasslands and coastal sage scrub habitat during avian surveys conducted at the site in autumn 2016.
- Vaux's swift – Observed on site during surveys in 2008, but does not breed in the area.
- Yellow-breasted chat – Suitable foraging and breeding habitat is present in riparian thickets within the Project site and transmission corridor, and it was observed in La Honda Creek during avian surveys conducted in spring 2008.
- Western mastiff bat – Suitable habitat is present in grasslands, woodlands, and coastal sage scrub throughout the Project area, and calls identified as this species were recorded during bat surveys conducted in autumn 2008.
- Townsend's big-eared bat – Suitable habitat is present throughout the Project area, and the nearest occurrence in the CNDDB was recorded 0.13 mile north of the Project area in La Honda Canyon. It is also known from VAFB.

Invertebrates. As described in the LWEP EIR, construction of WTGs, related facilities, and new roads as well as the widening of existing roads could result in the loss or disturbance of El Segundo blue butterfly (ESBB) habitat and mortality to individuals. Consistent with the LWEP EIR, all coast buckwheat within the Project area is considered occupied ESBB habitat due to its proximity to occupied habitats on VAFB and the observation of ESBB individuals on site. The SWEP would permanently impact 8 acres of the 23 total acres of coast buckwheat habitat on site. During operations, occasional disturbance to small areas of El Segundo blue butterfly habitat may occur as a result of operations or maintenance activities involving clearing or vehicle operation in occupied habitat. MM BIO-13 is recommended to minimize impacts to ESBB, and would require pre-construction surveys, avoidance of occupied habitat, and restoration of any impacted coast buckwheat.

As described for the LWEP in the LWEP EIR, the SWEP could also impact vernal pool fairy shrimp although no surveys have been conducted and none have been documented on site to date. Vernal pool fairy shrimp could occur in temporary ponded water (e.g., in depressions and slumps). Such

seasonal wetland features are absent from the ridgelines where most of the Project facilities would be sited, but access road work could directly affect seasonal wetlands at several locations. Impacts to wetlands and water-related features under federal, state, or County jurisdiction would require appropriate state and federal permits and approval from the County, and documentation of the findings of site-specific surveys conducted during the appropriate season would be required for consideration in the approval process (see MMs BIO-9 and BIO-14f).

Implementation of the measures identified above would reduce impacts to listed invertebrates to a less-than-significant level (Class II).

Amphibians. Special-status amphibians that could occur in the Project area include the federally listed threatened California red-legged frog and the California Species of Special Concern spadefoot. Although these species were considered unlikely to occur in the LWEP EIR due to a lack of suitable habitat, as described above, both could occur in the Project area. In addition, although it has not been reported in the area, suitable habitat exists for the coast range newt (CSSC) and it has a moderate potential to move through drainages or uplands on site during the rainy season.

Special-status amphibians would be most likely to disperse though the site during rain events. In addition, vernal pools on site could support spadefoot breeding if they were to hold water long enough. Impacts to special-status amphibians, if present, would be similar to those described for common wildlife and could include direct mortality on roads, entrapment in excavations, crushing in burrows and other refugia, and destruction of spadefoot breeding pools. The Project would also result in 5.59 acres of permanent impacts to designated critical habitat for the California red-legged frog (2.7 percent of the total on site).

MM BIO-14g is recommended to minimize impacts to California red-legged frog, and requires pre-construction surveys and monitoring, and notification to the resource agencies if any frogs are found. MM BIO-14h would minimize or avoid impacts to breeding spadefoot toads by requiring pre-construction surveys and monitoring as well as replacement habitat and relocation of toads. Best management practices and avoidance measures to prevent impacts to wetland habitats would be implemented as detailed in MM BIO-9. In addition, restoration of upland habitats for special-status amphibians would be implemented as part of MM BIO-3. Implementation of these measures would reduce impacts to listed and other special-status amphibians to a less-than-significant level (Class II).

Reptiles. Potential impacts to coast horned lizards, Northern California legless lizards, and coast patch-nosed snake would be the same as described in the LWEP EIR. Although two-striped garter snake has a moderate potential to occur within or near the Project site, suitable habitat is found only outside the Project footprint and the Project would not impact aquatic habitats that could support this species. Impacts to special-status reptiles would be minimized through implementation of MMs BIO-1 through BIO-3, BIO-11a through BIO-11d, BIO-14a, and BIO-14b. These measures require that workers undergo environmental awareness training, ground disturbance is minimized, temporary impacts are mitigated through restoration following construction, pre-construction wildlife surveys are conducted and animals relocated out of harm's way, disturbance areas and environmentally sensitive habitats are clearly marked in the field, excavations are covered or otherwise prevented from entrapping wildlife, and biological monitoring and reporting. Implementation of these measures would ensure impacts to special-status reptiles remain less than significant (Class II).

Raptors. As described above, three raptor species have been identified on site that were not known from or expected to occur on site at the time of the LWEP EIR; these include sharp-shinned hawk,

ferruginous hawk, and merlin. In addition, in light of the California condor's ongoing range expansion, it is now considered likely to occur on site during the life of the Project. Adverse effects to condors have been documented elsewhere by the animal's collection of microtrash (i.e., broken glass, paper and plastic waste, small pieces of metal). This waste is often brought back to nest sites where young birds ingest the material, which can lead to mortality of young birds. Ethylene glycol, a component in antifreeze and petroleum products, can also be ingested by condors, ultimately leading to death. Impacts to other raptors would be the same as described in the LWEP EIR. Ongoing grazing could attract condors, golden eagles, turkey vultures, and other raptors to the site to feed on carrion, resulting in increased risk of collision with WTGs. This impact is addressed under Impact BIO-10. Impact BIO-8 addresses impacts to nesting birds.

Impacts to raptors during construction and general O&M activities would be avoided or minimized through the implementation of MMs BIO-1 through BIO-3, BIO-11c, BIO-11d, and BIO-14i. These measures require that workers undergo environmental awareness training, ground disturbance is minimized, temporary impacts are mitigated through restoration following construction, biological monitoring and reporting, and keeping the work areas free of microtrash and ethylene glycol. Implementation of these measures would ensure impacts remain less than significant (Class II).

Passerines and Shorebirds. The LWEP EIR identified several special-status passerines and shorebirds that were either observed or could occur in the Project area, including California horned lark, logger-head shrike, California rufous-crowned sparrow, grasshopper sparrow, yellow warbler, tricolored blackbird, and long-billed curlew. Subsequent surveys for the SWEP also documented Vaux's swift, yellow-breasted chat, California brown pelican, common loon, and double-crested cormorant. In addition, suitable breeding and foraging habitat for the federally and state-listed southwestern willow flycatcher occurs on site.

Potential impacts to special-status passerines and migrating shorebirds would be the same as described in the LWEP EIR. See Impact BIO-8 for more information regarding nesting birds, and Impact BIO-10 for potential collisions with WTGs.

Impacts to passerines and shorebirds during construction and general O&M activities would be avoided or minimized through the implementation of MMs BIO-1 through BIO-3, BIO-11c, and BIO-11d. These measures require that workers undergo environmental awareness training, ground disturbance is minimized, temporary impacts are revegetated following construction, and biological monitoring and reporting. Implementation of these measures would ensure impacts remain less than significant (Class II).

Mammals. The LWEP EIR noted that three special-status mammal species may be present in the Project area: pallid bat, San Diego desert woodrat, and American badger. Subsequent surveys also documented the presence of western mastiff bat, western red bat, hoary bat, long-eared myotis, and Yuma myotis. Townsend's big-eared bat has a high potential to occur.

The LWEP EIR concluded that bats may be present, but given the occasional use of the area, they were not expected to be affected by construction and maintenance activities. Collisions with vehicles and equipment were not expected, nor the loss of roost sites. Foraging behavior may be altered during construction. However, because the SWEP would impact a much larger number of trees than the LWEP, and given the current understanding that bat use of the Project site is higher than previously believed (at least during seasonal migration), potential impacts from construction and routine O&M activities could occur. All special-status bats that could occur in the Project area are insectivorous, catching their

prey either on the wing or on the ground. Some species feed mainly over open water where insect production is especially high, but others forage over open shrublands. Both habitats are found in or adjacent to the Project area (open water associated with agricultural ponds). Direct impacts to special-status bats would primarily be from loss of potential roosting or foraging habitat. Night lighting during nighttime construction, if it were to occur, could attract insects that would, in turn, attract bats to areas where they would be at risk for collision with Project equipment or crushing if they forage near the ground. Noise, vibration, and human activity could disrupt maternity roosts during the breeding season, if present. To date, no maternity roosts have been documented in or near the proposed Project disturbance area. Nonetheless, MM BIO-14j is required to reduce significant impacts to roosting bats (Class II).

Impacts to wood rats and badgers would be the same as described in the LWEP EIR. MMs BIO-1 through BIO-3, BIO-11a through BIO-11d, BIO-14c, and BIO-14d are required to minimize or avoid impacts to special-status mammals. These measures require that workers undergo environmental awareness training, ground disturbance is minimized, habitats temporarily impacted are revegetated following construction, pre-construction wildlife surveys are conducted and animals relocated out of harm's way, disturbance areas and environmentally sensitive habitats are clearly marked in the field, excavations are covered or otherwise prevented from entrapping wildlife, and biological monitoring and reporting. Implementation of these measures would ensure impacts remain less than significant (Class II).

Mitigation Measures

The following MMs from the LWEP EIR have been modified for the SWEP.

MM BIO-1 **Worker Education and Awareness Program.** See full text under Impact BIO-1a.

MM BIO-2 **Ground Disturbance.** See full text under Impact BIO-1a.

MM BIO-3 **Site Restoration and Revegetation Plan.** See full text under Impact BIO-1a.

MM BIO-9 **Wetland Avoidance and Riparian Habitat Restoration Plan.** See full text under Impact BIO-3.

MM BIO-11a **Pre-construction Wildlife Surveys.** See full text under Impact BIO-7.

MM BIO-11b **Fencing.** See full text under Impact BIO-1a.

MM BIO-11c **Biological Monitoring.** See full text under Impact BIO-1a.

MM BIO-11d **Monitoring Report.** See full text under Impact BIO-1a.

MM BIO-13 **Conservation of El Segundo Blue Butterfly (ESBB).** A plan to restore and/or enhance ESBB habitat shall be prepared by a County-approved botanist with input from a County-approved entomologist. The goal of the plan shall be to establish coast buckwheat with other Central coast scrub species on areas having sandy soils and judged suitable for this type of restoration or enhancement by the Project biologist and County-approved entomologist. The restoration or enhancement would preferably occur in or adjacent to an area of existing habitat supporting coast buckwheat on sandy soils or it could occur in an area disturbed by the Project. The plan shall identify sites to be restored or enhanced and the approach to restoration and enhancement, including proposed density of coast buckwheat plants, which shall be generally consistent with the density of coast buckwheat in occupied ESBB habitat in the Project region and

performance criteria shall reflect that density. Restoration or enhancement will be conducted on an acre-for-acre basis. If ESBB has been found on the site, the plan shall be submitted to USFWS for approval, prior to implementation.

Suitable ESBB habitat adjacent to construction areas shall be clearly marked for avoidance (e.g., by orange plastic construction fencing). The delineation shall be directed and approved by a County-approved biologist.

Plan Requirements. This condition shall be printed on all Project plans. On a monthly basis, the Applicant shall report compliance with this measure in writing to County staff on monitoring activities, including avoidance measures and restoration/habitat enhancement.

Timing. The habitat restoration/enhancement plan and the Biological Opinion shall be submitted prior to start of construction.

Monitoring. County staff will inspect the Project plans and site as well as review the monthly reports for compliance with this measure as appropriate.

MM BIO-14a **Coast Horned Lizard.** The Applicant shall fund a County-approved biologist to conduct daily clearance surveys of active construction areas, including the sites of footings for WTGs and power poles, access roads, and staging, parking, and lay down areas, for coast horned lizards. The survey may be done in conjunction with surveys for ground-nesting birds. However, the survey for horned lizards shall be performed regardless of season of the year. If horned lizards are found, they shall be relocated to similar habitat at least 300 feet away from construction activity.

Plan Requirements. This condition shall be printed on all Project plans. On a monthly basis, the Applicant shall report compliance with this measure in writing to County staff on survey and relocation activities.

Timing. Surveys shall be submitted prior to start of construction.

Monitoring. County staff will inspect the Project plans and site as well as review the monthly reports to ensure compliance with this measure, as appropriate.

MM BIO-14b **Northern California Legless Lizard.** The Applicant shall retain a County-approved biologist to survey for legless lizards in suitable habitat within the Project footprint as well as for a distance of 50 feet away (where access allows). The biologist shall work with the equipment operator during initial vegetation clearance to identify those areas that would require legless lizard mitigation, and then to salvage and relocate exposed animals. The following technique shall be employed to avoid impacts to the legless lizard:

- Following initial vegetation clearance in pre-identified areas, grading shall be done in two consecutive 6- inch layers.
- With each lift, the biologist shall check the areas for possible relocation of legless lizards. If any are found, they shall be moved to similar habitat near shrubs at least 100 feet from the construction sites.
- Monitoring for legless lizards shall be discontinued when grading reaches depths greater than 12 inches.

Plan Requirements. This condition shall be printed on all Project plans. On a monthly basis, the Applicant shall report compliance with this measure in writing to County staff on monitoring and relocation activities.

Timing. Surveys shall be submitted prior to start of construction.

Monitoring. County staff will inspect the Project plans and site as well as review the monthly reports to ensure compliance with this measure, as appropriate.

MM BIO-14c **San Diego Desert Woodrat.** The Applicant shall retain a County approved biologist to survey the locations of WTGs and access routes prior to construction, as well as for a distance of 50 feet away (where access allows) for signs of the San Diego desert woodrat. The following technique shall be employed to avoid impacts to the San Diego desert woodrat:

- If signs of this species are found at or near the areas to be disturbed (such as a small stick nest within a rock overhang), it shall be evaluated for potential impact due to construction activities.
- If disturbance to a nest is likely to occur, the animal shall be live-trapped and relocated to a distance of 300 feet from Project activities and within similar habitat. The nest shall be dismantled and the materials placed at the relocation site within rocky habitat.

Plan Requirements. This condition shall be printed on all Project plans. On a monthly basis, the Applicant shall report compliance with this measure in writing to County staff on survey and relocation activities.

Timing. Surveys shall be submitted prior to start of construction.

Monitoring. County staff will inspect the Project plans and site as well as review the monthly reports to ensure compliance with this measure, as appropriate.

MM BIO-14d **American Badger.** The Applicant shall retain a County-approved biologist to survey, prior to construction, for badger dens in the Project area, including areas within 250 feet of all Project facilities, WTG sites, and access roads (where access allows). The survey shall be performed regardless of season of the year. If badger dens are found, each den shall be classified as inactive, potentially active, or definitely active.

Inactive dens shall be excavated by hand and backfilled to prevent reuse by badgers.

Potentially and definitely active dens shall be monitored for 3 consecutive nights using a tracking medium (such as diatomaceous earth or fire clay) or game cameras at the entrance. If no tracks are observed in the tracking medium after 3 nights, the den shall be excavated and backfilled by hand. If tracks are observed, the den shall be progressively blocked with natural materials (rocks, dirt, sticks, and vegetation piled in front of the entrance) for the next 3 to 5 nights to discourage the badger from continued use. The den shall then be excavated and backfilled by hand to ensure that no badgers are trapped in the den.

Plan Requirements. This condition shall be printed on all Project plans. On a monthly basis, the Applicant shall report compliance with this measure in writing to County staff on survey and burrow excavation activities.

Timing. Surveys shall be submitted prior to start of construction.

Monitoring. County staff will inspect the Project plans and site as well as review the monthly reports to ensure compliance with this measure, as appropriate.

MM BIO-14e **Sensitive Avian and Bat Species**. See full text under Impact BIO-8.

The following are new MMs recommended to reduce impacts from the SWEP.

MM BIO-14f **Vernal Pool Fairy Shrimp.** The Applicant shall retain a qualified, County-approved biologist to conduct protocol surveys for the federally threatened vernal pool fairy shrimp each year of construction, in areas subject to Project disturbance. Surveys can only be suspended upon written authorization from the USFWS and the County. The biologist shall hold the required 10(a)(1)(A) recovery permit from the USFWS to conduct surveys within all potential fairy shrimp habitat found within the Project footprint or, for habitat outside the footprint itself, that would be hydrologically affected by the Project (e.g., road ditches or berms that could redirect natural surface flows away from vernal pools) including, but not limited to, seasonal/ ephemeral wetlands, swales, large road ruts and known vernal pool habitat. Surveys shall follow the guidelines set forth by the USFWS in the Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act (ESA) for Listed Vernal Pool Branchiopods. Within 90 days of the completion of surveys, a report shall be submitted to the County and USFWS detailing the methods and results of each survey event.

Avoid Seasonal Depressions and Known Waterbodies. All known seasonal/ ephemeral depressions, vernal pools and known water bodies that could be occupied by listed fairy shrimp shall be shown on all applicable construction plans. The Applicant shall avoid all seasonal/ephemeral depressions, vernal pools and known waterbodies that occur within the Project site to minimize impacts to listed fairy shrimp. A 100-foot buffer shall be placed around all seasonal/ephemeral depressions, vernal pools and known waterbodies that have the potential to, but do not presently support listed fairy shrimp, to prevent equipment from entering these areas. If, after conducting surveys, areas identified as potential habitat have been verified to not contain listed fairy shrimp, the 100-foot buffer can be removed. All vernal pools, seasonal depressions and known waterbodies containing documented populations of listed fairy shrimp shall require a 250-foot buffer. These buffers shall be shown on all applicable construction plans (with a highly visible method easily identifiable by construction workers in the field). On-site delineation of this buffer shall be in place prior to the commencement of construction activities. The method used for delineation shall be kept in good working order for the duration of the construction period.

If avoidance of known populations of listed fairy shrimp is not possible, consultation with the USFWS regarding the potential impacts to the species will be necessary.

Compensation for Impacts to Vernal Pool Fairy Shrimp Habitat. If Project impacts will result in impacts to habitat for, or result in the loss of, vernal pool fairy shrimp, then the Applicant will be required to consult with the USFWS. If occupied habitat cannot be avoided, the Applicant shall consult the USFWS and obtain the appropriate take authorizations or permits prior to site mobilization activities. The Applicant shall also

implement any conservation measures contained within these permits. To compensate for impacts to occupied habitat, the Applicant shall provide both a preservation and creation component for compensation as follows:

a. **Preservation component –** For every acre of habitat directly or indirectly affected, at least two vernal pool credits will be dedicated within a USFWS approved ecosystem preservation bank, or, based on USFWS evaluation of site-specific conservation values, three acres of vernal pool habitat may be preserved on the Project site or on another non-bank site as approved by the USFWS.

b. **Creation component –** For every acre of habitat directly affected, at least one vernal pool creation credit will be dedicated within a USFWS approved habitat mitigation bank, or, based on USFWS evaluation of site-specific conservation values, two acres of vernal pool habitat will be created and monitored on the Project site or on another non-bank site as approved by the USFWS.

Plan Requirements. The Applicant shall consult and obtain any necessary permits from the appropriate regulatory agencies and provide copies to County staff. On a bi-weekly basis, the Applicant shall report compliance with this measure in writing to County staff on survey and monitoring activities.

Timing. Surveys shall be submitted prior to start of construction.

Monitoring. County staff will inspect the Project plans and site as well as review the monthly reports to ensure compliance with this measure, as appropriate.

MM BIO-14g **California Red-Legged Frog.** The Applicant shall retain a qualified, County-approved herpetologist to conduct pre-construction surveys for the California-red-legged frog within all areas of critical habitat and within all suitable aquatic habitat in the Project site and adjacent to the transmission line corridor, including areas that would be affected by construction, operation, or maintenance of the Project, in accordance with the most current USFWS protocols. The surveys shall be documented including a description of methodology, description and maps of the surveyed areas, and identification of locations of any California red-legged frog observed within the proposed Project area (including maps and GPS coordinates). If the species is identified in the Project area at any time, the USFWS, CDFW, and the County shall be notified within 48 hours and the Applicant shall consult with these agencies to determine the appropriate next steps. Construction monitoring and pre-construction surveys for the species shall be conducted in conjunction with other sensitive species monitoring as detailed in MM BIO-11c. Best management practices and avoidance measures to prevent impacts to wetland habitats shall be implemented as detailed in MM BIO-9. In addition, habitat restoration of upland habitats for the species shall be implemented as part of MM BIO-3.

Plan Requirements. The Applicant shall consult and obtain any necessary permits from the appropriate regulatory agencies and provide copies to County staff. On a bi-weekly basis, the Applicant shall report compliance with this measure in writing to County staff on survey and monitoring activities.

Timing. Surveys shall be submitted prior to start of construction.

Monitoring. County staff will inspect the Project plans and site as well as review the monthly reports to ensure compliance with this measure, as appropriate.

MM BIO-14h **Western Spadefoot Toad.** Prior to site mobilization, the Applicant shall retain a qualified biologist approved by the County and CDFW to conduct the following:

a. Conduct a pre-construction survey during the appropriate time of year when this species can be detected (i.e., during periods of suitable rainfall that result in pooling or the formation of other aquatic habitat) to determine the presence of western spadefoot toad and related habitat.

b. Should the toad and habitat be found, and be impacted by temporary and/or permanent Project impacts, a habitat restoration and management plan shall be prepared for review and approval by the County, in coordination with CDFW, that addresses the following:

    1. Impacted occupied breeding habitat to be replaced, on-site, at a 2:1 ratio.

    2. Relocation areas shall be designed as suitable toad habitat, and as far away as feasible from any Project-related structure or foreseeable construction area (minimum 250-foot buffer from construction activities). Relocation areas must be approved in advance by CDFW.

    3. Terrestrial habitat surrounding the proposed relocation site shall be as similar in type, aspect, and density to the location of the existing ponds as feasible.

    4. No site preparation or construction activities shall be permitted in the vicinity of any occupied ponds until the design and construction of the relocation habitat in preserved areas of the site has been completed and all western spadefoot toad adults, tadpoles, and egg masses detected are moved to the created pool habitat under the direction of CDFW. If egg masses or tadpoles are relocated, the newly constructed ponds shall also be inoculated with algae laden plant material/ and or water from the source ponds to provide a viable food source.

    5. Restoration areas shall be monitored and maintained until they are shown as successful habitat for the toad, or up to five years. Success criteria shall be proposed. Provisions to make adjustments to remediate problems shall also be included.

    6. Permanent protection and management of restoration areas (e.g., conservation easement or fee title purchase, etc.).

Annually, for the duration of construction activities and based on appropriate rainfall and temperatures (generally between the months of February and April) the biologist shall conduct a series of surveys in all appropriate water bodies and surrounding 100-foot buffer areas within the Project footprint (where access allows). Surveys will include evaluation of all previously documented occupied areas and a reconnaissance level survey of the remaining natural areas of the site. All western spadefoot adults, tadpoles, and egg masses encountered shall be collected and released in the identified/created restoration ponds described above.

Plan Requirements. This condition shall be printed on all Project plans. On a monthly basis, the Applicant shall report compliance with this measure in writing to County staff on monitoring and relocation activities.

Timing. Surveys shall be submitted prior to the start of construction and annually during the construction phase.

Monitoring. County staff will inspect the Project plans and site as well as review the monthly reports to ensure compliance with this measure, as appropriate.

MM BIO-14i **California Condor.** A qualified biologist with demonstrated knowledge of California condor identification shall be on site to monitor impacts to biological resources during all construction activities within the Project area and assist the Applicant in the implementation of the monitoring program. Workers shall be trained on the issue of microtrash or litter during WEAP training, including what constitutes litter, its potential effects to California condors, and how to avoid the deposition of microtrash. In addition, daily sweeps of the work area shall occur to collect and remove trash. All spills of ethylene glycol shall be cleaned up immediately and a report documenting the actions taken to remediate the spill shall be provided to Santa Barbara County within five calendar days. All California condor sightings in the Project area during construction shall be reported directly to the USFWS, CDFW, and Santa Barbara County.

Plan Requirements. The Applicant shall consult and obtain any necessary permits from the appropriate regulatory agencies and provide copies to County staff. On a bi-weekly basis, the Applicant shall report compliance with this measure in writing to County staff on survey and monitoring activities.

Timing. This measure shall be implemented during construction.

Monitoring. County staff will inspect the Project plans and site as well as review the monthly reports to ensure compliance with this measure, as appropriate.

MM BIO-14j **Maternity Colony or Hibernaculum Surveys and Avoidance Measures for Special-status Bats.** Any necessary removal of potential bat roost habitat (i.e., large trees, snags, or rockpiles with interstitial crevices that are outside of existing disturbance areas) shall occur between September 1 and October 31 to the extent feasible to avoid potential impacts to bat maternity or hibernation roosts. If the September 1 to October 31 work window is not feasible, pre-disturbance bat roost surveys shall be conducted by a County-approved qualified biologist. The qualified biologist must hold appropriate permits from the CDFW to handle bats and conduct roost evictions. No more than 15 days prior to vegetation removal or initial site disturbance in previously undisturbed areas, the qualified biologist shall conduct surveys for special-status bats within 300 feet of proposed disturbance areas (where access allows). If hibernacula (hibernation roosts) or maternity roosts are found, no work shall occur within 100 feet during the hibernation period (November 1 to March 31) or breeding season (March 1 to July 31), as applicable.

If non-breeding bat roosts are found in snags, rock piles, trees or other substrate scheduled to be removed, the bats shall be safely evicted, under the direction of the qualified biologist and in coordination with CDFW, by opening the roosting area to allow airflow through the cavity or other means determined appropriate by the bat biologist (e.g., installation of one-way doors). In situations requiring one-way doors, a minimum of one

week shall pass after doors are installed and temperatures are sufficiently warm for bats to exit the roost because bats do not typically leave their roosts daily during winter months in southern coastal California. This action is intended to allow all bats to leave during the course of one week. Roosts that need to be removed in situations where the use of one-way doors is not necessary in the judgment of the qualified biologist shall first be disturbed at dusk by various means at the direction of the bat biologist to allow bats to escape during the darker hours, and the roost tree shall be removed or the grading shall occur the next day. There shall be no less or more than one night between initial disturbance and the grading or tree removal.

Plan Requirements and Timing. The qualified biologist shall conduct surveys for special-status bats within 300 feet of proposed disturbance areas (where access allows) and shall report results of the surveys to the County. The biologist shall inform the County and CDFW of the need to evict any special-status bats prior to implementing the evictions and shall monitor and report the results of such evictions to the County and CDFW.

Monitoring. County staff will inspect the Project plans and site as well as review the monthly reports to ensure compliance with this measure, as appropriate.

BIO-10 Avian and Bat Collisions with WTGs. Unknown numbers of special status and non-sensitive birds and bats could be at risk of dying through collisions with the WTGs over the duration of the Project.

The LWEP EIR provides a detailed assessment of the impacts from birds and bats colliding with WTGs, and the proposed SWEP would result in similar types of impacts. Although the SWEP would have fewer WTGs than the LWEP (30 compared with 65), the WTGs would be larger and taller (up to 492 feet tall compared with 397 feet tall), and therefore, may place the rotor-swept area into the flight paths of birds that would have flown over the LWEP. Therefore, the overall risk of the Project to birds and bats is considered similar to that presented by the LWEP.

Bird and bat mortality from collisions with WTGs is difficult to predict and depends on a variety of factors including species composition on a site; behavior and flight characteristics of species present; migratory patterns; site characteristics including habitat, weather, proximity to water, features that concentrate migrants, and weather; and wind farm features such as WTG type and configuration and lighting (Marques et al., 2014). Due to the complexity of the multiple factors that contribute to collision risk, pre-construction risk assessments and surveys may not accurately predict actual mortality during operation (Ferrer et al., 2012). Therefore, ongoing operational monitoring and adaptive management are important components to minimize avian and bat fatalities.

The LWEP EIR identified MMs BIO-15a (Siting), BIO-15b (Appropriate WTG and Project-Element Design), and BIO-16 (Monitoring and Adaptive Management Plan; divided into MMs BIO-16a through BIO-16d) as mitigation for that project's impacts to birds and bats. Those measures are retained with minor revision in this SEIR. Additionally, three new mitigation components are incorporated in BIO-16:

- Requirement for the Owner/Applicant to prepare and implement a Bird and Bat Conservation Strategy (BBCS) in consultation with the USFWS and CDFW. The BBCS would include many of the components specified in MMs BIO-16a through 16e, particularly mortality monitoring

during project operation and an adaptive management plan to minimize mortality that may occur.

- Require for the Owner/Applicant to obtain authorization from the USFWS for potential take of golden eagles, pursuant to the Bald and Golden Eagle Protection Act (BGEPA). Permit application materials would include an assessment of potential risk to golden eagles, and specific means to offset that risk through hazard removals (e.g., retrofitting of hazardous utility poles) on or off the site.
- Requirement for the Owner/Applicant to prepare and implement a program to prevent carrion attractants to vultures, condors, eagles, and other large birds by locating and removing carcasses of grazing animals.

As discussed in Section 4.5.2, a number of federal and state regulations prohibit the nonpermitted take of any migratory birds, golden eagles, white-tailed kites and other fully protected species, or threatened or endangered species. Several bats are considered California species of special concern and are given consideration during the environmental review process by CDFW. As concluded in the LWEP EIR, because unknown but potentially substantial numbers of protected birds and bats are at risk of dying through collisions with the WTGs over the duration of the Project, and currently there is no proven method to prevent such collisions, this impact is considered significant and unavoidable (Class I).

Mitigation Measures

The following MMs from the LWEP EIR have been modified for the SWEP.

MM BIO-15a **Siting.** The turbines shall be micro-sited so that each WTG and transmission tower is located at least 500 feet away from critical biological resources identified in preconstruction surveys, specifically: active raptor nest sites, open water which would attract birds or bats (including stock-ponds), thicker riparian habitat in Canada Honda and San Miguelito creeks, eucalyptus tree groves, or vernal pools, if present. Preconstruction surveys (described in MM Bio-11a) shall identify existing raptor nest sites and other sensitive resources. The Applicant shall, in consultation with the CDFW, attempt to dissuade raptors from building new nests within 500 feet of any turbine.

Plan Requirements. This measure shall be printed on all Project plans.

Timing. During the preconstruction and construction phases, the Applicant shall provide the County with weekly written survey results and buffer area design, which may be provided electronically. This measure shall be implemented throughout the first and all subsequent construction phases.

Monitoring. County staff will inspect the Project plans and site and review the monthly reports to ensure compliance with this measure, as appropriate.

MM BIO-15b **Appropriate WTG and Project-Element Design.** To minimize the likelihood of collisions of birds with WTGs and Project transmission poles, transmission lines, and power collection lines, the design features of all WTGs and Project related facilities shall include the following:

a) All overhead collection lines and transmission lines shall be designed to minimize the potential for raptor electrocution and collision using the latest APLIC (2012) guidelines. Line spacing shall accommodate protection of the California condor

and shall be a minimum of 83 inches. Further, construction and work procedures shall be consistent with the APLIC guidelines "*Reducing Avian Collisions with Power Lines: The State of the Art in 2012*."

b) WTGs shall be microsited and designed to minimize collision potential, consistent with *USFWS Land-Based Wind Energy Guidelines (2012)*. WTGs with low rotational speed (approximately 10 to 23 revolutions per minute [RPM]) and tubular towers shall be used.

c) All permanent meteorological towers shall be unguyed.

To reduce impacts from lighting on WTGs and facilities MM LU-1 requires compliance with FAA regulations but also requires that lighting shall not exceed those requirements and regulations.

Plan Requirements. These measures shall be printed on Project plans. The Applicant shall provide the County final plans including design element plans for review and approval.

Timing. This measure shall be implemented throughout the first and all subsequent construction phases.

Monitoring. County staff will inspect the Project plans and site to ensure compliance with this measure as appropriate.

MM BIO-16 **Monitoring and Adaptive Management Plan / Bird and Bat Conservation Strategy.** A Monitoring and Adaptive Management Plan is required, due to the uncertainty of the Project's operational impacts on protected and special-status bird and bat species. The Plan shall be developed and implemented in an effort to provide maximum feasible mitigation for those impacts. Monitoring studies of bird activity and fatalities at the site shall be required to collect information on bird activity and fatalities caused by wind farm operations. In addition, an Adaptive Management Plan (AMP) shall be implemented if the bird or bat mortalities trigger specified thresholds.

The Owner/Applicant will incorporate the Monitoring and Adaptive Management Plan into a Bird and Bat Conservation Strategy to be submitted to USFWS and CDFW for review and approval. Additionally, the Owner/Applicant will obtain golden eagle take authorization from USFWS under the federal Bald and Golden Eagle Protection Act. The application for take authorization will incorporate all components of the Monitoring and Adaptive Management Plan that pertain to golden eagles and will specify hazard removal measures such as powerline retrofitting to offset potential take of golden eagles.

The County will enforce the following measures unless CDFW adopts them as part of a Sec. 2081 incidental take permit or Sec. 1602 streambed alteration agreement.[4, 5] In

[4] Section references are to sections of the California Fish and Game Code.

[5] If CDFW, as a Responsible Agency, enforces MM Bio-16, the County would not be involved in oversight or monitoring. The measure is written assuming it is under County jurisdiction, but if CDFW assumes responsibility references to the County would be replaced with CDFW.

reviewing and approving the final plan and applying the required measures, the County will consult with CDFW and USFWS, as appropriate.

The Plan shall be prepared by a County-approved biologist and be subject to County approval. The Plan shall include the sections outlined in subsections 16.a to 16.d below, which comprise the following components:

- **Before-after/Control-impact (BACI) Study.** Required study to compare pre- and post-construction bird use on the site.
- **Bird/Bat Mortality Study.** Required study to estimate bird and bat mortality rates during wind farm operations and to identify WTGs causing unanticipated levels of mortalities.
- **Remove Carrion Near Turbines.** Program to promptly remove carrion from livestock grazing areas in the Project site for the purpose of reducing the attraction of raptors, vultures, and condors.
- **Adaptive Management Program.** Additional mitigation measures to be required if specific thresholds of bird or bat mortality are reached.

MM BIO-16a **Before-After/Control-impact (BACI) Study.** Conduct BACI surveys under direction of a County-approved biologist. The purpose of the BACI surveys is to compare pre- and post-construction bird use on the site; to assess the effects of the Project on avian species; to assist in determining whether additional mitigation elements are necessary; and to collect research data to better understand wind power industry impacts and provide regulatory agencies with data for future Projects. Study reports shall include estimates of average bird usage on the site and information on the location of species within the site, flight elevations and patterns of activity, and WTG avoidance behavior. The study data and reports shall be provided to the County for review. The surveys shall be conducted from the time of Project approval through each Project construction phase and for two years following first delivery of power for that phase.

The methodology shall include methods for interpreting and summarizing the data, and the contents, format and schedule for reports. The methodology should follow the recommendations of the CEC Guidelines (CEC and CDFG, 2007)[6] and USFWS Land-Based Wind Energy Guidelines (2012), insofar as feasible without causing delays to the Project construction schedule or start of operations. The methodology may incorporate the Applicant's current BACI methods as appropriate and explain any substantive changes between the studies currently being conducted by the Applicant and the methodology proposed for approval. The methodology could be modified during the course of the BACI study, with concurrence of the County and Project operator.

MM BIO-16b **Bird/Bat Mortality Study.** Conduct a bird and bat mortality study under direction of a County-approved biologist. The purpose of mortality surveys is to estimate mortality rates for different species on the site attributable to collisions with WTGs and to identify individual WTGs or groups/strings of WTGs that cause unanticipated levels of mortality. The information will be used to determine whether the mortality thresholds of the Adaptive Management Plan (see AMP, below) have been reached. In addition,

[6] California Guidelines for Reducing Impacts To Birds And Bats From Wind Energy Development (2007)

the collected data will add to the body of knowledge to provide regulatory agencies with data for future Projects. Brief quarterly reports including tabulated search data and annual reports including analysis of the year's data shall be prepared. The study data and reports shall be provided to the County for review. Monitoring shall be conducted for the first full 2 years after all WTGs are in operation for each Project construction phase. Additional years of monitoring could be required if the mortality of special status bird and bat species exceeded thresholds (see AMP, below).

The general design of the study should follow recommendations of the CEC Guidelines (2007), or improved methodologies if appropriate, including methods for carcass search surveys, scavenger studies, evaluation of researcher efficiency, data analysis and reporting methodology. Specifically, carcass searches shall occur once every two weeks at 30 percent of the WTGs, as recommended in the CEC Guidelines. Reports shall include mean estimated fatalities and 90 percent confidence intervals for species or appropriate bird and bat groups. The plan shall include training of Project operations staff in handling and reporting avian and bat fatalities encountered in the course of their regular activities. The selection of which WTGs to monitor may be adjusted from year to year (or as appropriate).

Sampling methodology and sample locations to be approved by the County. If the AMP were triggered by excess fatalities, the frequency or design of carcass searches could be modified, as provided in the AMP.

MM BIO-16c **Remove Carrion Near Turbines.** Conduct a program under direction of a County-approved biologist to promptly remove carrion from livestock grazing areas in the Project site. The program will include regular patrols of the Project site to locate and remove livestock carcasses or other carrion, to minimize attractants for avian carrion feeders such as vultures, condors, hawks, and eagles. The plan shall be subject to County approval. Brief quarterly reports documenting patrols and removals shall be provided to the County for review. The reports may be provided electronically. The program shall begin during the construction phase and continue for the duration of Project operation while livestock grazing is occurring on site.

At minimum, the program shall include the specific patrol and reporting schedule throughout the Project site to identify carcasses and carrion; carcasses and carrion will be removed from the vicinity within 24 hours of being located.

MM BIO-16d **Adaptive Management Plan (AMP).** Develop an Adaptive Management Plan (AMP) to be activated in the event that bird or bat mortality exceeds specified threshold levels. The AMP provides a structured framework to guide response, in case Project operations result in excessive mortality that was unforeseeable at the time of EIR certification and Project approval. The AMP defines two impact categories and corresponding response options, as described below. Table 4.5-6 summarizes the thresholds that will trigger Level 1 and Level 2 actions by the County. Level 2 actions may also be triggered by annual mortality statistics, as described below.

Table 4.5-6. Adaptive Management Threshold Criteria (Actions required if number of fatalities caused by WTGs reaches these thresholds in any consecutive 12-month period)

	Level 1	Level 2
	– Notify County - Increase carcass search frequency in specified area(s)	– Notify County - Adaptive measures to reduce fatalities
Federal- or California-listed species or California Fully Protected Species	1 fatality	2 fatalities
Non-listed Sensitive Species (CSC, WL, and Local Species of Concern)	2 fatalities (birds) 2 fatalities (bats)	3 fatalities (birds) 3 fatalities (bats)
Raptors without designated conservation status	3 fatalities	5 fatalities

Level 1 – First Alert and Enhanced Survey

If recorded bird or bat fatalities reach the threshold criteria for Level 1 (Table 4.5-6), the Project operator shall notify the County within 24 hours and make any required notifications to CDFW and USFWS.

The carcass search frequency shall be increased in the vicinity of the specific WTG(s) suspected of being responsible, to determine whether WTG(s) are at cause and to better understand the causal factors and circumstances contributing to the fatalities. Carcass search patterns and extent may be modified, survey frequency may be increased up to twice per week, and supplementary field observations may be required for up to six months, if necessary to assess the pattern or frequency of fatalities. The additional information would facilitate a more informed response in the event that mortality levels reach Level 2. The Project operator shall provide wind velocity data for the area of the fatalities if the County determines that the data are important for assessing the cause of fatalities or for designing enhanced search patterns.[7] Details of the enhanced monitoring program will be subject to County approval.

Mortality monitoring shall conclude if fatalities remain below Level 2 thresholds for 2 consecutive years. If Level 2 thresholds are reached or exceeded, the County may require additional year(s) of monitoring until fatalities fall below Level 2 thresholds.

Level 2 – Response Options

If recorded bird or bat fatalities reach the threshold criteria for Level 2 (Table 4.5-6), the Project operator shall notify the County within 24 hours and make any required notifications to CDFW and USFWS. The Level 2 thresholds might also be reached based on the annual mortality statistics, which would be reported in the annual reports of the mortality study.

The cause of bird and bat fatalities at wind farms is often indeterminate, due to the condition of the carcasses, activity of scavengers, and wide radius of land-fall. The County shall require Level 2 response options only if it determines with reasonable

[7] The data may be provided as hourly average wind speed and direction in the project area, or as otherwise agreed with the County. If the data is considered proprietary, it may be provided under a confidentiality agreement with the County.

certainty that the fatalities are caused by wind farm operations and which WTGs are at cause. The determination must be based on substantial evidence. Changes in bird and bat use of the site observed in the BACI studies should be taken into account in the evaluation of impacts and response options.[8] Measures required must be reasonable, feasible, and specifically targeted to reduce fatalities at the particular problem WTG(s).

The following Level 2 response options should be considered by the County, in consultation with CDFW and USFWS, and implemented if determined to be feasible and likely to reduce or compensate for further fatalities similar to those that triggered the Level 2 response. Such measures shall not be undertaken without appropriate environmental review, if applicable. Less extreme, less costly measures shall be exhausted before more extreme or costly measures are required.[9]

1. Habitat modifications to make the site less attractive to impacted species, including intensified efforts to reduce the prey base (e.g., ground squirrels), weed control, grazing management.
2. Project modifications. Modifications must have a sound scientific basis, but need not be proven definitely effective, such as installing "dummy towers" at end of WTG rows; painting of WTG blades on selected WTGs to increase their visibility; audible warnings on towers; or other new or experimental technologies to divert birds/bats or react to the presence of at-risk species. If appropriate, a modification may be implemented as a controlled experiment to test efficacy in reducing mortality.
3. Implementation of a mitigation research component at the SWEP site at an appropriate department of a local college or university (e.g., Environmental Science or Wildlife Biology department); species-related research to improve knowledge of a species and conservation needs.
4. Contribution to a program to enhance recovery of the special status species impacted by the Project; contribution to research program on wind Project impacts to birds and bats.
5. Installation of active control technology, such as one or more IdentiFlight units,[10] that can identify large birds such as eagles and automatically curtail WTG operation if birds are detected approaching or entering the Project site.
6. Installation of one or more bat deterrents at the Project site, such as the Bat Deterrent System developed by NRG Systems.[11]

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[8] One of the primary objectives for operations monitoring stated in the CEC Guidelines is to determine whether the avoidance, minimization, and mitigation measures implemented for the project were adequate or whether additional corrective action or compensatory mitigation is warranted.

[9] If excessive fatalities of endangered or protected bird or bat species, as determined by CDFW or USFWS, were to occur, these agencies could require curtailment of operations of the offending WTG(s). In such a case, any negotiations with the Applicant or possible enforcement actions would be the responsibility of CDFW and USFWS, and not the County.

[10] http://www.identiflight.com

[11] http://www.nrgsystems.com/products/bat-deterrent-systems

If any of these measures are implemented, the Project operator, in consultation with the County, should implement an effectiveness evaluation program to assess the intended and unintended effects of the measure. The measure should be reversed, discontinued, or modified if little or no reduction in mortality is demonstrated within a reasonable time or if it leads to unintended, adverse consequences, as determined by the County.

Plan Requirements and Timing. Approval of the entire Plan by the County, in consultation with CDFW and USFWS, is required prior to Zoning Clearance for the first and subsequent Project phases.

Monitoring. The County will ensure that the BACI, mortality monitoring, and prey base reduction measures are implemented. The County will review all monthly, quarterly, and annual reports provided pursuant to the Avian and Bat Mitigation Plan and ensure that appropriate adaptive management measures are undertaken if AMP thresholds are reached.

These thresholds apply to the actual numbers of carcasses attributable to Project facilities or operations recovered in the regular weekly carcass searches. However, incidental finds of carcasses attributable to the Project of federally or state listed bird or bat species or California FPS shall also count toward the thresholds. The numbers assume the carcass searches comprise a 50 percent random sample of the 30 WTG locations, or 15 WTGs. If the number of WTGs constructed is substantially different or a different number of WTGs is sampled, the thresholds shall be adjusted accordingly.

Alternative Level 2 Threshold Criteria Based on Annual Mortality Statistics

In addition, Level 2 measures shall be triggered if the estimated, Project-wide mortality rates of non-listed sensitive species, for fatalities attributable to the Project, adjusted for searcher efficiency and scavenger removal, exceed 0.08 per WTG per year (at the 90 percent confidence level[12]) in any 12-month period. The equivalent Level 2 trigger for non-sensitive raptors shall be 0.15 fatalities per WTG per year. Level 2 measures shall also be triggered by large-scale mortality of non-sensitive bird or bat species at thresholds of 4 and 12 fatalities per WTG, per year, respectively.

Basis of Thresholds

Given the current state of the science, mortality rates of birds and bats at proposed wind sites cannot reliably be predicted, except in the case of new wind farms nearby existing ones in similar settings. Mortality of passerines due to collisions with WTGs is not strongly correlated with bird usage of a site, and many interrelated and species-dependent factors contribute to raptor mortalities, apart from number of birds at the

[12] The estimates of adjusted mortality involve complex statistics due to the small sample sizes and uncertainty in adjustments for searcher efficiency and scavenger removal bias. The estimated rates are approximate and involve uncertainty that can be estimated as a confidence interval using Monte Carlo methods or other appropriate statistical approach. (For example, see Stateline Wind Project Wildlife Monitoring Final Report, FPL Energy, Stateline Technical Advisory Committee, 12/04. p.4 et seq.) The Level 2 Thresholds shall be triggered by estimates of the annual, site-wide mortality rate only if the stated threshold rate is exceeded with 90 percent confidence, based on a 1-sided statistical hypothesis test.

site. The relationship between bat usage and fatalities is not understood. (CEC Guidelines, 2007)

Listed and Sensitive Species

The Level 1 threshold for federally or state listed species and California FPS was set at one individual fatality, due to the required coordination with CDFW or USFWS in case of a single fatality. A second fatality within a year would trigger Level 2. The necessary additional mitigation would be provided by adaptive management options, which the County would require, as appropriate. Thresholds for non-listed sensitive birds or bats were set higher than for listed species, in keeping with their lower protection status.

Raptors without Designated Conservation Status

The estimated average raptor mortality rate for wind farms in the U.S. is 0.006 per WTG per year; the overall average rate in the U.S. is 0.033 per year.[13] Maximum raptor mortality for modern wind farms in the U.S. outside California is estimated to be 0.07 raptors in the Northwest. Raptor mortality at wind farms in California ranges from 0.01 to 0.24 fatalities per WTG per year (average of 0.15 per WTG or 1.37 per MW per year).[14] This data is based on older wind farms, which include large numbers of small-sized WTGs (hence the high mortality rate expressed on a per-MW basis). The high raptor mortality at these facilities is associated with high raptor use. The results of the winter 2006-07 avian survey at the Lompoc Wind Energy Project site indicate raptor use of the site may be slightly higher than that of most wind projects in U.S., but much lower than projects in Solano County and the Altamont Pass Wind Resource Area.[15] However, raptor mortality rates may prove to be lower than expected on the basis of observed raptor use at SWEP, because the most frequently observed raptors at the site are turkey vultures, which are known to have low mortality rates at wind farms.

Based on this information, it is expected that raptor mortality rates at the Project will be less than 0.10 fatalities per WTG per year. This amounts to approximately 3 raptor fatalities per year expected for the entire site (30 WTGs), or 1-2 for a random sample of 15 WTGs. The Level 1 threshold for non-sensitive raptors is set at 3 fatalities per year for the 15 WTGs sampled. The Level 2 threshold is set at 1½ times the Level 1 threshold, which rounds to 5 fatalities per year for the 15 WTGs sampled.

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13 Erickson, W.P., et. al, *Avian Collisions with Wind Turbines: A Summary of Existing Studies and Comparisons of Avian Collision Mortality in the United States*, 10/01, pp. 2 & 39.

14 National Wind Coordinating Committee, Wind Turbine Interactions with Birds and Bats: A summary of research results and remaining questions, 11/04, p.4.

15 CEC Guidelines, 2007, Appendix G, Figures 1 and 4.

BIO-11 Avian and Bat Collisions with Power Lines and Meteorological Towers. Birds and bats could collide with transmission and power collection poles, transmission and power collection lines, and meteorological towers.

Impacts to birds and bats from collisions with transmission and power collection poles, transmission and power collection lines, and meteorological towers are described in the LWEP EIR. MM BIO-15b would require design elements to reduce collision risk, including undergrounding collection lines as feasible, unguyed permanent meteorological towers, and designing the collection and transmission lines in accordance with APLIC guidance to reduce collisions with power lines. Implementation of this measure would reduce impacts from collision with power lines and meteorological towers to a less-than-significant level (Class II).

Mitigation Measures

MM BIO-15b Appropriate WTG and Project-Element Design. See full text under Impact BIO-10.

BIO-12 Avian Displacement from WTGs. Birds with habitat within 200 feet of WTG towers could be displaced.

The LWEP EIR described displacement of birds and bats from aerial habitat surrounding WTGs, and similar effects would occur from the proposed SWEP. The impacts would be the same type, but would differ in magnitude due to the fact that the SWEP would install fewer, but larger WTGs compared with the previously proposed LWEP. Table 4.5-7 compares the estimated area of aerial displacement between the LWEP and the SWEP.

The LWEP concluded that the loss of aerial habitat was not significant given the amount of similar habitat in the vicinity (including VAFB). Although the proposed SWEP would result in an estimated 46.1 additional acres of lost aerial habitat, this amount is still not considered significant for the same reasons as concluded for the LWEP (Class III).

Table 4.5-7. Comparison of Aerial Displacement from WTGs between the LWEP and the SWEP

	LWEP	SWEP[1]
Turbine blade length	130 ft.	225 ft. (3.8-MW WTG) 160 ft. (1.79-MW WTG)
Loss of aerial space around WTG – column diameter (includes buffer to account for multiple WTGs in a string)[2]	400 ft.	692 ft. (3.8-MW WTG) 492 (1.79-MW WTG)
Acres lost per WTG[3]	2.88 acres	8.63 (3.8-MW WTG) 4.36 (1.79-MW WTG)
Number of WTGs	65	24 (3.8-MW WTG) 6 (1.79-MW WTG)
Total aerial habitat lost	187.2 acres	233.3 acres

1 – Project currently assumes six GE 1.79-MW WTGs and twenty-four GE 3.8-MW WTGs; see Section 2, *Project Description*.

2 – Adjusted proportionally for SWEP using LWEP assumption.

3 – Calculated using the formula presented on page 3.5-83 of the LWEP EIR; see that document for details.

BIO-13a Indirect Construction Effects (Wildlife). Indirect impacts to wildlife could occur during construction ~~would result~~ from a variety of sources, ~~which could~~ resulting in temporary wildlife displacement.

Indirect impacts to wildlife from construction of the SWEP would be the same as described in the LWEP EIR, and include disturbance from noise, vibration, night lighting (if required), and general human activity that cause wildlife to temporarily avoid the area. This impact would not be significant (Class III).

BIO-13b Indirect O&M Effects (Wildlife). Indirect operational impacts could occur to terrestrial wildlife compared to pre-Project levels.

Indirect impacts to wildlife from operation of the SWEP would be the same as described in the LWEP EIR and would include minor and infrequent disturbance from noise and general human activity that cause wildlife to temporarily avoid the area. This impact would not be significant (Class III).

BIO-14 Indirect Impacts (Vegetation). Invasive species carried from other work sites ~~may~~ could establish on site and displace native plant species or interfere with revegetation; ~~and~~ topsoil removal and equipment operation ~~may~~ could reduce the ability of soils to support vegetation.

Impacts from nonnative and invasive weeds would be the same as described in the LWEP EIR. Invasive species carried from other work sites via construction equipment could establish on site and displace native plant species or interfere with restoration efforts. In addition, topsoil removal due to grading and equipment operation could reduce the ability of soils to support vegetation. MMs BIO-1 through BIO-3, BIO-5, BIO-6, BIO-9, BIO-11c, BIO-11d, and BIO-17 are required to reduce or avoid the introduction and spread of nonnative and invasive weeds. These measures require that workers undergo environmental awareness training, ground disturbance is minimized, impacts to Gaviota tarplant habitat are minimized and mitigated, disturbance in riparian habitat and other native habitats is restored and weeds are controlled in restoration areas, biological monitoring and reporting is conducted, and a Weed Control Plan is developed and implemented for all ground disturbance. Implementation of these measures would ensure impacts from nonnative invasive weeds remain less than significant (Class II).

Mitigation Measures

The following MMs from the LWEP EIR have been modified for the SWEP.

MM BIO-1 **Worker Education and Awareness Program.** See full text under Impact BIO-1a.

MM BIO-2 **Ground Disturbance.** See full text under Impact BIO-1a.

MM BIO-3 **Site Restoration and Revegetation Plan.** See full text under Impact BIO-1a.

MM BIO-5 **Pre-construction Rare Plant Surveys and Restoration.** See full text under Impact BIO-5a.

MM BIO-6 **Gaviota Tarplant Disturbance.** See full text under Impact BIO-5a.

MM BIO-9 **Wetland Avoidance and Riparian Habitat Restoration Plan.** See full text under Impact BIO-3.

MM BIO-11c **Biological Monitoring.** See full text under Impact BIO-1a.

MM BIO-11d **Monitoring Report.** See full text under Impact BIO-1a.

The following is a new MM recommended to reduce impacts from the SWEP.

MM BIO-17 **Weed Control Plan.** The Applicant shall have a County-approved, qualified restoration ecologist or biologist prepare a comprehensive adaptive Weed Control Plan (WCP) to be administered during the construction and operation phases of the proposed Project. The WCP shall be submitted to the County for review and approval and shall be updated and implemented for weed eradication and monitoring for the life of the proposed Project. The WCP shall include, but is not limited to, the following:

1. Conduct a pre-disturbance survey for invasive weeds in all presently undisturbed areas that are proposed for ground-disturbing activity in the proposed Project footprint. Weed populations that are rated high or moderate for negative ecological impact in the California Invasive Plant Inventory Database (Cal-IPC, 2018) shall be mapped and described according to density and area covered. Identify the invasive species that will be subject to control measures (ubiquitous non-native species such as brome grasses and wild oats should be identified and described, but need not be subject to control measures). Areas with weed infestations shall be treated prior to ground disturbance in presently undisturbed areas according to control methods detailed below and BMPs for invasive weed populations.

2. Weed control treatments shall include legally permitted herbicide, manual, and mechanical methods approved for application. The application of herbicides shall be in compliance with State and federal laws and regulations under the prescription of a Pest Control Advisor, with the County's concurrence, and shall be implemented by a Licensed Qualified Applicator. Herbicides shall not be applied during or within 72 hours of a forecasted measurable rain event or during high wind conditions that could cause spray drift onto native vegetation. Where manual or mechanical methods are used, plant debris shall be disposed of at an appropriate off-site location. The timing of the weed control treatment shall be determined for each plant species with the goal of controlling populations before they start producing seeds. Consultation with a County-approved, qualified wildlife biologist or botanist shall be required prior to weed control treatments to develop strategies to avoid any adverse impacts to plants and wildlife in the area.

3. Herbicides known to have residual toxicity, such as pre-emergents and pellets, shall not be used in natural areas or within channels (engineered or not) where they could run off into downstream areas. Only the following application methods may be used: wick (wiping onto leaves); inner bark injection; cut stump; frill or hack and squirt (into cuts in the trunk); basal bark girdling; foliar spot spraying with backpack sprayers or pump sprayers at low pressure or with a shield attachment to control drift, and only on windless days, or with a squeeze bottle for small infestations.

4. Throughout construction and operation, all sites impacted by the proposed Project (including access roads within the Project site and along the transmission

line) shall be surveyed annually for new invasive weed populations and identified weed populations shall be treated and monitored. Treatment of all identified weed populations shall occur at a minimum of once annually. When no new seedlings or re-sprouts are observed at treated sites for three consecutive, normal rainfall years, the weed population can be considered eradicated and weed control efforts may cease for that impact site.

Weed control efforts shall be timed annually to reduce invasive weed seed production. This entails conducting weed removal when flowering has just started, but before seeds have been produced. All plant debris shall be disposed of at an approved location. Weed control efforts shall generally commence in early spring (February), or as determined each year by a qualified restoration ecologist or biologist.

5. All seeds and straw materials used during proposed Project construction and operation shall be weed-free rice straw or other weed-free product, and all gravel and fill material shall be weed free. All plant materials used during restoration shall be native, certified weed-free, and approved by the County of Santa Barbara.

Plan Requirements and Timing. The Applicant shall submit a WCP to the County for review and approval prior to issuance of the Zoning Clearance. Requirements of the WCP shall be implemented by the Applicant as specified in the approved WCP. The Applicant shall report results of pre-disturbance survey(s), weed control efforts and annual surveys during the life of the proposed Project to the County. The County-approved biologist shall document implementation of the WCP requirements, including pre-disturbance surveys in a summary report to the County submitted annually during the life of the proposed Project.

Monitoring. County staff will inspect the Project plans and site as well as review the weed control plan and final monitoring report for compliance with this measure as appropriate. County staff will monitor construction and revegetation activities to ensure the plan is fully implemented.

4.5.5 Cumulative Effects

Geographic Extent/Context

Consistent with the LWEP EIR, the geographic scope of cumulative effects for biological resources is the Lompoc Valley. All cumulative projects listed in Table 3-1 (Cumulative Projects Scenario) within the Lompoc Valley County Area and the City of Lompoc could potentially combine with the effects of the proposed Project to result in cumulative impacts to biological resources. However, the types of projects that would be most likely to result in substantial cumulative impacts to biological resources include large-scale projects on currently undeveloped lands, such as the Sepulveda Building Materials Mining Revision and new wineries including the Hilt Winery.

Cumulative Effects

Vegetation and Wildlife Habitat. The proposed Project would temporarily impact 4.04 acres and permanently convert 180.88 acres of vegetation and wildlife habitat, as summarized in Table 4.5-3. Other projects in the cumulative scenario would also result in temporary and permanent impacts to vegetation

and wildlife habitat. Although VAFB and the Lompoc Hills support large amounts of undeveloped land, the ongoing development in the region for residential, commercial, agriculture (including wineries), mining, and other land uses has resulted in a large-scale loss of native vegetation and wildlife habitat. The proposed Project's contribution to this cumulative impact would be significant.

Woodland and Forest. An estimated 607 coast live oak and tanoak trees would be removed for construction of SWEP turbines and access roads. Other development projects in the cumulative scenario may also damage or remove oaks and other native trees. Although mitigation, such as replacement tree plantings, would be required for impacts to oaks and other native trees, woodland and forest habitats can take decades or more to regain the lost habitat values. The Project would result in a substantial contribution to the loss of woodland and forest within the Lompoc Valley. The proposed Project's contribution to this cumulative impact would be significant.

Wetlands, Seeps, and Springs, and Features Subject to Regulation by the USACE, Santa Barbara County, or CDFW. Table 4.5-5 summarizes the estimated SWEP impacts to jurisdictional resources by feature type and agency jurisdiction. Jurisdictional resources, including streams, wetlands, seeps, and springs, provide valuable habitat for common and special-status species in the Lompoc Valley. Other development projects may also impact jurisdictional resources. The proposed Project's contribution to this cumulative impact would be significant.

Gaviota Tarplant. It is currently unknown whether Gaviota tarplant exists within any other proposed developments in the Lompoc Valley. If present, the proposed Project's direct impacts to Gaviota tarplant could combine with loss of the species from other development sites to result in a cumulative impact to this federally and state-listed endangered plant. Given its already limited distribution and ongoing threats that have resulted in its listing under the ESA and CESA, the Project's contribution to cumulative impacts to Gaviota tarplant would be significant.

Other Special-status Plant Species. Many of the special-status plants present on the Project site (see Appendix C-6) may also occur on other sites proposed for development in the Lompoc Valley. Development projects that may impact special-status plants likely will be required to follow similar mitigation as the proposed SWEP, including avoidance, revegetation of temporary impacts, compensation for impacts to local populations, and measures to avoid indirect impacts from dust and weeds. Nonetheless, given the scale of the proposed Project, its contribution to impacts to special-status plants would be significant.

Construction and Maintenance Impacts to Common and Special-Status Wildlife Species, including Nesting Birds. Many of the special-status wildlife present on the Project site (see Appendix C-7) may also occur on other sites proposed for development in the Lompoc Valley. In addition, many of these projects likely support habitat for nesting birds and could interfere with bird breeding if construction were to occur during the nesting season. Development projects that may impact special-status wildlife and nesting birds likely will be required to follow similar mitigation as the proposed SWEP, including pre-construction surveys, avoidance (including disturbance-free buffers around active nests), revegetation of temporary impacts, construction monitoring and reporting, and measures to avoid indirect impacts from dust and weeds. Nonetheless, given the scale of the proposed Project, its contribution to impacts to special-status wildlife and nesting birds would be significant.

Avian and Bat Collisions with WTGs. No other wind development projects are proposed within the Lompoc Valley. Therefore, the Project would not have the potential to combine with other wind development projects to result in cumulative impacts from bird and bat collisions with WTGs.

Avian and Bat Collisions with Power Lines and Meteorological Towers. No other wind development or power line projects are proposed within the Lompoc Valley. Therefore, the Project would not have the potential to combine with other projects to result in cumulative impacts from bird and bat collisions with power lines and meteorological towers.

Avian Displacement from WTGs. No other wind development projects are proposed within the Lompoc Valley. Therefore, the Project would not have the potential to combine with other wind development projects to result in cumulative impacts from bird and bat aerial displacement.

Indirect Impacts (Wildlife and Vegetation). Other development projects in the Lompoc Valley could result in the same types of indirect impacts to vegetation and wildlife, including the introduction and spread and nonnative and invasive weeds; impacts from dust; wildlife displacement and disturbance from increased noise, night lighting, and human presence; and hazardous materials spills. However, indirect effects are generally localized and temporary, and the nearest cumulative project is the Hilt Winery, which is over 4 miles from the Project site and is currently under construction. Most indirect effects would occur during construction of the SWEP, which would not overlap that of the Hilt Winery which should be complete before the proposed Project construction begins. Therefore, the Project would not contribute substantially to cumulative indirect impacts on wildlife and vegetation.

4.5.6 Residual Impacts

As summarized in Section 4.5.4, Impacts BIO-2b, BIO-12, BIO-13a, and BIO-13b would be less than significant. With implementation of proposed mitigation measures, residual effects from Impacts BIO-1a, BIO-1b, BIO-3, BIO-5a, BIO-5b, BIO-6, BIO-7, BIO-8, BIO-9, BIO-11, and BIO-14 would be less than significant. The residual effects from Impacts BIO-2a and BIO-10 would remain significant.

4.5.7 Impact and Mitigation Summary

Table 4.5-8 below provides a summary of the SWEP's impacts related to biological resources. The table also indicates the MMs proposed to reduce each significant impact.

Table 4.5-8. SWEP Impact and Mitigation Summary – Biological Resources

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
BIO-1a	Vegetation and Wildlife Habitat Impacts during Construction. Vegetation and wildlife habitat could be temporarily and permanently lost during construction.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-3: Site Restoration and Revegetation Plan BIO-8: Native Grassland Restoration BIO-11b: Fencing BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Class II
BIO-1b	Vegetation and Wildlife Habitat Impacts during O&M. Vegetation and wildlife habitat could be impacted during O&M.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-3: Site Restoration and Revegetation Plan BIO-8: Native Grassland Restoration BIO-11b: Fencing BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Class II
BIO-2a	Construction Impacts to Woodland and Forest. Oak woodland and tanoak forest could be impacted during construction.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-4a: Tree Protection Plan	Class I

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
		BIO-4b: Tree Replacement Plan (TRP) – Planned Removal and Unexpected Damage BIO-4c: Invasive Plant Pathogen Abatement (SOD Prevention) BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	
BIO-2b	O&M Impacts to Woodland and Forest. Oak woodland and tanoak forest could be impacted during Project operations.	None required.	Class III
BIO-3	Wetlands, Seeps, and Springs, and Features Subject to Regulation by the USACE, Santa Barbara County, or CDFW. Direct loss of wetlands and seeps could occur at creek crossings, the laydown yard, water well, road improvement and access road locations, pole locations along the transmission line, and WTG pads. Additionally, soil erosion or spills could reduce water quality during construction.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-3: Site Restoration and Revegetation Plan BIO-9: Wetland Avoidance and Riparian Habitat Restoration Plan BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Class II
BIO-5a	Construction Impacts to Gaviota Tarplant. Impacts to Gaviota tarplant and designated critical habitat could occur during construction.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-3: Site Restoration and Revegetation Plan BIO-5: Pre-construction Rare Plant Surveys and Restoration BIO-6: Gaviota Tarplant Disturbance BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Class II
BIO-5b	O&M Impacts to Gaviota Tarplant. Occasional disturbance to small areas of Gaviota tarplant habitat could occur as a result of operations or maintenance activities involving clearing or vehicle operation in occupied habitat.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-3: Site Restoration and Revegetation Plan BIO-5: Pre-construction Rare Plant Surveys and Restoration BIO-6: Gaviota Tarplant Disturbance BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Class II
BIO-6	Other Special-Status Plants. A number of other special-status plant species may be present on site or in the transmission line corridor and could be lost during construction.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-3: Site Restoration and Revegetation Plan BIO-5: Pre-construction Rare Plant Surveys and Restoration BIO-7: Kellogg's and Mesa Horkelia Habitats BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Class II
BIO-7	Common Wildlife. Individual animals could be injured or killed by vehicles, equipment, or large holes during construction.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-11a: Pre-construction Wildlife Surveys BIO-11b: Fencing BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Class II
BIO-8	Nesting Birds. Nesting birds could potentially lose nests through destruction or abandonment.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-11a: Pre-construction Wildlife Surveys BIO-11b: Fencing	Class II

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
		BIO-11c: Biological Monitoring BIO-11d: Monitoring Report BIO-12: Avoidance Measures for Nesting Birds BIO-14e: Sensitive Avian and Bat Species	
BIO-9	Special-Status Wildlife. Direct and indirect impacts could occur to special-status wildlife species.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-3: Site Restoration and Revegetation Plan BIO-9: Wetland Avoidance and Riparian Habitat Restoration Plan BIO-11a: Pre-construction Wildlife Surveys BIO-11b: Fencing BIO-11c: Biological Monitoring BIO-11d: Monitoring Report BIO-13: Pre-construction Surveys and Conservation of El Segundo Blue Butterfly (ESBB) BIO-14a: California Horned Lizard BIO-14b: Northern California Legless Lizard BIO-14c: San Diego Desert Woodrat BIO-14d: American Badger BIO-14e: Sensitive Avian and Bat Species BIO-14f: Vernal Pool Fairy Shrimp BIO-14g: California Red-Legged Frog BIO-14h: Western Spadefoot Toad BIO-14i: California Condor BIO-14j: Maternity Colony or Hibernaculum Surveys and Avoidance Measures for Sensitive Bats	Class II
BIO-10	Avian and Bat Collisions with WTGs. Unknown numbers of special status and non-sensitive birds and bats could be at risk of dying through collisions with the WTGs over the duration of the Project.	BIO-15a: Siting BIO-15b: Appropriate WTG and Project-Element Design BIO-16: Monitoring and Adaptive Management Plan / Bird and Bat Conservation Strategy BIO-16a: Before-After/Control-impact (BACI) Study BIO-16b: Bird/Bat Mortality Study BIO-16c: Remove Carrion Near Turbines BIO-16d: Adaptive Management Plan (AMP)	Class I
BIO-11	Avian and Bat Collisions with Power Lines and Meteorological Towers. Birds and bats could collide with transmission and power collection poles, transmission and power collection lines, and meteorological towers.	BIO-15b: Appropriate WTG and Project-Element Design	Class II
BIO-12	Avian Displacement from WTGs. Birds with habitat within 200 feet of WTG towers may be displaced.	None required.	Class III
BIO-13a	Indirect Construction Effects (Wildlife). Indirect impacts to wildlife could occur during construction from a variety of sources, resulting in temporary wildlife displacement.	None required.	Class III
BIO-13b	Indirect O&M Effects (Wildlife). Indirect operational impacts could occur to terrestrial wildlife compared to pre-Project levels.	None required.	Class III
BIO-14	Indirect Impacts (Vegetation). Invasive species carried from other work sites could	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance	Class II

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
	establish on site and displace native plant species or interfere with revegetation; topsoil removal and equipment operation could reduce the ability of soils to support vegetation.	BIO-3: Site Restoration and Revegetation Plan BIO-5: Pre-construction Rare Plant Surveys and Restoration BIO-6: Gaviota Tarplant Disturbance BIO-9: Wetland Avoidance and Riparian Habitat Restoration Plan BIO-11c: Biological Monitoring BIO-11d: Monitoring Report BIO-17: Weed Control Plan	

Class I. Significant unavoidable adverse impact.

Class II. Significant environmental impacts that can be feasibly mitigated or avoided.

Class III. Adverse impacts found not to be significant.

Class IV. Impacts beneficial to the environment.

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4.6 Archaeological and Tribal Cultural Resources

The LWEP EIR Section 3.6 identified cultural resources as "…historic and prehistoric archaeological sites … and sites and resources of traditional cultural significance to Native Americans and other groups." (2008:3.6-1). Based on CEQA revisions in 2015, the latter resources are now labelled Tribal Cultural Resources (TCRs). TCRs are resources with cultural value to a California Native American Tribe. TCRs may include Native American archaeological sites, but they may also include other types of resources, such as cultural landscapes or sacred places. The identification and appropriate treatment of tribal cultural resources is determined through consultation with tribes.

The LWEP EIR Sections 3.6.2 through 3.6.6 identified and summarized the survey results of five separate consultants dating back to 2002. Additional cultural resource studies have been conducted since the LWEP EIR and include supplemental site surveys and Phase II evaluations of archaeological resources (Dudek 2018). These additional studies, surveys, and evaluations are discussed below.

4.6.1 Environmental Setting

Environmental contexts of the Project area have been detailed most recently by Sapphos (2018). Additional details on the geologic setting are provided here to augment previous discussions.

The geology of the Project area consists of nine formations. Alternating periods of deposition, uplift, deformation, and erosion created the unique geologic environment in the vicinity of the Project area. The collision of tectonic forces, transgression and regression of both shallow and deep seas, and unique depositional environments contributed to the development of one of the most complex geologic settings in California. This geologic setting consists of important chert tool stone originating in the Miocene Monterey formation. These cherts outcrop in hundreds of areas along the southern California coastline and comprised an economic resource of extremely high value to prehistoric populations.

The prehistoric use of the Project area and larger vicinity, extending from Vandenberg AFB south to the Santa Barbara Channel coastline, includes the quarrying of Monterey formation cherts. These cherts include very high-quality siliceous rock used to make stone tools for cutting, chopping, drilling, and tipping arrows and spears used in hunting and warfare.

Cultural Setting

The LWEP EIR Sections 3.6.1.1 through 3.6.1.3 provide a synthesis of the prehistoric, historic, and ethnohistoric background of the Project area that is still relevant to SWEP. Archaeological research conducted since the LWEP EIR indicates the southern California coast and inland regions of Santa Barbara County have produced evidence of human arrivals in the early Holocene. Recent evidence from Point Arguello, only five miles west of the Project area, indicate human occupation there at 10,900 – 10,600 BP (Hodges 2014). Other studies since the LWEP EIR have shown that the Northern Channel Islands have produced evidence of human occupation in excess of 13,000 BP.

Additional detail is reported by Aspen Environmental Group (2008), Lebow et al. (2011), and Sapphos Environmental (2018).

Resources Inventory

LWEP EIR Section 3.6.2 describes the pedestrian field surveys (Phase 1 Archaeological Studies) of the Project area that were conducted in 2002, 2005, and 2008 by Laurence W. Spanne (Spanne 2005,

Spanne 2008) and September 2006 by Clint Helton, RPA, of CH2M Hill. Since then, additional pedestrian field surveys were conducted in 2017 and 2018 by Dustin Keeler, RPA, of Sapphos Environmental; and 2018 by Heather McDevitt, RPA, of Dudek. Field methods remained consistent for all episodes of field investigation.

Ground disturbance at the Project site included road grading and animal burrows. The pedestrian survey team focused on confirming site boundaries. Summaries of the sites are provided below. No new resources were identified within the Project site.

Three Native American sacred sites have been identified in the vicinity or the Project (Sapphos 2018). CA-SBA-503 (Swordfish Cave) overlaps the western Project boundary but is not in an area of direct impact from Project development. The second site, CA-SBA-655 (Window Cave) is located within the 0.5-mile buffer around the Project area. The third site, the Tranquillon Mountain site, is located beyond the 0.5-mile buffer radius around the Project.

CA-SBA-655 contains two caves with petroglyphs, red and black pictographs, and a sparse lithic scatter. The lithic scatter suggests short-term occupation (Sapphos 2018).

The Tranquillon Mountain site is also known as the sacred peak of Alul (Conspicuous). The location was described to John P. Harrington as an important location that appears to have been a component in the winter solstice observations made from Window Cave (SBA-655) (Krupp 1983). Chumash descendants still make these observations today.

Records Searches

The records search summarized in the LWEP EIR did not list the numbers or titles of previous surveys conducted for the LWEP but did identify and describe 20 prehistoric resources. As of the time of preparation of this SEIR, the records searches conducted to date have identified 97 prior cultural resources studies within the Project area and a 0.5-mile buffer around the Project area. Forty-six studies were located partially or wholly within the Project area, while 51 studies were documented only within the 0.5-mile buffer around the Project area. The studies were completed as early as 1977 and as recently as 2018.

AB52 Consultation and Native American Outreach

Section 3.6.5 of the LWEP EIR describes the Native American consultation that occurred for LWEP. For SWEP, Santa Barbara County Planning and Development initiated AB 52 consultation on April 20, 2018, in correspondence with Ms. Julie Tumamait-Stenslie, Chair of the Barbareño/Ventureño Band of Chumash Mission Indians. No response was received from the Barbareño/Ventureño Band.

The Native American Heritage Commission (NAHC) was also contacted at this same time and requested to provide a list of Native American contacts with cultural affiliation with the Project. A list of six contacts was provided on June 12, 2018. The County sent correspondence to the six tribal organizations with details of the project. The County received two phone requests for information as a result of the latter correspondence. One phone call was received from Mr. Patrick Tumamait, a member of the Barbareño/ Ventureño Band of Chumash Indians. Mr. Tumamait asked about project monitoring and available reports. The other was from Mr. Freddy Romero with the Santa Ynez Band of Chumash Indians. Mr. Romero asked if he could review the project Cultural Resources technical Report. He also stated that he would like a site visit.

On September 7, 2018, a site visit was conducted with Aspen and Dudek archaeologists, Mr. Romero, and Strauss representatives. During this field visit Mr. Romero expressed concerns over the possible visual impacts that would be experienced during ceremonies and other cultural m practices held periodically at both Swordfish Cave and Window Cave.

Results of Field Surveys

Since 2008, nine additional cultural resources have been identified that are now within the Project area bringing the total number of identified archaeological and tribal cultural resources to 29. The site summaries in Sapphos (2018) and Dudek (2018) provide site descriptions and some assessments of importance and significance of project impacts. All previous surveys were intensive and covered approximately 1,523 acres, or 51 percent of the Project Area. Aside from the Transmission Line Corridor, survey coverage includes all of the lands where Project impacts are proposed. Dudek (2018) surveyed an additional 224.5 acres for the Transmission Line Corridor and access roads, as well as an additional 114 acres within the main Project area. This brings total survey coverage for the Project to 1,861.5 acres, which is 62.3 percent of the total Project area.

Extended Phase 1 and Phase 2 Studies

No extended Phase 1 or Phase 2 studies were conducted at any archaeological resource for or prior to the LWEP EIR. Applied Earthworks has conducted additional studies that are relevant to the current project. The first is a survey and combined Extended Phase 1 and Phase 2 study completed in 2010 by Applied Earthworks for PG&E Company (Enright and Lebow 2014). Applied Earthworks completed the survey for a 115-kV transmission line that was proposed to connect the Lompoc Wind Energy Project to the existing electric grid and followed much of the transmission line corridor for the SWEP. Due to overlap in survey coverage, Applied Earthworks inspected four areas of the proposed PG&E transmission line that their records indicated had not been previously surveyed. Total survey coverage was approximately 55 acres. Survey methods were consistent with other studies for the Project in that the archaeologists walked parallel transects spaced 50 feet apart. The survey corridor was 100 feet wide. Applied Earthworks recorded one additional isolate and no additional sites. In addition to the survey, Applied Earthworks completed an Extended Phase 1 Exploration of four resources, including three previously recorded sites (CA-SBA-2465, CA-SBA-3936, and CA-SBA-3937) and an isolate (P-42-038884). Applied Earthworks also initiated a Phase 2 study of four previously recorded sites (CA-SBA-1751, CA-SBA-2465, CA-SBA-3936, and CA-SBA-3937), but the client halted the work before fieldwork and analysis were completed (Enright and Lebow 2014). The sites investigated are all within the SWEP.

A second study completed by Applied Earthworks between 2010 and 2011 was an evaluation of six sites located in the Project area for an earlier version of the LWEP, sponsored by Acciona (Lebow et al. 2011). The sites evaluated included: CA-SBA-2756, CA-SBA-2757, CA-SBA-3840, CA-SBA-3848, CA-SBA-3992, and CA-SBA-3993. All but two of the sites, CA-SBA-3848 and CA-SBA-3992, were determined eligible for inclusion in the CRHR.

4.6.2 Regulatory Setting

The LWEP EIR Section 3.6.7 listed relevant State laws and codes pertaining to the protection of historical (cultural) resources and these remain applicable to the proposed Project. Since the completion of the LWEP EIR, Assembly Bill 52 was enacted in 2015, which pertains to historical resources and is described below.

Assembly Bill 52

CEQA revisions in 2015 resulted from adoption of Assembly Bill 52 (AB 52). AB52 changed sections of the Public Resources Code to add consideration for Native American culture within the CEQA process. The goal of AB 52 is to promote the involvement of California Native American tribes in the decision-making process when it comes to identifying and developing mitigation of impacts to resources of importance to their culture. To reach this goal, the bill establishes a formal role for tribes in the CEQA process. Under AB 52, tribal representatives are considered experts appropriate for providing substantial evidence regarding the locations, types, and significance of tribal cultural resources within their traditionally and culturally affiliated geographic area (PRC Section 21080.3.1(a)). The CEQA defines a California Native American tribe as a "Native American tribe located in California that is on the contact list maintained by the Native American Heritage Commission." This definition does not distinguish between federally recognized and non-federally recognized tribal groups and is therefore more inclusive than the federal definition of "Indian tribe" (PRC § 21073).

CEQA lead agencies are required to consult with tribes about potential tribal cultural resources in the Project area, the potential significance of project impacts on those resources, the development of project alternatives, and the type of environmental document that should be prepared. AB 52 states that a project that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment (PRC Section 21084.2).

Tribal cultural resources, as defined by CEQA Section 21074(a)(1) and 5024.1(c), includes either of the following:

1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

    a. Included or determined to be eligible for inclusion in the California Register of Historical Resources.

    b. Included in a local register of historical resources as defined in Public Resources Code section 5020.1(k).

2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Public Resources Code section 5024.1(c). In applying the criteria set forth in 5024.1(c) for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Tribal cultural resources are also defined as a cultural landscape where "the landscape is geographically defined in terms of the size and scope of the landscape." However, tribal cultural resources can also include "non-unique archaeological resources" that, rather than being important for scientific value as a resource, can also be significant because of the sacred and/or cultural tribal value of the resource.

4.6.3 Impact Significance Thresholds

The LWEP EIR significance thresholds addressed impacts that may adversely affect a unique archaeological resource. Section 21083.2 of CEQA requires that the lead agency (that is, Santa Barbara County) treat that effect as a significant environmental impact. When an archaeological resource is listed in or eligible to be listed in the CRHP, Section 21084.1 of CEQA requires that any substantial adverse effect to that resource be considered a significant environmental impact.

Additionally, the LWEP EIR was guided by the County Environmental Thresholds and Guidelines Manual at the time, which also provided direction to archaeologists on what types of research topics and research questions are appropriate to determine the significance of an archaeological site (Santa Barbara County 1993).

The County has recently revised its guidelines for evaluating and treating cultural resources in *Appendix 8: Guidelines for Determining the Significance of and Impacts to Cultural Resources- Archaeological, Historic, and Tribal Cultural Resources* (Santa Barbara County 2018). This SEIR follows revised guidelines.

The County's Thresholds and Guidelines is divided into three parts. The first part identifies those characteristics or criteria that qualify a resource as an *important* archaeological, historic, or tribal cultural resource. The second part addresses how to evaluate the *severity* of potential impacts to those resources. This is key to evaluating if an adverse change to a resource is substantial and significant. The third part of the document provides a discussion of *mitigation*, including some examples of mitigation measures which may avoid or lessen a potentially substantial adverse change.

The Planning and Development Department stresses avoidance of cultural resources through project design which may be achieved with the following:

- Planning construction to miss cultural resource sites;
- Planning parks, greenspace or other open space to incorporate archaeological or historical sites;
- "Capping" or covering prehistoric or historic archaeological sites with a layer of fill soil before building tennis courts, parking lots, or similar facilities. Capping may be used in the following cases:
    - The soils to be covered will not suffer serious compaction.
    - The covering materials are not chemically active.
    - The site is one in which the natural processes of deterioration have been effectively arrested; and
    - The site has been recorded.

    Although the placement of fill on top of an archaeological site may reduce direct impacts of construction, indirect impacts will possibly result from the loss of access to the site for research purposes and scarification and compaction of soils. To mitigate this impact, a sample of the cultural resource shall be excavated and appropriately curated for research purposes.

    - Deeding archaeological or historical sites into permanent conservation easements.

If the above avoidance measures cannot be used, a Phase 2 excavation program is funded by the applicant and performed by a County approved archaeologist and/or historian, if necessary, to determine if the cultural resource is "important" as defined in Appendix K of CEQA. If the project would cause damage to an important cultural resource, the project is considered to have a significant effect on the environment. For the purposes of Santa Barbara County's implementation of CEQA, an "important archaeological resource" can be defined by one of several criteria listed below. Such a resource may have the following characteristics:

Is associated with an event or person of:

- Recognized significance in California or American history; or

- Recognized scientific importance in prehistory.
- Can provide information which is of both demonstrable public interest and useful in addressing scientifically consequential and reasonable or archaeological research questions,
- Has a special or particular quality, such as oldest, best example, largest, or last surviving example of its kind.
- Is at least 100 years old and possesses substantial stratigraphic integrity; or
- Involves important research questions that historical research has shown can be answered only with archaeological methods.

The Archaeological Element of the County Guidelines provides a variety of relevant research questions for use in addressing significance criteria.

The Phase 2 investigation and report must follow the specifications defined in the Cultural Resource Guidelines defined above. The report must include significance assessments and propose ways to avoid impacting the important resource. The report shall also include a suggested excavation plan for mitigating the effect of the project on the qualities which make the resource important if avoidance is considered infeasible.

The excavation plan shall include the following:

- A brief summary of the excavation proposed as part of a mitigation plan.
- Be available for review only on a need-to-know basis;
- Shall not include the specific location of any archaeological resources if the plan would be made known to the general public.

An excavation plan shall also mention the following:

- List and briefly discuss the important information the archaeological or historical resources contain or are likely to contain;
- Explain how the information should be recovered to be useful in addressing scientifically valid research questions and other concerns identified;
- Explain the estimated cost of time required to complete all activities undertaken under the plan.

The County also addresses Guidelines for evaluation of historic resources in the Historic Element of the County Guidelines. As no historic resources are located within the Project, they are not detailed here.

If a cultural resource is determined not to be “important”, the impact to the resource will be designated Class 3, and the effect on it shall be noted in the project file Initial Study or EIR but need not be considered further in the CEQA process. The project applicant is responsible for the complete funding of Phase 2 investigations. Phase 2 investigations are not limited by cost; however, costs are limited to providing services defined in scopes of work which are developed by the Planning and Development Department.

4.6.4 Environmental Impacts and Mitigation Measures

Table 4.6-1 below lists the impacts and mitigation measures (MMs) identified for cultural and tribal resources in the LWEP EIR. These same impacts are addressed in this section for the SWEP. The right-

hand column of the table below indicates whether the LWEP impacts or MMs have been modified for the SWEP. A new impact, CULT-4, has been identified for SWEP and is described at end of this section.

Table 4.6-1. LWEP Impacts and Mitigation Measures – Cultural and Tribal Resources

Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
CULT-1	Construction activities could result in significant impacts to 20 historical resources.	CULT-1: Additional Archaeological Investigations CULT-6: Avoidance of Cultural Resources CULT-7: Final Plan Notification CULT-8: Temporary Fencing	Updated impact discussion. New mitigation measure added (MM CULT-9). LWEP MMs CUILT-1 through CULT-5 have been consolidated into new MM CULT-10.
CULT-2	Impacts to unidentified subsurface archaeological resources may occur as a result of earth-disturbing activities.	CULT-2: Archaeological Isolates CULT-3: Unanticipated Discoveries CULT-4: Archaeological and Native American Monitors CULT-5: Pre-construction Workshop	New mitigation measures added (MMs CULT-9 and CULT-10).
CULT-3	Impacts to known and unidentified archaeological resources may occur as a result of increased public access to archaeological sites via new or improved roads.	CULT-5: Pre-Construction Workshop	New mitigation measure added (MM CULT-10).
CULT-4	N/A	N/A	New impact statement. New impact discussion.

Using the most recent Project plans, Table 4.6-2 indicates the impacts to individual sites as precisely as can be currently identified. These data can be updated as the final locations of Project components are micro-sited in construction plans. In many cases, direct impacts may be avoided through minor design modifications. Project design should allow for flexibility in relocating Project facilities and rerouting roads to avoid as many of these sites as possible.

The following proposed construction elements are listed in order of severity from greatest to least impact:

- **Grading access roads, including road cut and fill requirements.** Access roads would impact 14 cultural resources. Access roads will vary generally between 25 and 40 feet in width but include additional grading in areas of cut and fill. “Fill” is defined here as an impact when it is not guided by careful consideration of site disturbance. The term “capping” is used to identify a mitigation measure that employs a careful non-disruptive procedure to protect and bury a resource.
- **Underground collection lines.** Electrical collection lines would be placed underground through nine cultural resources. The placement of underground collection lines is currently proposed to occur in roughly 9,600 feet of cultural resource deposits. Using conventional trench excavation with a backhoe and buried conduit, a 1-foot-wide trench with an average depth of 3.0 feet would produce 28,800 ft^3 (~815 m^3) of disturbance. Placing underground collection lines by trenching would have a greater impact than placement with horizontal directional drilling (HDD) equipment. For this reason, HDD is recommended as a mitigation measure for this impact.
- **Grading turbine pads.** Proposed locations of wind turbine generators include six cultural resources with one to three WTGs in each.

- **Laydown yard.** The laydown yard is the largest single impact to a cultural resource and will have an impact footprint of over 300,000 square feet.
- **Transmission line pole pads.** Transmission line pole pads would be graded at three cultural resources.
- **Transmission line poles.** Three cultural resources would have transmission line poles within their boundaries.
- **Water lines.** Water lines would be placed primarily along San Miguelito Road and cross two cultural resources.
- **Switching station and substation.** The proposed substation and switching station are each located within a cultural resource.
- **Transmission line pull sites.** Pull sites needed for stringing conductors on the transmission line and overhead collection lines would be located along the transmission line route, generally in line with the conductor spans. One cultural resource may be affected by pull sites.

Other Project elements that do not affect cultural or Tribal cultural resources include:

- The Operations and Maintenance Facility
- Overhead collection lines
- Water well
- Meteorological towers

Table 4.6-2. Impacts on Cultural Resources

Resource Designations	Type	Project Impacts	Impact Length/Area	CRHR Eligibility
Primary No.: P-42-0001751 Trinomial: CA-SBA-1751	Site	No ground disturbance	--	Not eligible
Primary No.: P-42-000503/256 Trinomial: CA-SBA-503/256 Other: Swordfish Cave	Site Traditional Cultural Property	No ground disturbance. Site adjacent to Project area.	Potential visual and audio impacts from most WTGs	Eligible
Primary No.: P-42-000655 Trinomial: CA-SBA-655 Other: Window Cave	Site Traditional Cultural Property	No ground disturbance. Site adjacent to Project area.	Potential visual and audio impacts from most WTGs	Eligible
Primary No.:P-42-002066 Trinomial: CA-SBA-2066	Site	No ground disturbance	--	Not evaluated Potentially eligible
Primary No.: P-42-002450	Site	No ground disturbance	--	Not evaluated Potentially ineligible
Primary No.: P-42-002465 Trinomial: CA-SBA-2465	Site	Two T/L pole pads Access road (length/grading area) Road cut Road fill Switching station Pull site?	16,800 sq ft 280 ft/3,400 sq ft 910 sq ft 980 sq ft 56,100 sq ft TBD	Not evaluated Potentially ineligible
Primary No.: P-42-002754 Trinomial: CA-SBA-2754	Site	Access road (length/grading area) Access road cut Access road fill	850 ft/19,100 sq ft 500 sq ft 300 sq ft	Not evaluated Potentially eligible

Table 4.6-2. Impacts on Cultural Resources

Resource Designations	Type	Project Impacts	Impact Length/Area	CRHR Eligibility
Primary No.: P-42-002756	Site	WTG W-1 (partial), W-2 & N-1 Access road (length/grading area) Road cut Road fill Pad cut Substation alternative Laydown yard Collection lines Water lines	 3,110 ft/164,800 sq ft 26,100 sq ft 26,100 sq ft 8,500 2152 sq ft 303,102 sq ft 5500 ft 890 ft	Evaluated by AE (2010) and determined eligible
Primary No.: P-42-002757 Trinomial: CA-SBA-2757	Site	WTG E-1 access road (length/grading area) Road cut Road fill Collection line	 1,100 ft/63,100 sq ft 7,620 sq ft 21,570 sq ft 730 ft	Evaluated by AE (2010) and determined eligible
Primary No.: P-42-002760	Site	No ground disturbance	--	Not evaluated Potentially eligible
Primary No.: P-42-002873	Site	No ground disturbance	--	Recommended eligible
Primary No.: P-42-003840	Site	WTG N-3, N-4 & N-5 access road (length/grading area) Road cut Road fill Turbine pad Pad cut Collection lines Water line	 2,240 ft/184,646 sq ft 26,100 sq ft 82,200 sq ft 9,430 sq ft 25,200 sq ft 2,800 ft 1,000 ft	Evaluated by AE (2010) and determined eligible
Primary No.: P-42-003841/42	Site	Access road (length/grading area) Road cut Collection lines	280 ft/9,200 sq ft 6,700 sq ft 800 ft	Not evaluated Potentially eligible
Primary No.: P-42-003843	Site	Access road (length/grading area) Road cut Road fill Collection line	530 ft/21,400 sq ft 1,100 sq ft 5100 sq ft 530 ft	Not evaluated Potentially eligible
Primary No.: P-42-003844	Site	Access road (length/grading area) Road cut	860 ft/67,600 sq ft 65,600 sq ft	Not evaluated Potentially ineligible
Primary No.: P-42-003845	Site	No ground disturbance	--	Not evaluated Potentially ineligible
Primary No.: P-42-003846	Site	No ground disturbance	--	Not evaluated Potentially eligible
Primary No.: P-42-003847	Site	Access road (length/grading area) Access road cut Access road fill	375 ft/14,700 sq ft <100 sq ft 1,250 sq ft	Not evaluated Potentially eligible
Primary No.: P-42-003848	Site	WTG E-3 access road (length/grading area) Road cut Road fill Turbine pad Collection line	 1,290 ft/184,600 sq ft 48,000 sq ft 51,900 sq ft 47,150 sq ft 2,520 ft	Evaluated by AE (2010) and determined not eligible
Primary No.: P-42-003849	Site	WTG N-7 access road (length/grading area)	0 ft/2,900 sq ft	Not evaluated Potentially eligible

Table 4.6-2. Impacts on Cultural Resources

Resource Designations	Type	Project Impacts	Impact Length/Area	CRHR Eligibility
		Turbine pad Pad cut	9,800 sq ft 8,700 sq ft	
Primary No.: P-42-003936	Site	Two T/L pole pads Pull site?	5,200 sq ft TBD	Not evaluated Potentially ineligible
Primary No.: P-42-003937	Site	T/L pole pad Pull site?	1,400 sq ft TBD	Not evaluated Potentially eligible
Primary No.: P-42-003992	Site	WTG W-7 access road (length/grading area) Road cut Road fill Turbine pad Pad cut Underground collection lines	670 ft/13,100 sq ft 1,400 sq ft 1,900 sq ft 58,800 sq ft 22,400 sq ft 800 ft	Evaluated by AE (2010) and determined not eligible
Primary No.: P-42-003993	Site	Access road (length/grading area) Access road cut Access road fill Collection line	170 ft/3,300 sq ft 730 sq ft 600 sq ft 190 ft	Evaluated by AE (2010) and determined eligible
Primary No.: P-42-038323	Site	Access road (length/grading area) Access road cut Collection lines	190 ft/123,400 sq ft 12,200 sq ft 330 ft	Not eligible
Primary No.:P-42-038614	Isolate	no ground disturbance	--	Not eligible
Primary No.:P-42-038616	Isolate	no ground disturbance	--	Not eligible
Primary No.:P-42-038674	Isolate	no ground disturbance	--	Not eligible
Primary No.:P-42-038884	Isolate	no ground disturbance	--	Not eligible

The impacts of the proposed SWEP on cultural and tribal resources are discussed below.

CULT-1 Known Prehistoric Archaeological Sites. Construction activities could result in significant impacts to 29 ~~20~~ prehistoric archaeological sites.

The LWEP EIR identified the potential for 20 prehistoric resources to be affected by ground-disturbing activities, including the operation of heavy equipment, and that could result in significant but mitigable impacts (Class II) to cultural resources. The SWEP has the potential to impact 29 prehistoric archaeological sites and isolated artifacts. With the exception of the isolated artifacts, most of the sites appear to have characteristics that may qualify them as significant historical resources according to CEQA. The greatest potential for impacts to these sites would occur during the construction phase of the Project, although impacts could occur during operation and maintenance of the facilities with future ground disturbance. Ground disturbance can crush artifacts, alter or destroy the vertical and horizontal contexts of features and artifact associations, such as disassociating burials and grave goods, and reduce or remove the analytical and interpretive potential of remains. If Project activities disturb a previously undiscovered CRHR-eligible cultural resource, the impact would be significant.

This impact can be mitigated to a less-than-significant level (Class II) through implementation of MMs CULT-6 through CULT-10. MMs CULT-6 through CULT-8 are from the LWEP EIR and require avoidance of sites where possible, notification of known archaeological sites as unbuildable areas, and temporary fencing during construction. SWEP MM CULT-8 requires a fence/buffer to be erected when ground disturbance would occur within 100 meters (versus 500 feet in the LWEP MM) of a significant

archaeological site. The reduced distance is warranted because it is consistent with the distance specified in the County Cultural Resources Guidelines as revised in 2018.

MM CULT-9 is new and was not included in the LWEP EIR. This MM suggests the appropriate capping of important site areas. This new measure is called out separately because capping is specified in the County's revised guidelines as a common mitigation method for protecting and preventing impacts to cultural resources within Project areas. There is a distinction between "capping" and "filling". Capping is used as a mitigation measure while filling is a potential impact. The differences are in the application and construction procedures. Filling is part of balancing soil volumes and involves surface preparation such as grading, spiking, mixing and recompacting new fill soils with existing soils to various depths. Capping is quite different. Capping requires analysis of soils to determine whether they can be left uncompacted, or very slightly compacted, prior to the introduction of a capping soil (sand or other chemically inactive material).

MM CULT-10 is new but also incorporates components of LWEP EIR MMs CULT-1 through CULT-5. The new components of this measure include the preparation of a detailed Capping Plan (MM CULT-9) and a Horizontal Directional Drilling Plan.

The Santa Barbara County Fieldwork and Reporting Guidelines require that archaeological resources subject to significant impacts be evaluated with a Phase II test excavation program to determine the importance of the resource. Excluding the two Tribal Cultural Resources at Swordfish Cave and Window Cave, both of which are evaluated as important, Phase II investigations have occurred at six of the 29 resources included in the Project area. Four of the six tested resources have been evaluated as important and will require Phase III data recovery to mitigate impacts. The two remaining tested resources were evaluated as not important and will require no further evaluation. However, they may require further investigation and mitigation if potentially important cultural materials are exposed within or adjacent to their established boundaries during construction or construction monitoring.

In total, there are 13 cultural resource sites that would be impacted by development of the Project, but only four have been evaluated as important. The remaining nine cultural resources that have not yet been evaluated will be evaluated prior to ground disturbance (see Table 4.6-3 in MM CULT-10).

Mitigation Measures

MM CULT-6 **Avoidance of Cultural Resources.** Avoidance of cultural resource sites is the preferred measure, and all impacts to CRHR eligible sites shall be avoided to the greatest extent feasible, consistent with project objectives.

Plan Requirements and Timing. As Project design plans are being finalized, the County and its qualified archaeologist shall review 1 inch to 400 feet (1":400') or better scale ortho-topographic maps of the areas of known Project impacts and provide an assessment of direct adverse effects to CRHR-eligible or unevaluated cultural resources. Recommendations for plan adjustments to avoid all eligible resources to the extent feasible shall be made and design adjustments may be necessary. Final Project layout (for example, WTG placement, access road alignment, power pole locations, and staging areas) shall include measures to avoid eligible sites where feasible. All work shall be completed as part of final design, and any necessary modifications shall be incorporated into the final plans. The County shall confirm that this measure has been conducted prior to zoning clearance.

Monitoring. County will check plans prior to zoning clearances and shall spot check in the field during ground disturbing activities.

MM CULT-7 **Final Plan Notification.** The Applicant shall include a note on a separate informational sheet to be recorded with the final plans for each construction phase designating the known archaeological sites as unbuildable areas, unless the archaeological site is formally evaluated by a County-approved archaeologist as ineligible for the CRHR or a Phase 3 data recovery program has been implemented. The areas shall not be identified as archaeological sites on the informational sheet.

Plan Requirements and Timing. The informational sheet shall be submitted prior to zoning clearance.

Monitoring. The County will spot check to ensure compliance.

MM CULT-8 **Temporary Fencing.** Known unevaluated or determined significant archaeological sites and 50-foot buffer areas shall be temporarily fenced with chain link flagged with color or other material authorized by the County where ground disturbance is proposed within 100 meters of the site and buffer.

Plan Requirements and Timing. The fencing requirement shall be shown on approved grading and building plans. Plans are to be approved prior to zoning clearance; and fencing is to be in place prior to start of construction. The areas shall not be identified as archaeological sites on the informational sheet.

Monitoring. County staff will verify installation of fencing by reviewing photo documentation or by site inspection prior to prior to zoning clearances and ensure fencing in place throughout grading and construction through site inspections.

MM CULT-9 **Site Capping.** Current grading plans designate areas within resources where soils will be cut and filled for creation of WTG pads, O&M facilities, and all road improvements. All areas currently designated as fill within a cultural resource site are areas of impact. These locations shall be subject to measures contained within a capping plan to be prepared as part of MM-10 below.

Plan Requirements and Timing. The capping requirement shall be shown on approved grading and building plans. Plans are to be approved prior to zoning clearance; and capping is to be in place prior to start of Project construction. The areas capped shall not be identified as archaeological sites on the informational sheet.

Monitoring. County staff will verify installation of capping by reviewing photo documentation or by site inspection prior to zoning clearance. County staff will ensure capping remains in place throughout grading and construction through site inspections.

MM CULT-10 **Archaeological Evaluation, Data Recovery Excavation, Monitoring, and Reporting Plan.** The remaining nine cultural resources that have not yet been evaluated will be evaluated prior to ground disturbance. This will be done in an Archaeological Evaluation, Data Recovery Excavation, Monitoring, and Reporting Plan (Plan) prepared and implemented following the Santa Barbara County Fieldwork and Reporting Guidelines for Cultural Resources. The Plan will be initiated with the minimum excavated sample sizes specified in Table 4.6-3 below. The data recovery sample sizes

specified are based on a one percent sampling of the areas that will be disturbed. The evaluation sampling will cover each site with grids of 10m, 15m, 20m, or 30m depending on each site's horizontal extent.

The archaeological significance evaluation program initiated by Lebow, et al. (2011) will be applied with special regard to the specific impacts from SWEP. The Plan must have the added element of being able to define and complete Phase III data recovery immediately upon completion of importance assessments. This is made practicable by identifying artifact recovery thresholds based on richness and diversity of remains.

Investigative elements in the Plan will be conducted sequentially and will include:

Table 4.6-3. Minimum Phase II and Phase III Excavations at Archaeological Resources

Resource Designations	CRHR Eligibility Status	Site Area (m^2)	Area Disturbed (m^2)	% of Site Impacted	Phase II 50x50cm Tests (0.25 m^2)	Data Recovery (m^2)*
Primary No.: P-42-002465 Trinomial: CA-SBA-2465	Not evaluated Potentially ineligible	199,130	7,265	3.65%	221	TBD
Primary No.: P-42-002754 Trinomial: CA-SBA-2754	Not evaluated Potentially eligible	21,770	920	4.23%	21	TBD
Primary No.: P-42-002756	Evaluated by AE (2010) and determined eligible	180,470	51,540	28.56%	0	515
Primary No.: P-42-002757 Trinomial: CA-SBA-2757	Evaluated by AE (2010) and determined eligible	51,690	8,610	16.66%	0	86
Primary No.: P-42-003840	Evaluated by AE (2010) and determined eligible	206,370	30,785	14.92%	0	308
Primary No.: P-42-003841/42	Not evaluated Potentially eligible	68,740	1,550	2.25%	172	TBD
Primary No.: P-42-003843	Not evaluated Potentially eligible	32,490	2,615	8.05%	26	TBD
Primary No.: P-42-003844	Not evaluated Potentially ineligible	31,110	12,375	39.78%	55	TBD
Primary No.: P-42-003847	Not evaluated Potentially eligible	35,430	1,490	4.21%	157	TBD
Primary No.: P-42-003849	Not evaluated Potentially eligible	30,310	1,990	6.57%	135	TBD
Primary No.: P-42-003936	Not evaluated Potentially ineligible	12,210	485	3.97%	54	TBD
Primary No.: P-42-003937	Not evaluated Potentially eligible	42,090	130	0.31%	105	TBD
Primary No.: P-42-003993	Evaluated by AE (2010) and determined eligible	14,810	450	3.04%	0	23

* If determined important

- Geophysical survey with ground penetrating radar, proton magnetometer, ground resistivity or conductivity, as determined appropriate by specific soil conditions.

- Canine forensic surveys at sites with conditions indicating habitation features and domestic artifact and food remains, where human burials may be more likely to occur.
- Phase II test excavations.
- Phase III data recovery excavations.

Additional elements of the Plan will include, but not be limited to:

1. A detailed capping plan that will identify that the following conditions (see Section 4.6.3 above) are met to consider capping as a mitigation measure:
    - The soils to be covered will not suffer serious compaction.
    - The covering materials are not chemically active.
    - The site is one in which the natural processes of deterioration have been effectively arrested.
    - Although the placement of fill on top of an archaeological site may reduce direct impacts of construction, impacts will result from the loss of access to the site for research purposes. Also, scarification and compaction of soils must be reduced to the uppermost three inches and capped with a sterile sand or other fill. A sample of the cultural resource shall be excavated and appropriately curated for research purposes.
2. A Horizontal Directional Drilling (HDD) Plan. Once the depths of sites subject to collection line impacts are identified, the use of HDD would have to place conduit at least two feet below the maximum depth of the resource. Impacts to the resource at junction boxes or trench entry and exit points will require data recovery mitigation.
3. The identification, evaluation and treatment of unanticipated discoveries.
4. Archaeological and Native American Monitor requirements, duties and responsibilities.
5. Worker Environmental Awareness Program training.

Plan Requirements and Timing. All work, including Plan development, implementation, and completion, shall be funded by the Applicant. The scope of work for the Plan shall be prepared by the County. The Plan will be prepared by a County-approved archaeologist and submitted to the County for review and approval. The Plan will include simultaneous execution of excavations for the purpose of evaluation and data recovery.

Monitoring. The County will review all phases of Plan development and implementation.

CULT-2 **Unidentified Archaeological Resources.** Impacts to unidentified subsurface archaeological resources may occur as a result of earth-disturbing activities.

The LWEP EIR identified the potential for impacts to unidentified subsurface archaeological resources as a result of ground-disturbing activities, including the operation of heavy equipment. The LWEP EIR concluded that if project activities disturbed a previously undiscovered CRHR-eligible cultural resource,

the impact would be significant but could be reduced to a less-than-significant level with mitigation. This impact is the same for SWEP. Unidentified archaeological resources may occur in depositional environments where alluvial or colluvial deposits have accumulated and buried archaeological sites. Ground disturbance can expose these deposits and crush artifacts, alter or destroy the vertical and horizontal contexts of features and artifact associations, and reduce or remove their analytical and interpretive potential. If Project activities disturb a previously undiscovered CRHR-eligible cultural resource, the impact would be significant but can be reduced to a less-than-significant level (Class II) through implementation of MMs CULT-6 through CULT-10, which are described under Impact CULT-1 above.

Mitigation Measures

MM CULT-6 **Avoidance of Cultural Resources.** Described under Impact CULT-1 above.

MM CULT-7 **Final Plan Notification.** Described under Impact CULT-1 above.

MM CULT-8 **Temporary Fencing.** Described under Impact CULT-1 above.

MM CULT-9 **Site Capping.** Described under Impact CULT-1 above.

MM CULT-10 **Archaeological Evaluation, Excavation, Monitoring and Reporting Plan.** Described under Impact CULT-1 above.

CULT-3 Unauthorized Artifact Collection. Impacts to known and unidentified archaeological resources may occur as a result of increased public access to archaeological sites via new or improved roads.

The LWEP EIR identified that archaeological sites could be exposed during construction, and workers could have increased knowledge of and access to artifacts leading to possible unauthorized collection of artifacts. Additionally, long-term access to archaeological sites would be enhanced by the construction of new access roads and improvement of existing roads. The possibility of this impact also applies to the proposed SWEP. Unauthorized collection of artifacts would contribute to the destruction of site integrity, which would be a significant impact but can be reduced to a less-than-significant level with implementation of MM CULT-10 (Class II), which is described under Impact CULT-1 above.

Mitigation Measures

MM CULT-10 **Archaeological Evaluation, Excavation, Monitoring and Reporting Plan.** Described under Impact CULT-1 above.

CULT-4 Impacts on Traditional Cultural Properties. Construction of WTGs could adversely affect Native cultural practices at known Traditional Cultural Properties (Sacred Sites).

The LWEP did not address this potential impact. Cultural resource sites CA-SBA-655 and -503/256 are Tribal Cultural Resources that have been designated as important to the Chumash. These sites have been in use since prehistoric times and are still in use by the Chumash today. These sites serve periodic Tribal and individual ritual functions including solstice observations. Tranquillon Mountain is also known historically as an important place and served as the solstice indicator when the solstice sunrise

is viewed from Window Cave. Using a digital terrain model, Aspen analyzed the potential visual impact of the WTGs. The results indicate that most of the proposed Project's WTGs would be visible from the vicinity of CA-SBA-655 and -503/256, and potentially all WTGs would be visible from Tranquillon Mountain. Concern about the visibility of the WTGs from these sites was expressed by Mr. Freddy Romero of the Santa Ynez Chumash Elders Council during a site visit on September 7, 2018.

The digital terrain model, however, does not account for visual screening by vegetation and physical landforms. It is more likely that the turbines would not be within viewshed as it relates to the Winter Solstice observations of sunrise over Tranquillon Mountain as viewed from site CA-SBA-655. They would only be visible peripherally. The location CA-SBA-503/256 in the bottom of an intermittent drainage, and mostly within a fairly deep shelter screened by willow and eucalyptus trees, greatly lessens the visual impact of the turbines.

With regard to the probable shrine location atop Tranquillon Mountain, the Project area is far enough removed to be no more visible than existing farmsteads, space launch sites, and other facilities within its viewshed. Therefore, Project impacts are be considered minor.

Additional Tribal outreach was conducted with the SYBCI Elders on March 4, 2018, during a second site visit. Concerns of the Tribal Elders included site avoidance, construction equipment impacts, and the use of capping site areas as a mitigation measure. Another concern was raised about the potential for trespassing to the Tribal Cultural sites and how improved signage could create a stronger deterrence to vandalism of the sites. These concerns are addressed in MM CULT-10. The Elders have not identified the visual impacts as a concern.

An assessment of audio impacts conducted by Aspen indicates that construction noise may be audible from the three resource sites. The noise generated by the operating turbines, however, would not be audible. Although implementation of the proposed Project would change visual conditions in the area, the effect on Tribal Cultural Resources is considered less than significant (Class III).

4.6.5 Cumulative Effects

The LWEP did not identify any cumulative impacts for cultural resources. Prehistoric cultural resources are not renewable and impacts to cultural resources have been accumulating since the beginning of European settlement of California. The American period experienced rapid industrial, agricultural and residential development with oil exploration, mining, transportation, farming, grazing and construction resulting in adverse impacts on cultural resources most heavily beginning in the late 1800s. Such impacts accelerated into the 1900s and continue to this day.

Cultural resources are also unique by virtue of their content at a specific (unique) location. The prehistoric sites in the Project area are part of a larger population of sites that include strategic resource areas for the procurement of Monterey chert, and prehistoric quarries for collecting and processing this material are numerous. The resource areas for Monterey chert extend into the larger surrounding areas including Vandenberg Air Force Base and the western extent of the Santa Ynez Mountains. While Monterey chert is not unique to the Project area and can be found along the Pacific coastline in outcrops of the Miocene Monterey formation west and south of the Project area and from Monterey, California northward, the extent, quality and size of locally available material is exceptional. Implementation of the MMs described in this section would ensure that the proposed Project does not make a substantial contribution to cumulative impacts on cultural resources.

4.6.6 Residual Impacts

As summarized in Section 4.6.4, Impact CULT-4 would not be significant. With implementation of proposed mitigation measures, residual effects from Impacts CULT-1, CULT-2, and CULT-3 would be reduced to a less-than-significant level.

4.6.7 Impact and Mitigation Summary

Table 4.6-3 below provides a summary of the SWEP's impacts related to cultural and tribal resources. The table also indicates the mitigation measures proposed to reduce each significant impact.

Table 4.6-4. SWEP Impact and Mitigation Summary – Cultural and Tribal Resources

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
CULT-1	Known Prehistoric Archaeological Sites. Construction activities could result in significant impacts to 29 prehistoric archaeological sites.	CULT-6: Avoidance. CULT-7: Final Plan Notification. CULT-8: Temporary Fencing. CULT-9: Site Capping. CULT-10: Archaeological Evaluation, Data Recovery Excavation, Monitoring, and Reporting Plan.	Class II
CULT-2	Unidentified Archaeological Resources. Impacts to unidentified subsurface archaeological resources may occur as a result of earth-disturbing activities.	CULT-6: Avoidance. CULT-7: Final Plan Notification. CULT-8: Temporary Fencing. CULT-9: Site Capping. CULT-10: Archaeological Evaluation, Data Recovery Excavation, Monitoring, and Reporting Plan.	Class II
CULT-3	Unauthorized Artifact Collection. Impacts to known and unidentified archaeological resources may occur as a result of increased public access to archaeological sites via new or improved roads.	CULT-10: Archaeological Evaluation, Data Recovery Excavation, Monitoring, and Reporting Plan.	Class II
CULT-4	Impacts on Traditional Cultural Properties. Construction of WTGs could adversely affect Native cultural practices at known Traditional Cultural Properties (Sacred Sites).	None.	Class III

Class I. Significant unavoidable adverse impact.

Class II. Significant environmental impacts that can be feasibly mitigated or avoided.

Class III. Adverse impacts found not to be significant.

Class IV. Impacts beneficial to the environment.

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4.7 Energy

This section describes the effects on energy that would be caused by construction and operation of the proposed Project. The following discussion addresses existing conditions in the Project area, identifies and analyzes energy-related impacts as a result of the Project, and recommends measures to reduce or avoid adverse impacts anticipated from Project-related activities. In addition, existing laws and regulations relevant to energy are described.

4.7.1 Environmental Setting

As discussed in the LWEP EIR, Pacific Gas and Electric Company (PG&E) is the electrical service provider for northern Santa Barbara County. PG&E maintains a number of distribution lines and substation facilities in the Lompoc area, which include the 115-kV power line serving the Celite facility, and the Cabrillo Substation in the City of Lompoc. The 2006 percentage mix of PG&E's energy sources was provided in the LWEP EIR. This information is updated below with data from PG&E's 2016 power content label as reported to the California Energy Commission (CEC, 2017).

In 2016, PG&E obtained power from the following sources:

- Renewable - 33 percent
- Nuclear - 24 percent
- Natural Gas - 17 percent
- Large Hydroelectric - 12 percent
- Unspecified Source - 14 percent[1]

PG&E's renewable energy sources are further broken down as follows (CEC, 2017):

- Solar - 13 percent
- Wind - 8 percent
- Geothermal - 5 percent
- Biomass and Biowaste - 4 percent
- Eligible hydroelectric - 3 percent

PG&E's wind energy is currently purchased outside of the County as no utility-scale wind energy facilities are present within the County. Through the SWEP, the Applicant would operate as a wholesale power producer with 100 percent of the wind energy output to be exported to the PG&E distribution system. The Project has an interconnection agreement with PG&E that was executed on July 27, 2017, to connect to their facilities located adjacent to the Cabrillo Substation on the east side of 12th Street (see SEIR Section 2.5.5). The SWEP would have an aggregate electrical generating capacity of approximately 102 MW, which is enough power to supply approximately 44,700 homes with electricity, annually.

[1] "Unspecified sources of power" is defined as electricity from transactions that are not traceable to specific generation sources.

4.7.2 Regulatory Setting

4.7.2.1 Federal

The LWEP EIR identified a U.S. Department of Energy (DOE) goal for wind energy generation in the year 2020. The following is an update to this DOE goal:

- **DOE's Wind Vision.** In 2008, the DOE released a report entitled 20% Wind Energy by 2030, which examined the costs, major impacts, and challenges associated with producing 20 percent of wind energy by 2030. In 2015, DOE's Wind and Water Power Technologies Office prepared a comprehensive update to the 2008 report through analysis of scenarios of wind power supplying 10 percent of national end-use electricity demand by 2020, 20 percent by 2030, and 35 percent by 2050 (DOE, 2015). The 2015 Wind Vision analysis provides a roadmap of technical, economic, and institutional opportunities for expanding wind development in the United States.

4.7.2.1 State

The following State regulations were identified in the 2008 LWEP Final EIR. Recent updates to these regulations are identified as applicable.

- **California's Renewables Portfolio Standard (RPS).** In September 2018, Governor Brown signed SB 100 requiring eligible renewable energy resources and zero-carbon resources to supply 100 percent of retail sales of electricity to California end-use customers by December 31, 2045. SB 100 requires the California Public Utilities Commission and California Energy Commission to ensure that implementation of this policy does not cause or contribute to greenhouse gas emissions increases elsewhere in the western grid.
- **Assembly Bill (AB) 32 (California Global Warming Solutions Act of 2006).** As required by AB 32, the California Air Resources Board released a 2017 update to the Scoping Plan to identify how best to reach the targeted 1990 level of greenhouse gas emissions. The 2017 Scoping Plan update emphasizes the need to switch from natural gas to electricity from renewable resources to reduce GHGs (ARB, 2017).
- **Senate Bill 1107.** There is no update to this regulation. Please refer to the LWEP for a full description.
- **Senate Bill 1368.** There is no update to this regulation. Please refer to the LWEP for a full description.

4.7.2.3 Local

The LWEP EIR identified one applicable local planning document: Energy Element of the Santa Barbara County Comprehensive Plan. There have been no relevant changes to this document since 2008. Please refer to the LWEP for a description of this plan, and to Section 4.13, *Land Use and Planning*, for an analysis of policy consistency:

4.7.3 Significance Thresholds

The following significance thresholds have been developed by the County to address the Project's energy use and are identical to the thresholds used in the LWEP EIR. The proposed Project would have a significant impact associated with energy if it would:

- Be inconsistent with federal goals and state legislation related to the use of renewable energy.
- Use nonrenewable energy resources in a wasteful and inefficient manner.
- Result in a need for new systems or substantial alterations to existing power utilities.

4.7.4 Environmental Impacts and Mitigation Measures

Table 4.7-1 below lists the impacts and mitigation measures identified for energy in Section 3.7.3 of the LWEP Final EIR. These same impacts are addressed in this section for the SWEP. The right-hand column of the table below indicates whether the LWEP impacts or mitigation measures have been modified for the SWEP.

Table 4.7-1. LWEP Impacts and Mitigation Measures – Energy/Electric Utilities

Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
EEU-1	Federal and State Renewable Energy Goals. The Project could generate up to 285 million kWh of electricity annually.	None	Modified impact statement. Updated impact discussion.
EEU-2	Nonrenewable Energy Resources. Construction and operation of the Project would result in consumption of diesel fuel and gasoline.	None	Updated impact discussion.
EEU-3	New/Altered PG&E Facilities. Temporary and long-term modifications to the PG&E system would be required to implement the Project, including upgrades to PG&E's existing electrical system.	None	Updated impact discussion.

The energy-related impacts of the proposed SWEP are discussed below.

EEU-1 Federal and State Renewable Energy Goals. The Project could be consistent with federal goals and state legislation related to the use of renewable energy ~~could generate up to 285 million kWh of electricity annually~~.

The LWEP concluded that the Project would have a beneficial effect on federal and state renewable energy goals. The Project could generate up to approximately 300 gigawatt-hours (GWh) of electricity annually. Impacts under the SWEP would remain the same, as this Project would support both the DOE's goal of increasing the overall use of wind power to generate electricity as well as California's RPS target of 100 percent of retail sales to be sourced from renewable energy. The SWEP would also provide PG&E with a renewable energy alternative to natural gas, thereby supporting AB 32's GHG reduction requirements. The SWEP would have a beneficial impact to renewable energy goals (Class IV).

EEU-2 Nonrenewable Energy Resources. Construction and operation of the Project ~~would~~ could result in consumption of diesel fuel and gasoline.

The LWEP concluded that the use of nonrenewable energy sources during construction would be less than significant, and that operation would not consume unusually high amounts of fuel. Construction of the SWEP would require a comparable consumption of diesel fuel and gasoline from the use of heavy equipment that includes excavators, bulldozers, trucks, compactors, backhoes, graders, and cranes. A full list of the construction equipment is provided in SEIR Table 2-9. Total fossil fuels used by construction vehicles and equipment, including construction worker commute and the Applicant's conservative helicopter use assumptions, would be approximately 31,000 gallons of gasoline, 314,000 gallons of diesel fuel, and 103,000 gallons of Jet A fuel.

Similar to the LWEP, the SWEP's consumption of nonrenewable resources would be generally attributable to the short-term construction period. Fuel consumption during operation would be considered minimal as it would be limited to employee commute trips for approximately seven staff members and occasional off-road equipment use.

The SWEP includes the same measures as the LWEP to ensure that fuel consumption is neither wasteful nor inefficient (see Construction Equipment Emission Reduction Plan in Section 4.4, *Air Quality*). Impacts to nonrenewable energy resources would not be significant (Class III).

EEU-3 New/Altered PG&E Facilities. Impacts from ~~T~~temporary and long-term modifications to the PG&E system ~~would be required~~ to implement the Project could occur ~~including upgrades to PG&E's existing electrical system~~.

As discussed in LWEP EIR Section 3.7.3.3, temporary and long-term modifications to the PG&E electrical system would be required in order to connect the SWEP. Necessary upgrades include an interconnection facilities upgrade, reliability network upgrades, and distribution upgrades, which are described in SEIR Table 2-5. In addition to these upgrades, PG&E proposes to reconductor the existing Manville 115-kV power line from the POI (at the switchyard) to an existing pole location in the City of Lompoc outside of the Cabrillo Substation. The reconductoring would involve replacing wires and possibly poles along the 115-kV line for a distance of 0.8 miles.

All construction activities by PG&E would occur within the existing PG&E right-of-way and would take place on existing or replacement poles. Following construction activities, a single power line would remain as it exists today between the Project switchyard at the POI and the pole location outside of the Cabrillo Substation. The activities would be short-term and would not cause a substantial disruption to PG&E's existing system. Furthermore, the Applicant has an interconnection agreement with PG&E. Given that the proposed modifications would occur on existing infrastructure and within an existing right-of-way, impacts would not be significant (Class III).

4.7.5 Cumulative Effects

Geographic Extent/Context

The geographic context for energy considers the extent to which construction and operation of the Project affects energy resources when combined with the impacts from other projects. The LWEP did

not include a detailed cumulative analysis for Energy. This section considers whether there are any notable cumulative effects from the SWEP given the most recent list of cumulative projects provided in Table 3-1. The geographic extent for this cumulative energy analysis includes projects within PG&E's service area that would be proximate in distance or in the nature of the project to combine with the effects of the SWEP regarding renewable energy goals, to the use of nonrenewable resources, and to the need for new or altered PG&E Facilities.

Cumulative Effects

Federal and State Renewable Energy Goals. The Project would support federal wind power goals and State legislation pertaining to retail sales comprised of renewable energy, as well as to GHG reduction requirements. The Project would not combine with the effects of another project listed in Section 3.3, Table 3-1, to create an inconsistency with renewable energy goals and legislation. No cumulative impact would occur to renewable energy goals.

Nonrenewable Energy Resources. The Project would require the use of nonrenewable resources (primarily diesel fuel and gasoline) during construction. The amount of fuel required for the SWEP would be similar to other large construction projects, and the SWEP includes measures to ensure that fuel consumption is neither wasteful nor inefficient. Other projects listed in Section 3.3 could require a similar use of diesel fuel and gasoline during their construction periods. However, the Project's contribution to impacts on nonrenewable resources would be minimal due to required Project measures. Cumulative impacts would not be significant.

New/Altered PG&E Facilities. The Project would require modifications to the PG&E electrical system that would create temporary nuisance impacts associated with construction noise and traffic, but would occur entirely within the exiting PG&E right-of-way. None of the other projects listed in Section 3.3 include electrical utility modifications. Cumulative impacts associated with existing power utilities are not anticipated.

4.7.6 Residual Impacts

Residual impacts to energy would be less than significant.

4.7.7 Impact and Mitigation Summary

Table 4.7-2 below provides a summary of the SWEP's impacts related to energy. No mitigation measures are required to reduce impacts to this resource.

Table 4.7-2. SWEP Impact and Mitigation Summary – Energy

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
EEU-1	Federal and State Renewable Energy Goals. The Project could be consistent with federal goals and state legislation related to the use of renewable energy.	None.	Class IV
EEU-2	Nonrenewable Energy Resources. Construction and operation of the Project could result in consumption of diesel fuel and gasoline.	None	Class III
EEU-3	New/Altered PG&E Facilities. Impacts from temporary and long-term modifications to the PG&E system to implement the Project could occur.	None	Class III

Class I. Significant unavoidable adverse impact.
Class II. Significant environmental impacts that can be feasibly mitigated or avoided.
Class III. Adverse impacts found not to be significant.
Class IV. Impacts beneficial to the environment.

4.7.8 References

ARB (California Air Resources Board). 2017. California's 2017 Climate Change Scoping Plan. November.

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4.8 Fire Hazards and Emergency Services

This section describes effects on wildfire prevention and suppression (including effects on surface fuels) within the general Project area (unincorporated Santa Barbara County and City of Lompoc lands) that could be caused by implementation of the Project. The following discussion addresses existing environmental conditions in the affected area, identifies and analyzes potential environmental effects of the Project, and recommends measures to reduce or avoid significant adverse impacts anticipated from Project implementation. Existing laws and regulations relevant to wildfire prevention and suppression are also described. In some cases, compliance with these existing laws and regulations would serve to reduce or avoid certain adverse effects that might otherwise occur with the implementation of the Project. The greater SWEP area is evaluated based on its potential to be affected by actions related to the proposed Project, including construction.

This section also addresses potential Project effects related to fire and police protection and other emergency services, including paramedic services. This section supplements the analysis presented in the LWEP EIR, Chapter 3.8, *Fire Hazards and Emergency Services*. Similar to LWEP, the SWEP would not result in increased population as discussed in Section 6.4, *Growth-Inducing Impacts*, and Section 6.5, *Effects Found Not to Be Significant*. Therefore, population-based impacts on service ratios for fire and emergency services would not occur and, therefore, such impacts are not discussed in this section. This section focuses on impacts to fire and emergency services that could result during construction and operation of the Project.

4.8.1 Environmental Setting

Fire Hazards

Climate

The presence of dense, dry fuels and a warm, arid climate characterizes southern California as having one of the most fire-prone landscapes in the world. Factors influencing wildfire behavior and magnitude include forest structure, fuel conditions, climate, and the source of ignition. Weather is one of the most significant biophysical factors of wildfire behavior. The summer months of southern California are arid and warm, with very little precipitation. Drought and Santa Ana Occurrences (SAOs) are native weather conditions to southern California that drive catastrophic wildfires. SAOs are seasonal weather events that typically occur during autumn months (September to December) when cool air rises from the ocean, creating high off-shore winds that mix with hot, dry air from arid inland areas. High pressure builds in inland areas and forms a strong pressure gradient with low pressure in the coastal ranges, creating winds exceeding 60 miles per hour that blow into the valleys.

Santa Barbara County has a semi-arid Mediterranean climate, characterized by warm dry summers and mild winters. Sunny skies are common throughout most of the area, although seasonal low clouds and fog occur with some frequency over the Pacific Ocean and in the immediate coastline. Mild temperatures occur throughout the year, particularly near the coastline. Considerably more temperature variation occurs in the inland valleys and mountainous areas. Maximum readings in summer average about 80°F near the coast (SBC 2018).

Vegetative Fuel Conditions

According to the Santa Barbara County Unit Strategic Fire Plan (SBC 2018), chaparral provides the most widespread wildland fuel threat in Santa Barbara County. It can be found on the slopes of the Santa Ynez Mountains, throughout the Sierra Madre, and San Rafael mountains, and locally in northern Santa Barbara County in the Casmalia, Soloman, Purisima, and Santa Rosa Hills, and in the Lompoc and Tranquillion Peak areas of Vandenberg Air Force Base. These vegetation communities are characterized by woody brush and shrubs of chamise, ceanothus and manzanita, which dominate dry rocky slopes and provide erosion control and watershed protection. Numerous grasslands and fields are found in the County and present the potential for fast moving wildland fires that can transition into heavier fuel beds and tree canopies (SBC 2018).

Santa Barbara County has 791,934 acres of State Responsibility Area (SRA), the bulk of which is covered with fire-prone vegetation. A SRA is an area where the State of California has the primary financial responsibility for the prevention and suppression of wildfires. CAL FIRE (California Department of Forestry and Fire Protection) is responsible for providing a basic level of wildfire prevention and protection within SRAs (CAL FIRE 2018). These large areas of fire-prone vegetation are commonly referred to as "fuel beds" and are often large in size due to steep topography and lack of roads or natural barriers. The average slope in the wildland areas of Santa Barbara County is 40 percent (SBC 2018).

The entire SWEP site is mapped as a SRA. Public Resources Code 4201-4204 directs CAL FIRE to map fire hazards within SRA, based on relevant factors such as fuels, terrain, and weather. These statutes were passed in 1982 in response to the 1980 Panorama Fire in San Bernardino, which was a significant wildland-urban interface fire. In 2007, the entire SWEP site was designated a Very High Fire Severity Zone (VHFSZ). In designating the area as a VHFSZ, CAL FIRE considered multiple parameters including wildland fuels, regional topography, weather, crown fire potential, and ember production potential.

Previous Wildfires and Fuels Maintenance

The modern fire history of Santa Barbara County extends back to 1955 when the Santa Barbara County Fire Department first started keeping records for this area. Over the last 12 years, Santa Barbara County experienced 12 major fires, detailed below in Table 4.8-1. Since the preparation of the LWEP EIR, Santa Barbara County has experienced at least 11 major wildfires, and the severity and frequency of California wildfires is increasing. There is a growing body of evidence and scientific opinion that supports a link between warmer temperatures due to climate change and more wildfires of greater intensity that occur for more months out of the year. Recent peer-reviewed studies (such as Abatzoglou and Williams, 2016) have noted that numerous factors aided the recent rise in fire activity, observed warming and drying have significantly increased fire-season fuel aridity, fostering a more favorable fire environment across forested systems. In particular, Abatzoglou and Williams (2016) links human-caused climate change to over half of the documented increases in fuel aridity since the 1970s and the doubling of the cumulative forest fire area since 1984. Studies suggest that anthropogenic climate change will continue to chronically enhance the potential for western U.S. forest fire activity when fuels are not limiting.

Table 4.8-1. Major Wildfires in Santa Barbara County 2007-2017

Fire	Date	Cause	Acres Burned	Structures Damaged or Destroyed	Deaths
Thomas	December-2017	Under Investigation	281,893*	1063*	2**
Whittier	July-2017	Under Investigation	18,430	53	0
Alamo	July-2017	Under Investigation	28,687	15	0
Canyon	August-2016	Under Investigation	12,518	1	1
Rey	September-2016	Under Investigation	33,606	0	0
Sherpa	June-2016	Miscellaneous	7,474	1	0
White	May-2013	Miscellaneous	1,984	0	0
La Brea	August-2009	Miscellaneous	91,622	1	0
Jesusita	May-2009	Equipment Use	8,733	80	0
Tea	November-2009	Campfire	1,940	210	0
Gap	July-2008	Miscellaneous	9,443	4	0
Zaca	July-2007	Equipment Use	240,207	1	0

Source: SBC 2018

*Started in Ventura County with majority of acres and structure loss in Ventura County

**20 civilian deaths and 2 missing persons from resulting debris flow

Fire and Ambulance Services

Departments and Stations

County of Santa Barbara Fire Department

The Santa Barbara County Fire Department (SBCFD) is responsible for providing fire protection and emergency medical services to the Project site. Similar to the LWEP, Station No. 51 is the SBCFD fire station nearest to the Project, located approximately 7.2 miles north of the western edge of the Project site at 3500 Harris Grade Road within the City of Lompoc. This fire station was moved in October 2008, after the LWEP EIR was published. Station 51 was previously located at 749 Burton Mesa Boulevard and was moved 0.4 miles to its current location. Since LWEP, Station No. 51 has increased its staffing and equipment quantities. SBCFD Station No. 51 has the following fire-fighting and emergency equipment and personnel: one engine, one reserve engine, one captain, one engineer, one firefighter, and two firefighters/ paramedics. The station includes one Type 1 engine, a rescue ambulance, a Type 3 engine, and a Type 1 Reserve Engine. Engine 51's response area includes the Project site; however, Rescue Ambulance 51's response area roughly ends at the southern limit of the City of Lompoc, north of the Project area. However, Rescue Ambulance 51 will respond to all areas when American Medical Response is not available (SBCFD 2018).

In addition to its fire stations, the SBCFD maintains mutual aid agreements with the City of Lompoc Fire Department and the Vandenburg Air Force Base Fire Department. These agreements enable the fire departments to share resources and respond to emergencies in a timely manner. Similar to LWEP, the SBCFD would be designated as the first responder for all Project-related incidents in unincorporated areas. Emergency calls would be directed to SBCFD, but may also be routed to VAFB or the City of Lompoc depending on the location and severity of the incident; either one of these agencies could be first on the scene.

The Santa Barbara County General Plan outlines the evacuation planning process in the event of a fire hazard. In the event of a fire hazard within the Local Responsibility Area (LRA), the SBCFD would assess the hazard areas, identify the evacuation requirements and, if necessary, order the evacuation. During an evacuation, law enforcement agencies (such as Santa Barbara County Sheriff's Department [SBCSD], California Highway Patrol [CHP], and Lompoc Police Department [LPD]) are responsible for implementing the emergency evacuation. The public safety agencies involved would comply with a Unified Command protocol when determining the appropriate evacuation routes.

As detailed in the Santa Barbara County General Plan (SBC 2015), County safety agencies maintain emergency response protocols which contain criteria and guidelines for the declaration, communication, and implementation of evacuation orders or warnings. The County maintains protocols designed to assure that during an evacuation: routes remain clear, traffic moves smoothly, routes/ areas are isolated as appropriate, and the risk of accidents on roadways is minimized.

In addition to agency protocols, Santa Barbara County employs a reverse 9-1-1 system to notify the public of the need to evacuate a specific area. In the event of an evacuation or emergency near Vandenburg Air Force Base, a Memorandum of Agreement (MOA) is in place between the County, VAFB, and City of Lompoc for use of a dedicated base telephone and radio communication system.

In the event of a large-scale fire or major disaster, the Santa Barbara County Office of Emergency Services (SBC OES) is responsible for implementing the Santa Barbara County Operational Area Multi - Hazard Functional Plan (MHFP). This outlines protocols for emergency planning, management, and response for the County operational area.

City of Lompoc

The City of Lompoc Fire Department (LFD) provides fire protection services within City limits, but the SBCFD also responds to all structure fires. The LFD also responds to incidents outside of the City limits, if requested by the SBCFD. Two LFD fire stations are located within the City, at 115 South G Street (Station No. 1) and 1100 North D Street (Station No. 2). Station No. 1 is closest to the Project site (approximately 5 miles north of the edge of the Project) and would likely be the first responder to an incident, although the SBCFD would also respond. Fire Station No. 1 includes the following equipment and personnel: one engine, aerial ladder truck in reserve, four personnel, and one chief, although the staffing fluctuates with three or four personnel on duty.

The LFD responds to all Emergency Medical Service (EMS) calls within the City; fire response personnel are cross-trained to Emergency Medical Technician (EMT) and EMT expanded scope levels. In addition to LFD staff, a private ambulance company (American Medical Response [AMR]) assists the LFD with emergency paramedic services and provides patient transport.

Response Times

Santa Barbara County Fire Department. Response time refers to the time needed for a unit to arrive at the scene and set up the initial equipment. Response times are discussed in the LWEP Final EIR, Section 3.8.1.2. The Santa Barbara County Fire Department response times have not changed since the publication of the LWEP EIR. In general, the response time would be longer in the farther reaches of the SWEP site, and would be shorter along the transmission line corridor.

City of Lompoc Fire Department. During preparation of the LWEP EIR, the LFD had a goal of a 5-minute response time within the city limits. Currently, the LFD has a goal of arriving within four minutes from receipt of the call at the dispatch center, 90 percent of the time (G. Kuras, Personnel Communication,

12/4/18). Within the City of Lompoc, the LFD provides EMS through its firefighters, who are cross-trained as emergency medical technicians. The LFD is responsible for responding to all medical emergencies within City limits, and ambulatory services are provided by AMR. The estimated response time to the nearest portion of the Project site is estimated to be approximately 10 minutes for fire services. Response time to the more distant portions of the proposed Project would be longer, and the response time to the transmission line would be shorter.

Police Services

The SWEP area historically has had a relatively low level of calls for service. The primary service calls are alcohol and drug-related calls in the area of Miguelito County Park and infrequent calls related to trespassing on the local ranches.

Departments and Stations

Santa Barbara County Sheriff's Department. The Santa Barbara County Sheriff's Department (SBCSD) jurisdiction has not changed since LWEP. There have been staffing changes at SBCSD since the LWEP: approximately 260 sworn deputy sheriffs (a reduction of 40 since LWEP), 200 sworn corrections officers (an increase of 25), 140 civilian employees (a decrease of 60), and 150 volunteers (an increase of 150) (SBCSD 2018). Since LWEP, the SBCSD now maintains formalized mutual aid agreements with other law enforcement agencies including VAFD, and it may rely on other agencies to assist in responding to a call as needed. For major public disasters, the process is the same as described in LWEP. The closest station to the Project site has changed slightly since LWEP. It will now be served by the SBCSD Lompoc Station located at 3500 Harris Grade Road, collocated with the SBCFD Station No. 51. The station is located approximately 7.2 miles north of the SWEP and includes the following equipment and personnel: four black and white units including a four-wheel drive truck with EMS capabilities, approximately 10 law enforcement personnel including eight patrol deputies.

City of Lompoc Police Department. The City of Lompoc Police Department is located at the same location as described in LWEP (107 Civic Center Plaza) and has the same personnel and equipment available to service the proposed Project.

Response Times

No response times have been established for rural areas.

4.8.2 Regulatory Setting

The regulatory setting for the proposed Project was described in the LWEP EIR. The relevant plans from the LWEP have been summarized below. Please see the LWEP EIR, Section 3.8.2, *Regulatory Framework*, for more detailed information.

LWEP Regulatory Summary

Federal

National Fire Protection Agency (NFPA) provided codes and standards, including the National Electric Code [NEC]. See Section 3.8.2 of the LWEP EIR.

State

Relevant portions of the California Fire Code (CFC). See Section 3.8.2 of the LWEP EIR.

Local

A Fire Protection Certificate would be required by the SBCFD. See Section 3.8.2 of the LWEP EIR.

SWEP Regulatory Setting

In addition to the regulations discussed above and considered as part of the LWEP EIR, the following additional regulations, plans, and policies would be applicable to the SWEP.

State

Public Resource Code 4291

Requires all structures on SRA lands to maintain 100 feet of defensible space from each side and from the front and rear of the structure. Within the County of Santa Barbara, 100 feet of defensible space is also enforced on LRA in the SBCFD district. The 100-foot defensible space clearance is a minimum, and in some instances this distance may need to be increased due to the location a structure on a slope or because the vegetative fuel loading surrounding a structure.

General Order 95: Utility Vegetation Management Requirements

Contains specific rules intended primarily to ensure safe construction, maintenance, operation, or use of overhead electrical lines. Utilities are required to maintain minimum vegetation clearance between vegetation and high-voltage power lines at all times for public safety and electric system reliability.

California Department of Forestry and Fire Protection (CAL FIRE)

CAL FIRE is responsible for reducing wildfire-related impacts and enhancing California's resources, and responds to all types of emergencies including wildland fires and residential/commercial structure fires. CAL FIRE is the responsible agency for enforcing California fire safety codes included in the California Code of Regulations and California Public Resources Codes.

California Code of Regulations, Title 14

- Section 1250: Provides specific exemptions from: electric pole and tower firebreak clearance standards, electric conductor clearance standards, and to specify when and where the standards apply. Note: The Director of CAL FIRE makes regulations that apply in State Responsibility Areas (SRA) on mountainous, forest-covered, brush-covered, or grass-covered lands.
- Section 1255: This code provides exceptions concerning some installed hardware and ground cover.

California Public Resource Codes

- Code 4119: Authorizes agencies to inspect all properties, except a dwelling's interior, to ascertain compliance with state forest and fire laws, regulations, or use permits.
- Code 4291: Requires defensible space around all structures and is the primary mechanism for conducting fire prevention activities on private property within CAL FIRE jurisdiction.
- Code 4292: Utilities are required to maintain firebreaks around poles located in wildland areas that have equipment with the potential to emit sparks when operating properly.

- Code 4293: Utilities are required to maintain clearance between vegetation and high voltage power lines in wildland areas to prevent wildfires. It also requires removal of dead, diseased or dying trees that could fall into power lines.
- Code 4294: A clearing to obtain line clearance is not required if self-supporting aerial cable is used. Forked trees, leaning trees, and any other growth that may fall across the line and break it shall be removed.
- Code 4295: A person is not required by Section 4292 or 4293 to maintain any clearing on any land if such person does not have the legal right to maintain such clearing, nor do such sections require any person to enter upon or to damage property which is owned by any other person without the consent of the owner of the property.
- Code 4435: If any fire originates from the operation or use of any engine, machine, barbecue, incinerator, railroad rolling stock, chimney or other device which may kindle a fire, the occurrence of the fire is prima facie evidence of negligence in the maintenance, operation, or use of such engine, machine, barbecue, incinerator, railroad rolling stock, chimney, or other device. If such fire escapes from the place where it originated, and it can be determined which person's negligence caused such a fire, such person is guilty of a misdemeanor.

California Government Codes

- Code 51175 Very High Fire Hazard Severity Zones: This code defines Very High Fire Hazard Severity Zones and designates lands considered by the State to be a very high fire hazard.
- Code 51189 WUI Building Standards: This code directs the Office of the State Fire Marshal to create building standards for wildland fire resistance. The code includes measures that increase the likelihood of a structure withstanding intrusion by fire (such as building design and construction requirements that use fire-resistant building materials) and provides protection of structure projections (such as porches, decks, balconies, and eaves), and structure openings (such as attics, eave vents, and windows).

Local

County of Santa Barbara General Plan, Seismic Safety and Safety Element

The County of Santa Barbara General Plan, Seismic Safety and Safety Element, contains long-range planning guidelines and mechanisms to ensure safe development and mitigate potential hazards and safety issues within the County. As the proposed Project is located within a mapped SRA FHSZ and a LRA VHFHDZ, the Seismic and Safety Element outlines the fire development standards applicable to the proposed Project. Additionally, this element references the County Code of Ordinances that would be applicable to the proposed Project. These include (but are not limited to) the following:

County Code Chapter 10 – Building Regulations

County Code Chapter 12 – Civil Defense and Disaster

County Code Chapter 14 – Grading, Erosion, and Sediment Control

County Code Chapter 15 – Fire Prevention

City of Lompoc General Plan, Safety Element

The City of Lompoc participated in the preparation of the 2011 Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan. The City adopted this plan on November 15, 2011. The document

contains a thorough description of natural and man-made hazards in Lompoc with a focus on mitigation and preparedness. The Hazard Mitigation Plan, and all policies and programs contained within, is incorporated by reference in the Safety Element of the Lompoc General Plan. The City of Lompoc General Plan contains goals and polices to mitigation potential hazards and would be applicable to the portions of the proposed Project within the jurisdictional boundaries of the City.

4.8.3 Significance Thresholds

Impacts to fire hazards and emergency services were analyzed in the LWEP EIR and the significance thresholds used in that EIR remain applicable to the proposed Project. At the time, the County of Santa Barbara Environmental Thresholds and Guidelines Manual did not include specific thresholds of significance for fire and police protection services. The significance thresholds used in the LWEP EIR were based, in part, on the Appendix G of the CEQA Guidelines and are applicable to SWEP. The original LWEP EIR stated that impacts would be significant of the Project would:

- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, such as where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.
- Result in unsafe fire department, paramedic, or police response times.
- Introduce development into an area without adequate water pressure, fire hydrants, adequate access for firefighting, or other requirements and infrastructure to control and fight fires.
- Result in development that would hamper fire prevention techniques such as controlled burns or backfiring in high fire hazard areas
- Impair implementation of, or physically interfere with, an adopted emergency evacuation/ response plan.

4.8.4 Environmental Impacts and Mitigation Measures

Table 4.8-2 below lists the impacts and mitigation measures identified for fire hazards and emergency services in the LWEP EIR. These same impacts are addressed in this section for the SWEP. The right-hand column of the table below indicates whether the LWEP impacts or mitigation measures have been modified for the SWEP.

Table 4.8-2. LWEP Impacts and Mitigation Measures – Fire Hazards and Emergency Services

Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
FPES-1	Increased Fire Risk (Construction). The Project could result in an increased risk of wildland fires that could spread to more developed areas. Fire risks include vehicle exhaust, sparks, welding, parking on dry grass, and fuel tanks.	FPES-1: Fire Protection Plan. FPES-2: Smoking and Open Fires.	Updated impact discussion. New mitigation.

Table 4.8-2. LWEP Impacts and Mitigation Measures – Fire Hazards and Emergency Services

Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
FPES-2	Increased Fire Risk (Operations). Although the Project contains many elements that would reduce potential for severe fires, fire risks would be increased through operation of the WTGs, Project Substation, power lines, and access roads. The O&M facility would include fire suppression infrastructure.	FPES-1: Fire Protection Plan. FPES-2: Smoking and Open Fires. FPES-3: Install Gravel around Substation. FPES-4: Access Roads. FPES-5: Water Supply.	Updated impact discussion.
FPES-3	Fire Department Response Times. The Project would have the potential to increase demand for fire protection services.	FPES-1: Fire Protection Plan. FPES-2: Smoking and Open Fires.	Updated impact discussion. New mitigation.
FPES-4	Emergency Services Response Times. The influx of workers may temporarily increase the need for paramedic services during construc-tion, although only about 10 staff would be required during operations.	None	Updated impact discussion.
FPES-5	Interference with Fire Prevention Techniques. The Project would introduce tall towers and a new power line into an Extreme Fire Hazard Area. In the event that controlled burns are required in the Project area, fire fighters would need to take the new structures into consideration.	FPES-1: Fire Protection Plan.	Updated impact discussion.
FPES-6	Emergency Evacuation/Response. For security and safety reasons, the Applicant may request that Sudden Road and upper Miguelito Canyon Road become a private road, which would be required to have a lock that could be opened by fire and other emergency service providers.	None	Updated impact discussion.

The impacts of the proposed SWEP related to fire hazards and emergency services are discussed below.

FPES-1 Increased Fire Risk (Construction). The Project could result in an increased risk of wildland fires that could spread to more developed areas. Fire risks include vehicle exhaust, sparks, welding, parking on dry grass, and fuel tanks.

As described in detail in the LWEP EIR, the proposed Project would result in an increased risk of wildland fires during construction. Risks analyzed during construction include those from typical construction activities and equipment, including cutting metal, welding, use of internal combustions engines, grading, road construction, vehicle use, fuel tanks, and the increase in human activity in the Project area. Adherence to County codes and requirements during construction reduces the potential for significant fire hazards. The majority of the Project site was previously designated as an Extreme Fire Hazard Area in the Santa Barbara County Coastal Plan (as published in 1982) and is designated by

CAL FIRE as a Very High Fire Hazard Severity Zone (VHFHSZ), which is CAL FIRE's most severe designation. During extreme weather conditions, a grass fire originating at the site could spread off site, potentially posing a risk to life and property. The consequences of a such a fire could be severe depending on weather conditions at the time and the ability of firefighting personnel to quickly respond to the fire. Given the remote nature of the Project site, a grass fire start also poses a risk to workers. If such a fire were to start during hazardous conditions (such as Red Flag weather), construction personnel could become surrounded or be hampered in their evacuation.

In addition to the activities described in the LWEP EIR, other construction activities involving the use of vehicles and heavy machinery could result in the ignition of a wildfire. During construction, heavy equipment and passenger vehicles driving on vegetated areas prior to clearing and grading could increase the risk of fire. Heated mufflers, explosives used during site preparation or line spicing, and improper disposal of cigarettes could potentially ignite surrounding vegetation. The use of heavy equipment, such as bulldozers and graders, has the potential to accidentally ignite a fire from sparks created when equipment blades strike rocks or metal objects. If noticed by the equipment operator or other Project personnel, small ignitions can easily be suppressed by the construction equipment and/or on-site fire watch personnel. A fire could also be started by Project personnel improperly disposing of the burning cigarettes in areas covered with wildland vegetation and within 50 feet of combustible material storage.

If the introduction of invasive, non-native plants is not controlled during construction, over time the Project site could become dominated by non-native plants that tend to increase the frequency and severity of wildfires. As discussed above, based on recent scientific evidence, it is likely that anthropogenic climate change will continue to chronically enhance the potential for western U.S. forest fire activity when fuels are not limiting.

In the LWEP EIR, implementation of MMs FPES-1 (Fire Protection Plan) and FPES-2 (Smoking and Open Fires) were recommended to reduce the significance of Impact FPES-1. Several of the LWEP MMs have been incorporated into MM FPES-1 instead of being presented as stand-alone MMs. In addition to the MMs proposed in the LWEP EIR, MM FPES-6 (Red Flag Warning) would further reduce the significance of Impact FPES-1 by reducing the risk of a fire start during hazardous conditions ideal for wildfire combustion. Implementation of these MMs would reduce this impact to a less-than-significant level (Class II).

Mitigation Measures

MM FPES-1 **Fire Protection Plan.** The Applicant shall prepare a Fire Protection Plan that meets SBCFD requirements. The plan shall contain (but not be limited to) the following provisions:

- All construction equipment shall be equipped with appropriate spark arrestors and carry fire extinguishers.
- A fire watch with appropriate firefighting equipment shall be available at the Project site at all times when welding activities are taking place. Welding shall not occur when sustained winds exceed that set forth by the SBCFD unless a SBCFD-approved wind shield is on site.
- A vegetation management plan shall be prepared to address vegetation clearance around all WTGs and a regularly scheduled brush clearance of vegetation on and adjacent to all access roads, power lines, and other facilities.

- Operational fire water tanks shall be installed prior to construction.
- Provisions for fire/emergency services access if roadway blockage occurs due to large loads during construction and operation.
- Cleared, maintained parking areas shall be designated; no parking shall be allowed in non-designated areas.
- The need for and/or use of dedicated repeaters for emergency services.
- Appropriate Hot work permits (such as cutting and welding permits) shall be obtained from the jurisdictional fire agency.
- Compliance with California PRC 4291, 4442, and 4443.

Permit Requirements. The Fire Protection Plan shall be provided to the SBCFD and the County for approval.

Timing. The plan shall be approved prior to zoning clearance.

Monitoring. The onsite monitor shall confirm that appropriate measures are implemented during construction. County fire inspectors verify compliance with measures applicable to operations and shall periodically spot check compliance during operations.

MM FPES-2 **Smoking and Open Fires**. Smoking and open fires shall be prohibited at the Project site during construction and operations. A copy of the notification to all contractors regarding prohibiting smoking and burning shall be provided to the County.

Permit Requirements. A copy of the notification to all contractors regarding prohibiting smoking and burning shall be provided to the County

Timing. The notification shall be provided prior to zoning clearance.

Monitoring. The County staff shall verify the notification prior to zoning clearances, and the onsite monitor shall confirm compliance during construction.

MM FPES-6 **Red Flag Warning.** The Applicant shall participate in the Red Flag Warning program with local fire agencies and the National Weather Service. The Applicant shall stop work during Red Flag conditions reduces the risk of wildlife ignition.

Permit Requirements. The construction contractor shall stop work during Red Flag conditions. If work is necessary during red flag conditions, the construction contractor shall obtain prior approval from the County and the appropriate fire agency. The County and/or the appropriate fire agency may require that work during a red flag condition utilize on-site fire monitoring or all additional conditions as deemed necessary to reduce fire risk.

Timing. During red flag conditions, the County and the appropriate fire agency shall be notified about potential work during red flag conditions as soon as Red Flag conditions are anticipated.

Monitoring. The onsite monitor shall have the authority to stop work on the Project during red flag conditions.

FPES-2 Increase Fire Risk (Operations). ~~Although~~ Operation of the Project ~~contains many elements that would reduce potential for severe fires~~ could increase baseline fire risks ~~would be increased through operation of the WTGs, Project Substation, power lines, and access roads. The O&M facility would include fire suppression infrastructure~~.

As described in detail in the LWEP EIR, operation of the proposed Project would increase the baseline potential for fires. The LWEP EIR recommended a number of MMs to reduce risks and described how the Project would be compliant with SBCFD requirements. All MMs recommended in the LWEP EIR have been incorporated into this analysis. A discussion of operational wildfire risk is presented below for each distinct Project component.

Wind Turbine Generators (WTGs)

In rare cases, WTGs can be the source of wildfire ignitions due to collection line failure, turbine malfunction or mechanical failure, and lightning- and bird-related incidents. When mechanical or electrical failures cause WTGs to catch fire, they may burn for an extended period of time due to the limited ability of fire suppression crews to effectively fight fires hundreds of feet above the ground. High-wind conditions, such as Santa Ana Wind Occurrences (SAOs), are risky for both WTG malfunction and the spread of wildfire. If a fire were to ignite during a high-wind condition, wind-blown embers from a WTG fire could potentially travel outside the WTG pad and ignite vegetation in the surrounding area. The Applicant would be required to comply with all vegetation clearance regulatory requirements around the structures on site, as described above in Section 4.8.3.

Malfunctions leading to fires in the types of WTG proposed are extremely rare. As discussed in Section 2.5.1, *Wind Turbine Generators*, and in the LWEP EIR, the WTGs would be equipped with multiple independent, redundant safety systems. The safety systems of all WTGs would comply with the codes set forth by the Occupational Health and Safety Administration (OSHA), the American National Standards Institute (ANSI), and European Union (EU) health and safety standards. The WTGs would also be equipped with a lightning protection system (see Section 2.5.1, *Wind Turbine Generators*, for a description of the lightning protection system).

The height of the WTGs could interfere with aerial firefighting operations by obstructing low-level flight paths within the site boundaries. The presence of nearby Vandenburg Air Force Base causes aerial firefighters to avoid flying in the immediate vicinity of the Project site under existing conditions. Also, aerial firefighting would not be obstructed around the perimeter of the site, ensuring that fire containment would be feasible regardless of the existence of WTGs on the landscape. Obstruction of aerial firefighting from the presence of WTGs would be minimal. In the event of a wildfire near the WTGs, the responding agencies (CAL FIRE, SBCFD, LFD) would coordinate with VAFB for ground and aerial access.

Project Substation and Switchyard

Described in Section 2.5.2, *Project Substation*, all power generated by the WTGs would be transmitted to the on-site Project substation via the collection system. The substation would also serve as the originating point for the proposed 7.3-mile 115-kV overhead transmission line. The switchyard would serve as the connection between the Project's power generation system and the PG&E electrical system.

The proposed Project substation is located entirely within the mapped Very High Fire Hazard Severity Zone. As discussed in the LWEP EIR, the transformers located within the proposed Project substation could present a potential fire risk.

The substation surface would be covered with a layer of rock. This rock layer would act as a fire barrier. In addition, spatial separation of transformers and other equipment would be provided for in the design to prevent fire propagation (see MM FPES-3). The substation would meet or exceed Institute of Electrical and Electronics Engineers (IEEE)-979 Substation Fire Protection. Detection and extinguishing equipment would be installed in accordance with applicable national and local codes.

The proposed Project's switchyard would be located within the mapped VHFHSZ zone, and entirely within the Imerys Mine property, and near a residential development. The switchyard would be constructed in a similar fashion as the substation, covered with a layer of rock that would function as a fire barrier, and with equipment contained within a pre-manufactured concrete control building.

Some firefighting equipment would be located at the Project substation site, O&M facility, and in Project service vehicles. A 20-pound CO2 fire extinguisher would be stored at the substation and at the O&M Building for small fires. In addition, service pick-up trucks would be equipped with a 5-pound standard fire extinguisher. Fire features and best management practices within the Project site would include service and access roads, which could serve as firebreaks, and regular clearing of vegetation from areas around transformers and riser poles. Further, a safety and emergency response plan would be developed in conjunction with the local Fire Marshall, as required by MM FPES-1 (Fire Protection Plan).

O&M Facility

Installation of the building would not, in itself, increase baseline fire risk. The construction of the O&M building area would include fire suppression facilities and infrastructure, including a 5,000-gallon fire water tank, a fire hydrant, and a fire sprinkler system within the O&M facility. The fire water tank would only be used for fire suppression. MMs FPES-1 (Fire Protection Plan) and FPES-5 (Water Supply) require the entire system to be approved by the SBCFD and could benefit residences and other structures in the Project area, as well as the SWEP. The Fire Protection Certificate required for the Project would address required water pressure and other infrastructure requirements such as water storage, sprinklers, and fire hydrants. Some fire-fighting equipment would be located at the maintenance yard and in vehicles.

Transmission Lines

The proposed Project includes the construction and operation of a new 115-kV transmission line, approximately 7.3 miles in length. About 5.3 miles (71%) of the transmission line would be constructed in areas mapped as High Fire Hazard Severity and 2.2 miles (29%) would be constructed in areas mapped as Very High Fire Severity. As discussed in Section 2.5.4 the Applicant would construct the transmission line consistent with accepted industry standards, protective measures, and established industry guidelines. These include the recommended practices and procedures of the IEEE and NERC, standards for overhead line construction consistent with CPUC General Order 95 (GO95), avian protection measures consistent with the 2012 Avian Power Line Interaction Committee Guidelines, electric magnetic field design guidelines accepted for transmission design in California, and other applicable rules and standards.

Ongoing fire management and safety would include maintaining a 10-foot buffer of flammable fuels (vegetation) around the base of each wood pole structure during fire season. Under Public Resources

Code, Section 4292, a minimum 15-foot clearance between vegetation and conductors is required for safety and to minimize tree-related outages. Fast-growing trees may be removed or vegetation trimmed back farther than the minimum required to achieve at least 3 to 4 years of clearance before the next trim. In addition, the maintenance program would also include removing dead, rotten, or diseased trees or vegetation that hang over or lean toward the system to prevent a falling hazard.

Fire risk associated with operation of the transmission lines would stem from factors such as SAOs and avian collisions. Routine inspections would be performed periodically along the transmission line ROW, in accordance with good utility practice of all the electrical connections, and any faulted cables or damaged insulators would be replaced as needed. Should events such as severe storms, earthquakes, or accidents result in downed power lines or poles, procedures outlined in the emergency response plan and the standard operating procedures would be applied.

Access Roads

The access roads throughout the Project site could act as firebreaks in the event of a wildland fire. The new and improved roads would also allow for improved access by firefighting equipment, including for first-responders responding to wildland fires. While the proposed Project contains design features that would reduce the potential for severe fires, it still would increase baseline fire risk during Project operation. As it is located primarily in a Very High Fire Hazard Severity Zone and there are scattered residences in the vicinity of the WTGs as well as along the transmission line route, there is the potential for increased exposure of people and structures to risks associated with wildland fires. Impacts can be reduced to a less-than-significant level (Class II) with the implementation of MMs FPES-1 through FPES-4.

Mitigation Measures

MM FPES-1 **Fire Protection Plan**. Described under Impact FPES-1 above.

MM FPES-2 **Smoking and Open Fires.** Described under Impact FPES-1 above.

MM FPES-3 **Install Gravel around Substation**. Gravel shall be placed around the perimeter of the Project Substation as a fire prevention measure. This requirement shall be noted on building plans.

Permit Requirements. This requirement shall be noted on building plans.

Timing. Gravel shall be installed prior to the start of operations.

Monitoring. The County shall verify that gravel has been installed

MM FPES-4 **Access Roads.** Access roads shall remain passable by emergency vehicles for the duration of the Project. Turnaround requirements at the terminus of access roads shall be included in roadway designs. The final design shall be approved by the SBCFD, and the final access road map (including topographic map) shall be provided to both the SBCFD and the City of Lompoc Fire Department.

Permit Requirements. The approved access road design shall be included on the final plans with a note that the roads shall remain passable at all times.

Timing. The plans shall be approved prior to zoning clearance.

Monitoring. County staff shall verify the approval of the access road design prior to construction approval and confirm compliance upon completion of construction.

SBCFD inspectors shall periodically verify that the access roads are maintained in an acceptable condition.

FPES-3 Fire Department Response Times. The Project ~~would~~ could have the potential to increase demand for fire protection services.

As discussed in detail in the LWEP EIR, the proposed Project would have the potential to increase demand for fire protection and emergency medical services during both construction and operation. The fire department and emergency medical service response times to the Project site would be a minimum of 10 minutes and, depending on the exact location, could be substantially longer. During construction, the temporary blockage of San Miguelito Road by trucks carrying large loads (such as the WTG blades) could temporarily increase response times in the area. This could result in response times that are considered unsafe in a Very High Fire Hazard Severity Zone. Implementation of MMs FPES-1, FPES-2, and FPES-4 would reduce the impact on response times for fire protection and emergency medical services to a less-than-significant level (Class II).

Mitigation Measures

MM FPES-1 **Fire Protection Plan.** Described under Impact FPES-1 above.

MM FPES-2 **Smoking and Open Fires.** Described under Impact FPES-1 above.

MM FPES-4 **Access Roads.** Described under Impact FPES-2 above.

FPES-4 Emergency Services Response Times. The Project could ~~influx of workers may~~ temporarily increase the need for ~~paramedic~~ emergency medical services during construction~~, although only about 10 staff would be required during operations~~.

As discussed in detail in the LWEP EIR and in Section 2.8.5, *Safety*, physical security of the Project site would be provided by the installation of locked gates at the entrance to all access roads. In addition, all WTGs would be locked as well, as would be the Project substation and control house, which would be fenced by an 8-foot-high barbed wire reinforced fence. Additionally, the wind facilities would be remotely monitored at all times for suspected intrusions. If an intrusion is suspected, security personnel would be deployed to the site.

As such, the proposed Project site would not be readily available to the public. This would minimize the need for law enforcement services during both construction and operation of the proposed Project. The Project site is located in a remote area at the end of a private road, as well as buffered to the south and west by Vandenburg Air Force Base, preventing public access from those areas.

Construction of the proposed Project is expected to require approximately 50 to 100 workers. These could temporarily increase the need for emergency medical services as a result of the increased potential for construction related injuries. Operation of the proposed Project would only require 5 to 7 O&M staff members and would not substantially increase the need for emergency medical services. The proposed security features of the proposed Project would limit access to only properly trained personnel and would minimize the potential for accidents from trespassing.

For the reasons stated above, the Project would not have a significant impact on fire protection and other emergency service response times (Class III). Although not required for this impact, implementation of MM-FPES-1 (Fire Protection Plan) would reduce adverse effects related to response times.

FPES-5 Interference with Fire Prevention Techniques. The Project ~~would~~ could ~~introduce tall towers and a new power line into an Extreme Fire Hazard Area. In the event that~~ interfere with controlled burns ~~are required~~ in the Project area~~, fire fighters would need to take the new structures into consideration~~.

As discussed in detail in the LWEP Final EIR and in Section 2.5.1, *Wind Turbine Generators*, the proposed Project would introduce WTGs and a new 115-kV transmission line into an area which is designated as a VHFHSZ. Historically, controlled burns have been used in parts of Santa Barbara County to control fuel loads and vegetation. If a controlled burn was deemed necessary in the proposed Project area, firefighters would be required to consider if the Project would be affected by smoke or heat. Additionally, firefighters would need to develop and plan alternate methodologies to control the spread of the fire, as the structures would inhibit certain fire-fighting methodologies.

As discussed in Section 2.5.4, *Project Transmission Line*, the proposed Project would include regular vegetation maintenance to reduce the need for a controlled burn. Implementation of MM FPES -1 (Fire Protection Plan) would help plan for firefighting activities in and around the proposed Project and would reduce this impact to a less-than-significant level (Class II).

Mitigation Measure

MM FPES-1 Fire Protection Plan. Described under Impact FPES-1 above.

FPES-6 Emergency Evacuation/Response. The closure of Sudden Road and Upper Miguelito Canyon Road could hinder emergency response. ~~For security and safety reasons, the Applicant may request that Sudden Road and upper Miguelito Canyon Road become a private road, which would be required to have a lock that could be opened by fire and other emergency service providers.~~

As discussed in detail in the LWEP EIR and in SWEP SEIR Section 2.5.9, *Public Access*, during the construction, and possibly during the operational phase of the Project, the Project operator and landowners using San Miguelito Road and Sudden Road beyond their intersection may request the County to close these roads to public travel. If these roads were to be closed, only the landowners involved in the Project and VAFB would use these roads. A turnaround area would be provided at the end of the public road near the entrance of the Project. During decommissioning, the roads would be re-opened to the public. For site security and safety, locked gates may be installed across these roads. The locks would be able to be opened by fire and other emergency service providers. Impacts on emergency response resulting from the closure of Sudden Road and Upper Miguelito Road would not be significant (Class III).

4.8.5 Cumulative Effects

Geographic Extent/Context

The geographic extent for cumulative impacts from fire hazards and emergency services is the Santa Ynez Mountains outside of the City of Lompoc. This area includes the overall "fireshed" for the proposed Project within approximately 3 miles, and areas where emergency services could be needed near the proposed Project. The aforementioned area is susceptible to wildfire given the climate, type of vegetation found, topography, and potential for wildfire. Wildfires within the Project site, as well as within the overall Santa Ynez Mountains area, have the potential to affect one another as wildfire suppression activities could be affected should the fuel matrix be significantly altered. The temporal scope for cumulative wildland fire impacts includes the duration of construction, operation, and decommissioning of the proposed Project.

A cumulative fire hazards and emergency services impact would occur if multiple projects were to simultaneously result in a wildland fire or the need for emergency services in the same geographic region, or if two projects would combined increase the risk of wildland fires above baseline. Two of the cumulative projects described in Table 3-1 are within the cumulative extent for wildland fire; these are the Sepulveda Building Materials Mining Project (Map Key Number 16) and the Hilt Winery (Map Key Number 20).

Analyzed as part of the LWEP EIR in Section 4.5.6, cumulative impacts related to Fire Protection and Emergency Services required the implementation of mitigation measures. All mitigation measures implemented for the proposed Project would serve to reduce the proposed Projects cumulative contribution to overall impacts in the region.

Cumulative Effects

Increased wildland fire risk during construction. Similar to the proposed Project, the above-mentioned projects could result in wildland fire ignitions due to use of heavy equipment, smoking, or welding. If the proposed Project, and one of these cumulative projects were to simultaneously result in a wildland fire ignition during construction, they would combine and increase the frequency of wildland fires above the baseline. The combination of these projects being constructed concurrently could substantially increase the frequency of fire in the area above natural conditions.

Implementation of the MMs required for the proposed Project (MMs FPES-1 through FPES-6) would minimize the proposed Projects contribution to this cumulative impact, and similarly, the MMs required for the other cumulative projects would minimize the potential for wildland fire ignitions from those sources. As a result, the overall cumulative increase in fire frequency would not be substantial (i.e. significant).

Increased wildland fire risk during operation. The above-mentioned projects would be operated concurrent with the proposed Project. These projects all present some increased risk for wildland fire ignition associated with their individual operations. The combination of these projects being operated concurrently could increase the frequency of fire in the area above baseline conditions.

Implementation of the MMs required for the proposed Project (MMs FPES-1 through FPES-6), would minimize the proposed Projects contribution to this cumulative impact, and similarly, the MMs required for the other cumulative projects would minimize the potential for wildland fire ignitions from those sources. As a result, the overall cumulative increase in fire frequency would not be substantial.

Increased demand for fire protection services. Fire protection services for the above-mentioned projects would be provided by the same agencies (SBCFD, LFD) that would provide services for the proposed Project. A cumulative impact would result if a demand for fire protection services were to occur and combine with other demands for fire protection services from other projects, potentially having an adverse effect on above the service goals of fire and emergency service providers.

Implementation of MMs FPES-1, FPES-2, FPES-4, and FPES-6 would minimize the proposed Projects contribution to this cumulative impact, and similarly, the MMs required for the other cumulative projects would minimize the potential for excessive demands for fire protection services from those sources. As a result, the overall cumulative increase in fire frequency would not be substantial.

Increased demand for emergency medical services. Emergency medical services for the above-mentioned projects would be provided by the same agencies (LFD, AMR) as for the proposed Project. During operation, the proposed Project would only have about 5 to 7 O&M employees, making the likely need for emergency medical services minimal. During construction, a cumulative impact would result if demands for emergency medical services were to occur and combine with emergency medical service demands from the other Projects.

Implementation of MM FPES-1 would minimize the Project's contribution to this cumulative impact and, similarly, the MMs required for the other cumulative projects would minimize the potential for excessive demands for emergency medical services from those sources. As a result, the overall cumulative increase in emergency medical services demand would not be substantial.

Interfere with controlled burns and emergency evacuation. Impacts related to interference with controlled burns and emergency evacuations are site specific and would not combine with any of the above-mentioned projects. As a result, the overall cumulative impact would not be substantial.

4.8.6 Residual Impacts

As summarized in Section 4.8.4, Impacts FPES-4 and FPES-6 would be less than significant. With implementation of proposed mitigation measures, residual effects from Impacts FPES-1, FPES-2, FPES-3, and FPES-5 would be less than significant.

4.8.7 Impact and Mitigation Summary

Table 4.8-3 below provides a summary of the SWEP's impacts related to fire hazards and emergency services. The table also indicates the mitigation measures proposed to reduce each significant impact.

Table 4.8-3. SWEP Impact and Mitigation Summary – Fire Hazards and Emergency Services

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
FPES-1	Increased Fire Risk (Construction). The Project could result in an increased risk of wildland fires that could spread to more developed areas. Fire risks include vehicle exhaust, sparks, welding, parking on dry grass, and fuel tanks.	FPES-1: Fire Protection Plan. FPES-2: Smoking and Open Fires. FPES-6: Red Flag Warning.	Class II
FPES-2	Increase Fire Risk (Operations). Operation of the Project could increase baseline fire risks.	FPES-1: Fire Protection Plan. FPES-2: Smoking and Open Fires. FPES-3: Install Gravel around Substation. FPES-4: Access Roads.	Class II

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
FPES-3	**Fire Department Response Times.** The Project could have the potential to increase demand for fire protection services.	FPES-1: Fire Protection Plan. FPES-2: Smoking and Open Fires. FPES-4: Access Roads.	Class II
FPES-4	**Emergency Services Response Times.** The Project could temporarily increase the need for emergency medical services during construction.	Although not required, FPES-1: Fire Protection Plan, would reduce the adverse impact.	Class III
FPES-5	**Interference with Fire Prevention Techniques.** The Project could interfere with controlled burns in the Project area.	FPES-1: Fire Protection Plan.	Class II
FPES-6	**Emergency Evacuation/Response.** The closure of Sudden Road and Upper Miguelito Canyon Road could hinder emergency response.	None required.	Class III

Class I. Significant unavoidable adverse impact.

Class II. Significant environmental impacts that can be feasibly mitigated or avoided.

Class III. Adverse impacts found not to be significant.

Class IV. Impacts beneficial to the environment.

4.8.8 References

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4.9 Geology and Soils

This section describes geologic, seismic, and soil conditions in the proposed Project area and analyzes environmental impacts related to these issues that could result from the Strauss Wind Energy Project (SWEP). As part of this analysis, this section analyzes whether the SWEP would result in any new significant impacts to geology and soils that were not previously identified and disclosed in the 2008 Lompoc Wind Energy Project (LWEP) EIR, or whether there would be a substantial increase in the severity of any previously identified impacts to geology and soils. The following discussion addresses existing environmental conditions of the proposed Project, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid adverse impacts. In addition, laws and regulations relevant to geological and seismic hazards are described. In some cases, compliance with these existing laws and regulations would serve to reduce or avoid certain impacts that might otherwise occur with the implementation of the Project.

Baseline geologic, seismic, and soils information were collected from published and unpublished literature, GIS data, and online sources for the Project and the surrounding area. Data sources included: (1) the Final EIR for the LWEP and reports and studies related to the previous LWEP and the current SWEP; (2) geologic literature, maps, and GIS data from the U.S. Geological Survey and California Geological Survey; (3) soils data from the U.S. Department of Agriculture; and (4) other online reference materials. The study area was defined as the locations of Project components and the areas immediately adjacent to the Project components for most geologic and soils issue areas, with the following exception: the study area related to seismically induced ground shaking includes significant regional active and potentially active faults within 50 miles of the Project.

4.9.1 Environmental Setting

4.9.1.1 Regional Geology and Physiography

As discussed in Section 3.9.1.1, *Regional Geology and Physiography*, of the LWEP EIR, the proposed Project is located in the western Santa Ynez Mountains, near the western end of the Transverse Ranges geomorphic province. Please refer to Section 3.9.1.1, *Regional Geology and Physiography*, for a full description of the Regional Geology and Physiography for the Projec*t.*

4.9.1.2 Project Geology

As discussed, proposed Project components and associated areas of ground disturbance are located in hillside and valley terrain underlain by Quaternary landslide deposits, alluvial plain deposits, and older alluvial deposits, and Tertiary Sisquoc Shale, Monterey Shale, Tranquillon Volcanic Formation, Rincon Shale, Vaqueros Sandstone, Gaviota-Sacate Formation undivided, and Cozy Dell Shale, (Dibblee, 1988a, b, and c). Localized thin pockets of artificial fill may be present near roads and previously graded areas. Geologic units underlying the proposed Project are presented in Figure 4.9-1. The geologic units underlying the proposed Project components are discussed in Section 3.9.1.3, *Project Area Geology and Geomorphology,* of the LWEP EIR.

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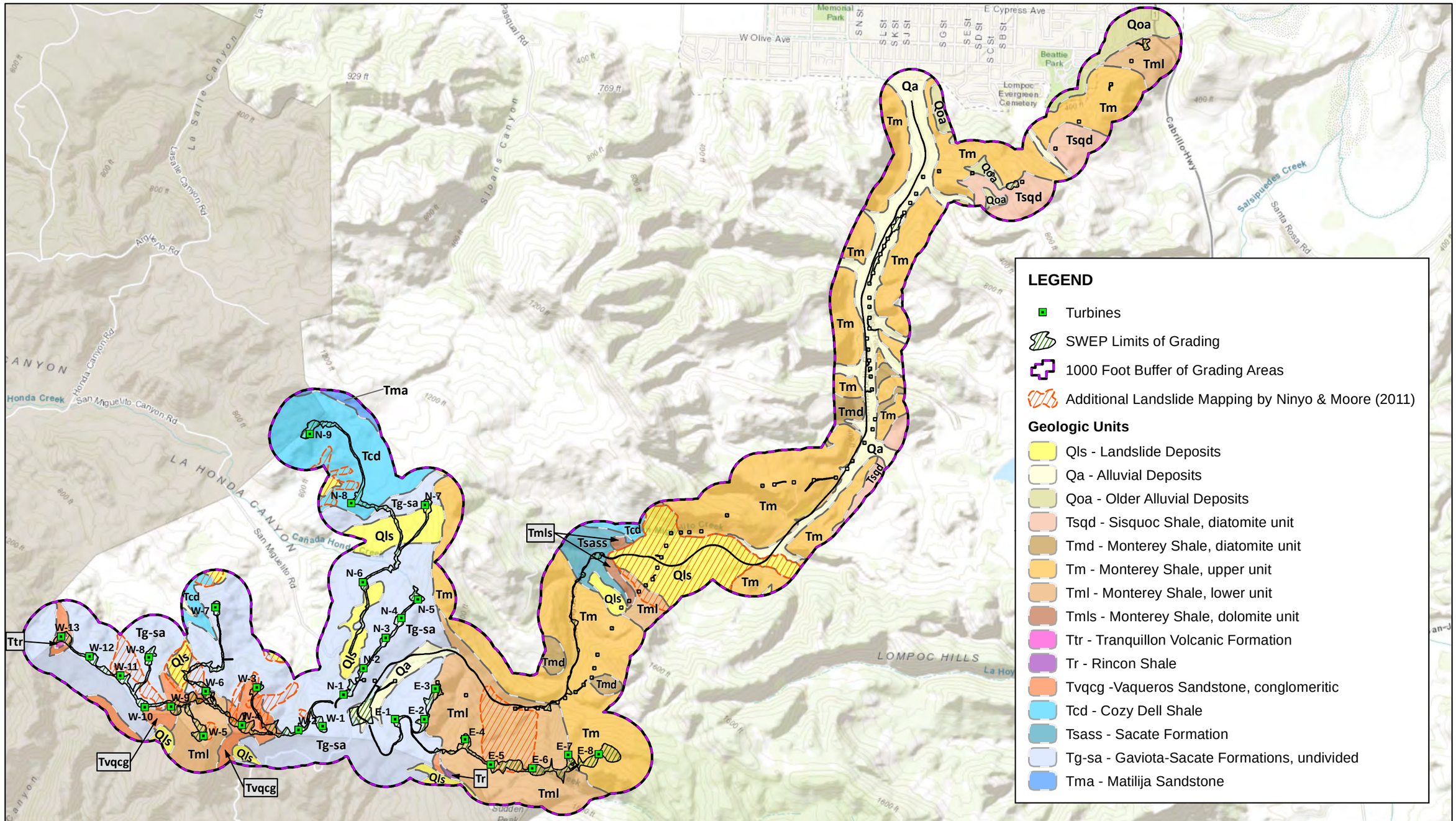

Geology Source: Modified from Dibblee 1988a, 1988b, and 1988c

0 3,000 6,000 Feet

Figure 4.9-1

Local Geology

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4.9.1.3 Slope Stability

The proposed Project is located in the western Santa Ynez Mountains in the White and Lompoc Hills and near the southern edge of the Lompoc Valley. The White Hills are characterized by gentle to moderate slopes and range in elevation from approximately 200 to 1000 feet. The Lompoc Hills rise about 1800 feet in the Project area above the Lompoc Valley and are characterized by moderately to steeply inclined slopes cut by numerous small valleys and drainages. Larger drainages cutting through the Lompoc Hills include La Honda Canyon, San Miguelito Creek, and La Hoya Creek. Hillslope terrain underlying and near to Project components is moderate to steep, with many areas having slopes approaching or exceeding a 20 percent grade (Wilson, 2016).

The term landslide includes a wide range of ground movements, such as rock falls, deep failure of slopes, and shallow debris flows (see Section 3.9.1.5, *Project Area Geologic Hazards*, of the LWEP EIR). Many landslides are mapped by Dibblee (Dibblee 1989 a, b, and c) in the general Project area, with several being located within the Project site. Ninyo & Moore (2011) conducted landslide mapping and slope failure analyses of the Project site as part of their LWEP 2011 geotechnical evaluation and identified several additional landslides in the Project area as well as modifying the boundaries of some of the Dibblee mapped landslides (as shown in Figure 4.9-1). The 2011 Ninyo & Moore landslide analyses identified landslides and potential slope failures areas at and near LWEP components and grading areas where additional design mitigation was recommended which included potential relocation of Project components and roads. Landslides in the Project area are mapped in Monterey Formation, Vaqueros Sandstone, Gaviota-Sacate Formation, and Cozy Dell Shale in areas of moderate to steep sloping terrain with generally unfavorable geologic structure (Ninyo & Moore, 2011; Wilson, 2016).

The existing slopes in many areas of the SWEP site will be modified by significant grading; approximately 204 acres of temporary and permanent ground disturbance is planned with 968,633 cubic yards (cy) of cut, and 959,409 cy of fill. The planned grading and ground disturbance areas include turbine pads, access roads, internal collection, substation, staging area, O&M facility, transmission line, switchyard, and access roads to the pole locations of the transmission line. All grading would be subject to a final, approved grading plan to ensure adequate slope stabilization.

4.9.1.4 Soils

Soils within the Project area reflect the underlying rock type, the extent of weathering of the rock, the degree of slope, and the degree of human modification. The National Resource Conservation Service (NRCS) Soil Survey Geographic (SSURGO) databases for Santa Barbara County, California, South Coastal Part (CA673) and Northern Santa Barbara Area, California (CA672) were reviewed to identify soil units and characteristics underlying the Project site (NRCS, 2017 and 2018). Thirty-eight soil units, representing 13 main soil associations and five miscellaneous areas are mapped as underlying the Project components. The 13 soil associations are the Botella, Crow Hill, Diablo, Gaviota, Gazos, Linne, Lopez, Los Osos, Maymen, Nacimiento, San Andreas, Santa Lucia, and Tierra. The five miscellaneous areas are landslide, gullied land, rock outcrop, pits and dumps, and sedimentary rock land; miscellaneous areas have been identified by the NRCS having little or no natural soil or soil development and are not discussed further in this section. Summaries of the significant characteristics of the major soil associations underlying the Project area and transmission line are presented in Table 4.9-1 below.

Table 4.9-1. SWEP Soil Characteristics

Soil Association	Project Components	Description	Susceptibility to Erosion		Expansion Potential[3]
			Wind[1]	Sheet and Rill[2]	
Botella	O&M building, laydown yard, transmission line, water line, access roads	Clay loam[4], silty clay loam, and shaly clay loam; parent material is alluvium derived from sedimentary rocks	Low to Moderate	Moderate	Moderate
Crow Hill	access road	Silty clay loam; parent material is weathered from soft diatomaceous shale	Low to Moderate	Moderate	Low to Moderate
Diablo	turbines, transmission line, access roads and pads	Clay; parent material weathered from calcareous shale	Moderate	Moderate	Moderate to High
Gaviota	turbines, substation, transmission line, waterline, meteorological tower, access roads and pads	Sandy loam; parent material is weathered from sandstone	Moderate	Moderate to High	Low
Gazos	transmission line, access road	Clay loam; parent material is weathered from shale	Moderate	Low to Moderate	Low to Moderate
Linne	transmission line, switching station, access road	Clay loam; parent material weathered from mudstone	Moderate	Moderate	Low to Moderate
Lopez	turbines, water line, transmission line, access roads and pads	Shaly clay loam, channery[5] clay loam	Low	Low	Low
Los Osos	turbines, access roads and pads	Clay loam; parent material is weathered from sandstone and shale	Low to Moderate	Moderate	Moderate to High
Maymen	meteorological tower, access roads and pads	Stony fine sandy loam, loam; parent material weathered from shale, conglomerate, and/or sandstone	Moderate	Low to Moderate	Low
Nacimiento	turbine, access road and pad	Silty clay loam; parent material weathered from mudstone	Low to Moderate	Moderate	Moderate
San Andreas	turbines, laydown yard, O&M building, transmission line, water line, access roads and pads	Fine sandy loam; parent material weathered from soft sandstone	Moderate to High	Moderate	Low to Moderate
Santa Lucia	turbines, transmission line, meteorological tower, access roads and pads	Shaly clay loam, channery clay loam; parent material weathered from Monterey shale	Low	Low	Low to Moderate
Tierra	turbines, laydown yard, O&M building, transmission line, switching station, water line, access roads and pads	Loam, clay loam, sandy loam; parent material weathered from alluvium derived from sedimentary rock	Low to Moderate	Moderate	Low to High

Source: NRCS, 2017 and 2018.

1. Based on soil wind erodibility groups; groups are based on the susceptibility of a soil to wind erosion.
2. Based on Erosion factor K (used by the NRCS in the Universal Soil Lose Equation), which indicates the susceptibility of a soil to sheet and rill erosion.
3. Based on the linear extensibility of soils. Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state.
4. Loam – A soil material that has appoximately equal percentages of clay, silt , and sand particles.
5. Channery – Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist.

The properties of soil that influence erosion by rainfall and runoff are ones that affect the infiltration capacity of a soil, and those that affect the resistance of a soil to detachment and being carried away by falling or flowing water. Sheet erosion occurs when water runs over a large uniform area picking up and distributing soil particles. Rill erosion occurs as concentrated surface runoff begins to remove soil along concentrated zones which numerous small, but conspicuous, water channels or tiny rivulets. Susceptibility to sheet and rill erosion from water for soils underlying Project components primarily ranges from low to moderate; however, some Project components are underlain by Gaviota association soils with sheet and rill erosion susceptibility that is moderate to high (NRCS, 2017 and 2018). Soils containing high percentages of fine sands and silt and that are low in density, are generally the most susceptible to wind erosion. As the clay and organic matter content of these soils increases, the potential for erosion decreases. Susceptibility of soils to wind erosion generally ranges from low to moderate within the Project area, although local soils within the San Andreas association may have moderate to high susceptibility to wind erosion (NRCS, 2017 and 2018). Significant ground disturbance of approximately 204 acres would occur at proposed locations of turbine pads, access roads (including along San Miquelito Road), internal collection lines, substation, staging area, O&M facility, transmission line, switchyard, and access roads to the pole locations of the transmission line as part of the Project. This ground disturbance would loosen soils making them more susceptible to erosion.

Expansive soils are characterized by their ability to undergo significant volume change (shrink and swell) due to variation in soil moisture content. Changes in soil moisture could result from a number of factors, including rainfall, landscape irrigation, utility leakage, and/or perched groundwater. Expansive soils are typically very fine grained with a high to very high percentage of clay. Soils with moderate to high shrink-swell potential would be classified as expansive soils. The expansive potential of the soils underlying the SWEP area generally ranges from low to moderate, although clayey soils with moderate to high expansion occur locally within the Diablo, Los Osos, and Tierra associations (NRCS, 2017 and 2018).

Compressible soils are fine-grained and cohesive with normally low strength that will readily consolidate and cause settlement when surcharged with fill or structure loads particularly when saturated. The 2011 Ninyo & Moore LWEP geotechnical evaluation noted that soil, colluvium, alluvium, and landslide deposits overlying the sedimentary bedrock within the Project site are generally very loose to medium dense and are considered to be potentially compressible. Collapsible soils are low density, fine-grained, predominantly granular usually containing fine sand and silt that may collapse or rapidly settle due to rearrangement of the soil particles when they become saturated under relatively low loads. The Project area consists of shallow bedrock with small valleys containing potentially collapsible unconsolidated alluvial deposits such as silt, sand, and gravel (CSB, 2008). Compressible and collapsible soil types are quite sensitive to either a rise in the groundwater table or increased surface water infiltration.

4.9.1.5 Subsidence

As noted in the LWEP EIR, Section 3.9.1.5, *Project Area Geologic Hazards*, subsection Subsidence, the Project area is not in an area with any reported evidence of subsidence, nor is it within or near an area undergoing localized withdrawal of groundwater, oil, or natural gas (CSB, 2008). Therefore, the potential for subsidence is considered low to negligible.

4.9.1.6 Seismicity and Faulting

Santa Barbara County is located in a geologically complex and seismically active region which includes both the east-west Transverse Ranges and the north-south trending Coast Ranges. The seismicity of the Project area is dominated by the intersection of the north-northwest trending San Andreas and Coast Ranges faults, and the east-west trending Transverse Ranges fault system. Both systems are responding to strain produced by the relative motions of the Pacific and North American Tectonic Plates. This strain is relieved by right-lateral strike-slip faulting on the San Andreas and related faults, and by vertical, reverse-slip or left-lateral strike-slip displacement on faults in the Transverse Ranges. The effects of this strain and deformation includes mountain building, basin development, deformation of Quaternary marine terraces, widespread regional uplift, and generation of earthquakes. Both the Transverse Ranges and Coast Ranges areas are characterized by numerous geologically young faults. These faults can be classified as historically active, active, potentially active, or inactive, based on the following criteria (CGS, 1999):

- Faults that have generated earthquakes accompanied by surface rupture during historic time (approximately the last 200 years) and faults that exhibit aseismic fault creep are defined as Historically Active.
- Faults that show geologic evidence of movement within Holocene time (approximately the last 11,000 years) are defined as Active.
- Faults that show geologic evidence of movement during the Quaternary time (approximately the last 1.6 million years) are defined as Potentially Active.
- Faults that show direct geologic evidence of inactivity during all of Quaternary time or longer are classified as Inactive.

Although it is difficult to quantify the probability that an earthquake will occur on a specific fault, this classification is based on the assumption that if a fault has moved during the Holocene epoch, it is likely to produce earthquakes in the future. Blind thrust faults which do not intersect the ground surface are not classified as active or potentially active in the same manner as faults that are present at the earth's surface. Activity classification of blind thrust faults is predominantly based on geologic data from deep oil wells, geophysical profiles, historic earthquakes, and microseismic activity along the fault.

Active regional faults capable of producing significant ground shaking at the Project site are strike-slip faults associated with the San Andreas Fault System, offshore Santa Barbara Channel faults, and reverse and blind thrust faults associated with the compressional folding and faulting of the Coast and Transverse Ranges. Periodic earthquakes accompanied by surface displacement can be expected to continue in the study area through the lifetime of the proposed Project. Active faults and potentially active faults that represent a significant seismic threat to the proposed Project are listed in Table 4.9-2. Data presented in this table include estimated earthquake magnitudes, and type of fault. Figure 4.9-2 shows locations of significant active and potentially active faults and historic earthquakes in the Project area and surrounding region.

Table 4.9-2. Significant Active and Potentially Active Faults within 50 miles of SWEP

Fault Name	Closest Distance to Project (miles)[1]	Estimated Maximum Earthquake Magnitude[2]	Fault Type and Dip Direction[1]
Lions Head	5.8	6.8	Reverse, 75°NE
Casmalia	9.9	6.7	Reverse-Right Lateral Oblique, 75°SW
Los Alamos – West Baseline	10.8	6.9	Thrust, 30°S
Santa Ynez – (West or Connected)	11.1	7.0-7.4[3]	Reverse Left Lateral Oblique, 70°S
Red Mountain	15.9	7.4	Reverse, 56°N
San Luis Range (South Margin)	18.4	7.2	Thrust, 45°N
Hosgri	22.0	7.3	Right Lateral Strike Slip, 80°E
Pitas Point (Lower, West)	32.1	7.3	Thrust, 13°N
Pitas Point (Upper or Connected)	32.9	6.9-7.3	Thrust, 42°N
North Channel	33.1	6.8	Thrust, 26°N
Los Osos	33.6	7.0	Thrust, 45°SW
Mission Ridge-Arroyo Parida-Santa Ana	33.7	6.9	Reverse, 70°S
Santa Rosa Island	38.0	6.9	Right Lateral Strike Slip, 90°
Santa Cruz Island	44.5	7.2	Right Lateral Strike Slip, 90°
Santa Ynez (East)	46.5	7.2	Reverse Left Lateral Oblique, 70°S
Rinconada	46.9	7.5	Right Lateral Strike Slip, 90°
Pitas Point (Lower)-Montalvo	48.4	7.3	Thrust, 16°N
San Andreas	55[4]	7.2-8.0	Right Lateral Strike Slip, 90°

Notes:

1. Fault distances and parameters obtained from USGS Earthquake Hazards Program, 2008 National Seismic Hazard Maps - Source Parameters website (USGS, 2018) and CGS Quaternary Fault and Fold Database of the United States, (USGS & CGS, 2006).
2. Maximum Earthquake Magnitude – the maximum earthquake that appears capable of occurring under the presently known tectonic framework, magnitude listed is "Ellsworth-B" magnitude from the USGS Earthquake Hazards Program, 2008 National Seismic Hazard Maps - Source Parameters website (USGS, 2018), unless otherwise noted.
3. Range of magnitudes represents varying rupture scenarios of one or more segments along a fault.
4. San Andreas Fault is included in the table even though it is greater than 50 miles from the site due to its potential for very large significant earthquakes generating strong ground shaking.

No active faults or Alquist-Priolo zoned faults cross or are in the immediate vicinity of the proposed Project. The nearest significant active fault to the SWEP area is the San Andreas fault zone, located approximately 55 miles east-northeast of the Project area. Other active faults located in within the Project region are portions of the Red Mountain fault zone, Pitas Point fault zone, Mission Ridge-Arroyo Parida-Santa Ana fault zone, Hosgri fault zone, and Santa Cruz Island fault.

The closest mapped fault to the SWEP is the Santa Ynez River fault zone, which trends in an east-west direction across the base of the Lompoc Hills. It has two named strands in the Project vicinity, the Santa Ynez River fault and the Honda fault, which are located approximately 0.2 and 0.5 mile north of the SWEP transmission line, respectively (USGS & CGS, 2006). The Santa Ynez River fault zone is a buried late Quaternary fault zone that is not well mapped or defined, is not considered a significant seismic hazard by the USGS and is not included in their seismic hazard analyses (USGS, 2018). The Santa Barbara Seismic Safety and Safety Element (SSSE) does not map this fault zone on their hazard maps and is not discussed in the SSSE (CSB, 2015).

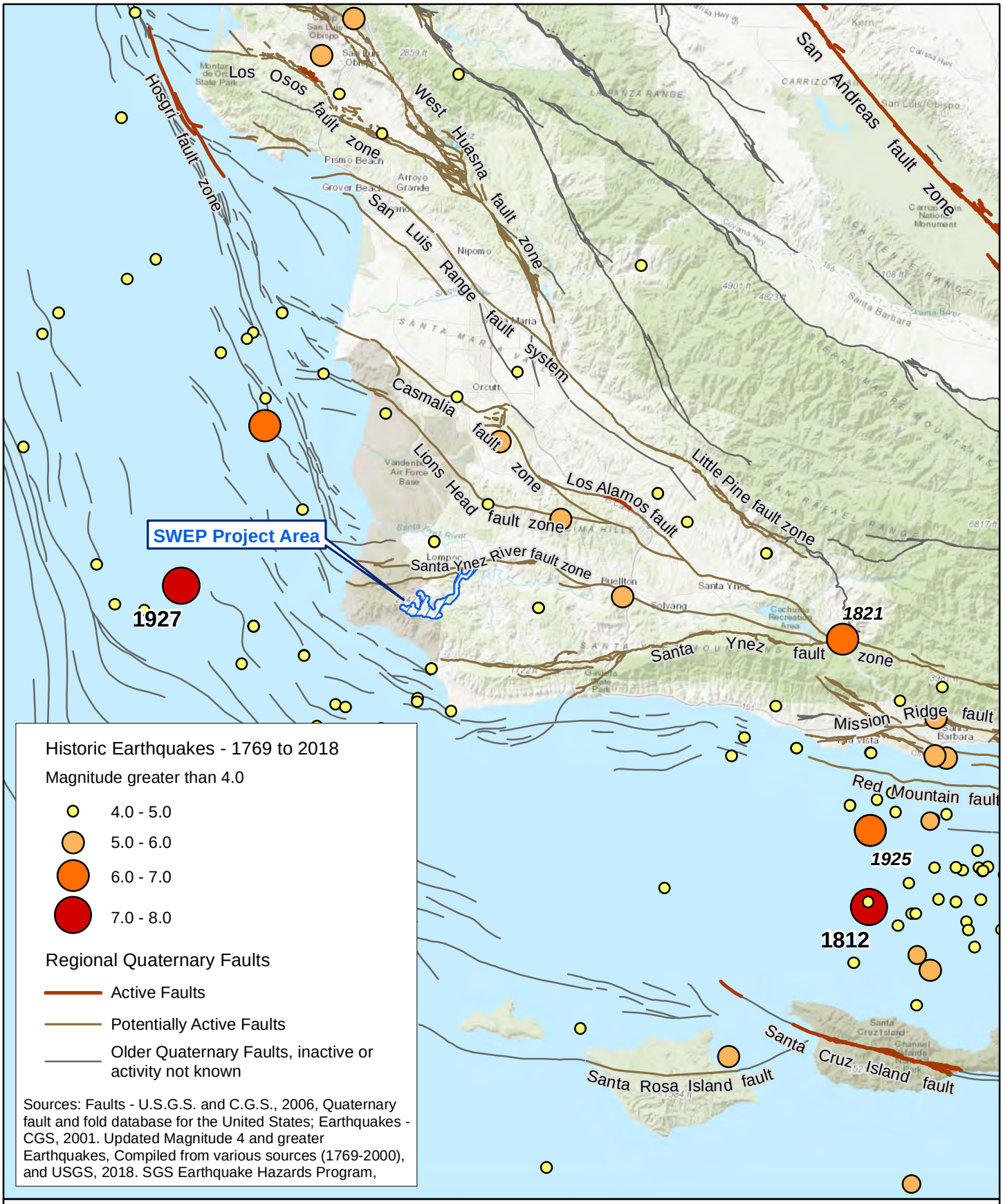

Figure 4.9-2

Regional Active Faults and Historic Earthquakes

Faults located close to the Project are all potentially active faults (as defined by the CGS) and include the Lion Head fault zone, the Casmalia fault zone, the Los Alamos-Baseline fault zone, and the Santa Ynez fault zone.

- **Lion Head fault zone.** The Lion Head fault zone, a northeast dipping thrust fault, is located 5.8 miles north of the SWEP area that trends in a west to northwest direction through the Purisima and Casmalia Hills.
- **Casmalia fault zone.** The potentially active Casmalia fault zone is located approximately 9.9 miles northeast of the SWEP. The Casmalia fault zone is comprised of several reverse faults with a component of right lateral slip that generally dip steeply to the southwest and trend in northwest direction.
- **Los Alamos-Baseline fault zone.** The Los Alamos-Baseline fault is located approximately 10.8 miles northeast of the SWEP site. The Los Alamos-Baseline fault zone is a south dipping thrust fault that trends in a northwest direction between the Casmalia and Santa Ynez fault zones. An approximately 5-kilometer (3.1 mile) section of the fault near Highway 101, about 13.2 miles northeast of the northern end of the SWEP transmission line, is mapped as active and is Alquist-Priolo zoned.
- **Santa Ynez fault zone.** The western section of the Santa Ynez fault zone is located approximately 11.1 miles southeast of the SWEP site. The Santa Ynez fault zone is a major east-west trending feature separating the San Rafael Mountains on the north side of the fault from the Sant Ynez Mountains on the south side. The fault zone is a high angle reverse fault with considerable left lateral slip that consists of several segments with local subparallel fault traces. A small approximately 0.5-mile-long section of the eastern Santa Ynez fault zone, located approximately 33 miles east of the SWEP, is mapped as active.

While numerous earthquakes of up to magnitude (M) 4.0 commonly occur throughout the region, larger earthquakes are somewhat rare. Only 12 earthquakes of M5.0 or greater have occurred within 50 miles of the Project area, with four of those greater than M6.0 and two greater than M7.1 (USGS, 2018a). The largest earthquake to occur near the Project area was the offshore 1927 M7.1 Lompoc Earthquake, which caused little damage due to the sparse population onshore near the earthquake at the time. The most damaging earthquake in the Project area was the 1925 M6.8 Santa Barbara Earthquake, which is mapped as having occurred offshore in the Santa Barbara Basin, north of Santa Cruz Island. This earthquake caused property damage estimated at $8 million and killed 13 people. Most of the damage occurred in Santa Barbara and nearby towns along the coast. Moderate damage occurred at many points north of the Santa Ynez Mountains, in the Santa Ynez and Santa Maria River valleys. North of Santa Barbara, the earth dam of the Sheffield Reservoir was destroyed, but the water released caused little damage (SCEDC, 2018).

Fault Rupture

Fault rupture is the surface displacement that occurs when movement on a fault deep within the earth breaks through to the surface. Fault rupture and displacement almost always follows preexisting faults, which are zones of weakness; however, not all earthquakes result in surface rupture (i.e., earthquakes that occur on blind thrusts do not result in surface fault rupture). Rupture may occur suddenly during an earthquake or slowly in the form of fault creep. In addition to damage caused by ground shaking from an earthquake, fault rupture is damaging to buildings and other structures due to the differential

displacement and deformation of the ground surface that occurs from the fault offset leading to damage or collapse of structures across this zone. In California, Alquist-Priolo Earthquake Fault Zones have been defined by the California Geological Survey along active faults with the potential for surface rupture. However, not all active faults have been zoned, as the criteria specifies that a fault must be shown to be "sufficiently active" and "well defined" by detailed site-specific geologic explorations in order to determine whether an Alquist-Priolo Earthquake Hazard Zone can be established with associated building setbacks. Many known active faults are not sufficiently "well defined" at the surface to qualify to be Alquist-Priolo zoned but could still cause significant surface fault rupturing.

No known active or potentially active faults cross the SWEP site (Figure 4.6-6). The Santa Ynez River fault zone is in close proximity to the northern end of the Project; however, this fault does not cross any proposed Project components and is not considered a significant seismic source (USGS, 2018). Additionally, this fault is not included on the County of Santa Barbara SSSE Seismic-Tectonic Map (CSB, 2015). The closest Alquist-Priolo zoned fault to the Project is a small section of the Los Alamos Fault, located approximately 13.2 miles northeast of the Project site. Therefore, fault rupture within the Project site is unlikely.

Strong Ground Shaking

An earthquake is classified by the amount of energy released, which traditionally has been quantified using the Richter scale. Recently, seismologists have begun using a Moment Magnitude (M) scale because it provides a more accurate measurement of the size of major and great earthquakes. For earthquakes of less than M7.0, the Moment and Richter Magnitude scales are nearly identical. For earthquake magnitudes greater than M7.0, readings on the Moment Magnitude scale are slightly greater than a corresponding Richter Magnitude.

The intensity of the seismic shaking, or strong ground motion, during an earthquake is dependent on the distance between the Project area and the epicenter of the earthquake, the magnitude of the earthquake, and the geologic conditions underlying and surrounding the Project area. Earthquakes occurring on faults closest to the Project area would most likely generate the largest ground motion.

The intensity of earthquake-induced ground motions can be described using peak site accelerations (PGAs), represented as a fraction of the acceleration of gravity (g). Peak ground acceleration is the maximum acceleration experienced by a particle on the Earth's surface during the course of an earthquake, and the units of acceleration are most commonly measured in terms of fractions of g, the acceleration due to gravity (980 cm/sec2). The CGS Probabilistic Seismic Hazards Ground Motion Interpolator website was used to estimate PGAs at the proposed Project site. The interpolator uses data from the 2008 Probabilistic Seismic Hazard Assessment Maps (PSHA) to interpolate peak ground accelerations with a 2 percent probability of exceedance in 50 years (return interval of 2,475 years for a maximum considered earthquake) and with a 10 percent probability of exceedance in 50 years (a return interval of 475 years for the maximum considered earthquake) (CGS, 2018). PGAs at the proposed Project site for 2 percent probability of exceedance in 50 years is approximately 0.48 g and approximately 0.27 g for a 10 percent probability of exceedance in 50 years, which correspond to moderate ground shaking.

Liquefaction

Liquefaction is the phenomenon in which saturated granular sediments temporarily lose their shear strength during periods of earthquake-induced strong ground shaking. The susceptibility of a site to

liquefaction is a function of the depth, density, and water content of the granular sediments and the magnitude and frequency of earthquakes in the surrounding region. Saturated, unconsolidated silts, sands, and silty sands within 50 feet of the ground surface are most susceptible to liquefaction. Liquefaction-related phenomena include lateral spreading, ground oscillation, flow failures, loss of bearing strength, subsidence, and buoyancy effects (Youd and Perkins, 1978). In addition, densification of the soil resulting in vertical settlement of the ground can also occur.

In order to determine liquefaction susceptibility of a region, three major factors must be analyzed. These include: (a) the density and textural characteristics of the alluvial sediments; (b) the intensity and duration of ground shaking; and (c) the depth to groundwater.

Most of the Project area is underlain by relatively dense sedimentary bedrock formations that would not be susceptible to liquefaction (Ninyo & Moore, 2011 and 2017). Liquefaction GIS data from the County of Santa Barbara, based on the County's SSSE, maps most of the Project area as having low liquefaction hazard; however, areas along the proposed transmission line underlain by unconsolidated alluvial deposits are mapped as having a moderate potential for liquefaction (CSB, 2015a). Groundwater was encountered in some of the borings conducted for the LWEP in the proposed WTG areas at varying depths ranging from 1 to 87 feet below ground surface. Shallow groundwater was encountered within the alluvial deposits underlying the LWEP O&M Building site. The liquefaction analyses conducted by Ninyo & Moore (2011) indicated that the upper 13 feet of loose saturated material at the LWEP O&M Building is susceptible to liquefaction and may experience up to 2 inches of post-earthquake settlement. The proposed Project O&M Building is located northwest of the LWEP O&M Building location and is underlain by Gaviota-Sacate Formation, a dense bedrock formation with no potential for liquefaction.

Seismically Induced Landslides

Other forms of seismically induced ground failures which may affect the Project area include ground cracking, and seismically induced landslides. Landslides triggered by earthquakes have been a significant cause of earthquake damage. In southern California, large earthquakes such as the 1971 San Fernando and 1994 Northridge earthquakes triggered landslides that were responsible for destroying or damaging numerous structures, blocking major transportation corridors, and damaging life-line infrastructure. Areas that are most susceptible to earthquake-induced landslides are steep slopes in poorly cemented or highly fractured rocks, areas underlain by loose, weak soils, and areas on or adjacent to existing landslide deposits. As noted above, the Project area is located within an area of moderate to steep slopes with existing landslides mapped throughout much of the area.

4.9.2 Regulatory Setting

4.9.2.1 Federal

No federal regulations were identified in the LWEP EIR and no new federal regulations have been enacted that would apply to the proposed Project.

4.9.2.2 State

The following two State of California regulations have not changed since the publishing of the LWEP Final EIR in 2008 and are summarized below, more detailed description of these regulations can be found in the LWEP Final EIR, Section 3.9.2.1

Alquist-Priolo Earthquake Fault Zoning Act of 1972. The Alquist-Priolo Earthquake Fault Zoning Act of 1972, Public Resources Code (PRC) Sections 2621–2630 (formerly the Special Studies Zoning Act) regulates development and construction of buildings intended for human occupancy to avoid the hazard of surface fault rupture.

California Seismic Hazards Mapping Act of 1990. The Seismic Hazards Mapping Act (the Act) of 1990 (PRC, Chapter7.8, Division 2, Sections 2690–2699.) directs the California Department of Conservation, California Geological Survey (CGS) [formerly the Division of Mines and Geology (CDMG)] to delineate Seismic Hazard Zones to reduce the threat to public health and safety and to minimize the loss of life and property by identifying and mitigating seismic hazards such as liquefaction, earthquake-induced landslides, or other earthquake induced ground displacements.

California Building Standards Code

The 2016 California Code of Regulations (CCR), also known as Title 24, California Building Standards Codes, provides a minimum standard for building design through the California Building Code (CBC), which is based on the (IBC) but has been modified for California conditions. Chapter 16 of the CBC contains specific requirements for seismic safety. Chapter 18 of the CBC regulates excavation, foundations, and retaining walls. Chapter 33 of the CBC contains specific requirements pertaining to site demolition, excavation, and construction to protect people and property from hazards associated with excavation cave-ins and falling debris or construction materials. Chapter 70 of the CBC regulates grading activities, including drainage and erosion. Construction activities are subject to occupational safety standards for excavation, shoring, and trenching, as specified in the State of California Division of Occupational Safety and Health (commonly called Cal/OSHA) regulations (Title 8 of the CCR) and in Section A33 of the CBC.

4.9.2.3 Local

Santa Barbara County

Water Resources Division – Project Clean Water. New and redevelopment projects in Santa Barbara County must be designed to prevent water quality impacts from occurring, not just during construction, but throughout the life of the project. The Water Resources Division – Project Clean Water Project provides review, monitoring, and enforcement of construction applications and permits with the goal of preventing water quality impacts. The County regulates discharges from construction activities through permits such as Grading Permits and Land Use Permits. The County's discretionary permit review process provides additional authority for regulating discharges associated with construction activity. Monitoring and enforcement authority are provided through the County Zoning Ordinance and implementation of Comprehensive Plan policy. As part of this enforcement, the Water Resources Division reviews and oversees SWPPP's (or Erosion and sediment Control Plans) developed as required by project grading permits.

County of Santa Barbara Code of Ordinances. The County of Santa Barbara County Code of Ordinances includes building codes in Chapter 10, Building Regulations, and grading requirements in Chapter 14, Grading Code. The Building Regulations are based on the 2016 CBC, with modifications specific to the County of Santa Barbara. The Building Regulations include regulations specific to Geologic Hazards and Special Problem Areas. The Grading Code sets forth regulations, conditions and provisions to protect and preserve property and public welfare by regulating and controlling the design, construction,

quality of materials, location and maintenance of grading, drainage, erosion and sediment control, where required within the County of Santa Barbara.

Santa Barbara County Comprehensive Plan. The Santa Barbara County Seismic Safety and Safety Element (CSB, 2015) is part of the Santa Barbara Comprehensive Plan, and divides geologic hazards in the County into three general levels of impact, critical, sometimes critical, and less critical.

- Critical - ground rupture from fault movement, tsunamis and seiches, and liquefaction
- Sometimes Critical – ground shaking, high groundwater, subsidence (normally correctable with engineering), slope stability and landslides, and soil creep
- Less Critical - expansive soils and compressible - collapsible soils

The Santa Barbara Seismic Safety and Safety Element also presents the following Geologic and Seismic Policy Goal:

- Protect the community to the extent feasible from risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche and dam failure; slope instability leading to mudslides and landslides; subsidence, liquefaction and other seismic hazards pursuant to Government Code §65302(g)(1), Chapter 7.8 (commencing with Section 2690) of Division 2 of the Public Resources Code, and other geologic hazards known to the legislative body.

This policy goal includes six Geologic and Seismic Protection Policies and associated Implementation Measures. These Protection Policies direct the County to minimize geologic, soil and seismic hazards by implementing State and County Building Codes, enforcing development, grading, and land use codes, and enforcing the State Alquist-Priolo Earthquake Fault Zoning and Seismic Hazard Mapping Acts.

Environmental Health Services. The County of Santa Barbara Public Health Department, Environmental Health Services (EHS) oversees the Local Agency Management Program (LAMP), which addresses issues related to Onsite Wastewater Treatment Systems (OWTS) (septic systems). Santa Barbara County's Local Agency Management Program includes permit, inspection, and reporting elements. A permit issued by EHS is required for the construction of new OWTS as well as the repair, modification, or abandonment of existing systems. Inspection and approval of all work by EHS is required prior to backfilling any components or putting the system into service.

4.9.3 Significance Thresholds

Impacts are considered potentially significant if a proposed project activity could result in substantially increased erosion, landslides, soil creep, mudslides, and unstable slopes (Appendix G(q), CEQA Guidelines). In addition, impacts are considered significant when people or structures would be exposed to major geologic hazards upon implementation of the project (Appendix G(r), CEQA Guidelines).

Additionally, impacts related to geology have the potential to be significant if the proposed Project involves any of the following characteristics, as outlined in the County of Santa Barbara Geologic Constraints Guidelines (CSB, 2018):

- The Project site or any part of the Project is located on land having substantial geologic constraints, as determined by the Planning and Development Department or the Public Works Department. Areas constrained by geology include parcels located near active or potentially active faults and property underlain by rock types associated with compressible/collapsible soils

or susceptible to landslides or severe erosion. Special Problem Areas designated by the Board of Supervisors have been established based on geologic constraints, flood hazards and other physical limitations to development.

- The Project results in potentially hazardous geologic conditions such as the construction of cut slopes exceeding a grade of 1.5 horizontal to one vertical.
- The Project proposes construction of a cut slope over 15 feet in height as measured from the lowest finished grade.
- The Project is located on slopes exceeding 20 percent grade.

Although the current wording for the Significance Thresholds for Geology and Soils differs slightly than that used for the LWEP, the geology and soils thresholds as related to CEQA Appendix G and Santa Barbara significance criteria remain unchanged.

As the Project is not located within a County of Santa Barbara designated Special Problem Area, this impact with not be discussed further.

Implementation of mitigation measures may reduce impacts related to these thresholds to a less-than-significant level. These measures would include minor Project redesign and engineering steps recommended by licensed geologists and engineers subsequent to detailed investigation of the site. In some cases, compliance with existing laws and regulations would serve to reduce or avoid certain impacts that might otherwise occur with the implementation of the Project.

4.9.4 Environmental Impacts and Mitigation Measures

Table 4.9-3 below lists the impacts and mitigation measures identified for geology and soils in the Geology and Soils section (Section 3.9) of the LWEP Final EIR. These same impacts are addressed in this section for the SWEP. The right-hand column of the table below indicates whether the LWEP impacts or mitigation measures have been modified for the SWEP.

Table 4.9-3. LWEP Impacts and Mitigation Measures – Geology and Soils

Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
GEO-1	Fault Rupture. Risk of damage to structures by fault rupture is very low.	None	Updated Impact Discussion.
GEO-2	Ground Shaking and Liquefaction. A major earthquake could result in ground shaking and liquefaction.	GEO-1: Seismicity	Updated Impact Discussion. Revised/Updated Mitigation.
GEO-3	Landslides. Construction activities could increase the potential for landslides and or reactivate existing landslides.	GEO-2: Grading and Drainage Plan	Updated Impact Discussion. Revised/Updated Mitigation.
GEO-4	Soil Erosion. Construction could accelerate or increase the potential for erosion from water and wind.	GEO-2: Grading and Drainage Plan	Updated Impact Discussion. Revised/Updated Mitigation.
GEO-5	Expansive Soils. Structures would be designed to appropriate engineering standards and would not be susceptible to significant damage produced by expansive soils.	GEO-1: Seismicity GEO-3: Expansive Soils	Updated Impact Discussion. Revised/Updated Mitigation.

Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
GEO-6	Sewage Effluent Disposal. Testing has determined that leach lines would be a suitable method of sewage effluent disposal.	None	Updated Impact Discussion.
GEO-7	Compressible and Collapsible Soil, Subsidence. Compressible soil and subsidence potential is considered low. Collapsible soil may be present within alluvial valleys and could cause settlement damage to structures and roadways.	GEO-1: Seismicity GEO-4: Project Support Facilities	Updated Impact Discussion. Revised/Updated Mitigation.

The impacts of the proposed SWEP related to geology and soils are discussed below.

GEO-1 Fault Rupture. ~~Risk~~ There could be a risk of damage to structures by fault rupture ~~is very low~~.

The impact for damage to proposed SWEP structures from fault rupture is unchanged (very low) from the LWEP as the proposed Project still does not cross any active or potentially active faults. The Santa Ynez River fault is mapped in close proximity to the northern end of the Project, but this fault is not considered a significant seismic source and does not cross any proposed Project components. Therefore, the impact from the Project is not significant (Class III) and no mitigation is necessary.

GEO-2 Ground Shaking and Liquefaction. A major earthquake could result in ground shaking, ~~and~~ liquefaction, or seismically induced landslides resulting in damage to structures or exposure of people to injury or death.

The LWEP impact regarding seismic shaking and related damage focused only on shaking effects and liquefaction, noting that a major earthquake could occur before the LWEP would be decommissioned, resulting in ground shaking and liquefaction. The LWEP EIR stated that the LWEP would comply with recommendations developed based on Project-specific seismic analyses, which could include such measures as constructing deep foundations, deep soil densification, and geopiers. The LWEP EIR concluded that, because the appropriate studies would be conducted and the LWEP would be required to be designed to appropriate engineering standards (Uniform Building Code Seismic Zone 4 standards), impacts from ground shaking and liquefaction would be adverse, but not significant (Class III). In addition, the LWEP EIR concluded that this impact would be further reduced by implementation of Mitigation Measure (MM) GEO-1 (Seismicity).

For the SWEP, impacts related to seismic shaking are essentially unchanged; however, impacts related to liquefaction are reduced due to the relocation of the proposed Project O&M Building to an area underlain by a non-liquefiable unit and the LWEP Final EIR did not address potential impacts related to seismically induced landslides. The SWEP site is susceptible to ground shaking in the event of a large local or regional earthquake, and it is likely that proposed Project components would be subjected to at least one moderate or larger earthquake occurring close enough to produce ground shaking and related effects that could cause damage to Project components. Strong ground shaking could cause shearing, differential settlement, or heave of structures at the ground surface resulting in the weakening or

collapse of proposed structures. Liquefaction related to the strong ground shaking could occur in areas underlain by unconsolidated alluvial deposits with shallow groundwater; however, no significant Project structures, such as WTGs or buildings, are located within areas of potential liquefaction. Minor damage to transmission line poles located within unconsolidated alluvial materials due to settlement or to buried pipelines or utilities due to buoyancy and uplift. The hillslopes in the Project area are underlain by landslide prone formations and numerous existing landslides are mapped in the area and seismically induced landslides could cause damage to proposed structures.

Project structures such as the O&M Building that would be occupied by onsite workers, would be required to be designed and constructed according to the CBC and County of Santa Barbara Building Regulations reducing the potential for damage due to seismic ground shaking. The Applicant indicates the transmission line, substation, and switchyard would be constructed consistent with recommended practices and procedures of the IEEE, standards for overhead line construction consistent with CPUC General Order 95, and other applicable rules and standards. The switchyard and substation surface would be covered with a layer of rock. This rock layer would act as a fire barrier. In addition, spatial separation of transformers and other equipment would be provided for in the design to prevent fire propagation. The substation would meet or exceed Institute of Electrical and Electronics Engineers (IEEE)-979 Substation Fire Protection.

As discussed in Section 2.5.1, the WTG foundations would have one of three designs, depending on soil conditions, geotechnical constraints, and other factors: P&H foundation, rock anchor-type foundation, or modified spread footing. The P&H foundation is expected to be the preferred foundation for the proposed Project based on the site characteristics. While the potential for seismically induced ground shaking in the Project area during Project operation is unavoidable, proper design according to accepted standards and practices, and local, State, and federal regulations reduces the potential for damage, injury, or death due to seismic shaking to a less-than-significant level for most structures within the SWEP. Impacts related to damage from seismic ground shaking, liquefaction, or seismically induced landslides for Project components would be reduced to a less-than-significant level (Class II) with implementation of revised MM GEO-1 (Seismic Design) and revised MM GEO-2 (Grading and Drainage Plan).

Mitigation Measures

MM GEO-1 **Seismic Design.** Project facilities shall be designed using the appropriate seismic design criteria from the CBC and County of Santa Barbara Building Regulations based on seismic design parameters provided by the Project-specific Geotechnical/Seismic Evaluation report. Substation and switchyard components shall be designed based on IEEE 693 recommended seismic design practices and other applicable IEEE standards. The transmission line shall be designed consistent with recommended practices and procedures of the IEEE, standards for overhead line construction consistent with CPUC General Order 95, and other applicable rules and standards. The wind turbines design shall incorporate seismic design guidelines from IEC Standard 61400-1 (or equivalent wind turbine seismic design guidelines).

Plan Requirements. The Applicant shall submit plans for buildings and structures indicating compliance with standards to the satisfaction of the County.

Timing. Prior to zoning clearance for construction.

Monitoring. County building inspectors will inspect the site prior to occupancy clearance (for the O&M facility) and prior to operation of the WTGs and power line.

MM GEO-2 **Grading and Drainage Plan.** The Applicant shall prepare a final Grading and Drainage Plan, designed to minimize erosion and landslides, which includes the following measures:

a. Avoidance of identified landslides and areas of unstable slopes, as feasible.

b. If slope instability impacts cannot be avoided, submit detailed plans of the placement of structures and/or excavation/grading measures (with limits of cut and fill and slope restoration method) as related to stabilization of slopes prior to construction for review and approval.

c. Where fill is placed upon a natural or excavated slope steeper than about 5:1 (20 percent), construct a base key at the toe of the fill and bench the fill into the existing slopes. Embed the base key at least 2 feet into competent inorganic soils; then bench the fill horizontally into the existing slope at least 2 feet normal to the slope as the fill is brought up in layers.

d. Construct cut slopes no steeper than 1.5:1 unless topographic constraints prevent this possibility; then, incorporate special design features to prevent slope failure.

e. Construct fill slopes no steeper than 2:1 unless topographic constraints prevent this possibility; then, incorporate special design features to prevent slope failure.

f. Design grading on slopes steeper than 3:1 to minimize surface water runoff.

g. Use diversion structures and spot grading to reduce siltation into adjacent streams during grading and construction activities.

h. Limit grading during construction to the dry season (April 15 to November 1) to the extent practicable. If grading needs to be done outside of the dry season, Applicant will coordinate grading work with the County and will follow all applicable guidelines.

i. Keep soil damp during grading activities to reduce the effects of dust generation.

j. Stockpile excess topsoil on site and segregate it from other soils to facilitate future land restoration

k. Any disturbed area that is not covered with base or paving within 14 days of its disturbance shall be stabilized through use of soil coating mulch, dust palliatives, compaction, reseeding, or other approved methods.

l. Install erosion control structures where appropriate, including temporary erosion control structures, such as trench plugs and water bars, on moderately steep slopes.

m. Restore soil elevation/topography consistent with the approved grading and erosion control plans.

n. Reseed all exposed graded surfaces with deep-rooted, native, drought-tolerant ground cover to minimize erosion. Geotextile binding fabrics shall be used if necessary to hold slope soils until vegetation is established.

o. Strip areas to receive fill of vegetation, organic topsoil, debris, and other unsuitable material. Place engineered fill in layers not exceeding 12 inches in loose thickness, properly moistened and compacted, and tested for 90 percent compaction.

p. Designate a place for temporary storage of construction equipment at least 100 feet from any water bodies.

q. Project grading and earthwork shall be observed and tested by a geotechnical engineer or his representative to verify compliance with these mitigation measures.

Plan Requirements. A Grading and Drainage Plan shall be prepared. The plan shall be designed to address erosion and sediment control throughout Project construction. Plan requirements shall be noted on all grading and building plans. The Applicant shall notify the County prior to commencement of grading.

Timing. The Grading and Drainage Plan shall be submitted for review and approval by the County, including County Flood Control, prior to zoning clearance. Erosion and sediment control measures shall be in place throughout grading and development of the site until all disturbed areas are permanently stabilized. Graded surfaces shall be reseeded within 60 days of grading completion, with the exception of surfaces graded for the placement of structures. These surfaces shall be reseeded if construction of structures does not commence within 60 days of grading completion.

Monitoring. P&D staff shall perform site inspections throughout the construction.

GEO-3 Landslides. Construction activities could increase the potential for landslides and/or reactivate existing landslides.

The impacts for the SWEP related to increasing the potential for landslides and/or reactivating existing landslides is unchanged from LWEP. Construction activities such as vegetation removal and grading could destabilize the soil and weaken geologic units, increasing the potential for construction triggered landslides which could cause damage to proposed Project components. Additionally, proposed grading of roads and pads could alter existing drainage, resulting in saturation of adjacent areas causing or reactivating existing landslides in the Project area that could cause damage to proposed Project components. The LWEP EIR indicated that existing landslides affecting proposed corridors and structures in the Project area would be evaluated as part of a geotechnical study and that locating roads and structures at or near existing landslides and potentially unstable areas would be avoided where feasible. Several proposed SWEP WTGs and portions of some of the proposed access roads and other areas of grading are located within or adjacent to mapped landslides; the Ninyo & Moore 2017 geotechnical report recommended that if it is not feasible to relocate proposed Project components that are within or immediately adjacent to landslide deposits, that slope movement should be included in the design of WTG foundations and/or mitigation of the slope failures and/or remedial grading should be conducted. Compliance with geotechnical design recommendations and implementation of revised MM GEO-2 (Grading and Drainage Plan) would reduce the potential impact related to landslides and slope stability to a less-than-significant level (Class II).

Mitigation Measure

MM GEO-2 **Grading and Drainage Plan.** Described under Impact GEO-2 above.

GEO-4 **Soil Erosion.** Construction could accelerate or increase the potential for erosion from water and wind.

The LWEP EIR concluded that construction-related ground disturbance consisting of clearing and grading, cut-and-fill activities, and potential soil compaction during construction could increase the potential for erosion. Road construction could also increase water runoff rates, resulting in accelerated soil erosion. The movement of equipment and materials during construction could destabilize the soil surface and increase erosion potential from water and wind. The most likely time for erosion to occur is after initial disturbance and before reestablishment of vegetative cover or placement of structures. In the LWEP EIR, the impact was classified as adverse but not significant due to the required preparation of a SWPPP with included BMPs and implementation of MM GEO-2. However, the LWEP EIR did not analyze potential erosion related to construction of the transmission line or to grading and improvements along San Miquelito Road or other existing access roads.

The SWEP would have similar potential for erosion from water and wind as the LWEP; however, it would be distributed differently. While most of the soils underlying the proposed Project have low to moderate potential for erosion, some of the soils underlying the Project site have moderate to high susceptibility to wind erosion and moderate to high susceptibility to sheet and rill erosion by water (Table 4.9-1). The SWEP disturbs less total acreage than the LWEP (approximately 150 acres versus 236 acres); however, the proposed SWEP would have a much larger volume of cut and fill (approximately 1.9 million cubic yards total for SWEP versus 401,000 cubic yards, which was analyzed in the LWEP EIR). The proposed Project includes approximately 3.2 acres of ground disturbance along San Miquelito Road, and approximately 14.3 acres of ground disturbance along transmission line access roads that were not analyzed in the LWEP EIR. The grading activities along San Miquelito Road (cut along the south and east side of the road and fill along the north and west sides of the road) consists primarily of widening existing shoulders along the road and would take place primarily along an approximately 1.3-mile length of the road just north of the wind farm area. Four residences or accessory structures would be located between approximately 130 and 170 feet from the grading activities along this road.

As with the LWEP, the SWEP would disturb an area of greater than one acre and a Project-specific Storm Water Pollution Prevention Plan (SWPPP) would be required, which would include Best Management Practices (BMPs). Implementation of erosion and sedimentation control BMPs and procedures included in the Project SWPPP would reduce erosion rates during and after construction to essentially natural rates. As per Santa Barbara County Grading Code, a grading plan would be required for the proposed Project that would include drainage, erosion, and sediment control design. MM GEO-2 provides some additional site-specific detail related to Project-specific grading and drainage. Implementation of the required SWPPP BMPs and revised MM GEO-2 (Grading and Drainage Plan) would reduce the impact to a less-than-significant level (Class II).

Mitigation Measure

MM GEO-2 **Grading and Drainage Plan.** Described under Impact GEO-2 above.

GEO-5 Expansive Soils. Project Structures could be damaged by expansive soils ~~Structures would be designed to appropriate engineering standards and would not be susceptible to significant damage produced by expansive soils~~.

Potential SWEP impacts related to expansive soils would be similar as compared to the LWEP. The LWEP EIR indicates that based on a geotechnical study, buildings and structures would have been designed to required engineering standards and would not have been susceptible to significant damage from shrinking and swelling forces produced by expansive soils. However, the LWEP EIR applied MM GEO-3 (Expansive Soils) to further reduce any impacts from expansive soils.

Ninyo & Moore noted that expansive soils are present at the Project site resulting from the weathering of the underlying formation materials and that expansive soils should not be used below proposed structure foundations and/or in the upper surface of proposed access roads (Ninyo & Moore 2017). Soils with moderate to high expansion potential (NRCS 2017 and 2018) are located underlying proposed SWEP components, which could cause damage to WTG foundations, substation, switchyard, and O&M facility. Expansive soils undergo shrink and swell with moisture changes that can cause damage such as cracking to Project components such as slabs, building foundations, and concrete flatwork. MM GEO-3 (Expansive Soils) provides requirements for soil analyses and engineered measures to mitigate potential impacts from expansive soils. Compliance with required design standards and implementation of MM GEO-3 would reduce potential impacts from expansive soils to a less-than-significant level (Class II).

Mitigation Measures

MM GEO-3 **Expansive Soils.** Soil analyses shall be completed for expansion potential. Once Project design has been developed and the criteria for the facility performance have been established, the soils engineer shall review the mitigation measures and modify them as appropriate. If further measures are considered necessary to mitigate problems posed by expansive soils, the following alternatives shall be considered:

a. Over-excavation of expansive soils and replacement with non-expansive fill.

b. Support of structures on drilled shaft foundations.

c. Lime treatment of expansive subgrades.

Plan Requirements. Soil analyses and performance criteria shall be completed and submitted to the County for review and approval.

Timing. Soil analyses and performance criteria shall be completed and submitted to the County for review and approval prior to the zoning clearance.

Monitoring. County building inspectors will inspect the site to ensure that construction complies with the appropriate performance standards.

GEO-6 Sewage Effluent Disposal. Soils could be found incapable for use of septic or alternative wastewater disposal ~~Testing has determined that leach lines would be a suitable method of sewage effluent disposal~~.

Percolation testing conducted at the site of the LWEP O&M facility determined that a leach system (septic) would be a suitable method of sewage effluent disposal. The percolation testing report provided recommendations for a suitable leach system and noted that based on the Uniform Plumbing Code, a sufficient area must be set aside for future expansion of the system by 100 percent and that a dual system would be required.

The proposed Project O&M facility is in a different location than the LWEP O&M facility and based on the existing conditions at the O&M site, the Applicant plans on using a leach line septic system. Percolation test results show that the O&M facility site vicinity is characterized by native soils with permeability ranging from 42 to 100 minutes per inch. Groundwater levels are expected to fluctuate with rainfall. Local perched ground water was observed by boring to be at a depth of 9 feet after a period of heavy rain. Design sewage flow generated by the O&M facility is estimated at 250 gallons per day, which is conservative since the California plumbing code estimate roughly 20 gallons per person per day for a typical office. Five to seven employees are expected to occupy the O&M facility, which would make actual use approximately 100 to 140 gallons per day.

The proposed system is a conventional in-ground septic system, including a septic tank to remove solids and grease, a 4-inch pipeline at 3 percent slope to a distribution box, and two leach lines, sized to accommodate the design flows for the field soils. An in-ground septic disposal system requires, depending upon the permeability of the soil, a minimum separation requirement between the bottom of the leach trenches and the groundwater table; groundwater levels in the alluvium near the proposed Project O&M site are relatively shallow, encountered at approximately 20 feet below ground surface and rising to about 8 feet below ground surface (ESP, 2017).

The septic system design will depend on final engineering calculations. At this time, it is estimated that a 1,000-gallon septic tank with roughly 200 feet of leaching lines (two lines each 100 feet long) would be adequate to dispose of the generated wastes. A leach trench depth of approximately 42 inches would have adequate (more than five feet) separation from the wet weather groundwater location. This impact would not be significant (Class III) with compliance with County of Santa Barbara Onsite Sewage Treatment System: New System Permit requirements and the Uniform Plumbing Code. No mitigation is necessary.

GEO-7 Compressible and Collapsible Soil, Subsidence. ~~Compressible soil and subsidence potential is considered low. Collapsible soil may be present within alluvial valleys and~~ Subsidence or compressible or collapsible soils could cause settlement damage to structures and roadways.

Compressible soil and subsidence potential within the Project area is considered low. Collapsible soil may be present within alluvial valleys of the Project area, and the LWEP EIR found that it could cause settlement damage to structures and roadways. SWEP impacts related to subsidence and collapsible soils are considered to be unchanged from the LWEP; however, the impact from compressible soils is increased for the SWEP based geotechnical evaluations conducted at the site. The Ninyo & Moore geotechnical evaluations (2011 and 2017) concluded that soil, colluvium, alluvium, and landslide

deposits in the Project area are potentially compressible. Differential settlement due to compressible or collapsible soils could cause damage to proposed Project components, such as tilting of structures and/or fracturing of shallow foundations or slabs. Implementation of revised MM GEO-4 (Foundation Support) would reduce the potential impacts due to collapsible or compressible soil to a less-than-significant level (Class II).

Mitigation Measure

MM GEO-4 **Foundation Support.** Foundations for Project components, such as the O&M Building and substation, and for other Project support facilities, such as bridge foundations, shall be sited on cut pads that have been engineered and treated, if necessary, to provide relatively uniform foundation support and reduce differential settlement. Soil treatment could include soil removal and recompaction, prewetting, and potentially, deep foundation or deep soil densification techniques. Alternatively, structure foundations shall be designed to tolerate potential differential settlement.

Plan Requirements. Building plans including foundation design, shall be submitted to the County for review and approval.

Timing. The final building plans, including foundation design elements, and requirements for engineered site preparation shall be approved prior to zoning clearance.

Monitoring. County building inspectors will inspect the site to ensure that construction complies with the appropriate standards.

4.9.5 Cumulative Effects

Geographic Extent/Context

Geologic and soils impacts (such as slope instability and soil erosion) are typically site specific. The impacts of each past, present, and reasonably foreseeable project would be specific to the respective site and its users and would not be in common with or contribute to (or shared with, in an additive sense) the impacts on other sites. In addition, development of each site would be subject to site development and construction guidelines and standards (local, State, and federal) that are designed to protect public safety. In order to be cumulatively considerable, adverse geologic conditions would have to occur at the same time and in the same location as the same or similar conditions of the proposed Project.

Impact Categories

Seismic impacts (such as fault rupture, ground shaking, and liquefaction) from the numerous local and regional faults comprise an impact of the geologic environment on individual projects and would not introduce cumulatively considerable impacts. Impacts from unsuitable soils (expansive, collapsible, or compressible) would also represent an impact of the environment on individual projects and would not be cumulatively considerable. As the cumulative projects listed in Section 3.3 (Table 3-1) are located over three miles from the SWEP, potential soil impacts from each of these projects would not be located within the proposed Project site. The proposed Project would not combine with the effects of other projects to create a cumulative geologic and soils impact.

4.9.6 Residual Impacts

As summarized in Section 4.9.4, Impacts GEO-1 and GEO-6 would be less than significant. With implementation of proposed mitigation measures, residual effects from Impacts GEO-2, GEO-3, GEO-4, GEO-5, and GEO-7 would be less than significant.

4.9.7 Impact and Mitigation Summary

Table 4.9-4 below provides a summary of the SWEP's impacts related to geology and soils. The table also indicates the mitigation measures proposed to reduce each significant impact.

Table 4.9-4. SWEP Impact and Mitigation Summary – Geology and Soils

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
GEO-1	Fault Rupture. There could be a risk of damage to structures by fault rupture.	None required.	Class III
GEO-2	Ground Shaking and Liquefaction. A major earthquake could result in ground shaking, liquefaction, or seismically induced landslides resulting in damage to structures or exposure of people to injury or death.	GEO-1: Seismic Design GEO-2: Grading and Drainage Plan	Class II
GEO-3	Landslides. Construction activities could increase the potential for landslides and/or reactivate existing landslides.	GEO-2: Grading and Drainage Plan	Class II
GEO-4	Soil Erosion. Construction could accelerate or increase the potential for erosion from water and wind.	GEO-2: Grading and Drainage Plan	Class II
GEO-5	Expansive Soils. Project Structures could be damaged by expansive soils.	GEO-3: Expansive Soils	Class II
GEO-6	Sewage Effluent Disposal. Soils could be found incapable for use of septic or alternative wastewater disposal.	None required.	Class III
GEO-7	Compressible and Collapsible Soil, Subsidence. Subsidence or compressible or collapsible soils could cause settlement damage to structures and roadways.	GEO-4: Foundation Support	Class II

Class I. Significant unavoidable adverse impact.

Class II. Significant environmental impacts that can be feasibly mitigated or avoided.

Class III. Adverse impacts found not to be significant.

Class IV. Impacts beneficial to the environment.

4.9.8 References

California Geological Survey (CGS), 1999. Fault Rupture Hazard Zones in California, CGS Special Publication #42.

California Geological Survey (CGS), 2018. Ground Motion Interpolator website. Accessed December 2018. [online]: https://www.conservation.ca.gov/cgs/ground-motion-interpolator

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4.10 Greenhouse Gas Emissions

This section describes the Project's contribution toward global climate change (GCC) through the creation of greenhouse gas (GHG) emissions that would be generated as a result of Project actions. GCC is expressed as changes in the average weather of the Earth as measured by change in wind patterns, storms, precipitation, and temperature. Much scientific research has indicated that the human-related emissions of GHGs above natural levels are likely a significant contributor to GCC. Because the direct environmental effect of GHG emissions is the increase in average global temperatures, which in turn has numerous indirect effects on the environment and humans, the area of influence for GHG impacts associated with the Project would be global. However, those cumulative global impacts would be manifested as impacts on resources and ecosystems in California, as well as across the United States. Additionally, because this analysis concerns cumulative global impacts, there is no separate cumulative impacts analysis for GCC.

The following discussion addresses existing environmental conditions in the affected area, identifies and analyzes environmental impacts for the proposed Project, and recommends measures to reduce or avoid adverse impacts anticipated from Project construction and operation. The applicable regulations are presented, and additional plans and policies are discussed, including the State CEQA Guidelines and other relevant planning documents, such as general plans, climate action plans, and GHG emissions reduction plans as applicable to the proposed Project. The Lompoc Wind Energy Project (LWEP) EIR provided only minimal information on this topic and no impact discussion. Therefore, this section is a new impact section that did not appear in the LWEP EIR.

4.10.1 Environmental Setting

4.10.1.1 Physical Setting

The global climate depends on the presence of naturally occurring greenhouse gases (GHG) to provide what is commonly known as the "greenhouse effect" that allows heat radiated from the Earth's surface to warm the atmosphere. The greenhouse effect is driven mainly by water vapor, aerosols, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), as well as other constituents. Globally, the presence of GHG affects temperatures, precipitation, sea levels, ocean currents, wind patterns, and storm activity. Human activity directly contributes to emissions of six primary anthropogenic GHGs: CO_2, CH_4, N_2O, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). The standard definition of anthropogenic GHG includes these six substances under the 1997 Kyoto Protocol (UNFCCC, 1998).

The most important and widely occurring anthropogenic GHG is CO_2, primarily from the use of fossil fuels as a source of energy. Other anthropogenic activities that are major sources of CO_2 include deforestation, other changes in land use, and cement production. Fertilizer use, agriculture, and land use change are also major sources of CH_4 and N_2O, which are also long lived and among the most important anthropogenic drivers of climate change. Global objectives on climate change are measured against a 1990 base year (UNFCCC, 1998) and emissions of CO_2 in 2011 were determined to be 54 percent above the 1990 level (IPCC, 2013).

Each GHG has a global warming potential (GWP) that is calculated to reflect how long each different gas remains in the atmosphere and how strongly the pollutant absorbs energy relative to CO_2. The GWP indicates the relative and cumulative ability of a given mass of emissions to absorb energy and force climate change over the time the emissions remain in the atmosphere. Methane in the

atmosphere over a 100-year horizon has a GWP of 25 according to the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report and 28 according to the IPCC Fifth Assessment Report. This GWP number means that one pound of CH_4 causes the equivalent warming potential of 25 to 28 pounds of CO_2. California regulators recognize the short-lived nature of CH_4 by using a GWP of 25 for CH_4 over the 100-year timespan and a GWP of 72 over a 20-year timespan (ARB, 2016). The GWP is used to quantify GHG emissions by multiplying the different GWP of each GHG pollutant by the mass of that pollutant to arrive at a CO_2-equivalent (CO2e) mass.

4.10.1.2 Physical Effects of GHG Emissions

Changing temperatures, precipitation, sea levels, ocean currents, wind patterns, and storm activity provide indicators and evidence of the effects of climate change. For the period 1950 onward, relatively comprehensive data sets of observations are available. Various indicators and evidence illustrate the many aspects of climate change, namely how temperature and precipitation are changing, and how these changes are affecting the environment, specifically freshwater and marine systems, as well as humans, plants, and animals (OEHHA, 2013; OEHHA, 2018). Consensus expressed by the Fifth Assessment Report of the IPCC shows that: "warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, sea level has risen, and the concentrations of greenhouse gases have increased." (IPCC, 2014)

Since California's initial GHG strategy set forth in the 2008 Climate Change Scoping Plan, scientific evidence has continued to indicate that the climate is changing. This evidence includes rising temperatures, shifting snow and rainfall patterns, and increased incidence of extreme weather events (ARB, 2014).

The Third U.S. National Climate Assessment, released on May 6, 2014, provides the most authoritative and comprehensive source of scientific information to date about climate-change impacts across all U.S. regions and on critical sectors of the economy. For the Southwestern U.S. region, including Santa Barbara County, the National Climate Assessment emphasizes the risks to scarce water resources as follows:

> *Climate changes pose challenges for an already parched region that is expected to get hotter and, in its southern half, significantly drier. Increased heat and changes to rain and snowpack will send ripple effects throughout the region's critical agriculture sector, affecting the lives and economies of 56 million people — a population that is expected to increase 68 percent by 2050, to 94 million. Severe and sustained drought will stress water sources, already over-utilized in many areas, forcing increasing competition among farmers, energy producers, urban dwellers, and plant and animal life for the region's most precious resource.* (Melillo et. al., 2014)

The effects of global climate change on California's public health, infrastructure, and natural resources are described in the *California's Fourth Climate Change Assessment Statewide Summary Report* (Bedsworth et al., 2018). According to this report, which builds upon the first three climate change assessment reports, the updated projections reinforce past findings regarding the potential for more extreme events from heat waves, floods, droughts, and wildfires. These extreme climate event impacts along with reduced improvements in air quality will create an increase in human mortality and damage to property that together will cost in the order of tens of billions of dollars.

In addition to the Statewide summary report, this fourth assessment report also includes regional reports. The Central Coast Region Report provides the following specific regional effects of climate change (Landridge, 2018):

- *Maximum and minimum temperatures for the Central Coast will continue to increase through the next century, with greater increases in the inland region. Precipitation is expected to increase slightly, but precipitation variability will increase substantially.*
- *The future of fog is uncertain because system feedbacks and their response to climate change are not well characterized. Fog can be intercepted by coastal zone flora (which obtain up to one-third of their moisture from fog) and can also prevent low stream flows, which can keep salmonids from drying out during dry periods.*
- *Periodic El Niño events dominate coastal hazards across the Central Coast while atmospheric rivers, expected to increase, are the dominant drivers of locally-extreme rainfall events.*
- *Recently observed and projected acceleration in sea level rise (SLR) poses a significant threat to the regions' coastal communities. Future flooding is also a serious concern. A recent study suggests that approximately 12,000 residents and $2.4 billion in property could be exposed to flooding due to SLR and storms in Santa Barbara County by the end of the century. A similar level of exposure was predicted for Monterey County.*
- *Projected future droughts are likely to be a serious challenge to the region's already stressed water supplies.*
- *Frequent and sometimes large wildfires will continue to be a major disturbance and post-fire recovery time may be lengthened. The 2017-2018 Thomas Fire led to tragic loss of life and huge social cost, and may be representative of future devastating fires and post-fire effects from climate change*
- *Central Coast native plants are a large part of the world's floristic provinces. Plant species responses to climate change will in general depend on the climate in which a population evolved and its own unique climate tolerances. Coastal shrublands resilience depends on climate effects to physiological responses that are modified by biotic interactions and the extent of anthropogenic land use. Grasslands closer to the coast will be less affected than interior grasslands where warming is already documented.*
- *Climate change outcomes for forests will depend largely on multiple abiotic drivers (increased air temperatures, altered fog patterns, changes in winter precipitation), and biotic factors (invasive species and insect and pest outbreaks).*
- *Terrestrial wildlife is already experiencing local extinctions. Species may have robust climate refugia in the region's mountains characterized by cooler temperatures and higher levels of precipitation.*
- *The aquatic life of streams and rivers are threatened by projected extreme swings from drought to floods, and exacerbated by fire and erosion that buries habitat in sediments. Climate impacts can threaten the survival of already endangered Steelhead and Coho salmon, and further reduce the diversity and abundance of sensitive aquatic insects.*
- *Estuarine systems will be affected by accelerated SLR, warming of water and air, ocean acidification, and changes in runoff. Some Central Coast marshes may drown or become shallow mudflats, leading to a loss of the ecosystem services that marshes provide, including carbon sequestration.*
- *Many beaches will narrow considerably. As many as two-thirds will be completely lost over the next century, along with the ecosystems supported by those beaches. The landward erosion of beaches will*

be driven by accelerating SLR combined with a lack of ample sediment, effectively drowning the beaches between the rising ocean and the backing cliffs and/or urban hardscape.

- *Water supply shortages, already common during drought, will be exacerbated. Higher temperatures may result in increases in water demand for agriculture and landscaping. Reduced surface water will lead to increases in groundwater extractions that may result in increased saltwater intrusion. Lower surface flows will lead to higher pollutant concentrations and will impact aquatic species.*
- *Impacts to the region's public health include increases in heat-related illnesses for agricultural workers, harmful particulate matter from wildfires, and an increase in ground-level ozone. Infectious/Vector-borne diseases include an increase in Valley Fever and Pacific Coast tick fever, and an increase in harmful algal blooms will have detrimental effects on animals and people exposed to toxins released from the algae.*
- *Residential electricity demand is likely to be affected by more frequent heat waves due to increases in cooling requirements, and warming temperatures are likely to affect electricity supply from gas-fired plants.*
- *Agricultural production is highly sensitive to climate change, including amounts, forms, and distribution of precipitation, changes in temperatures, and increased frequency and intensity of climate extremes. The Salinas Valley is identified as one of the most vulnerable agricultural regions under climate change.*

Additional research by the CalEPA Office of Environmental Health Hazard Assessment (OEHHA) documented effects of climate change including impacts on terrestrial, marine, and freshwater biological systems, with resulting changes in habitat, agriculture, and food supply. These changes are occurring in conjunction with the potential to impact human well-being (OEHHA, 2018). The OEHHA categorizes climate change indicators as: changes in California's climate; impacts to physical systems including oceans, lakes, rivers, and snowpack; and impacts to biological systems including humans, vegetation and wildlife. The primary observed changes in California's climate include increased annual average air temperatures, more-frequent extremely hot days and nights, and increasingly severity of drought. Impacts to physical systems affected by warming temperatures and changing precipitation patterns show decreasing snowmelt runoff, shrinking glaciers, and rising sea levels (OEHHA, 2018). Examples of the terrestrial effects include increasing tree mortality, large wildfires, and changes in vegetation density and distribution (OEHHA, 2013). Land use planning decisions that take into account the effects of climate change would contemplate potential effects to biological resources, water resources, and agricultural resources.

4.10.1.3 California Inventory of GHG Sources

California first formalized a strategy to achieve GHG reductions in 2008, when California produced approximately 487 million metric tons of CO_2 equivalent (MMTCO2e), an amount equal to about 537 million tons (aka short tons) for 2008, according to the Air Resources Board inventory (ARB, 2018a). One metric ton (MT) equals 1,000 kilograms, which is 2,204.6 pounds or about 1.1 short tons. By 2016, California's emissions had declined to approximately 429.4 MMTCO2e (ARB, 2018a). In a global context, California emits less than one percent of the 49,000 MMTCO2e emitted globally (IPCC, 2014). Table 4.10-1 summarizes the current GHG inventory for California.

Table 4.10-1. California GHG Emissions Inventory (million metric tons per year, MMTCO2e)

Source Category	2008	2010	2012	2014	2016
Transportation [1]	177.58	165.07	161.22	162.28	169.38
Industrial [2]	90.54	91.50	91.07	93.96	89.61
Electric Power	120.14	90.34	95.09	88.24	68.58
Commercial and Residential	43.52	45.05	42.89	37.37	39.36
Agriculture	35.79	34.27	36.08	35.95	33.84
High GWP	11.65	13.52	15.54	17.70	19.78
Recycling and Waste	8.11	8.37	8.49	8.59	8.81
Total Emissions	487.34	448.11	450.38	444.10	429.35

Source: ARB, 2018a. California Greenhouse Gas Inventory for 2000-2016, by Category as Defined in the 2008 Scoping Plan.
Notes:

1 - Transportation category includes off-road equipment used in construction, mining, oil drilling, and other vehicles and mobile sources.

2 - Industrial category includes refineries, oil and gas extraction, and other industries including combustion of fuels plus fugitive emissions.

Most GHG emissions related to electric power generation come from the consumption of fossil fuels, primarily natural gas from large gas turbine power plants in California. As Table 4.10-1 shows, the emissions from electric power generation have been dropping at a rate that is quicker than any of the other emissions source categories and that emissions reductions from electric power generation is the primary reason the state's GHG emissions have dropped over 10 percent from 2008 to 2016. The proportion of electric power generation emissions to the total emissions dropped from nearly 25 percent in 2008 to less than 16 percent in 2016. The proposed Project would enable additional emissions reductions in the electric power generation sector.

Globally, anthropogenic activity results in approximately 49,000 MMTCO2e of annual GHG emissions (IPCC, 2014), and the U.S. GHG inventory for 2014 was 6,763 MMTCO2e (U.S. EPA, 2018) or roughly 14 percent of the global emissions. The U.S. EPA's "Electric Power Sector" category that includes power production and transmission across the U.S. emitted over 2,000 MMTCO2e in 2014 or over 30 percent of the U.S. total (U.S. EPA, 2018).

4.10.1.4 County GHG Inventory

Pursuant to the direction provided by the County's Board of Supervisors in March of 2009 (BOS Resolution 09-059), the County has developed a Climate Action Strategy (CAS) to address GHG emissions. The CAS outlines a two-phase process to reduce emissions; Phase 1 included the preparation of a Climate Action Study and Phase 2 included the development and adoption of an Energy and Climate Action Plan (ECAP). As part of the Climate Action Study, a GHG inventory including future forecasts for the unincorporated County was developed. This GHG inventory used 2007 numbers to establish a baseline for community-wide emissions in unincorporated Santa Barbara County to measure ECAP progress. The inventory excludes incorporated cities, the University of California, Santa Barbara, the Chumash reservation, and state and federal lands, including Los Padres National Forest and Vandenberg Air Force Base, and offshore oil and gas production facilities. Additionally, the County excludes industrial stationary source facilities from the GHG emissions inventory included in the ECAP because these industrial stationary source facilities are required to

inventory and mitigate their own GHG emissions pursuant to a County-identified threshold on a project-specific basis and, therefore, do not rely on the programmatic mitigation strategies contained in the ECAP.

The County GHG inventory for unincorporated areas totaled 1,192,970 MTCO2e in 2007 as published in the ECAP (Santa Barbara County, 2015):

- Transportation: 521,160 MTCO2e
- Residential energy: 195,490 MTCO2e
- Commercial energy: 121,580 MTCO2e
- Off-road: 102,140 MTCO2e
- Solid waste: 91,920 MTCO2e
- Agriculture: 62,110 MTCO2e
- Water and wastewater: 49,520 MTCO2e
- Industrial energy: 46,780 MTCO2e
- Aircraft: 2,270 MTCO2e

Emissions from stationary sources in the unincorporated areas that were not included within the GHG inventory in the ECAP were found to emit approximately 315,890 MTCO2e in the 2007 baseline year. The ARB maintains public reports of GHG from stationary source facilities in the County that are large enough to be subject to ARB's Mandatory GHG Reporting Requirements. The ARB data shows that GHG from the stationary source facilities have declined to 143,323 MTCO2e in 2016 (ARB, 2018b).

4.10.2 Regulatory Setting

Federal, State, and local agencies have enacted standards and regulations relating to greenhouse gas emissions and climate change. A summary of the regulatory setting for GHG, as applicable to the proposed Project, is provided below.

4.10.2.1 Federal

There are no federal regulations relating to GHG emissions or climate change that would apply to the proposed Project.

4.10.2.2 State

California Governor's Office of Planning and Research, Guidelines on GHG (SB 97)

In late December 2009, the California Natural Resources Agency adopted certain amendments to the State CEQA Guidelines for reviewing the environmental impacts of greenhouse gas emissions to implement the California Legislature's directive in PRC Section 21083.05 (enacted as part of SB 97 (Chapter 185, Statutes, 2007)). These amendments became effective in March 2010. As part of the administrative rulemaking process, the Natural Resources Agency developed a Final Statement of Reasons explaining the legal and factual bases, intent, and purpose of the CEQA Guidelines amendments. The Final Statement of Reasons guides the scope of GHG analyses for CEQA documents and addresses the subject of life-cycle analysis.

Life-cycle analysis (i.e., assessing economy-wide GHG emissions from the processes in manufacturing and transporting all raw materials used in developing a given project and infrastructure) depends on emission factors or econometric factors that are not well established for all processes. The basis of State CEQA Guidelines set forth by the California Natural Resources Agency indicate that a full life-cycle analysis would be beyond the scope of a given CEQA document because of a lack of consensus guidance on life-cycle analysis methodologies.

California Governor's Executive Orders on GHG Emissions

The California Governor's Executive Order S-3-05 (June 2005) declared California's particular vulnerability to climate change and sets a target of an 80 percent reduction of California greenhouse gas emissions from 1990 levels by 2050 and a target to achieve 1990 levels by 2020. In response to Executive Order S-3-05 and increasing societal concern about the effects of climate change, the California Legislature enacted California Global Warming Solutions Act of 2006, Assembly Bill 32 (AB 32). In passing the bill, the California Legislature found that:

> Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems [HSC Section 38501, Division 25.5, Part 1].

In September 2018, Executive Order B-55-18 established a new statewide goal to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter. The ARB was directed to develop the framework for implementing the goal of carbon neutrality. Executive Order B-30-15 (April 2015) established a California greenhouse gas reduction target of 40 percent below 1990 levels by 2030. One purpose of this interim target is to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. This executive order also specifically addresses the need for climate adaptation and directs state agencies to update the California Climate Adaptation Strategy to identify how climate change will affect California infrastructure and industry and what actions the state can take to reduce the risks posed by climate change. Senate Bill 32 (SB 32) of 2016 codified the GHG emissions target to 40 percent below the 1990 level by 2030.

California Renewables Portfolio Standard (RPS) Program

Electric utilities in California must procure a minimum quantity of the sales from eligible renewable energy resources as specified by RPS requirements. The Clean Energy and Pollution Reduction Act of 2015 (SB 350), signed into law on October 7, 2015, established California's state policy objectives on long-term energy planning and procurement. The 100 Percent Clean Energy Act of 2018 [Senate Bill 100 (SB 100)] revised the RPS targets to establish the policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. With SB 350 and SB 100, California's renewable energy objectives include:

- To set the Renewable Portfolio Standard (RPS) for the procurement of California's electricity from renewable sources at 33 percent by 2020, 50 percent by 2026, and 60 percent by 2030;

- To plan for 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045; and
- To double the energy efficiency savings in electricity and natural gas end uses by retail customers by 2030.

AB 32 Climate Change Scoping Plan and Scoping Plan Updates

With AB 32, the 2020 GHG emissions reduction goal became law and requires California to maintain and continue reductions beyond 2020. AB 32 also directed the ARB to develop regulations and market mechanisms to reduce GHG and prepare a scoping plan to identify how best to reach the 2020 limit. AB 32 requires ARB to update the Scoping Plan at least every five years. Accordingly, the 2017 Scoping Plan Update, approved on December 14, 2017, provides the strategy for achieving California's 2030 target in SB 32 (ARB, 2017).

The initial AB 32 Climate Change Scoping Plan (ARB, 2008) identified the strategies for achieving the maximum technologically feasible and cost-effective GHG reductions by 2020, and to maintain and continue reductions beyond 2020. The first statewide AB 32 Scoping Plan was adopted by ARB in December 2008, and the ARB approved the First Update to the Scoping Plan in May 2014 (ARB, 2014). The Project itself conforms with the renewable energy objectives of the Scoping Plan, and at least one regulation that has come from enacting the climate change strategies in the Scoping Plan, the Low Carbon Fuel Standard (LCFS), would cause a small reduction in the direct GHG emissions during Project construction and operation.

4.10.2.3 Local

County Energy and Climate Action Plan (ECAP)

In March 2009, the County Board of Supervisors directed County staff "to take immediate, cost-effective and coordinated steps to reduce the County's collective greenhouse gas (GHG) emissions." In response to this direction, the County's Climate Action Strategy (CAS) was developed, which includes a two-phase strategy to reduce GHG emissions comprising (1) the Climate Action Study (2011), including a countywide GHG inventory, forecast, and evaluation of potential emission reduction measures, and (2) an Energy and Climate Action Plan (2015), which seeks to reduce the GHG emissions through implementation of specific selected measures with the goal of achieving a GHG reduction target of 15 percent below 2007 baseline levels by 2020.

The ECAP adopted by the Board of Supervisors in May 2015 identifies strategies, or GHG emission reduction measures, that the County can implement. Measure RE 4 (Utility-Scale Renewable Energy Projects) would promote the use of clean energy production by encouraging development of utility-scale renewable electrical generation facilities, like the proposed Project. Two other plan measures that may apply to the proposed Project are Measure BE 10 (Construction Equipment Operations) that would implement best management practices for construction equipment; and Measure WR2 (Construction and Demolition Waste Recycling) that would increase the recycling and reuse of construction wastes.

4.10.3 Significance Thresholds

The Santa Barbara County Environmental Thresholds and Guidelines Manual (Santa Barbara County, 2018) specifies that:

- All industrial stationary-source projects shall be subject to a numeric, bright-line threshold of 1,000 MTCO2e per year to determine if greenhouse gas emissions constitute a significant cumulative impact. Annual GHG emissions that are equivalent to or exceed the threshold are determined to have a significant cumulative impact on global climate change unless mitigated.

However, the Project is not a County-defined industrial stationary source. The County has no other numeric significance thresholds identified for assessing other project types in the Guidelines Manual. For a previous renewable energy project (Cuyama Solar), the County used the Bay Area Air Quality Management District (BAAQMD) GHG emissions thresholds to evaluate the Project. BAAQMD has a stationary source threshold (10,000 MTCO2e per year) and three other thresholds for non-stationary source projects (BAAQMD, 2017). These other three thresholds include: compliance with a Qualified GHG Reduction Strategy, an annual emissions threshold of 1,100 MTCO2e per year, and a service population (SP) based threshold of 4.6 MT CO2e/SP/year (residents plus employees). The service population threshold best suits residential and commercial project types, not a renewable energy project, so the non-stationary source annual threshold approach (1,100 MTCO2e per year) would apply most appropriately to the SWEP Project. It would also be appropriate to identify that a utility-scale renewable energy project complies with the County's 2015 Energy and Climate Action Plan Strategy (RE-4 Utility-Scale Renewable Energy Projects); however, application of this measure has not previously been used for County utility-scale renewable energy projects.

Renewable energy projects, such as solar and wind projects, may be credited for reductions in greenhouse gas emissions during Project operation that would otherwise be emitted by natural gas-fueled electrical generation, based on consistency with California greenhouse gas reduction strategies to increase statewide reliance on renewable energy.

All of the BAAQMD GHG thresholds mentioned above are applicable to operation emissions only, BAAQMD does not have GHG emissions thresholds for construction-related emissions. The BAAQMD suggests quantifying and disclosing GHG emissions that would occur during construction and determining significance in relation to meeting AB 32 GHG reduction goals. This approach has been used for accessing the Project's construction emissions impacts.

4.10.4 Environmental Impacts and Mitigation Measures

Greenhouse gas emissions impacts were not evaluated in the LWEP EIR, so there were no previous construction and operation GHG emissions estimates, significance determinations, or mitigation measures provided in the LWEP EIR. The GHG impacts of the proposed SWEP are discussed below.

GHG-1 **Reduction in GHG Emissions.** The Project would result in GHG emissions reductions in the power generation sector, resulting in a beneficial effect related to greenhouse gas emissions.

The proposed Project's construction and operation GHG emissions were estimated, and those estimates are provided in Appendix B – Air Quality Emissions Estimate that is included as part of this SEIR. These estimates are based on revisions and additions to the emissions calculations that were completed by the Applicant using the SBCAPCD-approved CalEEMod emissions estimating model and separate calculations. These emission estimates and revisions were made to align the CalEEMod inputs and address other emissions sources for consistency with the Applicant's project description information.

In addition to the revised Applicant CalEEMod and separate emission estimates provided in Appendix B, the following indirect GHG emissions sources were separately estimated and included in the Project GHG emissions totals:

- **Electricity-use based indirect emissions from construction water use.** Water has a GHG emissions profile related to the electricity necessary to deliver water using electric pumps to where it is eventually used. CalEEMod does not estimate emissions from this water use, unlike water use during operation where water-use electricity based GHG emissions are estimated. This estimate is based on the CalEEMod emissions factor of 0.041 Metric Tons of CO2e (MTCO2e) per 1,000 gallons, and a worst-case estimate of construction water use that is conservatively rounded up to 17.7 million gallons.
- **Electricity production indirect emissions reduction.** This calculation provides results based on the assumption of what the renewable power source would offset. This can be done by comparing emissions from thermal technologies, such as gas-fired power plants, using current average utility emissions rate, or considering the reduction in utility average emissions rates during the 30-year Project life as the State works towards a 100 percent renewable energy portfolio standard by the year 2050. The current reduction estimate basis used is the latest available (2016) PG&E average metric tons of carbon dioxide equivalent CO2e per Megawatt-hour (MTCO2e/MWh) emissions rate of 0.133 (TCR, 2018) and a project annual generation rate of 303,800 MWh. The actual Project-life reduction would decrease as other renewable energy sources replace fossil-fuel power plants along the path to the 100 percent renewable or zero carbon energy by 2050. This reduction is estimated as a linear reduction to essentially zero by the end of the Project life, which means the Project-life average emissions reduction rate would be 0.0665 MTCO2e/MW.

Appendix B includes a list of the emission estimate additions and revisions that were performed. A summary of the Project's estimated emissions is provided in Table 4.10-2.

The GHG emissions included in Table 4.10-2 including known and quantifiable direct and indirect emissions sources. Certain known direct and indirect emissions sources cannot be reasonably quantified. These known sources include the loss of CO_2 uptake that will occur due to the land use change from current rangeland and wild ecological conditions, including the loss of oak trees that will be removed for the new access roads and WTG sites, that will reduce plant-based CO_2 uptake. However, these additional known but unquantifiable sources while not insignificant would be orders of magnitude lower than the GHG emissions reductions that occur from the wind power generation. Additionally, the emissions provided in Table 4.10-2 do not include a complete life-cycle GHG emissions estimate, such as estimating the GHG emissions emitted to manufacture the WTG, which is not required to be completed under CEQA. This emissions estimate is similar to the emissions estimates, and federal and state agency emissions factors, derived for other forms of energy production, such as natural gas-fired turbines or coal-fired boilers, where their emissions factors do not include the entirety of the life-cycle mining, extraction, transportation, etc. emissions related to those forms of energy production.

The proposed Project has an anticipated life of 30 years. At the end of the Project's useful life, it could be repowered, renovated, upgraded, or decommissioned. The GHG emissions impacts of these activities would be similar to, although likely smaller than, Project construction. Given the over-whelming GHG emissions reductions during Project operations, whatever option is chosen at the end of the Project's useful live does not affect the GHG emissions findings for the Project.

Table 4.10-2. Estimated Project Annual GHG Emission Rates (MTCO2e per year)

Project Phase/Source	Proposed Project Emissions
Construction	
Construction Direct Emissions (CalEEMod Output)	3482.4
Construction Helicopter Emissions	1019.1
Construction Water Use Indirect Emissions	724.2
Total Construction Emissions (10-month Construction period)[1]	5,225.7
Annualized Construction Emissions [a]	174.2
Operation	
Off-Road Equipment Direct Emissions	27.1
Area Sources Direct Emissions	0.0
Mobile Sources Direct Emissions	13.9
Energy Use Indirect Emissions	6.7
Solid Waste Indirect Emissions	2.6
Water Use Indirect Emissions	3.7
Total Annual Operation Direct/Indirect Emissions Increases (CalEEMod Output)	54.0
SF_6 Leakage	3.6
Onsite O&M Mobile Sources	2.6
Total Annual Operation Direct/Indirect Emissions Increases	60.2
Indirect Electricity Production Emission Reduction (Annualized 30-year Average)	-20,203
Total Annual Operation Emissions	-20,142
Significance Threshold	1,100
Significant?	No
Project-Life Emissions (Average MTCO2e per year)[b]	-19.968

Source: Appendix B and addition indirect emissions calculation notes provided above the table.

[a] – Based on amortizing the construction emissions over a 30-year project life.

[b] – Based on including the amortized construction emissions (amortized over a 30-year project life).

The proposed Project's construction emissions have been quantified and disclosed above in Table 4.10-2. The construction emissions include the use of best management practices as required in air quality

[1] As discussed in Sec. 4.10.2.2, a full, life-cycle analysis of GHG emissions is beyond the scope of this SEIR. However, it should be recognized that emissions from WTG manufacturing, raw and intermediate manufacturing materials transportation, and eventual demolition of WTGs and other Project elements entail unquantified, but potentially substantial, cumulative GHG emissions that are not accounted for in this SEIR. Examples of GHG-producing activities include mining, processing, and fabricating the steel WTG towers; oil extraction, processing and plastic resin production for WTG blades, and blade fabrication; transport of materials to factory, and the entirety of the global transportation of WTG parts and other Project components to Project site, whose emissions are assessed from the last point of origin prior to deliver (such as the Port of Stockton).

Mitigation Measure AQ-1. Therefore, the Project's construction emissions are determined to be in conformance with AB 32 GHG emissions reduction goals.

The proposed Project's operation would enable significant GHG emissions reductions in the power generation sector, and so would result in beneficial greenhouse gas emissions impacts (Class IV).

Compliance with applicable plans, policies, and regulation adopted for the purpose of reducing the emissions of greenhouse gases

The proposed Project, as a renewable energy project, would conform to the California plans and policies related to increasing the amount of available renewable energy, specifically the Renewable Portfolio Standard (RPS) goals for California's electricity procurement at 33 percent by 2020, 50 percent by 2026, 60 percent by 2030, and the plan for 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. The proposed Project would play a part in the helping to achieve the new statewide goal to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter. The Project also conforms to the County ECAP Measure RE 4 that encourages the development of utility-scale renewable energy projects.

There are a few other plans and policies, which are minor in comparison to the emissions reduction potential related to the renewable energy policies that would directly or indirectly apply to the proposed Project. These include:

- **Construction waste reduction (ECAP Measure WR 2)**. The proposed Project does not include substantial demolition activities or demolition waste streams, but will include a substantial amount of excavation, where the excavated materials would be reused on site as much as possible to create a balanced cut and fill to reduce the amount of waste hauled to landfills. Additionally, the vegetative green wastes would be recycled/reused as wood chips/mulch products or would be sent to composting facilities and reused as soil amendment products.
- **Low Carbon Fuel Standard (ARB Regulations)**. The proposed Project would indirectly conform with these regulations by using available California motor vehicle fuels that conform with this standard.
- **Best Management Practices for Construction Equipment (ECAP Measure BE 10)**. The proposed Project would conform with this policy through the implementation of Air Quality MM AQ-1.

While the above measures identified in the County's ECAP and ARB regulations would be used to reduce the generation of greenhouse gases associated with the Project's construction phase to the extent feasible, the proposed Project would, on balance, through its operation serve to reduce the production of greenhouse gases by directly generating renewable energy for local consumption.

At the end of the Project's life, it could be repowered, upgraded, renovated, or decommissioned. The greenhouse gas emissions reduction plans, policies, and regulations that would be approved at this future time are unknown; however, the Project owner would be required to meet all applicable laws and regulations. Therefore, it is anticipated that the end-of-project-life actions would continue to conform with all applicable GHG emissions reductions plans, policies, and regulations.

Therefore, the Project would not conflict with applicable greenhouse gas emissions reductions plans, policies, or regulations.

4.10.5 Cumulative Effects

This GHG and GCC analysis (presented above) addresses cumulative global impacts; therefore, there is no separate cumulative effects analysis.

4.10.6 Residual Impacts

No residual adverse impacts associated with GHG emissions would occur. Long-term effects would be beneficial as the Project's operation would promote GHG emission reductions in the power generation sector.

4.10.7 Impact and Mitigation Summary

Table 4.10-3 below provides a summary of the SWEP's impacts related to greenhouse gas emissions. The table also indicates the mitigation measures if required to reduce a significant impact.

Table 4.10-3. SWEP Impact and Mitigation Summary – Greenhouse Gas Emissions

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
GHG-1	Reduction in GHG Emissions. The Project would result in GHG emissions reductions in the power generation sector, resulting in a beneficial effect related to greenhouse gas emissions.	None required.	Class IV

Class I. Significant unavoidable adverse impact.
Class II. Significant environmental impacts that can be feasibly mitigated or avoided.
Class III. Adverse impacts found not to be significant.
Class IV. Impacts beneficial to the environment.

4.10.8 References

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4.11 Hazards and Hazardous Materials

This section describes the potential hazards (other than geologic hazards) associated with the proposed SWEP site, infrastructure, activities, and materials that could adversely affect human health and the environment. Potential hazards include effects on public health and safety that could result from implementation of the proposed SWEP, including the potential for safety impacts from the wind turbine generators (WTGs), electromagnetic fields (EMF) from the 115-kilovolt (kV) transmission line, worker safety, and the use of hazardous materials. The following discussion addresses existing laws and regulations related to hazardous materials, public health, and safety; existing environmental conditions in the area; potential direct, indirect, and cumulative environmental impacts associated with implementation of the proposed SWEP; and recommends measures to reduce or avoid significant adverse impacts anticipated from Project-related activities.

Effects from hazards and hazardous materials resulting from construction and operation of the Project were addressed in the LWEP EIR (Section 3.13, *Risk of Accidents, Hazardous Materials, and Safety*) and concluded that impacts would be either adverse but not significant or significant but capable of being reduced to a less-than-significant level.

4.11.1 Environmental Setting

4.11.1.1 Existing Conditions

As discussed in the LWEP EIR (Section 3.13, *Risk of Accidents, Hazardous Materials, and Safety*), the Project would be located primarily on rural, agricultural land. Vandenberg Air Force Base (VAFB) is located to the south and west, and private property is on the north and east of the Project site with private residences and structures located on non-Project properties.

The Project site is accessed via San Miguelito Road and encompasses 11 privately owned parcels covering approximately 2,971 acres. Single-family residences or mobile homes are located on seven of the 11 parcels. The closest residence to a WTG (WTG N-2) is approximately 940 feet (Figure 2-3, Project Site Plan). The nearest private residence outside of the Project area boundary is located approximately 2,097 feet from WTGs along the WTGs just below the north string. Within the Project boundary are two parcels (0.66 acre in total) that are owned by the federal government; no development or other Project activity would occur on or near these parcels. The Project would be located within the County's inland area, with the exception of the southern portion of the site that extends into the California coastal zone along portions of Station Road and the east string of WTGs. Approximately 6.5 acres of road grading and widening would occur within the coastal zone. The remaining Project components, including all WTGs and appurtenant structures, would be located within the inland area.

The Project's 115-kV transmission line would begin at the proposed substation shown in Figure 2-4 (Project Transmission Line Route) and would be constructed along an eastern and northern route until it terminates at the proposed switchyard location. The length of the transmission line would be approximately 7.3 miles. A switchyard would be located at the terminus of the Project's transmission line on the Imerys Minerals property and approximately 90 feet from a residential neighborhood.

Outside of the SWEP site boundary, the transmission line would traverse 10 parcels. The following sensitive receptors are located along the proposed transmission line route:

- **Residences.** Within the SWEP's northeastern site boundary, the transmission line would cross San Miguelito Road from south to north and would traverse two residential properties within 500 feet of one existing home. Further northeast, the transmission line would be constructed on the east side of San Miguelito Road, at a distance greater than 600 feet of approximately 20 residences. Residential development within the City of Lompoc would be approximately 85 feet from the switchyard site. Five residences within 200 feet are located to the north and northeast of the switchyard near the terminus of the transmission line.
- **Parks.** The transmission line would be constructed approximately 600 feet north of Miguelito Canyon Park. A discussion of available recreational resources at Miguelito Canyon Park and recreational activities within the surrounding area is included in Section 4.19, *Recreation*, of this SEIR.
- **Industrial.** The transmission line would be constructed along the western and northern boundaries of the Imerys Minerals Plant for approximately 3.5 miles.

4.11.1.2 Tower Integrity and Rotor Failure

As discussed in the LWEP EIR (Section 3.13, *Risk of Accidents, Hazardous Materials, and Safety*), public safety issues related to wind energy facilities are primarily associated with the potential for tower collapse or rotor failure (mechanism holding the blades and hub together fails to move) and blade throw (separation of the blade from the rotor). Excessive static stress, material fatigue, seismic activity, or ground settling can cause tower failure, collapse, or both. The likelihood of tower failure from excessive stress or material fatigue is very low, and tower collapse is uncommon.

No comprehensive database of reliable data exists indicating the number of occurrences of tower collapse or blade throw. This is most likely due to the fact that no single regulatory agency maintains sole responsibility for tracking this type of data.

Wind-turbine rotor blades failed at a rate of approximately 3,800 a year, 0.54 percent, of the 700,000 or so blades that were in operation worldwide at the time of a 2015 study by renewable-energy insurance underwriter GCube (ENR, 2017). Blade failure does not necessarily result in blade throw.

Although no freely available industry database has been located worldwide that gives the failure frequency for blade detachment or fragment generation, such data for subassembly failure is available through a European study. Wind turbines are classified into subassembly systems. In addition to the tower and support structure, the nacelle has a number of systems which, if they fail, may ultimately lead to blade throw. The blades, rotor hub, gearbox, and brake are part of the system that maintains the physical integrity of the WTG and controls the rotation speed of the system between safe operating parameters.

A study conducted by MMI Engineering Ltd. in 2013 includes a large body of subassembly reliability data that has been gathered over more than 10 years by the WindStats initiative. The data are predominantly for German and Danish wind turbines although data for other countries is also included. The data indicates that the subassembly failure frequencies are reducing with time, presumably due to improved design and manufacturing. From the WindStats data reported for three separate months in 1994, blade failure is between 3 and 10 percent of the subassembly failures for the Danish wind turbines. Note that only a proportion of those failures are linked to blade throw. In addition, whole turbine failure contributes a further 8 to 9 percent of the total. Other subassembly failures (e.g. hub, nacelle, airbrake) may also lead to blade throw. In total between 14 and 24 percent of subassembly failures have the potential to lead directly to blade throw. For comparison, over four consecutive quarters in 1996, the combined total of rotor, air brake, and mechanical brake failures for German

wind turbines make up between 18 and 22 percent of the total of subassembly failures. The statistical analysis of these data provides failure rate functions for the Danish and German wind turbine populations as a function of time. [1]

The wind turbine failure rate data and an estimation of the proportion of failures that could lead to blade throw could be used to provide a conservative upper bound to the failure rate leading to blade throw. However, without data supporting an event-tree type analysis, it is not possible to quantify what proportion of each subassembly failure class might lead to wind turbine throw. From the limited number of reported blade-throw incidents, it is clear that this proportion will be small (less than 0.1 percent). It should be borne in mind that the aim of the WindStats database is to provide information on the operation of wind turbines. In this context "failure" implies "failure to produce electrical energy to the grid". It does not imply that blades have become detached or fragments generated or other incidents which might pose harm to persons in the vicinity of the wind turbine. (MMI Engineering Ltd, 2013)

Geologic hazards are normally associated with issues such as seismicity (ground shaking), slope instability, subsidence, and expansive soils. Seismic hazards related to ground shaking include ground rupture, slope instability, liquefaction, seismic compaction, tsunamis, and seiches. A discussion of the environmental setting of the Project regarding tower collapse resulting from geologic hazards, including earthquakes and seismic activity is included in Section 4.9, *Geology and Soils*.

If a WTG experiences excess speed, material fatigue, excessive stresses, or vibration from seismic ground shaking, there is the potential for a rotor blade to crack or dislocate from the turbine tower. Blade failures may occur due to extremely high winds and excess rotor speed. Most commercial turbines are currently equipped with safety and engineering features to prevent excess rotor speed.

Under certain conditions, ice can form on wind turbine towers and rotor blades, and blade icing and ice throw are a risk at some locations. Moving rotor blades are subject to heavier buildups of ice than stationary structures through the mechanism of rime icing. Rime icing occurs when a subfreezing structure is exposed to moisture-laden air with significant velocity. If the ice then becomes detached while the blades are rotating, there is the possibility of "ice throw" over a considerable distance from the turbine. The Project area has a generally mild climate and extreme cold or freezing temperatures are rare.

4.11.1.3 Public Health

A discussion on corona effect, field effect, and electric and magnetic fields is included in the LWEP Final EIR (Section 3.13, *Risk of Accidents, Hazardous Materials, and Safety*).

Electromagnetic Fields

Existing power lines are present in the Project area along the residential area on San Miguelito Road just south of the City of Lompoc and along SR-1 just south of the City of Lompoc. As discussed in the LWEP Final EIR (Section 3.13, *Risk of Accidents, Hazardous Materials, and Safety*), an existing 115-kV

[1] For example, the failure rates at the end of the data reporting period for Danish wind turbines ranges between 6 x 10-5 /hr and 7 x 10-5 /hr. For German wind turbines, the failure rates range between 1.1 x 10-4 /hr and 1.4 x 10-4 /hr. (MMI Engineering Ltd, 2013)

power line servicing the Celite facility runs along State Route 1 (SR-1), east of existing residences. These power lines are in the vicinity of the Project transmission line.

Since 2001, further research concerning possible health effects associated with EMF has been consistent with earlier studies. For example, Feychting (2005) examined non-cancer effects—principally, adverse pregnancy outcomes—associated with EMF exposure and concluded that such studies have not indicated these effects. On January 15, 1991, the California Public Utilities Commission (CPUC) initiated an investigation to consider its role in mitigating the health effects, if any, of electric and magnetic fields from utility facilities and power lines. A working group of interested parties, called the California EMF Consensus Group, was created by the CPUC to advise it on this issue. The Consensus Group's fact-finding process was open to the public and its report incorporated concerns expressed by the public. Its recommendations were filed with the CPUC in March 1992. Based on the work of the Consensus Group, written testimony, and evidentiary hearings, the CPUC issued its decision (93-11-013) on November 2, 1993, to address public concern about possible EMF health effects from electric utility facilities. The conclusions and findings included the following:

> We find that the body of scientific evidence continues to evolve. However, it is recognized that public concern and scientific uncertainty remain regarding the potential health effects of EMF exposure. We do not find it appropriate to adopt any specific numerical standard in association with EMF until we have a firm scientific basis for adopting any particular value.

This continues to be the stance of the CPUC with regard to establishing standards for EMF exposure. Currently, the State has not adopted any specific limits or regulation on EMF levels related to electric power facilities.

Radiofrequency Radiation (RFR)

As discussed in the County of Santa Barbara Environmental Thresholds and Guidelines Manual (County of Santa Barbara, 2018), standards have been established for effects resulting from thermal heating of body tissue. The most widely used conservative standards are the IEEE-ANSI C95.1-1992 Standards, which are based on power densities. Power density is the rate at which electromagnetic energy radiates through space in terms of watts per square meter (W/m2) or milliwatts (1/1,000th of a watt) per square centimeter (mW/cm2) and is customarily used in addition to the specification of the strengths of electric and magnetic fields by kV/m and mG when defining standards. Common sources of radio frequency emissions include the following: radio and television transmission facilities, microwave and cellular facilities, radios, televisions, computers, computer monitors, microwave ovens, and induction cook tops.

4.11.1.4 Utility/Turbine Interface and Worker Safety

As discussed in the LWEP EIR (Section 3.13, *Risk of Accidents, Hazardous Materials, and Safety*), utility and turbine workers operating on wind turbines or power lines are at risk of electrical shock from either of the systems. For a full discussion on this topic, please refer to Section 3.13, *Risk of Accidents, Hazardous Materials, and Safety,* of the LWEP EIR.

4.11.1.5 Hazardous Materials

As discussed in the LWEP EIR (Section 3.13, *Risk of Accidents, Hazardous Materials, and Safety*), the principal uses of the Project area are cattle grazing and dry land farming and the activities associated with these uses that have the greatest potential for the release of hazardous wastes or materials into the

soil or groundwater. For a full discussion on this topic, please refer to Section 3.13, *Risk of Accidents, Hazardous Materials, and Safety,* of the LWEP EIR.

The Project area is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (California Department of Toxic Substances Control, 2018). Additionally, the Phase 1 Environmental Site Assessment commissioned by the Applicant found no recognized environmental conditions (REC) with the Project site (Tetra Tech, 2016).

4.11.1.6 Aircraft Operations

The Project site is bounded by VAFB on the south and west sides. The site's southern boundary with VAFB follows the ridgeline for much of its length. Prevailing winds from the north/northwest regularly flow over the ridges. Some of the prime wind sites in the southern Project area are near the VAFB property line. The Applicant has executed an agreement with the Air Force that outlines the responsibilities of the Applicant for siting the Project in close proximity to VAFB property. Agreement No. USAF-AFSPC-XUMU-15-1-0142 (the "Agreement") establishes policies for evacuation and termination of transmissions of "Specified Turbine(s)" during launch or pre-launch activities upon notice to do so by the VAFB. At this time, no Specified Turbines have been identified.

Hazards to flight also include visual and electronic forms of interference with the safety of aircraft operations. Land use development that may cause an increase in the level of attraction to birds is also considered a hazard. Other potential hazards to aviation for wind energy projects located in sufficient proximity to airports include potential electromagnetic interference from the power plant and transmission lines.

The Project's WTGs would be required to comply with Federal Aviation Administration (FAA) Advisory Circular 70/7460-1, Obstruction Lighting/Marking, requirements and would require a Wind Turbine Generator Lighting Plan. The Applicant filed form 7460-1, Notification of Proposed Construction or Alteration, with the FAA for each WTG. The FAA issued a "Determination of No Hazard to Air Navigation" for the Project on November 14, 2018.

4.11.2 Regulatory Setting

Federal

The LWEP EIR identified one applicable Federal regulation: the National Electric Manufacturers Association (NEMA) and American National Standards Institute (ANSI) which sets safety standards for wind generation equipment. There have been no relevant changes to this regulation since 2008. Please refer to the LWEP Final EIR for a description of this regulation.

State

The LWEP EIR identified two State agencies with safety regulations applicable to the Project: the California Office of Safety and Health and Administration (Cal-OSHA), which sets standards for WTGs, and the California Public Utilities Commission (CPUC), which regulates electric transmission lines and mandates EMF reduction as a practicable design criterion for new and upgraded electrical facilities. There have been no relevant changes to these regulations since 2008. Please refer to the LWEP Final EIR for descriptions of these regulations.

Local

The LWEP EIR identified one applicable local regulation: a Hazardous Materials Business Plan, which would be required by the Santa Barbara County Fire Department (SBCFD). There have been no relevant changes to this regulation since 2008. Please refer to the LWEP EIR for a description of this regulation.

4.11.3 Significance Thresholds

No specific thresholds are identified for hazardous materials in the County's Environmental Thresholds and Guidelines Manual (2018). The thresholds below were applied in the LWEP EIR (Section 3.13, *Risk of Accidents, Hazardous Materials, and Safety*).

- Expose people or structures to a significant risk of loss, injury, or death by construction or operation of the Project.
- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions that may involve the release of hazardous materials into the environment.

Construction and operation risk analysis guidance with risk threshold spectrum diagrams are provided in County's Manual (pp. 125, 126). The risk spectrum diagrams show risk zones depicted in green, amber, and red. The diagrams provide a horizontal axis with a number of injuries or fatalities, and a vertical axis with the annual chance of risk of injury or fatality. Risks that are in the red or amber zones after application of all feasible mitigation measures are classified as unavoidable, significant impacts on public safety (Class I Impact). Unmitigated risks that are in the red or amber zones that can be mitigated sufficiently to lower the risk into the green zone are considered less-than-significant risk impacts after mitigation (Class II impact). Unmitigated risks that fall within the green zone are considered to have an insignificant impact on public safety (Class III Impact) and no mitigation (or additional mitigation) is required for purposes of compliance with CEQA.

These risk thresholds focus on involuntary public exposure to acute risks that stem from certain types of activities with significant quantities of hazardous materials. Such activities include installations or modifications of facilities that handle hazardous materials (hereinafter referred to as hazardous facilities), and the transportation of hazardous materials. However, the thresholds also assist in identifying potentially significant impacts to non-hazardous land uses proposed in proximity to existing hazardous facilities. This County's Guidance Manual lists a number of facility types that are subject to these risk analysis guidelines. Wind turbine construction and operation, specifically the physical risk to the public from tower collapse and blade throw events during operation, are not listed in the guidelines as requiring risk analysis; however, these County-approved public injury and fatality risk spectrums are considered appropriate for use as significance criteria in assessing the public risk impacts for the SWEP.

While some evidence indicates that there may be certain biological effects that may result from exposure to low frequency EMFs, there are no standards or guidelines to govern the public's involuntary exposure to extremely low frequency (ELFs) EMFs. At this time, given the current information regarding potential health impacts and the uncertainty surrounding impacts related to ELFs, the Board of Supervisors did not adopt a specific threshold for ELF exposure. Instead, the Board

of Supervisors directed staff to evaluate ELF exposure on a case-by-case basis, using the most current scientific data.

Below is a threshold from the County's Environmental Thresholds and Guidelines Manual related to radiofrequency radiation exposure.

- Expose people to radiofrequency radiation (RFR) in excess of the IEEE-ANSI C95.1-1992 standard.

4.11.4 Environmental Impacts and Mitigation Measures

Table 4.11-1 below lists the impacts and mitigation measures identified for hazards and hazardous materials in Section 3.13, *Risk of Accidents, Hazardous Materials, and Safety*, of the LWEP Final EIR. These same impacts are addressed in this section for the SWEP. The right-hand column of the table below indicates whether the LWEP impacts or mitigation measures have been modified for the SWEP.

Table 4.11-1. LWEP Impacts and Mitigation Measures – Hazards and Hazardous Materials

Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
RISK-1	Tower Failure and Blade Throw. Risk to the public from WTG collapse would be limited, though several WTGs could be located close to lightly-traveled County roads. The Project is expected to present a low risk of blade throw; nonetheless, a risk exists.	RISK-5: Tower Failure and Blade Throw.	Revised impact statement. Updated impact discussion, analysis, and significance conclusions. Removed mitigation measure.
RISK-2	Blade Icing and Ice Throw. Blade icing and ice throw would not be expected to occur; additionally, there would be limited human activity in the Project area.	None	Revised impact statement.
RISK-3	Electromagnetic Field Effect. Electromagnetic fields are a possible issue when associated with the siting of high voltage overhead power lines or cables less than 200-feet from residences,	None	Revised impact statement. Updated impact discussion.
RISK-4	Utility/Turbine Interface and Worker Safety. Construction workers would be exposed to a number of risks, including electrical shock and falls. There is also risk to members of public who incidentally or intentionally enter the Project site.	None	Revised impact statement. Updated impact discussion.
RISK-5	Release of Hazardous Materials. Accidental spills or leakage of hazardous materials could occur, including fuels (gasoline and diesel), lubricants, motor oil, and paints.	RISK-1: The Applicant shall prepare a Hazardous Materials Management Plan that meets SBCFD requirements. RISK-2: Refueling vehicles shall have a sign listing pertinent contacts to notify in the event of a spill. RISK-3: All equipment shall be adequately maintained to minimize operational losses of hazardous materials and to reduce the risk of accidental spillage.	Revised impact statement.

Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
		RISK-4: Construction fueling shall be designated such that sensitive areas are avoided.	
RISK-6	None	None	New impact statement. New impact discussion New significance conclusion.

The impacts of the proposed SWEP related to hazards and hazardous materials are discussed below.

RISK-1 **Tower Failure and Blade Throw.** There could be a ~~R~~risk to the public from possible WTG tower collapse or blade throw. ~~would be limited, though several WTGs could be located close to lightly-traveled County roads. The Project is expected to present a low risk of blade throw; nonetheless, a risk exists.~~

As discussed in Section 3.13, *Risk of Accidents, Hazardous Materials, and Safety*, of the LWEP EIR, the probability of structural failure of a WTG is very low. The LWEP EIR stated that failure of a WTG tower at its base, or of its anchorage to the foundation, would create a hemispherical hazard zone with a radius approximately equal to the LWEP's turbine tip height of 397 feet. A statistical risk analysis was not performed for the LWEP; however, the potential risk to the public was found to be very limited since all of the WTGs would be located on private property in a remote rural area with limited public access and usage. Also, most LWEP WTGs would be more than 500 feet away from publicly accessible San Miguelito Road and Sudden Road. Similarly, the LWEP EIR determined that the risk to the public from potential WTG blade throw would be very low. Although, the LWEP EIR found the risk of tower collapse or blade throw to be very low, it was determined to be a public risk.

Mitigation Measure (MM) RISK-5 (Tower Failure and Blade Throw) approved in the LWEP EIR requires a setback of WTGs from public roads equal to the total WTG height. It was determined that compliance with this measure would reduce potential impacts to public safety to a less-than-significant level (Class II).

For the SWEP, similar to the LWEP, all of the WTGs would be located on private property in a remote rural area with limited public access and usage. All but one of the 30 SWEP WTGs would be more than 500 feet away from publicly accessible San Miguelito Road and Sudden Road. The maximum SWEP WTG height would be 492 feet. One proposed WTG (N-1) would be located closer than 492 feet to a section of San Miguelito Road. This section of road starts approximately 250 feet west of the intersection of San Miguelito Road and Sudden Road and curves around WTG N-1 for a distance of about 1,650 feet. Therefore, 1,650 feet of San Miguelito Road is within WTG N-1's hazard zone for a thrown blade or collapsed tower. At the nearest point, the WTG would be approximately 300 feet from the road.

The proposed WTG site is on a hill and is approximately 50 feet in elevation above the road at this closest point to the road. The elevation of WTG N-1 above the road would increase the potential for a thrown blade or collapsed tower to fall on the roadway, as compared to a site on flat terrain.

The section of San Miguelito Road that is within WTG N-1's hazard zone is approximately 5.1 miles from the Lompoc city limit and, as stated in the LWEP EIR, is relatively remote. There is no through traffic, as the road dead-ends at VAFB property boundary to the west. However, recreational activities

sometimes occur at and near the intersection of San Miguelito Road and Sudden Road, including cycling, hiking, sight-seeing, and bird watching. The intersection is currently identified as a "hotspot" birding location in the Audubon Society's "ebird" database.

The risk of public injury or fatality due to tower collapse or blade throw would be somewhat greater for SWEP than for LWEP. The main WTG safety concern in the LWEP EIR was a WTG location near SWEP's proposed site for WTG N-1. The WTG proposed for the SWEP is substantially larger than the LWEP one. (Overall WTG height is 492 feet for SWEP versus 397 feet for LWEP; blade length is 225 feet for SWEP versus 135 feet for LWEP.) Therefore, the public would be exposed to risk from possible WTG N-1 accidents along a larger section of San Miguelito Road.

Blade throw has a much higher public risk potential than tower collapse, so the public risk analysis for SWEP is focused on the risk from blade throw. The Applicant provided a third-party blade-throw public risk analysis for WTG N-1 (ArcVera 2019). This risk analysis was based on the determination of the following risk factors:

- Worst-case frequency determination for a blade throw (which includes any part of a blade that detaches from the WTG and impacts the ground) based on available industry and agency data on blade throws.
- Probability of the blade striking an area of public risk (i.e. San Miguelito Road) within the radius of the maximum tower height (492 feet) based the modeling of local wind data and blade throw geometric probabilities for the specific WTG type.
- Probability of the public being on the affected area of San Miguelito Road at the time of a blade throw, based on observed traffic data.

The ArcVera report, after combining the determined frequency and probabilities, identified a conservative annual public risk value from blade throw of 1.3×10^{-7}. This risk value is well within the green zones of the County-approved public injury and fatality risk spectrums.

The ArcVera blade-throw risk analysis was critically reviewed (Aspen 2019) with the following major findings:

- While some data and assumptions could be improved, the methodology used for the analysis is sound.
- Blade-throw risks are very low, although they are likely somewhat higher than concluded in the ArcVera analysis.
- The annual risk to the public from a potential WTG N-1 blade throw is within the Santa Barbara County Environmental Thresholds and Guidelines Manual risk spectrum green levels.

The frequency of and public risk from a tower collapse is much lower than that for a blade throw, so that additional public risk does not change the public safety risk determination for SWEP WTG operation.

Based on the above risk analysis, and risk analysis review, it has been determined that the annual risk to the public from blade throw and tower collapse is within the County-approved public injury and fatality risk spectrum green zones; therefore, the impact of SWEP operations to public safety has been determined not to be significant (Class III) and a WTG setback mitigation measure is not required.

RISK-2 Blade Icing and Ice Throw. Risk to the public could occur from blade ~~Blade~~ icing and ice throw. ~~would not be expected to occur; additionally, there would be limited human activity in the Project area.~~

The LWEP EIR found that the LWEP would result in low risk because the WTGs would be (1) located on private property, (2) VAFB provides a buffer and public exclusion zone, and (3) the overall LWEP area is rural with limited human activity. Impacts from blade icing and ice throw were found to be adverse, but not significant. The LWEP Final EIR stated that the Project site is located in a region with a generally mild climate, and extreme cold or freezing temperatures are very rare, blade icing and ice throw would not be expected to occur.

No changes would occur with the SWEP as the climate conditions of the Project area remain the same. The SWEP is located in the same area as the LWEP. Impacts from blade icing and ice throw would remain adverse, but not significant (Class III).

RISK-3 Electromagnetic Field Effect. Electromagnetic fields ~~are~~ could cause a possible hazard ~~issue~~ when associated with the siting of high-voltage overhead power lines or cables ~~less than 200-feet from~~ in proximity to residences.

The LWEP EIR concluded that EMF is not an issue of concern related to WTGs, which have a predominately underground low-voltage (34.5-kV) collection system. In addition, residences located in the vicinity of the proposed WTGs and associated collection system are well beyond any potential zone of effect. The LWEP EIR also discusses that exposure to electromagnetic fields is a possible issue when associated with the siting of high-voltage overhead power lines in close proximity to residences. The LWEP EIR concluded that EMF exposure to residents would be considered potentially adverse, but not significant (Class III).

The high-voltage transmission line associated with the SWEP would be sited within 200 feet of five residences located north and northeast of the proposed switchyard. The Applicant would be constructing the transmission line consistent with accepted industry standards, protective measures, and established industry guidelines. These include the recommended practices and procedures of the IEEE, standards for overhead line construction consistent with CPUC General Order 95 (GO95), avian protection measures consistent with the 2012 Avian Power Line Interaction Committee Guidelines, electric magnetic field design guidelines accepted for transmission design in California, and other applicable rules and standards. Also, as indicated in the County's Environmental Thresholds and Guidelines Manual, there is no scientific consensus that EMF exposure poses a health risk, which is why there are no standards or guidelines to govern the public's exposure to EMFs. EMF exposure to residents from the SWEP is not considered significant (Class III).

RISK-4 Utility/Turbine Interface and Worker Safety. Construction workers ~~would~~ could be exposed to ~~a number of~~ safety risks, including electrical shock and falls. ~~There is also risk~~Risk could occur to members of public who incidentally or intentionally enter the Project site.

As discussed in Section 3.13, *Risk of Accidents, Hazardous Materials, and Safety*, of the LWEP EIR, construction workers attending to WTGs or utility components of the LWEP could be exposed to a number of risks including electrical shock and falls. The LWEP EIR explained that contractors would ensure that all laws, ordinances, regulations, and standards concerning health and safety issues were complied with during construction. During operations, onsite staff would not be present at the site 24 hours per day; however, operations would be continuously monitored through the Supervisory Control and Data Acquisition (SCADA) system from remote locations. Standard operating procedures and employee training relating to safety, potential emergency situations, and potential malfunctions would cover emergency evacuation, emergency response, safety, electrical equipment failures, fire prevention and control, mechanical malfunctions, notification procedures, maintenance activities and schedules. Overall, impacts to worker safety were considered to be adverse, but not significant (Class III).

The LWEP EIR also considered the potential for incidental or intentional entry into the LWEP site by members of the public and subsequent risk to human health. The potential for direct risks to the public resulting from contact with energized equipment or other accidents in the LWEP area was considered to be minimal because the public would have limited access to the Project areas. The proposed facilities are located on private property and safety signing would be posted around all WTGs, transformers, and other high-voltage facilities, and along roads, consistent with the safety program. Impacts were considered to be adverse, but not significant (Class III).

No changes would occur with the SWEP as safety procedure would be similar. Standard operating procedures and employee training relating to safety, potential emergency situations, and potential malfunctions would address emergency evacuation, emergency response, safety, electrical equipment failures, fire prevention and control, mechanical malfunctions, notification procedures, maintenance activities, and schedules. Physical security of the Project site would be provided by the installation of locked gates at the entrance to all access roads. In addition, all turbines would be locked as well, as would be the Project substation, switchyard and control house, which would be fenced by an 8-foot high barbed-wire reinforced fence. Electronic access to any SCADA access point is protected by at least two layers of security using high industry standard Virtual Private Network technology and secure passwords and 24/7 remote monitoring. Additionally, remote, around the clock monitoring and surveillance cameras would provide eyes on the wind facilities at all times and report any and all suspected intrusions. If an intrusion is suspected, security personnel would be deployed to the site.

Impact to worker safety and members of the public would remain adverse, but less than significant (Class III) with implementation of National Electric Safety Code (NESC) and California Office of Safety and Health and Administration (Cal-OSHA) requirements described above, which cover basic provisions for safeguarding persons from hazards arising from the installation, operation, or maintenance of electrical systems; and protect workers and the public from safety hazards according to its occupational health and safety laws.

RISK-5 Release of Hazardous Materials. Accidental spills or leakage of hazardous materials could occur, including fuels (gasoline and diesel), lubricants, motor oil, and paints.

The LWEP EIR stated that accidental spills or leakage could occur, but the Project would be required to comply with all regulatory requirements (National Electric Safety Code (NESC) and California Office of Safety and Health and Administration (Cal-OSHA)), including an approved Hazardous Materials Business Plan. Regulatory requirements include proper equipment maintenance, designated areas for fueling, and contacts to notify in the event of a spill. To minimize the potential for harmful effects to people or the environment, stored chemicals would be held in onsite tanks or drums equipped with secondary containment areas to prevent runoff. The LWEP EIR concluded that impacts from the accidental release of hazardous materials associated with construction or operation of the LWEP would be adverse, but not significant (Class III), because all regulatory requirements would be met.

No changes would occur with the SWEP as the risk of accidental spills or leakage with hazardous materials would be similar. Impacts from the accidental release of hazardous materials associated with construction or operation of the Project would remain adverse, but not significant (Class III). The following mitigation measures (MMs) were included in the LWEP EIR as Applicant-proposed measures to ensure maximum feasible mitigation in accordance with Santa Barbara County policy.

Mitigation Measures

MM RISK-1 **Hazardous Materials Management Plan.** The Applicant shall prepare a Hazardous Materials Management Plan.

Plan Requirements. The plan shall meet SBCFD requirements.

Timing. The plan shall be provided to SBCFD prior to zoning clearance.

Monitoring. The County staff will verify the completion and approval of the plan prior to zoning clearance.

MM RISK-2 **Refueling Spill Notification.** Refueling vehicles shall have a sign listing pertinent contacts to notify in the event of a spill. A copy of the notification to all contractors regarding this requirement shall be provided to the County.

Plan Requirements. A copy of the notification to all contractors regarding this requirement shall be provided to the County.

Timing. The notification shall be provided prior to zoning clearance.

Monitoring. County staff will verify the notification prior to zoning clearance and confirm compliance during construction.

MM RISK-3 **Equipment Maintenance.** All equipment shall be adequately maintained to minimize operational losses of hazardous materials and to reduce the risk of accidental spillage. A copy of the notification to all contractors regarding this requirement shall be provided to the County.

Plan Requirements. A copy of the notification to all contractors regarding this requirement shall be provided to the County.

Timing. The notification shall be provided prior to zoning clearance.

Monitoring. The County staff will verify the notification prior to zoning clearance and compliance confirmed during construction.

MM RISK-4 **Avoidance of Sensitive Areas for Refueling.** Construction fueling shall be designated such that sensitive areas are avoided. A copy of the notification to all contractors regarding this requirement shall be provided to the County.

Plan Requirements. A copy of the notification to all contractors regarding this requirement shall be provided to the County.

Timing. The notification shall be provided prior to zoning clearance.

Monitoring. The County staff will verify the notification prior to zoning clearance and confirmed during construction.

RISK-6 Radiofrequency Radiation. The Project could expose people to radio-frequency radiation (RFR) in excess of the IEEE-ANSI C95.1-1992 standard.

This impact was not identified in the LWEP EIR. It is provided in the SWEP analysis because this threshold was added to the County of Santa Barbara Environmental Thresholds and Guidelines Manual since publication of the LWEP EIR. As discussed in the County of Santa Barbara Environmental Thresholds and Guidelines Manual (County of Santa Barbara, 2018), effects of RFR have been primarily linked to thermal responses as a result of exposure to RF sources of energy (e.g., transmitters, computers, television). In general, exposure of humans and animals have the potential to interact with body tissue such that water molecules become excited, causing friction and concomitant rises in body temperature, albeit slight in most instances. This effect is similar to that which is experienced within a microwave oven, where the water molecules within the food substance are excited to create heat, thus resulting in the warming of food. More research needs to be conducted to determine the effects of RF on humans. Due to the distance of the WTGs to sensitive receptors (over 900 feet), it is unlikely that any potential effects from RF would be greater than those experienced in our daily lives from cell phones, microwaves, and other electronic devices that are utilized by humans within a much closer distance. No impact is expected from the potential exposure of RF from WTGs.

4.11.5 Cumulative Effects

Geographic Extent/Context

The geographic extent for cumulative impacts from hazards and hazardous materials is the Lompoc Valley. This area includes hazardous materials spills or leaks, aviation hazards, and potential turbine failure which are typically highly localized. The Project area consists of primarily rural land within the ridges of the Santa Ynez Mountains, along San Miguelito Canyon, and the White Hills. None of the cumulative projects identified in Figure 3-1 (Nearby Cumulative Projects) are expected to combine with impacts of the Project due to distance (over 2 miles away) and the site-specific nature of potential hazards and hazardous materials impacts of the Project.

Cumulative Effects

Tower Failure. All of the turbine corridors would be more than 500 feet away from publicly accessible San Miguelito Road and Sudden Roads. However, one proposed WTG location (WTG N-1) would be

located approximately 302 feet from San Miguelito Road. As discussed in Impact RISK-1, this impact is not considered significant. This impact would be site-specific and is not expected to combine with similar impacts of past, present, or reasonably foreseeable projects.

Blade Throw. A low risk of blade throw exists from the Project but is not considered significant (see Impact RISK-1). This impact would be site-specific and is not expected to combine with similar impacts of past, present, or reasonably foreseeable projects.

Electromagnetic Field Effect. The LWEP EIR concluded that the Project and other projects, including the River Terrace project would result impacts associated with electromagnetic field (EMF) exposure and that the impacts would be cumulatively significant, but mitigable. No cumulative projects are currently located in the vicinity of the SWEP that would cause a potential cumulatively significant effect.

Release of Hazardous Materials. The use, storage, and disposal of hazardous materials during Project construction and operation could result in potential adverse health and environmental impacts if a hazardous material spill or leak were to occur. All hazardous materials would be handled and stored in compliance with the requirements set forth in the applicable codes and regulations. Implementation of MMs RISK-1 through RISK-4 (see Table 4.11.1) would ensure that potential impacts are reduced. This impact does not have the potential to combine with contamination from spills from other projects to result in a cumulative impact due to the site-specific nature of soil contamination and implementation of a hazardous materials management plan that would ensure proper cleanup and disposal of contaminated soil.

4.11.6 Residual Impacts

As summarized in Section 4.11.4, Impact RISK-6 would have no adverse effect, and Impacts RISK-1, RISK-2, RISK-3, RISK-4, and RISK-5 would be less than significant.

4.11.7 Impact and Mitigation Summary

Table 4.11-1 below provides a summary of the SWEP's impacts related to hazards and hazardous materials. The table also indicates the mitigation measures proposed to reduce each significant impact.

Table 4.11-1. SWEP Impact and Mitigation Summary – Hazards and Hazardous Materials

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
RISK-1	Tower Failure and Blade Throw. There could be a risk to the public from possible WTG tower collapse or blade throw.	None required.	Class III
RISK-2	Blade Icing and Ice Throw. Risk to the public could occur from blade icing and ice throw.	None required.	Class III
RISK-3	Electromagnetic Field Effect. Electromagnetic fields could cause a possible hazard when associated with the siting of high-voltage overhead power lines or cables in proximity to residences.	None required.	Class III
RISK-4	Utility/Turbine Interface and Worker Safety. Construction workers could be exposed to safety risks, including electrical shock and falls. Risk could occur to members of public who incidentally or intentionally enter the Project site.	None required.	Class III

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
RISK-5	Release of Hazardous Materials. Accidental spills or leakage of hazardous materials could occur, including fuels (gasoline and diesel), lubricants, motor oil, and paints.	RISK-1: Hazardous Materials Management Plan (recommended). RISK-2: Refueling Spill Notification (recommended). RISK-3: Equipment Maintenance (recommended). RISK-4: Avoidance of Sensitive Areas for Refueling (recommended).	Class III
RISK-6	Radiofrequency Radiation. The Project could expose people to radiofrequency radiation (RFR) in excess of the IEEE-ANSI C95.1-1992 standard.	None required.	No Impact

Class I. Significant unavoidable adverse impact.

Class II. Significant environmental impacts that can be feasibly mitigated or avoided.

Class III. Adverse impacts found not to be significant.

Class IV. Impacts beneficial to the environment.

4.11.8 References

ArcVera. 2019. Letter Report: Blade Throw Analysis for Turbine N-1 at the Strauss Wind Project, near Lompoc, California. April 1.

Aspen (Aspen Environmental Group). 2019. Memorandum: SWEP blade-throw analysis review. April 11.

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California Department of Toxic Substances Control. 2018. Hazardous Waste and Substances Stie List – Site Cleanup (Cortese List). https://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm

ENR (Engineering News-Record), 2017. Are Four Wind-Turbine Failures in Five Weeks Too Many for NextEra Energy? July 13, 2017.

FAA, 2018. Determination of No Hazard to Air Navigation. Wind Turbine WTG 1-30. November, 14, 2018.

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MMI Engineering, Ltd. 2013. Study and development of a methodology for the estimation of the risk and harm to persons from wind turbines. 2013.

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Tetra Tech. 2016. Phase 1 Environmental Site Assessment. Strauss Wind Project, Santa Barbara County, California. Prepared by Tetra Tech. December 2016.

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4.12 Hydrology and Water Quality

This section describes the effects on hydrology and water quality that could be caused by the implementation of the proposed Project. This section describes existing environmental conditions in the affected areas, identifies and analyzes environmental impacts for the proposed Project, and recommends mitigation measures to reduce or avoid adverse impacts anticipated from Project construction and operation. In addition, existing laws and regulations would serve to reduce or avoid certain impacts that might otherwise occur with the implementation of the Project.

4.12.1 Environmental Setting

Surface Water

The surface water setting is as described in the LWEP EIR in Section 3.15.1.1. In summary, the Project would be located on primarily rural land on the coastal ridges of the Santa Ynez Mountains in the South Coast and the Santa Ynez River hydrologic units. The site is hilly and drains into Honda, San Miguelito, and Espada creeks. Several unnamed intermittent streams are present in the area and along the power line corridor. Several seeps and springs also are scattered through the Project area, particularly at high elevations. Frick Springs is a source of water for several residences in Miguelito Canyon and Miguelito County Park. This water is treated at a City of Lompoc facility located near the eastern border of the SWEP site. Several small ponds are also present on the site. Small freshwater marshes have developed on a few areas of the steep terrain.

The proposed transmission line would generally follow adjacent to but not in San Miguelito Creek. This transmission line would cross San Miguelito Creek at two locations and would cross several small tributaries to San Miguelito Creek and the Santa Ynez River.

No portion of the Project site is within the 100-year floodplain mapped by the Federal Emergency Management Agency (FEMA, 2012, 2018). There would be unmapped floodplains associated with all the watercourses on the property, but these would be minor and local. A hydrologic analysis (Appendix D) has been prepared that gives 100-year discharges in cubic feet per second (cfs) at the property line for Honda Creek (1,160 cfs), a tributary to Honda Creek (589 cfs), San Miguelito Creek (698 cfs), and Espada Creek (205 cfs).

Groundwater

Groundwater is as described in the LWEP EIR Section 3.15.1.2. The Project is not located within any mapped groundwater basins. Local groundwater exists at various locations within the Project site. Low-producing wells in the area provide a minimal amount of water supply for domestic use and cattle grazing operations. No irrigated agriculture occurs on the site.

The SWEP Project's well feasibility study (Appendix E-1) found four possible well sites on the property with capacity to extract small amounts of local groundwater (up to 20 gallons per minute). The Project's proposed domestic water supply has been approved by the County Department of Environmental Health Services (EHS).

Water Quality

Beneficial uses of water on the site are as described in the LWEP EIR Section 3.15.1.3. Beneficial uses of Honda Creek identified in the 2017 Water Quality Control Plan for the Central Coastal Basin (Basin Plan) include municipal and domestic supply, agricultural supply, groundwater recharge, water contact recreation, non-water-contact recreation, wildlife habitat, cold freshwater habitat, warm freshwater habitat, supportive of habitat suitable for migration, spawning habitat, supportive of habitat for rare and endangered species, freshwater replenishment, and commercial and sport fishing. Beneficial uses of San Miguelito Creek include municipal and domestic supply, agricultural supply, groundwater recharge, water-contact recreation, non-water-contact recreation, wildlife habitat, cold freshwater habitat, warm freshwater habitat, spawning habitat, and commercial and sport fishing. Beneficial uses of Espada Creek include municipal and domestic supply, groundwater recharge, water contact recreation, non-water-contact recreation, wildlife habitat, warm freshwater habitat, and commercial and sport fishing.

San Miguelito Creek is listed as impaired for chloride, fecal coliform, nitrate, dissolved oxygen, pH, sodium, toxicity and water temperature by the Regional Water Quality Control Board (RWQCB) under Section 303(d) of the Federal Water Pollution Prevention and Control Act (the Clean Water Act). All pollutant sources are unknown (SWRCB, 2016).

Groundwater quality is generally as described in the LWEP EIR. Groundwater from an unused well on the Signorelli had elevated salinity at a level of approximately 25 percent of typical seawater, with elevated salts exceeding federal and state secondary drinking water regulations. Water quality in other areas of the site is generally suitable for potable use (Appendix D).

4.12.2 Regulatory Setting

Federal

Clean Water Act

As described in the LWEP EIR (Section 3.15.2, *Regulatory Framework for Water Resources*), federal regulations include the Clean Water Act (CWA) which regulates discharges of wastewater and storm-water into surface waters through the issuance of National Pollutant Discharge Elimination System (NPDES) permits and setting pretreatment standards. In California, the State Water Resources Control Board is the permitting authority and it has adopted a statewide General Permit for Stormwater Discharges Associated with Construction Activity (General Permit) that applies to projects resulting in one or more acres of soil disturbance. For additional discussion of the NPDES, see Section 3.15.2.1 of the LWEP EIR.

In addition to the aspects of the CWA described in the LWEP EIR, Section 401 of the CWA requires that any activity that may result in a discharge into waters of the U.S. be certified by the RWQCB. This certification ensures that the proposed activity not violate State and/or federal water quality standards. Section 404 of the CWA authorizes the U.S. Army Corps of Engineers (USACE) to regulate the discharge of dredged or fill material to the waters of the U.S. and adjacent wetlands. Discharges to waters of the U.S. must be avoided where possible and minimized and mitigated where avoidance is not possible. Permits are issued by the USACE.

State

State regulations are described in the LWEP EIR (Section 3.15.2, *Regulatory Framework for Water Resources)* and include the Porter Cologne Water Quality Control Act which authorizes the SWRCB to draft state policies regarding water quality. It requires that the SWRCB, or the appropriate RWQCB, adopt water quality control plans (Basin Plans) for the protection of water quality. State regulations also include the California Department of Fish and Wildlife's (CDFW) Streambed Alteration Program which regulates activities that would "substantially divert or obstruct the natural flow of, or substantially change the bed, channel, or bank of, or use material from the streambed of a natural watercourse" that supports wildlife resources. Projects within a streambed would require a Streambed Alteration Agreement issued by the CDFW. For additional information, see Section 3.15.2.2 of the LWEP EIR.

Local

Local regulations related to surface water quality, groundwater, and on-site sewage are described in the LWEP EIR Section 3.15.2 and include policies and regulations contained within the Santa Barbara County General Plan and the Santa Barbara County Code. For additional information, see Section 3.15.2.3 of the LWEP EIR.

In addition to the local regulations described in the LWEP EIR, Santa Barbara County Surface and Storm Water Quality Significance Guidelines (described in Section 4.12.3 below) require that all projects determined to have a potentially significant storm water quality impact must prepare and implement a Storm Water Quality Management Plan (SWQMP) to reduce the impact to the maximum extent practicable. The SWQMP shall include the following elements:

- identification of potential pollutant sources that may affect the quality of the discharges to storm water;
- the proposed design and placement of structural and non-structural best management practices (BMPs) to address identified pollutants;
- a proposed inspection and maintenance program; and
- a method of ensuring maintenance of all BMPs over the life of the project.

Implementation of best management practices identified in the SWQMP will generally be considered to reduce the storm water quality impact to a less-than-significant level.

4.12.3 Significance Thresholds

Santa Barbara County Thresholds

Significance thresholds (impact criteria) are based on the County's 2018 Environmental Thresholds and Guidelines Manual (2018). A significant water quality impact would occur if the SWEP:

1. Is located within an urbanized area of the county and the project construction or redevelopment individually or as a part of a larger common plan of development or sale would disturb one (1) or more acres of land;
2. Increases the amount of impervious surfaces on the site by 25 percent or more;
3. Results in channelization or relocation of a natural drainage channel;

4. Results in removal or reduction of riparian vegetation or other vegetation (excluding non-native vegetation removed for restoration projects) from the buffer zone of any streams, creeks or wetlands;
5. Is an industrial facility that falls under one or more of categories of industrial activity regulated under the NPDES Phase I industrial storm water regulations (facilities with effluent limitation; manufacturing; mineral, metal, oil and gas, hazardous waste, treatment or disposal facilities; landfills; recycling facilities; steam electric plants; transportation facilities; treatment works; and light industrial activity);
6. Discharges pollutants that exceed the water quality standards set forth in the applicable NPDES permit, the Regional Water Quality Control Board's (RWQCB) Basin Plan or otherwise impairs the beneficial uses of a receiving waterbody;
7. Results in a discharge of pollutants into an "impaired" waterbody that has been designated as such by the State Water Resources Control Board or the RWQCB under Section 303 (d) of the Federal Water Pollution Prevention and Control Act (i.e., the Clean Water Act);
8. Results in a discharge of pollutants of concern to a receiving water body, as identified in by the RWQCB; or
9. The project size, location (proximity to sensitive waterbodies, location on hillsides, etc.), construction timing and duration, nature and extent of directly- connected impervious areas, alteration of drainage patterns, disturbance to riparian corridors, disturbance to other native vegetation on or off site, type of storm water pollutants expected, and the extent to which water quality best management practices are included in the project design, are such that substantial alteration of water quality is expected.

Standard CEQA significance criteria also include separate criteria related to flooding and flood hazards, erosion and siltation, alteration of drainage patterns, increased runoff rates, and mudflow. Impacts due to erosion and siltation would be covered under the criteria listed above. Due to the Project location on hilltops, outside the 100-year floodplain and County of Santa Barbara regulations regarding mitigation of increased flood flows, the additional CEQA significance criteria are considered non-existent or not significant as described in the impact analysis.

LWEP Thresholds

CEQA impact significance criteria listed in the Final EIR for the LWEP are as follows, with comments added in italics to describe their relevance to the current analysis:

a. Violate any water quality objectives or regulations of the Central Coast RWQCB Basin Plan. *This impact criterion is covered under Impact Criterion #6.*

b. Substantially deplete groundwater supplies or interfere with groundwater recharge. *This criterion is no longer included in the Santa Barbara County significance criteria but is evaluated in Impact WAT-4.*

c. Increase the amount of impervious surfaces on a site by 25 percent or more. *This impact criterion is covered under Impact Criterion #2.*

d. Place permanent structures within a 100-year floodplain that would impede or redirect flows. *This criterion is no longer included in the Santa Barbara County significance criteria. The site is*

not within a 100-year floodplain. No structures are proposed that would impede or redirect flood flows. This impact would be less than significant and is not evaluated further in this analysis.

e. Result in the channelization or relocation of a natural drainage channel. *This impact criterion is covered under Impact Criterion #9.*

f. Result in removal or reduction of riparian vegetation or other vegetation (excluding non-native vegetation removed for restoration projects) from the buffer zone of any streams, creeks, or wetlands. *This impact criterion is covered under Impact Criterion #9.*

g. Discharge pollutants that exceed the water quality standards set forth in the applicable NPDES permit or RWQCB Basin Plan, or otherwise impair the beneficial uses of a receiving body of water. *This impact criterion is covered under Impact Criterion #6.*

h. Result in a discharge of pollutants into an "impaired" body of water that has been designated as such by the SWRCB or the RWQCB under Section 303(d) of the Federal Water Pollution Prevention and Control Act (that is, the CWA). *This impact criterion is covered under Impact Criterion #7.*

i. Result in a discharge of pollutants of concern to a receiving body of water, as identified in by the RWQCB. *This impact criterion is covered under Impact Criterion #8.*

j. Projects that do not specifically include these criteria or are located outside the "urbanized areas" could also have a project-specific impact on stormwater quality. Stormwater quality impacts associated with these projects must be evaluated on a project-by-project basis for a determination of significance. The potential impacts of these projects should be determined in consultation with the County Water Agency, Flood Control Division, and RWQCB. The issues that should be considered are:

- Size of the development
- Location (such as proximity to sensitive bodies of water or locations on hillsides)
- Timing and duration of the construction activity
- Nature and extent of directly connected impervious areas
- Extent to which the natural runoff patterns are altered
- Disturbance to riparian corridors or other native vegetation on or off site
- Type of stormwater pollutants expected
- Extent to which water quality BMPs are included in the project design

This impact is covered under Impact Criterion #9.

4.12.4 Environmental Impacts and Mitigation Measures

This evaluation of impacts and Mitigation measures uses the same impact statements as were used for the LWEP. A review of the SWEP in comparison to the LWEP revealed that the two projects are sufficiently similar that the same impact statements used for the LWEP can be used for the SWEP. These impact statements comprise all the relevant significance criteria described in Section 4.12.3, as is described in the description of each impact.

Table 4.12-1 below lists the impacts and mitigation measures identified for hydrology and water quality in the LWEP Final EIR. These same impacts are addressed in this section for the SWEP. The right-hand column of the table below indicates whether the LWEP impacts or mitigation measures have been modified for the SWEP.

Table 4.12-1. LWEP Impacts and Mitigation Measures – Hydrology and Water Quality

Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
WAT-1	Erosion and Sedimentation. The proper implementation of erosion and sedimentation control would reduce erosion rates during and after construction to essentially natural rates.	WAT-1: Erosion Control Plan. GEO-2: Grading and Drainage Plan.	Modified impact statement. Updated impact discussion. Removed mitigation.
WAT-2	Pollutant Discharge. Water quality could be affected by small fuel or oil spills, concrete, and trash and litter during construction.	None.	No changes.
WAT-3	Stormwater Runoff/Flooding. Although some acres will be temporarily and permanently disturbed by changes to stormwater runoff/flooding, hydrologic conditions and stormwater quality would remain about the same as current conditions.	WAT-2: Minimize Watercourse Encroachment in Road Widening.	Modified impact statement. Updated impact discussion.
WAT-4	Groundwater. The Project would not substantially deplete groundwater supplies or interfere with groundwater recharge. Effluent from facility drains would be disposed of through a proposed leach line system.	None.	Modified impact statement. Updated impact discussion. Added new mitigation (MM WAT-1).
WAT-5	Riparian Vegetation Removal. The Project could result in the removal or reduction of vegetation from the buffer zone of streams, creeks, or wetlands along roadways, which could affect water quality.	None.	Updated impact discussion. Revised mitigation (MM WAT-2).

The primary differences between the LWEP and SWEP that affect water resources are the well location and groundwater source (see Impact WAT-4 below) and the different route of the proposed transmission line for the SWEP. Where these differences are relevant to the respective impacts, they are described below. Other differences between the LWEP and SWEP, which involve the specific site plan and location of Project features, do not affect the general impact descriptions nor the impact classifications except as described below.

The hydrology and water quality impacts of the proposed SWEP are discussed below.

WAT-1 Erosion and Sedimentation. Project-related ground disturbance could induce erosion and sedimentation into local watercourses~~. The proper implementation of erosion and sedimentation control would reduce erosion rates during and after construction to essentially natural rates~~.

Erosion and sedimentation impacts would affect water quality (Significance Criteria 1, 2, 6, 7, 8, and 9). Impacts under the SWEP are the same as described for Impact WAT-1 in the LWEP. There is a potential for Project construction and decommissioning to disturb soils and thereby generate the potential for increased erosion and sedimentation from disturbed areas. Total earth disturbance would be approximately 950,237 cubic yards compared to 219,000 identified in the LWEP EIR (Table 2-1). Figure 2-3b shows the location of grading activities, much of which would be along ridgelines outside of stream beds. However, there would be 3.2 acres of grading along San Miguelito Creek as shown in Figures 2-6a-c. San Miguelito Creek is the receiving water for portions of the site drainage, as well as to the proposed transmission line construction. San Miguelito Creek is now impaired for a variety of pollutants which do not include sedimentation, though it is possible for runoff-borne sediments to carry other pollutants.

Similar to the LWEP, a SWPPP would be required under the provisions of the Clean Water Act. The SWPPP would include BMPs that would reduce erosion rates during and after construction and decommissioning to essentially natural rates. A grading, erosion-control and drainage plan would also be required as per Santa Barbara County requirements (LWEP MM WAT-1, therefore, would not be needed). In addition, because the Project would potentially have an impact on water quality, a SWQMP would be required by the County of Santa Barbara to reduce the water quality impact to levels that do not exceed RWQCB water quality standards. Santa Barbara County requires that disturbed slopes be vegetated with appropriate native or drought-tolerant vegetation, permanent channel crossings be stabilized, and energy dissipators such as riprap be used at outlets of new storm drains, culverts, conduits or channels that enter unlined channels. Detention basins are required to reduce post-development peak storm water runoff discharge rates. With all the standard measures required by the various agencies, erosion and sedimentation impacts would be reduced to a less-than-significant level (Class III).

WAT-2 Pollutant Discharge. Water quality could be affected by small fuel or oil spills, concrete, and trash and litter during construction and operation.

Pollutant discharge impacts could affect water quality (Significance Criteria 1, 2, 5, 6, 7, 8, and 9). Impacts under the SWEP are the same as described for Impact WAT-2 in the LWEP EIR. The general description of the SWEP impact is the same as for WAT-2 described in the LWEP EIR and is similar to SWEP RISK-5 (Section 4.11), which includes a description of the amount of chemicals that would be used by the SWEP.

There is a potential for accidental releases of hazardous materials (oil, lubricants, fuel, trash, paint, etc.) during construction, operation and decommissioning of the SWEP. As stored chemicals would be held in onsite tanks or drums equipped with secondary containment areas to prevent runoff, and the substation would be graded for containment in the event of equipment failure, the risk of spill is low during Project operations.

The potential for construction-related releases extends along San Miguelito Creek due to the proposed transmission line construction. As an impaired water body, discharges of pollutants into San Miguelito Creek could be significant under Significance Criterion 7.

Similar to the LWEP, adherence to a SWPPP would be required under the provisions of the Clean Water Act to control pollutants during construction. The applicant proposes a Hazardous Materials Management Plan and a Spill Prevention Control and Countermeasures Plan to reduce the accidental release of contaminants and to clean up any accidental releases. The SWQMP would require identification of pollutant sources, BMPs to address identified pollutants, and an inspection and maintenance program to maintain BMPs for the life of the Project. In addition, MMs RISK-1 to RISK-4 (associated with Impact RISK-5) require a Hazardous Materials Management Plan, contact information for spillage from refueling vehicles, proper maintenance of vehicles, and avoidance of sensitive areas. Therefore, similar to the LWEP, potential water quality impacts associated with the Project's discharge of pollutants would be adverse, but not significant (Class III) due to implementation of regulatory requirements imposed by various agencies.

WAT-3 Stormwater Runoff/Flooding. Temporary and permanent land disturbance could affect stormwater runoff/flooding and stormwater quality. ~~Although some acres would be temporarily and permanently disturbed by changes to stormwater runoff/flooding, hydrologic conditions and stormwater quality would remain about the same as current conditions.~~

Stormwater runoff/flooding impacts could affect water quality (Significance Criteria 2 and 9), as well as potentially increasing peak runoff rates or otherwise exacerbating flood and erosion hazards through drainage alteration or placement of structures in flood-prone areas. The general description of the Project impact is the same as Impact WAT-3 in the LWEP EIR, which stated that the project impervious area is such a small percentage of the watershed area that hydrologic conditions would change little, and that there would be little potential for spillage of chemicals as described in Impact WAT-2.

Appendix D shows that similar to the LWEP, the permanent impervious area of the SWEP would represent a small percentage (less than 1 percent) of the total Project area, indicating that hydrologic conditions would remain about the same as current conditions. The Project would not significantly affect flows in the 100-year floodplain because the Project is primarily on hillsides, not located in a 100-year floodplain, and except for road crossings would be outside other flood-prone areas. Disturbances of drainage channels would be minimal.

Impacts from stormwater runoff and flooding and to water quality would be less than significant (Class III) with the implementation of the SWPPP, Grading and Drainage Plan, and BMPs (associated with Impact WAT-2 and Impact RISK-5), the SWQMP (associated with Impact WAT-1), and the Hazardous Materials Management Plan (associated with Impact RISK-5). In addition, implementation of MM WAT-2 (associated with Impact WAT-5) would help avoid unnecessary encroachment into watercourse areas and thereby further reduce the potential for adverse impacts to water quality. (The classification is considered Class III instead of Class II because there is no project-specific mitigation and only standard County requirements.)

WAT-4 Groundwater. The Project ~~would not~~ could substantially deplete groundwater supplies or interfere with groundwater recharge. ~~Effluent from facility drains would be disposed of through a proposed leach line system.~~

Groundwater impacts could relate to groundwater quality (Significance Criteria 6 and 8) as well as potentially adversely affecting the availability of groundwater to other users. Impacts are the same as Impact WAT-4 in the LWEP EIR. However, the proposed groundwater source for the SWEP is different from the LWEP.

As described in the LWEP EIR, the Project is not located above a designated groundwater basin recognized and named by the California Department of Water Resources. Groundwater from a small, local, unmapped basin with approximately 40 acre feet of available water would be used by the Project. The SWEP proposes to use a well that would be installed approximately 8,000 feet east of the O&M building along San Miguelito Road (Figure 2-3b). The LWEP well would have been on the Signorelli Ranch approximately 4,700 feet northwest of the proposed well shown on figure 2.3b. According to a well feasibility study and pumping test (Appendix E-2) the proposed well to be used by the SWEP Project has capacity to supply the 250 gallons per day required for operations with a long-term static water level drawdown of less than a foot.

As described in Section 4.12.1, the site is not above any mapped groundwater basin. Only local groundwater is available and there are few low-producing wells in the area. There is one existing well adjacent to the proposed water supply well that could potentially be affected by the water extraction for the Project. Given the results of the well test (Appendix E-2), long-term water level drawdown for operational uses for the SWEP well would be less than one foot. The existing adjacent well is 50 feet deep with a static water level 7 feet below the ground surface (Appendix E-2). A one-foot long term drawdown for operational uses is therefore unlikely to adversely affect the production of this existing well.

Water quality from the proposed well would be adequate for potable use, but with iron exceeding the EPA Secondary Maximum Containment Level (SMCL). SMCLs are unenforced, non-mandatory water quality standards considered as guidelines for public water systems. SMCL contaminants are not considered to present a risk to human health. Iron-removal options are available (Appendix E-2).

Construction water would be supplied either from the well described above or by the City of Lompoc's Regional Wastewater Reclamation Plant (LRWRP). The Applicant has received a "Can and Will Serve" Letter from LRWRP for up to 20,000 gallons per day of recycled water for the Project. Neither would cause a significant adverse impact to surface water quality (see Impacts WAT-1 through WAT-3) which could lead to infiltration to and contamination of the groundwater.

Construction water use would be up to 19,000 gallons per day for six months, plus 3,300 gallons for each of the 30 WTG foundations for a total of approximately 11 acre feet. According to the well feasibility study and pump test (Appendix E-1 and E-2), the local aquifer has approximately 40 acre feet of water total, and extraction of 43,200 gallons of water (a little more than two days of construction water) over a 12-hour period caused a 38-foot drawdown in the water level. Based on this evidence, it appears that use of the proposed well for construction-related purposes could cause a significant adverse impact to the water level in existing, adjacent wells. Implementation of MM WAT-1 (Construction Water Source) would require that construction water not be obtained from onsite wells, which would avoid this impact.

As with the LWEP, the estimated permanent impervious area would represent a small percentage (less than 1 percent) of the total Project area, indicating that groundwater recharge would remain about the same as current conditions. Thus, with implementation of MM WAT-1, the Project would not substantially deplete groundwater supplies or interfere with groundwater recharge.

During the operational phase of the Project, a normal staff of 4 to 7 full-time staff would be employed at the O&M facility. Effluent from the office drains would be disposed of through a proposed leach line septic system. For such a system, the Santa Barbara County Environmental Health requires soil with adequate permeability to absorb leachates after solids are deposited in the septic tank. Additionally, depending upon the permeability of the soil, there is a minimum separation requirement between the bottom of the leach trenches and the ground water table. A wet weather soil boring is required to confirm the highest expected groundwater elevation. Percolation test results show that the O&M facility site vicinity is characterized by native soils with permeability ranging from 42 to 100 minutes per inch. Groundwater levels are expected to fluctuate with rainfall. Local perched ground water was observed by boring to be at a depth of 9 feet after a period of heavy rain.

Design sewage flow generated by the O&M facility is estimated at 250 gallons per day, which is conservative since the California plumbing code estimate roughly 20 gallons per person per day for a typical office. Five to seven employees are expected to occupy the O&M facility, which would make actual use approximately 100 to 140 gallons per day.

The desired onsite disposal system is a conventional in-ground system including a septic tank to remove solids and grease, a 4-inch pipeline at 3 percent slope to a distribution box, and two leach lines, sized to accommodate the design flows for the field soils. The septic tank and leach lines will be located just north of the O&M facility in native soil, beginning just beyond the area of fill for the new building. The septic system design will depend on final engineering calculations. At this time, it is estimated that a 1,000-gallon septic tank with roughly 200 feet of leaching lines (two lines each 100 feet long) would be adequate to dispose of the generated wastes. A leach trench depth of approximately 42 inches would have adequate (more than five feet) separation from the wet weather groundwater location.

Through compliance with County standards and implementation of MM WAT-1 (Construction Water Source) below, the Project's impact on groundwater quality would be reduced to a less-than-significant level (Class II).

Mitigation Measure

MM WAT-1 **Construction Water Source.** Onsite wells shall not be used for construction water.

Plan Requirements. The Applicant shall use the reclaimed water from the City of Lompoc's Regional Wastewater Reclamation Plant for all construction-related purposes, including water used for dust control, grading activities, and generation of concrete for WTG foundations.

Timing. This condition shall be written on the grading plans prior to Zoning Clearance.

Monitoring. No monitoring required.

WAT-5 Riparian Vegetation Removal. The Project could result in the removal or reduction of vegetation from the buffer zone of streams, creeks, or wetlands ~~along roadways~~, which could affect water quality.

Removal of riparian vegetation could affect surface water quality (Significance Criteria 4 and 9). The potential effect of this impact would be the same as described for Impact WAT-5 in the LWEP EIR. Road construction and grading for road construction could result in the removal or reduction of riparian vegetation or other vegetation from the buffer zone of streams, creeks, or wetlands, which could affect water quality by increasing the potential for erosion and removing vegetation which serves as shade (effects to water temperature can be considered an adverse impact on water quality) and a filter for pollutants. The permanent removal of 3.02 acres of riparian vegetation (see Table 4.5-3) is described in Impacts BIO-1a and BIO-4. The location of riparian vegetation is shown in Figure 4.5-1. The impacts from vegetation removal are potentially significant, but can be reduced to a less-than-significant level with mitigation (Class II). Implementation of MMs BIO-3 (Site Restoration and Revegetation Plan), BIO-10 (Riparian Habitat Restoration), and WAT-2 (Minimize Watercourse Encroachment) would reduce potential impacts to water quality associated with the removal or reduction of vegetation to a less-than-significant level.

Mitigation Measures

MM BIO-3 **Site Restoration and Revegetation Plan.** The full text of this measure is presented in Section 4.5, *Biological Resources*.

MM BIO-10 **Riparian Habitat Restoration.** The full text of this measure is presented in Section 4.5, *Biological Resources*.

MM WAT-2 **Minimize Watercourse Encroachment.** Prior to final approval of the Project, a plan showing all watercourse encroachments shall be submitted to Santa Barbara County for review and approval. The plan shall demonstrate that any disturbance to riparian vegetation is the minimum practicable, and does not adversely affect the creek channel, vegetative cover over the stream, or flow pattern.

Plan Requirements. Plan requirements shall be noted on all grading and building plans. The Applicant shall notify County Permit Compliance prior to commencement of grading.

Timing. The Watercourse Encroachment Plan shall be submitted for review and approval by the County prior to zoning clearance for construction.

Monitoring. County Permit Compliance will ensure compliance with the road widening plan. Grading inspectors will monitor technical aspects of the construction activities.

4.12.5 Cumulative Effects

Geographic Extent/Context

The geographic extent of the hydrology and water quality cumulative effects is the Lompoc Valley (Santa Ynez River) as described in the LWEP EIR, plus the Honda Creek watershed extending to the Pacific Ocean south of the Lompoc Valley. All of the cumulative projects relevant to hydrology and water quality are in the Lompoc Valley. The location of the relevant cumulative projects is shown in

Figure 3-1. Most of these are small urban commercial or residential projects in and around the city of Lompoc. There are a winery and an aggregate mine along the Santa Ynez River upstream of Lompoc. The SWEP site also drains to the Santa Ynez River via San Miguelito Creek. The Santa Ynez River is classified as impaired by the RWQCB for sedimentation/siltation, sodium, water temperature, total dissolved solids and toxicity.

All the proposed projects shown in Figure 3-1 could have adverse effects on the water quality of the Santa Ynez river based on the significance criteria described in Section 4.12.3. The aggregate projects could have an effect on groundwater, but in a different groundwater basin not connected to the groundwater beneath the SWEP. Each project would be subject to the requirements described in Section 4.12.2, which are intended to reduce and mitigate adverse impacts and avoid detriment to beneficial uses.

Impact Categories

Erosion and Sedimentation. All the cumulative projects would involve ground disturbance which could produce erosion and sedimentation, which is one of the impairments of the Santa Ynez River. Impacts would primarily occur during construction, though long-term impacts would be possible, particularly for the winery, aggregate and residential projects. The SWEP would contribute to the potential for erosion and sedimentation as described in Impact WAT-1.

SWPPPs would be required for all projects greater than one acre in size. Santa Barbara County imposes additional requirements, which include pollution and sediment control, drainage and erosion BMPs, and revegetation of disturbed areas. The purpose of these measures is to avoid adversely impacting beneficial uses and water quality, including sedimentation. Therefore, the overall cumulative impact is expected to be minor and not significant, to which the SWEP would make a contribution that is not substantial.

Pollutant Discharge. All the cumulative projects could affect water quality through discharge of pollutants during construction and operation, and adversely affect the impaired Santa Ynez River. The SWEP would contribute to the potential for pollutant discharge as described in Impact WAT-2.

SWPPPs would be required for all projects greater than one acre in size. Additional requirements would be imposed by Santa Barbara County as described in Section 4.12.3. The purpose of these measures is to avoid adversely impacting beneficial uses and water quality. Therefore, the overall cumulative impact is expected to be minor and not significant. The SWEP, through compliance with existing regulations, and the proposed Hazardous Materials Management Plan and a Spill Prevention Control and Counter-measures Plan, would not make a substantial contribution to this cumulative impact.

Stormwater Runoff/Flooding. All the projects would have the potential to increase stormwater runoff and flooding, but it is unlikely storm discharges would be significantly increased due to Santa Barbara County detention requirements. The contribution of the SWEP would not be significant for the same reason.

Groundwater. The SWEP, not being above any groundwater basin that would be affected by cumulative projects would have no contribution to cumulative groundwater impacts.

Riparian Vegetation Removal. Most of the relevant cumulative projects are not within riparian areas and would not contribute to riparian vegetation removal. The proposed sand and gravel operation (Project #16 in Figure 3-1) may remove some riparian vegetation along the Santa Maria River. Therefore, the SWEP, which would remove riparian vegetation along San Miguelito Creek, would have

a relatively large contribution to the cumulative impact on riparian vegetation. Since this impact would be mitigated, the Project would not make a substantial contribution to this impact.

4.12.6 Residual Impacts

As summarized in Section 4.12.4, Impacts WAT-1, WAT-2, and WAT-3 would be less than significant. With implementation of proposed mitigation measures, residual effects from Impacts WAT-4 and WAT-5 would be less than significant.

4.12.7 Impact and Mitigation Summary

Table 4.12-2 below provides a summary of the SWEP's impacts related to hydrology and water quality. The table also indicates the mitigation measures proposed to reduce each significant impact.

Table 4.12-2. SWEP Impact and Mitigation Summary – Hydrology and Water Quality

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
WAT-1	Erosion and Sedimentation. Project-related ground disturbance could induce erosion and sedimentation into local watercourses.	None required; however, standard regulatory requirements apply.	Class III
WAT-2	Pollutant Discharge. Water quality could be affected by small fuel or oil spills, concrete, and trash and litter during construction and operation.	None required; however, standard regulatory requirements apply.	Class III
WAT-3	Stormwater Runoff/Flooding. Temporary and permanent land disturbance could affect stormwater runoff/flooding and stormwater quality.	None required.	Class III
WAT-4	Groundwater. The Project could substantially deplete groundwater supplies or interfere with groundwater recharge.	WAT-1: Construction Water Source. Also, standard regulatory requirements apply.	Class II
WAT-5	Riparian Vegetation Removal. The Project could result in the removal or reduction of vegetation from the buffer zone of streams, creeks, or wetlands, which could affect water quality.	WAT-2: Minimize Watercourse Encroachment MM BIO-3: Site Restoration and Revegetation Plan MM BIO-10: Riparian Habitat Restoration	Class II

Class I. Significant unavoidable adverse impact.

Class II. Significant environmental impacts that can be feasibly mitigated or avoided.

Class III. Adverse impacts found not to be significant.

Class IV. Impacts beneficial to the environment.

4.12.8 References

FEMA (Federal Emergency Management Agency). 2012. National Flood Insurance Program Flood Insurance Rate Map Santa Barbara County, California. Panel 1002.

FEMA (Federal Emergency Management Agency). 2018. National Flood Insurance Program Flood Insurance Rate Map Index Santa Barbara County, California. Map #6083CIND1D.

SWRCB (State Water Resources Control Board). 2016. Final 2014/2016 California Integrated Report (Clean Water Act Section 303(d) List / 305(b) Report). [online]: https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2014_2016.shtml. Accessed October 23, 2018.

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4.13 Land Use and Planning

This section describes effects on existing land uses that would be caused by the implementation of SWEP. The LWEP EIR addressed land use and policy consistency in the LWEP EIR Section 3.10 (Land Use) and concluded that land use conflicts would be less than significant with the exception of operational noise affecting quality of life to a significant but mitigable level. The following discussion identifies any changes to the existing environmental conditions in the Project area since 2008, and provides an update to applicable policies, potential impacts, and recommended mitigation measures.

4.13.1 Environmental Setting

As described in the LWEP EIR, the Project is located in a rural portion of unincorporated Santa Barbara County on ridges of the Santa Ynez Mountains. The Project's two primary components (i.e., WTG Site, and Transmission Line Route) are defined by two distinct geographic boundaries, as described below. A discussion of the Project's consistency with land use and zoning designations is included in Section 4.13.5.

SWEP WTG Site

The nearest WTG to the City of Lompoc would be approximately 3.7 miles southwest of the City, as measured from the City's southern boundary at San Miguelito Road. Vandenberg Air Force Base (VAFB) adjoins the Project site along the site's southern and western boundaries, and a detailed summary of the land uses within VAFB is included in the LWEP EIR, Section 3.10.1. Other land uses outside the Project boundary but within the immediate vicinity include VAFB's Sudden Peak Tracking Station near the southern perimeter, and the City of Lompoc's Frick Springs water facility on San Miguelito Road. Miguelito Canyon Park and Imerys Minerals California's Lompoc Plant are located further northeast along San Miguelito Road.

The Project site is accessed via San Miguelito Road and encompasses 11 privately owned parcels covering approximately 2,971 acres. Single-family residences or mobile homes are located on seven of the 11 parcels. The nearest private residence outside of the Project area boundary is located approximately 2,067 feet southeast of the proposed location for WTG N-7. Within the Project boundary are two parcels (0.66 acre total) that are owned by the federal government; no development or other Project activity would occur on or near these parcels. The Project would be located within the County's inland area, with the exception of the southern portion of the site that extends into the California coastal zone along portions of Station Road and the proposed east WTG string. Approximately 6.5 acres of permanent ground disturbance associated with grading and road improvements would occur within the coastal zone. The remaining Project components, including all WTGs and appurtenant structures, would be located within the inland area.

The entire Project area has a land use designation of Agriculture and the site is primarily used for cattle grazing. The inland portion of the Project site is zoned AG-II-100 (Agriculture II/Minimum parcel size 100 acres), while the coastal zone portion of the Project site is zoned both AG-II-100 and AG-II-320 (Agriculture II/Minimum parcel size is 320 acres).

SWEP Transmission Line Route

The Project's 115-kV transmission line would begin at the proposed substation and would be constructed along an eastern and northern route until it terminates at the proposed switchyard location as shown in Figures 2-4a and 2-4b (Project Transmission Line Route). The proposed switchyard site would be located within the Imerys Minerals property, approximately 140 feet south of the nearest residence.

Outside the WTG site boundary, the transmission line would traverse 10 additional parcels. The transmission line would remain within the County's inland area, and the entire route has a land use designation of Agriculture with a zoning of AG-II-100 (see consistency discussion in Section 4.13.5). The following land uses are located along the proposed transmission line route:

- **Residences.** Within the WTG site boundary, the transmission line would traverse three residential properties as it travels east from the proposed substation and crosses San Miguelito Road from south to north. The distance of the transmission line would be greater than 200 feet from the approximately seven existing homes located along the transmission route within the WTG site boundary. Further northeast, the transmission line would be constructed on the east side of San Miguelito Road, at a distance greater than 600 feet of approximately 20 residences. Five residences within the City of Lompoc would be located within 200 feet of the switchyard.
- **Parks.** The transmission line would be constructed approximately 250 feet north of Miguelito Canyon Park. A discussion of available recreational resources at Miguelito Canyon Park and recreational activities within the surrounding area is included in Section 4.19, *Recreation*, of this SEIR.
- **Industrial.** The transmission line would be constructed along the western and northern boundaries of the Imerys Minerals Plant for approximately 3.5 miles.

4.13.2 Regulatory Setting

This section identifies the federal, State, and local regulations that apply to the SWEP. Of the regulations listed below, those that were discussed in the LWEP EIR include references to that analysis. For applicable regulations that were not discussed in the LWEP EIR, or that require an updated summary, a reference is provided to direct the reader to the relevant discussion in the SEIR.

4.13.2.1 Federal

- **National Ambient Air Quality Standards** (refer to full discussion in LWEP EIR Section 3.4.2.1)
- **Clean Water Act** (refer to full discussion in SEIR Sections 4.5.2.2 and 4.12.3)
- **Endangered Species Act** (refer to full discussion in LWEP EIR Section 3.5.6)
- **Migratory Bird Treaty Act** (refer to full discussion in LWEP EIR Section 3.5.6)
- **Bald and Golden Eagle Protection Act** (refer to full discussion in LWEP EIR Section 3.5.6)
- **Plant Protection Act of 2000** (refer to full discussion in SEIR Section 4.5.2.2)
- **Federal Earthquake Hazards Reduction Act** (refer to full discussion in SEIR Section 4.9.2.1)
- **Executive Order 11990**- Wetlands (refer to full discussion in SEIR Section 4.5.2.2)

- **Federal Aviation Administration**, Title 14 of the Code of Federal Regulations CFR Part 77 (refer to full discussion in LWEP EIR Section 3.10.2.1)
- **Federal Motor Carrier Safety Regulations** (49 CFR 350-399) (refer to full discussion in LWEP EIR Section 3.14.2.1)
- **U.S. Department of Energy's Wind Vision** (refer to full discussion in SEIR Section 4.7.2.1)
- **National Electric Manufacturers Association and American National Standards Institute safety standards** (refer to full discussion in LWEP EIR Section 3.13.2.1)
- **National Fire Protection Agency's National Electric Code** (refer to full discussion in LWEP EIR Section 3.8.2)
- **International Building Code** (refer to full discussion in SEIR Section 4.9.2.1)
- **Institute of Electrical and Electronics Engineers 693**- Recommended Practices for Seismic Design of Substations (refer to full discussion in SEIR Section 4.9.2.1)
- **International Electrotechnical Commission Standard 61400-1** – Wind Turbine Design Standards (refer to full discussion in SEIR Section 4.9.2.1)

4.13.2.2 State

- **California Endangered Species Act** (refer to full discussion in LWEP EIR Section 3.5.6)
- **California Species Preservation Act** (refer to full discussion in LWEP EIR Section 3.5.6)
- **Porter Cologne Water Quality Control Act** (refer to full discussion in SEIR Section 4.5.2.2)
- **Alquist-Priolo Earthquake Fault Zoning Act of 1972** (refer to full discussion in LWEP EIR Section 3.9.2.1)
- **California Seismic Hazards Mapping Act of 1990** (refer to full discussion in LWEP EIR Section 3.9.2.1)
- **AB 32-** California Global Warming Solutions Act of 2006 (refer to full discussion in SEIR Section 4.7.2.2)
- **California Integrated Solid Waste Management Act** (refer to full discussion in SEIR Section 4.18.3)
- **California Oak Woodlands Conservation Act** (refer to full discussion in SEIR Section 4.5.2.2)
- **California Ambient Air Quality Standards** (refer to full discussion in LWEP EIR Section 3.4.2.2)
- **California Fish and Game Code** §§ 3503, 3503.5, 3511, 3513, 4000, 4700, 5050, and 5515 (refer to full discussion in LWEP EIR Section 3.5.6 and SEIR Section 4.5.2.2)
- **California Department of Fish and Wildlife's Streambed Alteration Progra**m (refer to full discussion in SEIR Section 4.5.2.2)
- **CARB Portable Equipment Registration Program** (refer to full discussion in SEIR Section 4.4.2.2)
- **Santa Barbara County Air Pollution Control District, Rule 345-** Control of Fugitive Dust from Construction and Demolition Activities (refer to full discussion in SEIR Section 4.4.2.2)
- **California's Renewables Portfolio Standard** (refer to full discussion in SEIR Section 4.7.2.2)
- **Senate Bills 1107 and 1368** (refer to full discussion in LWEP EIR Section 3.7.2.2)

- **California Public Utilities Commission's General Order 95 -** State of California Rules for Overhead Electric Line Construction (refer to full discussion in LWEP EIR Section 3.10.2.1)
- **California Code of Regulations:** Title 8 (Cal/OSHA regulations), Title 14 (Sections 1250 and 1255), and Title 24 (Building Code) (refer to full discussion in SEIR Sections 4.8.3 and 4.9.2.2)
- **California Public Resource Codes:** 4119, 4291-4296, 4435 (refer to full discussion in SEIR Section 4.8.3)
- **California Health and Safety Code** (refer to full discussion in SEIR Section 4.8.3)
- **California Government Codes:** 51175 and 51189 (refer to full discussion in SEIR Section 4.8.3)
- **California Strategic Fire Plan** (refer to full discussion in SEIR Section 4.8.3)
- **General Order 95:** Utility Vegetation Management Requirements (refer to full discussion in SEIR Section 4.8.3)
- **California State Multi-Hazard Mitigation Plan** (refer to full discussion in SEIR Section 4.8.3)
- **CAL FIRE: Civil Cost Recovery Program and Power Line Fire Prevention Guide** (refer to full discussion in SEIR Section 4.8.3)
- **Caltrans regulations for transport and encroachment** (refer to full discussion in LWEP EIR Section 3.14.2.2)
- **California Scenic Highway Program:** Sections 260 through 263 (refer to full discussion in SEIR Section 4.2.2)
- **California Coastal Act.** The LWEP EIR did not include a consistency analysis of California Coastal Act policies. As the SWEP would involve grading, oak tree removal, and road improvements within the coastal zone, these activities would be subject to the California Coastal Act. The California Coastal Act establishes a comprehensive approach to govern land use planning along the entire California coast and sets forth general policies (Public Resources Code Section 30200 et seq.) that are used by the California Coastal Commission (Coastal Commission) to review permit applications and local plans. Coastal Act policies are implemented through the preparation of Local Coastal Programs (LCPs) by the cities and counties that are located in whole or in part within the coastal zone. The LCP consists of a land use plan (LUP) and a local implementation program that specify the relevant planning policies and zoning ordinances specific to the coastal zone within that jurisdiction. Once an LCP is certified by the Coastal Commission, coastal permitting authority is delegated to the appropriate local government, with the exception of certain specific lands for which the Coastal Commission retains original permit jurisdiction.

4.13.2.3 Local

- **Santa Barbara County Comprehensive Plan** (refer to full discussion in LWEP EIR Section 3.10.2.3)
- **Santa Barbara County Coastal Land Use Plan.** The LWEP EIR did not include a consistency analysis of the County's Coastal Land Use Plan (LUP). The coastal zone portion of the SWEP would be subject to the policies and regulations established in the County's Coastal LUP, which was certified by the Coastal Commission in 1982 (CCC, 2017). The SWEP's development activities within the coastal zone would require a Coastal Development Permit (CDP). The certified LUP provides permitting authority to Santa Barbara County for Project activities within the coastal zone.

- **Santa Barbara County Land Use and Development Code** (refer to full discussion in LWEP EIR Section 3.10.2.3)

- **Santa Barbara County Article II Coastal Zoning Ordinance.** The LWEP EIR did not include a consistency analysis of the County's Coastal Zoning Ordinance because no LWEP components were proposed in the coastal zone. SWEP activities within the coastal zone would be subject to the regulations contained in Article II of the Coastal Zoning Ordinance, which implement the certified Coastal LUP (Santa Barbara County, 2018a).

- **Santa Barbara County Uniform Rules for Agricultural Preserves and Farmland Security Zones** (refer to full discussion in LWEP EIR Section 3.3.2.2)

- **Santa Barbara County Fire Department Hazardous Materials Business Plan** (refer to full discussion in LWEP EIR Section 3.13.2.3)

- **Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan** (refer to full discussion in SEIR Section 4.8.3)

- **Santa Barbara County Association of Governments Congestion Management Program** (refer to full discussion in LWEP EIR Section 3.14.2)

- **City of Lompoc General Plan** (refer to full discussion in SEIR Sections 4.8.3 and 4.14.2)

- **City of Lompoc Municipal Code** (refer to full discussion in SEIR Section 4.14.2)

4.13.3 Significance Thresholds

The following significance thresholds have been developed by the County to address land use and planning-related concerns in the Project area. These thresholds are identical to those used in the LWEP EIR. The proposed Project would have a significant land use and planning impact if it would:

- Physically divide an established community.
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
- Conflict with any applicable habitat conservation plan or natural community conservation plan (No such plans have been developed in the Project area, and this criterion is not considered further.)

In addition, Project impacts related to VAFB operations and local airports are addressed in this section based upon the following threshold of significance:

- Would the project conflict with military or local airport operations, be inconsistent with FAA or other relevant regulations, or create a navigational hazard?

The following five Thresholds of Significance for "Quality of Life," as outlined in Section 14 of the County Environmental Thresholds and Guidelines Manual, are also relevant and used herein to determine Project impacts (Santa Barbara County, 2018c):

- Loss of privacy
- Neighborhood incompatibility

- Nuisance noise levels (not exceeding noise thresholds)
- Increased traffic in quiet neighborhoods (not exceeding traffic thresholds)
- Loss of sunlight/solar access.

4.13.4 Environmental Impacts and Mitigation Measures

Table 4.13-1 below lists the impacts and mitigation measures identified for land use and planning in Section 3.10 of the LWEP EIR. These same impacts are addressed in this section for the SWEP. The right-hand column of the table below indicates whether the SWEP impacts or mitigation measures have been modified for the LWEP.

Table 4.13-1. LWEP Impacts and Mitigation Measures – Land Use and Planning

Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
LU-1	LUDC Visual Impact Development Standards. The Project would comply with development standards because impacts to aesthetic/visual resources would be mitigated to the extent feasible through the implementation of mitigation measures identified in Section 3.2.5.8 (Aesthetics/Visual Resources).	None identified.	Modified impact statement and relabeled as LU-1a. Updated impact discussion.
LU-1b	None	None	New impact statement. New impact discussion. New significance conclusion. Referenced Biological Resource mitigation.
LU-2	FAA Air Navigation Requirements. The Project would affect air navigation if helicopters were used during construction and the installation of WTGs and meteorological towers.	None identified	Modified impact statement. Updated impact discussion.
LU-3	Compatibility with VAFB Operations. The Project would be designed to avoid interference with VAFB operations, such as radar, telemetry antennas, and microwave links, specifically VTRS located on Sudden Peak. The Project footprint is within existing space launch hazard corridors that need to be evacuated periodically to ensure public safety and evacuation agreements would be pursued.	None identified.	Modified impact statement. Updated impact discussion.
LU-4	Quality of Life – Traffic. Construction activities would result in increased traffic in relatively quiet neighborhoods.	Referenced MM TC-1 from SEIR Section 4.17 (Transportation and Traffic).	Modified impact statement. Updated impact discussion. Significance conclusion change (construction). Revised/updated mitigation.

Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
LU-5	Quality of Life – Noise. The Project would result in increased noise levels during construction. Noise from WTG operation would impact quality of life of certain residences near the turbine corridors.	Referenced MMs NOI-2 through NOI-6 from SEIR Section 4.14 (Noise).	Modified impact statement and relabeled as LU-5a. Updated impact discussion. Significance conclusion change (construction). Revised/updated mitigation.
LU-5b	None	None	New impact statement. New impact discussion. New significance conclusion. Referenced Noise mitigation.
LU-6	None	None	New impact statement. New impact discussion. New significance conclusion. Revised/updated mitigation.
LU-7	None	None	New impact statement. New impact discussion. New significance conclusion. Revised/updated mitigation.

The land use and planning impacts of the proposed SWEP are discussed below. See Section 4.13.5 for a full discussion of the Project's consistency with the County's plans, policies, standards, and coastal zoning ordinance.

LU-1a LUDC Visual Impact Development Standards. The Project poses potential inconsistency with County Plans, Policies, and ~~The Project would comply with~~ ~~d~~Development ~~s~~Standards concerning visual impacts ~~because impacts to aesthetic/visual resources would be mitigated to the extent feasible through the implementation of mitigation measures identified in Section 3.2.5.8~~.

The LWEP analysis for Impact LU-1 discussed the consistency of the LWEP with LUDC standards that are intended to minimize visual impacts from wind energy projects (LUDC Chapter 35.57: Wind Energy Conversion Systems). The LWEP EIR concluded that although the residual visual impacts of the LWEP would be significant, the LWEP would conform to the development standards because further reduction in visual impacts would be infeasible. The impacts associated with compliance with the LUDC were determined to be adverse but less than significant.

As discussed in SEIR Section 4.2 and LWEP Section 3.2, the SWEP would result in significant and unavoidable impacts to views from San Miguelito Road at KOP 11 and from Jalama Beach County Park at KOP 4. WTGs visible from Upper San Miguelito Road would be the dominant features within the existing rural landscape, adversely affecting "moderate-high quality" views as illustrated in Figures 4.2-12A/12B (see LWEP Table 3.2-2 for a summary of KOP aesthetic quality). From Jalama Beach County Park, WTGs would extend above the ridgeline, adversely affecting "high quality" views from this publicly accessible beach as illustrated in Figures 4.2-5A/5B. These impacts could not be mitigated to a less than significant level. However, although the residual visual impacts of the SWEP

would be significant, the SWEP would continue to conform to the development standards within LUDC Section 35.57.050 (Development Standards for Wind Energy Conversion Systems) because the Project has been designed to reduce visual impacts to the degree feasible (see mitigation measures (MMs) VIS-1, VIS-2, and VIS-4 in SEIR Section 4.2.4). These measures will reduce aesthetic impacts during construction with restrictions on siting activities and material storage and will also minimize the visual contrast between rock/soils and vegetation with implementation of a landscaping plan. A detailed analysis of the Project's consistency with the LUDC is presented in Section 4.13.5 of this SEIR. Impacts associated with the SWEP's compliance with the County's development standards would remain adverse but not significant (Class III).

LU-1b Tree Protection. The proposed Project is inconsistent with County Plans, Policies, and Development Standards concerning tree removal.

This impact is new with the SWEP. The EIR for the LWEP did not identify significant impacts to trees or inconsistencies with County tree protection policies or ordinances. The reason SWEP would have significant impacts to trees, whereas the LWEP would not, is due to differences in design and layout of the two projects.

Construction of WTGs E-7 and E-8 and associated access roads, as proposed in the SWEP Project Description (SEIR Section 2), would result in an estimated loss of 382 trees, of which 35 are coast live oaks. Approximately 81 of these trees, including 24 coast live oaks, are located in the Coastal Zone. Additionally, 5 trees would be lost for construction of WTGs E-3 and N-5. Widening of San Miguelito Road would result in a loss of 158 trees, of which 150 are coast live oaks. Construction of the transmission line would result in a loss of 62 trees, all of them coast live oaks. None of these additional 225 trees are in the Coastal Zone (see Section 4.5.4.2 and Table 4.5-4 for the impact analysis). The grading plans for WTGs and access roads and San Miguelito Road work have been revised by the applicant to reduce loss of trees, and the transmission line route has been shifted to avoid coast live oaks to the extent feasible. Mitigation measures have also been recommended to minimize impacts to oak trees (see Section 4.5.4.2, MMs BIO-4a through BIO-4c). Nevertheless, the impacts to trees described above would occur if the Project were built as proposed.

The Modified Project Layout Alternative in Section 5.5.2 of this SEIR would eliminate WTGs E-7, WTG E-8 and associated access roads, reducing trees lost from approximately 607 to 225 trees and eliminating the loss of 81 trees in the Coastal Zone.

There are several County policies and ordinances pertaining to protection for coast live oaks. As discussed below (see Section 4.13.5), the proposed Project would be inconsistent with plans and policies of the Oak Tree Protection Supplement of the Conservation Element, the Land Use Element, the Coastal Land Use Plan, and the Coastal Zoning Ordinance. The rationale for finding the Project inconsistent with these policies and ordinances is that a feasible Project alternative exists that would result in substantially fewer oak tree losses (see Section 5.5.2). Therefore, the Project as proposed would result in unnecessary impacts to trees and woodlands, coast live oaks in particular, which is contrary to all these policies and ordinances. The impacts are considered significant and unavoidable (Class I).

It should be noted that the Modified Project Layout Alternative would be consistent with the Coastal Land Use Plan and Coastal Zoning Ordinance, because there would be no tree removal in the Coastal Zone. It would also be consistent with the Oak Tree Protection Supplement and the Land Use Element,

notwithstanding that some 225 trees (most of them oaks) would be removed for transmission line construction and San Miguelito Road widening. The consistency determination can be made, because (with the mitigation measures described in Section 4.5.4.2), impacts to trees, and oak trees in particular, would be avoided to the maximum extent feasible.

Mitigation Measures

See Section 4.5, *Biological Resources*, for the full text of these mitigation measures:

MM BIO-1 Worker Education and Awareness Program

MM BIO-2 Ground Disturbance

MM BIO-4a Tree Protection Plan

MM BIO-4b Tree Replacement Plan

MM BIO-4c Invasive Plant Pathogen Abatement (SOD Prevention)

MM BIO-11c Biological Monitoring

MM BIO-11d Monitoring Report

LU-2 FAA Air Navigation Requirements. Potential conflict with FAA ~~The Project would affect~~ air navigation requirements from ~~if helicopters were used during construction and the~~ installation of WTGs and meteorological towers, and possible use of helicopters during construction.

The LWEP concluded that the Project would have adverse but less than significant impacts to FAA navigation. There would be no notable change to FAA navigation impacts under the SWEP. The proposed SWEP must comply with FAA requirements, and project approval would require a Notice of Proposed Construction or Alteration (FAA Form 7460-1), a determination regarding the Project's impact to air navigation, and the WTG Lighting Plan. Additionally, the FAA would evaluate the meteorological towers to determine whether they would be subject to lighting requirements. The FAA would impose conditions as needed to prevent aircraft collisions with the WTGs and meteorological towers. Potential impacts under the SWEP would remain less than significant (Class III).

LU-3 Compatibility with VAFB Operations. Potential incompatibility ~~The Project would be designed to avoid interference~~ with VAFB operations, such as radar, telemetry antennas, and microwave links.~~, specifically VTRS located on Sudden Peak. The Project footprint is within existing space launch hazard corridors that need to be evacuated periodically to ensure public safety and evacuation agreements would be pursued.~~

The LWEP EIR determined that the Project would not conflict with VAFB operations. The SWEP is subject to the same constraints as the LWEP given its proximity to VAFB property, and potential impacts to VAFB operations would be similar to the analysis provided in the LWEP EIR. The Applicant

has been working with VAFB to ensure compliance with military requirements, and VAFB has confirmed the proposed WTG sites would not interfere with telemetry equipment or otherwise conflict with VAFB operations (B. King, personal communication, February 28, 2018). Furthermore, the Applicant has executed Agreement No. USAF-AFSPC-XUMU-15-1-0142, which establishes policies for evacuation and termination of transmissions of specified turbines during launch or pre-launch activities upon notice to do so by the VAFB. Given ongoing consultation and an executed agreement with the Airforce, the Project's impacts to VAFB operations would not be significant (Class III).

LU-4 Quality of Life – Traffic. Construction activities would result in increased traffic in relatively quiet neighborhoods.

The LWEP EIR determined that impacts to the quality of the human environment as it pertains to traffic would be adverse but less than significant. The SWEP's potential quality of life impacts from construction traffic would be similar to the analysis provided in the LWEP EIR. Compared to LWEP, transportation of the larger SWEP turbine blades would result in greater disruption of traffic in the rural, relatively quiet portions of the Project area, such as along San Miguelito Road. As discussed in Section 4.17, *Transportation and Traffic*, a Traffic Management Plan would be implemented to reduce congestion impacts (see MM TC-1 in SEIR Section 4.17.4). Although the Project would generate increased traffic in relatively quiet neighborhoods, quality of life impacts would be short term, lasting approximately ten months, and would cease upon completion of construction activities. Construction traffic impacts would be significant, but mitigable (Class II). With implementation of the recommended mitigation measures, residual impacts would be less than significant.[1]

Traffic-related impacts during Project operation would be negligible. Similar to LWEP, operation of the SWEP would require a small number of staff (approximately five to seven employees), as well as occasional subcontractors onsite for road or transmission line maintenance activities, resulting in minimal traffic increases. No impacts to quality of life would be associated with operational traffic.

Mitigation Measure

See Section 4.17, *Transportation and Traffic*, for the full text of this mitigation measure:

MM TC-1 Traffic Management Plan

LU-5a Quality of Life – Noise. ~~The Project would result in increased noise levels during construction.~~ Noise from Project construction ~~WTG operation would~~ could cause temporary impacts to quality of life of ~~certain~~ residences within and surrounding the Project area ~~near the turbine corridors~~.

The LWEP EIR determined that Project construction noise would be adverse but less than significant to the quality of the human environment. The SWEP's potential impacts to the community's quality of life would be similar to the analysis provided in the LWEP EIR. The Project would result in

[1] Note that the LWEP EIR conclusion was substantively the same, i.e., the residual impacts would be less than significant, with mitigation. However, the EIR classified the impacts as adverse, but less than significant (Class III).

increased noise levels during construction resulting from heavy equipment and vehicular traffic. Noise from transmission line construction would be of brief duration at any given location, although residents along San Miguelito Road would be exposed to noise from truck traffic throughout the duration of construction. Construction noise impacts would be minimized by implementation of mitigation measures described in Section 4.14, *Noise.* Construction noise would be typical of that associated with other construction projects and would cease upon completion of construction activities. Construction noise impacts would be significant, but mitigable (Class II). With implementation of the recommended mitigation measures, residual impacts would not be significant.[2]

Mitigation Measures

See Section 4.14, *Noise*, for the full text of these mitigation measures:

MM NOI-2 Construction Hours

MM NOI-3 Telephone Number for Noise Complaints

MM NOI-4 Noise Complaint Resolution Plan

MM NOI-5 Maintenance of Construction Equipment

MM NOI-6 Resident Notification

LU-5b Quality of Life – Noise. Noise from WTG operation could potentially impact quality of life of nearby residences.

The LWEP EIR determined that noise from WTG operation would result in significant but mitigable impacts to the quality of the human environment (Class II). The SWEP's potential impacts to the quality of life for certain residences during operation would be similar to the analysis provided in the LWEP EIR. SEIR Section 4.14.4, *Noise*, describes the predicted WTG noise levels for participating and nonparticipating residences within the Project area. The threshold for a substantial increase in noise levels was determined to be 50 dBA (A-weighted sound level measurement) Day Night Average Sound Level (Ldn) for nonparticipating residences, and 65 dBA Ldn for participating residences. The noise analysis conducted for SWEP (summarized in Table 4.14-6) indicates that none of the five adjacent nonparticipating residences would be exposed to noise levels greater than 49 dBA Ldn, and none of the eight participating residences would be exposed to noise levels greater than 59 dBA Ldn.

Potential noise impacts from WTG operation would be minimized to the extent feasible through implementation mitigation measures listed below. Noise from WTG operation would result in adverse but mitigable impacts to the quality of life of residences near the turbine corridors (Class II). With implementation of the recommended mitigation measures, residual impacts would not be significant.

Mitigation Measures

See Section 4.14, *Noise*, for the full text of these mitigation measures:

MM NOI-1 WTG Maintenance

MM NOI-3 Telephone Number for Noise Complaints

MM NOI-4 Noise Complaint Resolution Plan

[2] See Note 1, above.

MM NOI-7 **Acoustical Analysis**

MM NOI-8 **Noise Monitoring and Control Plan**

MM NOI-9 **Maintenance Hours**

LU-6 Coastal Resources. Possible unpermitted encroachment into the Coastal Zone, impacting coastal resources.

The proposed grading, tree removal, and road improvements that would occur within the coastal zone would be subject to a County-issued CDP. All activities within the coastal zone must adhere to the permit conditions specified in the CDP. To prevent any construction work occurring outside of the permitted area, implementation of MM LU-1 (Staking of Coastal Zone) is recommended. With the aid of exclusion fencing included as part of MM LU-1, permitted and non-permitted areas within the coastal zone would be clearly identifiable to construction workers. Impacts associated with coastal zone encroachment would not be significant with implementation of recommended mitigation (Class II).

Mitigation Measure

The LWEP's mitigation to require staking within the coastal zone (MM LU-2) would continue to apply to the SWEP and has been renumbered in this SEIR as MM LU-1.

MM LU-1 **Staking of Coastal Zone.** The Applicant shall install exclusion fencing or stake the coastal zone boundary to ensure that no construction activities occur within the coastal zone area, except where specifically permitted under a Coastal Development Permit (CDP). In areas where road work is permitted under the CDP for modifications of access roads, the Applicant shall install exclusion fencing or staking to ensure that no construction occurs beyond the designated construction boundaries.

Requirements and Timing. The installation of exclusion fencing or staking shall be completed prior to the start of construction activities within the WTG corridors adjacent to the coastal zone.

Monitoring. County staff will conduct inspections prior to and during construction to confirm and enforce compliance.

LU-7 Decommissioning and Reclamation Plan. Long-term impacts to land use following end of Project.

As part of the County's review of the SWEP's permit application, the Applicant must submit a detailed plan for the Project's decommissioning and site reclamation, consistent with the County's Energy Element Policy 5.1, Environmental Analysis. Implementation of MM LU-2 (Decommissioning and Reclamation Plan) and MM LU-3 (Financial Assurance for Decommissioning and Reclamation) are recommended to ensure that long-term impacts to land uses within the Project area remain less than significant (Class II). See Section 4.13.5 for a full discussion of the Project's consistency with County plans, policies, and standards.

Mitigation Measures

The LWEP's mitigation to require a Decommissioning and Reclamation Plan (MM LU-3) would continue to apply to the SWEP and has been renumbered in this SEIR as MM LU-2. One new mitigation measure (MM LU-3) has been included to facilitate restoration of the Project site following decommissioning.

MM LU-2 **Decommissioning & Reclamation Plan.** The Applicant shall develop a Decommissioning and Reclamation Plan that addresses facility decommissioning, abandonment, and post-abandonment reclamation efforts.

Requirements and Timing. The Decommissioning and Reclamation Plan shall be submitted to the County for review and approval as part of the Applicant's permit application for a discretionary permit for facility decommissioning and abandonment. The plan shall be implemented during facility abandonment, with reclamation efforts following. This requirement shall apply in the case of partial decommissioning as well as decommissioning of the entire Project.

Monitoring. County staff will review and approve the Decommissioning and Reclamation Plan as part of discretionary permit review, and implementation of the plan shall be conducted during County inspections of abandonment and reclamation activities.

MM LU-3 **Financial Assurance for Decommissioning and Reclamation.** The Applicant shall submit to the County:

a. An itemized cost estimate for removal of all structures and equipment and reclamation of the Project site and an estimate from a qualified party of the reclamation value of the SWEP infrastructure. The bases for all estimates shall be identified and documented. The estimates shall be revised and updated and resubmitted to County staff every five years.

b. The Applicant shall submit to County staff a financial assurance mechanism acceptable to the County for the cost of removal of structures and equipment and reclamation of the Project site. The amount of the assurance shall be based on the itemized cost estimate. The financial security shall be in place for the life of the Project. The County will release the security upon successful completion of structure and equipment removal and site reclamation, as determined by County staff.

Requirements and Timing. The financial assurance for decommissioning and reclamation shall be submitted to the County for review and approval prior to issuance of zoning clearance. The permittee shall update and resubmit the financial assurance every five years.

Monitoring. County staff shall monitor successful completion of structure and equipment removal and site reclamation. The County shall release financial assurance upon determination that all structures and equipment have been removed and the site reclaimed pursuant to the approved Decommissioning and Reclamation Plan.

4.13.5 Consistency with Plans and Policies

This section provides an analysis of the SWEP's consistency with the County's Comprehensive Plan, Coastal Land Use Plan, Land Use and Development Code, and Coastal Zoning Ordinance. Applicable policies and standards that were not analyzed in the LWEP Final EIR are identified below.

4.13.5.1 Santa Barbara County Comprehensive Plan

Agricultural Element

Goal I. Santa Barbara County shall assure and enhance the continuation of agriculture as a major viable production industry in Santa Barbara Country. Agriculture shall be encouraged. Where conditions allow, (taking into account environmental impacts) expansion and intensification shall be supported.

> **Consistent.** The Project would provide financial support to property owners, who could use that funding to enhance the viability of their agricultural operations. The Project also would maintain roads in agricultural areas, which would allow property owners greater access to their land which could also enhance agricultural operations.

Policy I.A. The integrity of agricultural operations shall not be violated by recreational or other non-compatible uses.

> **Consistent.** *[Revised Analysis]* The Project would not violate the integrity of agricultural operations, because existing grazing and dryland farming activities would be able to continue throughout the life of the Project. Temporary gates/fences would be installed to protect cattle during the construction phase. Further, LUDC Section 35.57 permits wind projects on agricultural properties, subject to approval of a Conditional Use Permit.
>
> The County Agricultural Preserve Advisory Committee (APAC) reviewed the LWEP on June 2, 2006, and determined unanimously that it is a compatible use under the County's Uniform Rules for Agricultural Preserves. At the time of publication of this draft SEIR, SWEP has not completed the APAC review and hearing process. However, due to the strong similarity of SWEP and LWEP with respect to project design and potential agricultural impacts, it is anticipated that SWEP will also be found consistent with the Uniform Rules in an upcoming hearing.

Policy I.D. The use of the Williamson Act (Agricultural Preserve Program) shall be strongly encouraged and supported. The County shall also explore and support other agricultural land protection programs.

> **Consistent.** See discussion under the Agricultural Element's Policy I.A, above.

Policy I.F. The quality and availability of water, air, and soil resources shall be protected through provisions including but not limited to, the stability of Urban/Rural Boundary Lines, maintenance of buffer areas around agricultural areas, and the promotion of conservation practices.

> **Consistent.** The Project would include mitigation measures such as segregating excess topsoil stockpiled onsite from other soils to facilitate future land restoration and protection of stockpiled soils, as well as measures to minimize water quality and air quality impacts. Agricultural activities would be able to continue under the Project.

Goal II. Agricultural lands shall be protected from adverse urban influence.

Consistent. *[Revised Analysis]* See discussion under the Agricultural Element's Policies I.A and I.F, above. Also, the presence of the wind farm will deter conversion from agriculture use to suburban development for the life of the Project.

Policy II.D. Conversion of highly productive agricultural lands whether urban or rural, shall be discouraged. The County shall support programs which encourage the retention of highly productive agricultural lands.

Consistent. *[Revised Analysis]* The SWEP would be located on Grazing Land as designated by the Department of Conservation. No temporary or permanent disturbance would occur to Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or Farmland of Local Importance.

Goal III. Where it is necessary for agricultural lands to be converted to other uses, this use shall not interfere with remaining agricultural operations.

Consistent. See discussion under Policy II.D. of the Agricultural Element. In addition, grazing would be able to continue during and after construction, and the permanent loss of grazing land would not significantly impair agricultural productivity or operations.

Circulation Element

B. Roadway Standards. The Policy capacities provided in this Element shall be used as guidelines for evaluating consistency with this section of this Element. A project's consistency with this section shall be determined as follows:

a) A project that would contribute Average Daily Traffic (ADT) to a roadway where the Estimated Future Volume does not exceed the policy capacity would be considered consistent with this section of this Element.

Consistent. *[Revised Analysis]* Service levels of area roadways potentially affected by Project traffic would experience minimal changes from existing conditions, although there would be a temporary increase during the construction phase. Temporary traffic delays caused by construction traffic and transport of large loads could lead to potentially significant impacts. Implementation of implement MM TC-1 (Traffic Management Plan) would reduce temporary construction traffic impacts to a less-than-significant level. Project-related traffic volumes fall below County significance thresholds during the operational phase.

Conservation Element

Ecological Systems Conclusions and Recommendations. In making the following recommendations, we have been guided by the conviction that it is imperative to preserve for the future as much biological diversity, that is, as many different species and communities, as possible.

Consistent. *[Revised Analysis]* The Project would not result in the elimination of any species or communities. It would result in potentially significant impacts to vegetation and wildlife, but mitigation measures have been identified that would reduce impacts to these biological resources to the maximum extent feasible (see Table 4.5-8). In most cases, impacts would be reduced to less-than-significant levels. Impacts to avian and bat species resulting from collisions with WTGs are expected to be significant and unavoidable, but the implementation of mitigation measures identified in Section 4.5.4.2 would reduce these impacts to the maximum extent feasible. Although individual birds and bats may be killed, the overall

populations of the affected species would not be eliminated. Similarly, impacts to oak woodland and forest would be significant and unavoidable, but the impacts would be mitigated to the maximum extent feasible by implementation of several mitigation measures, including a Tree Protection Plan and a Tree Replacement Plan. Moreover, the Project would ensure that the SWEP site would remain in open space, which would support the goal of preserving biological diversity.

Agricultural Resources Conclusions and Recommendations

Agricultural preservation in the County has been extremely successful to date in placing lands adjacent to urban areas, as well as more remote lands, under Williamson Act agreements. The County and the cities should adopt the following policies to protect and enhance their agricultural resources:

- The County and cities should take all measures necessary to protect agricultural lands from urban impacts, e.g. trespassing and theft.

  Consistent. *[Revised Analysis]* The Project would help preserve the land in productive agriculture and open space. Because the area is accessible to the public only via San Miguelito Road, and VAFB provides a buffer zone on the south and west sides, urban-related impacts at the site would be minimal. Presence of project personnel at the O&M building and around the project site on a daily basis would enhance security in the area. Site security measures are described in Section 2.7.4 of the *Project Description*.

Archaeological Sites Conclusions and Recommendations

A systematic ground survey of the project area and alternative areas should be carried out by the archaeologist selected. Preliminary testing of sites within the designated construction area may be included.

A report should be submitted by the archaeologist to the planners and developers concerned with the project and to responsible government agencies. This report should include details on surface and sub-surface finds, evaluation of the area and the sites it may contain, and suggestions for further actions concerning archaeological resources.

Consistent. A Cultural Resources Survey was prepared as part of the SEIR and is described in Section 4.6, *Archaeological and Tribal Cultural Resources*. The Project would also include mitigation measures, such as avoiding known resources when feasible; noting areas of known cultural resources as "unbuildable" on final plans; installing temporary fencing around known resources; conducting a Phase 1 Archaeological Survey in areas of construction impacts (and Phase 2 and 3 testing as required); conducting contractor/construction personnel pre-construction briefings; and having a County-approved archaeologist and Native American monitor ground disturbances in all areas containing archaeological materials to mitigate impacts to less-than-significant levels.

Oak Tree Protection Supplement of the Conservation Element

The Oak Tree Protection Goal. Santa Barbara County shall promote the conservation and regeneration of oak woodlands in the County over the long term, and, where feasible, shall work to increase the native oak population and extent of woodland acreage. The highest priority for conservation, protection, and regeneration shall be for valley oak trees, valley oak woodlands, and valley oak savanna.

Oak Tree Protection Policy 1. Native oak trees, native oak woodlands and native oak savannas shall be protected to the maximum extent feasible in the County's rural and/or agricultural lands. Regeneration of oak trees shall be encouraged. Because of the limited range and increasing scarcity of valley oak trees, valley oak woodlands and valley oak savanna, special priority shall be given to their protection and regeneration.

> **Inconsistent.** *[Revised Analysis]* The Project would not cause impacts to valley oaks, but would cause significant and unavoidable impacts to coast live oak woodland and forest. Coast live oaks would be removed during construction of some WTGs, access roads, and for modifications of San Miguelito Road and transmission line poles. Although the Applicant has submitted revised grading plans to substantially reduce loss of oak trees, while preserving the proposed overall layout of the wind farm, the impacts would still be significant and unavoidable. The impacts would be mitigated to the maximum extent feasible by implementation of several mitigation measures, including a Tree Protection Plan and a Tree Replacement Plan (see Section 4.5.4.2).
>
> This SEIR includes a Project alternative (*Modified Project Layout, Including Elimination of WTGs E-7 and E-8),* which would substantially reduce the number of oak trees removed for access roads and WTG sites. Given that this alternative layout is considered feasible and would substantially reduce impacts to oak trees, the proposed Project (as described in the Project Description) cannot be found consistent with Oak Tree Protection Policy 1.

Development Standards for Development

The following standards shall apply to all development (as defined in the Land Use Element of the Comprehensive Plan) in the rural areas of the County requiring a permit.

Development Standard 1: Protection of all species of mature oak trees.

All development shall avoid removal of or damage to mature oak trees, to the maximum extent feasible. Mature oak trees are considered to be live oak trees six inches or greater diameter at breast height and blue oak trees four inches or greater diameter at breast height, or live and blue oaks six feet or greater in height. Native oak trees that cannot be avoided shall be replanted on site. When replanting oak trees on site is not feasible, replanting shall occur on receiver sites known to be capable of supporting the particular oak tree species, and in areas contiguous with existing woodlands or savannas where the removed species occurs. Replanting shall conform to the County's Standard Conditions and Mitigation Measures. (This development standard applies to oak trees other than valley oaks. Valley oak trees are addressed in separate Development Standards.)

> **Inconsistent.** *[New Analysis]* Significant and unavoidable impacts to coast live oaks would be mitigated to the maximum extent feasible by implementation of several mitigation measures, including a Tree Protection Plan and a Tree Replacement Plan (see Section 4.5.4.2). However, given the extent of oak tree removal required, the proposed Project is inconsistent with Development Standard 1. This SEIR includes a Project alternative (*Modified Project Layout, Including Elimination of WTGs E-7 and E-8),* which would substantially reduce the number of oak trees removed for access roads and WTG sites. Given that this alternative layout is considered feasible and would substantially reduce impacts to oak trees, the proposed Project (as described in the Project Description) cannot be found consistent with this development standard.

Energy Element

Goal 4: Water Use and Solid Waste. Increase the efficiency of water and resource use to reduce energy consumption associated with various phases of using resources (pumping, distribution, treatment, heating, etc.)

Policy 4.1: Construction. Encourage recycling and reuse of construction waste to reduce energy consumption associated with extracting and manufacturing virgin materials.

> **Consistent.** *[Revised Analysis]* Construction debris would be recycled to the extent feasible, as discussed in Section 4.18.4. Compliance with MM USS-1 (Source Reduction and Solid Waste Management Plan) would ensure that a minimum of 65 percent of construction waste generated from the Project be recycled. Rocks excavated during construction would be crushed and reused onsite as backfill or roadway material where appropriate.

Goal 5: Alternative Energy. Encourage the use of alternative energy for environmental and economic benefits, and encourage opportunities for businesses that develop or market alternative energy technologies.

> **Consistent.** The County's Land Use and Development Code (LUDC) provides a permit path for wind energy projects, which establishes permit procedures and development standards for such projects. The Project is a wind energy project, which is considered an alternative energy source for producing electricity from a renewable source.

Policy 5.1: Environmental Analysis. In the consideration of alternative energy, the County shall consider the full life-cycle environmental effects and embedded energy requirements to provide such alternative energy. The County shall encourage the use of those alternatives determined to present sufficient environmental benefits.

> **Consistent.** Although a full life-cycle analysis has not been done for this specific project, studies for other wind energy projects show that wind projects have a high net energy payback and low greenhouse gas emissions compared to other energy sources.

Land Use Element

Fundamental Goals:

Agriculture. In the rural areas, cultivated agriculture shall be preserved and, where conditions allow, expansion and intensification should be supported. Lands with both prime and non-prime soils shall be reserved for agricultural uses.

> **Consistent.** The Project is located in a rural area used primarily for cattle grazing, although a limited amount of dryland farming occurs immediately on either side of San Miguelito Road between the Scolari and North properties. See discussion under the Policies and Goals of the Agricultural Element. The Project would not interfere with cultivated agriculture.

Land Use Development Policies

Policy 4. Prior to issuance of a development permit, the County shall make the finding, based on information provided by environmental documents, staff analysis, and the applicant, that adequate public or private services and resources (i.e., water, sewer, roads, etc.) are available to serve the proposed development. The applicant shall assume full responsibility for costs incurred in service extensions or improvements that are required as a result of the proposed project. Lack of available

public or private services or resources shall be grounds for denial of the project or reduction in the density otherwise indicated in the land use plan.

Consistent. *[Revised Analysis]* Adequate services and resources would be available for construction and operation of the Project (see Section 4.18.4). Although water for construction (including the concrete batch plant and dust control) could be supplied by either new on-site well(s) and/or the City of Lompoc, utilizing well water during construction could cause a significant adverse impact to the water level in adjacent wells (see analysis in SEIR Section 4.12.4). Compliance with MM WAT-3 (Construction Water Source) would avoid this impact by requiring that construction water be obtained from sources other than onsite wells. The City of Lompoc has issued a "Can and Will Serve" letter for provision of up to 20,000 gallons per day of recycled water for the Project. On-site wells would be used for O&M facility operations which would require less than 250 gallons per day. This daily volume would not substantially deplete groundwater supplies or interfere with groundwater recharge.

Effluent from the O&M drains would be disposed of through a leach line system to be installed near the O&M facility and would not require treatment by the regional wastewater treatment plant.

The Project substation, the transmission line, and the switchyard would be constructed and maintained by the Applicant. In addition, the Applicant would enter into an encroachment permit and road use agreement with Santa Barbara County Public Works Department to ensure that any damage to San Miguelito Road and other County roadways attributable to Project construction traffic is mitigated through repair or restoration to original condition.

Construction debris would be recycled to the extent feasible, and landfill impacts would be less than significant, with required mitigation (see Section 4.18.4).

Access roads would be constructed as part of the Project to provide access to the Project site and transmission line, but to no other locations.

Storm drainage facilities would not be required other than those included as part of the Project and would serve no other projects.

The Applicant would be responsible for providing electricity for the SWEP. Power lines are already present in the Project area, and adequate power is available.

Hillside and Watershed Protection Policies

Policy 1. Plans for development shall minimize cut and fill operations. Plans requiring excessive cutting and filling may be denied if it is determined that the development could be carried out with less alteration of the natural terrain.

Consistent. *[Revised Analysis]* Due to the site topography and Project design, many of the WTGs and roads would require locations on steep slopes. Upon completion of construction, access roads would be retained at their width of 22-40 feet; cut and fill areas would be revegetated. The Project would include cut and fill operations only as required to construct Project components. Mitigation measures in Sections 4.2, *Aesthetics/Visual*, and 4.9, *Geology/Soils*, would minimize impacts from cut and fill to less-than-significant levels.

Policy 2. All developments shall be designed to fit the site topography, soils, geology, hydrology, and any other existing conditions and be oriented so that grading and other site preparation is kept to an

absolute minimum. Natural features, landforms, and native vegetation, such as trees, shall be preserved to the maximum extent feasible. Areas of the site which are not suited to development because of known soil, geologic, flood, erosion or other hazards shall remain in open space.

> **Inconsistent.** *[Revised Analysis]* The Project would include measures to minimize geologic impacts as discussed in Section 4.9, *Geology and Soils*. See discussion under Policy 1 and Policy 3, Hillside and Watershed Protection Policies. As discussed in the Oak Tree Protection Supplement of the Conservation Element, the proposed Project is inconsistent with maximum feasible preservation of trees, because a feasible Project alternative would result in substantially less impacts to oak trees. This SEIR includes a Project alternative (*Modified Project Layout, Including Elimination of WTGs E-7 and E-8),* which would substantially reduce the number of oak trees removed for access roads and WTG sites. Given that this alternative layout is considered feasible and would substantially reduce impacts to oak trees, the proposed Project (as described in the Project Description) cannot be found consistent with this policy.

Policy 3. For necessary grading operations on hillsides, the smallest practical area of land shall be exposed at any one time during development and the length of exposure shall be kept to the shortest practicable amount of time. The clearing of land should be avoided during the winter rainy season and all measures for removing sediments and stabilizing slopes should be in place before the beginning of the rainy season.

> **Consistent.** The Project would include mitigation measures limiting grading to the dry season, to the extent practicable; and if grading needed to be done outside of the dry season, the Applicant would coordinate grading work with the County and follow all applicable guidelines, including implementing erosion control measures to control runoff and erosion in the event that revegetation was not completed prior to the rainy season. The Project would also include mitigation measures to minimize the size of the disturbed area associated with grading and construction and would require the stockpiling of all excavated soils and protecting them from wind and water erosion. See discussion under Policy 5, Hillside and Watershed Protection Policies.

Policy 4. Sediment basins (including debris basins, desilting basins, or silt traps) shall be installed on the project site in conjunction with the initial grading operations and maintained through the development process to remove sediment from runoff waters. All sediment shall be retained on site unless removed to an appropriate dumping location.

> **Consistent.** The Project would include the implementation of mitigation measures to minimize runoff and erosion including implementing Best Management Practices (BMPs); submitting a final Grading and Drainage Plan; using diversion structures and spot grading to reduce siltation into adjacent streams/drainages during grading and construction activities; and ensuring that wetland areas within 50 feet of ground disturbance would be protected from siltation by imposition of silt fence, straw bales (composed of certified weed free straw), or other barriers placed prior to ground disturbance. Moreover, Project construction would be done in accordance with a Stormwater Pollution Prevention Plan (SWPPP).

Policy 5. Temporary vegetation, seeding, mulching, or other suitable stabilization method shall be used to protect soils subject to erosion that have been disturbed during grading or development. All cut and fill slopes shall be stabilized as rapidly as possible with planting of native grasses and shrubs, appropriate non-native plants, or with accepted landscaping practices.

Consistent. The Project would include mitigation measures to minimize impacts to soils including stabilizing any disturbed area that would not be covered with base or paving within 14 days after completion of disturbing activities by use of soil coating mulch, dust palliatives, compaction, reseeding, or other approved methods; reseeding all temporarily disturbed areas with an appropriate mix of native plant species as soon as possible after construction is completed to accelerate the revegetation of these areas; and reseeding all exposed graded surfaces with native ground cover to minimize erosion within 60 days of the completion of grading.

Policy 6. *[New Analysis]* Provisions shall be made to conduct surface water to storm drains or suitable watercourses to prevent erosion. Drainage devices shall be designed to accommodate increased runoff resulting from modified soil and surface conditions as a result of development. Water runoff shall be retained onsite whenever possible to facilitate groundwater recharge.

Consistent. Drainage structures, including water bars, berms, V-ditches and culverts would be installed to direct drainage and prevent erosion. Construction work would be performed under an approved Grading and Drainage Plan and a Stormwater Pollution Prevention Plan.

Policy 7. Degradation of the water quality of groundwater basins, nearby streams, or wetlands shall not result from development of the site. Pollutants, such as chemicals, fuels, lubricants, raw sewage, and other harmful waste, shall not be discharged into or alongside coastal streams or wetlands either during or after construction.

Consistent. See consistency discussion under the Land Use Element's Hillside and Watershed Protection Policies 4, 5 and 6. In addition, the Project would include mitigation measures to protect creeks, seeps, springs, wetlands, and other sensitive areas from fuel spills, hazardous materials, runoff from concrete, and trash and litter.

Streams and Creeks Policies

Policy 1. All permitted construction and grading within stream corridors shall be carried out in such a manner as to minimize impacts from increased runoff, sedimentation, biochemical degradation, or thermal pollution.

Consistent. *[Revised Analysis]* As discussed in the Project Description, Table 2-6 (Summary of Road Crossings and Culvert Sizes), the Project may include up to 8 watercourse crossings involving improvements or upgrades to access roads or culverts. Implementation of BMPs, Grading and Drainage Plan, and Stormwater Pollution Prevention Plan, and compliance with mitigation measures (including MMs BIO-3, BIO-10, and WAT-1) would minimize impacts. The Applicant would coordinate with the Santa Barbara County Flood Control District regarding plan approval for stream crossings, as well as comply with possible CDFW requirements for a Streambed Alteration Agreement.

Historical and Archaeological Sites Policies

Policy 2. When developments are proposed for parcels where archaeological or other cultural sites are located, project design shall be required which avoids impacts to such cultural sites if possible.

Policy 3. When sufficient planning flexibility does not permit avoiding construction on archaeological or other types of cultural sites, adequate mitigation shall be required. Mitigation shall be designed in accord with guidelines of the State Office of Historic Preservation and the State of California Native

Policy 4. *[New Analysis]* Off-road vehicle use, unauthorized collection of artifacts, and other activities other than development which could destroy or damage archaeological or cultural sites shall be prohibited.

> **Consistent.** Presence of SWEP operational personnel onsite and Project security measures will reduce unauthorized activities. MMs CULT-4, CULT-5, and CULT-9 will deter authorized artifact collection.

Policy 5. Native Americans shall be consulted when development proposals are submitted which impact significant archaeological or cultural sites.

> **Consistent.** Project includes mitigation measures to protect and avoid cultural resources (see Section 4.6.4). The Native American Heritage Commission has also been consulted. See discussion under the Archaeological Sites Conclusions and Recommendations of the Conservation Element above.

Other Open Lands Policies

Policy 1. Preservation of open lands shall be encouraged under the Williamson Act.

> **Consistent.** See discussion under the Agricultural Element's Policies I.A and I.D, above.

Policy 2. Utilization of open lands shall be consistent with protection and long-term productivity of County watersheds.

> **Consistent.** See discussion of the Land Use Element's Hillside and Watershed Protection Policies 1 through 7, above.

Visual Resources Policies

Policy 1. All commercial, industrial, and planned developments shall be required to submit a landscaping plan to the County for approval.

> **Consistent.** *[Revised Analysis]* A site restoration and revegetation plan will be implemented (MM BIO-3). The plan includes reseeding of disturbed with suitable native vegetation. The Project substation and switchyard footprints would be surfaced with gravel, as required for safety. The O&M facility area would be landscaped with a Hollister Seed mix approved by the County Central Board of Architectural Review (CBAR).

Policy 2. In areas designated as rural on the land use plan maps, the height, scale, and design of structures shall be compatible with the character of the surrounding natural environment, except where technical requirements dictate otherwise. Structures shall be subordinate in appearance to natural landforms; shall be designed to follow the natural contours of the landscape; and shall be sited so as not to intrude into the skyline as seen from public viewing places.

> **Consistent.** *[Revised Analysis]* The WTGs and power poles associated with the Project would be visible from public viewing places and would result in potentially significant impacts to views from Jalama Beach, San Miguelito Road, a residential area in southern Lompoc, and in the immediate Project vicinity (see Section 4.2.4.4). Mitigation measures would reduce some visual impacts to less-than-significant levels, but several significant and unavoidable impacts would still occur, including views from Jalama Beach, views in the immediate Project vicinity, and views of the transmission line from certain locations in south Lompoc and along portions of San Miguelito Road. In addition, FAA-required obstruction lighting of the WTGs would be

visible from the Lompoc Valley and Jalama Beach at night, resulting in significant and unavoidable visual impacts.

The Project would be consistent with this policy because the height, scale, location and design of the WTGs and power poles are dictated by technical requirements, and impacts would be mitigated to the maximum extent feasible.

Policy 5. Utilities, including television, shall be placed underground in new developments in accordance with the rules and regulations of the California Public Utilities Commission, except where cost of undergrounding would be so high as to deny service.

Consistent. *[New Analysis]* The proposed 115-kV transmission line would be constructed aboveground, consistent with accepted industry standards, protective measures, and established industry guidelines. Undergrounding of portions of the transmission line was considered in possible project alternatives in the LWEP EIR, but was discarded as infeasible due to technical difficulties associated with steep slopes, as impacts to biological, geological, and cultural resources, and high costs. Each string of WTGs would be interconnected via 34.5-kV, electrically insulated, collector cables and communication cables. These cables would be installed underground, except for one 0.3-mile segment that would span a steep canyon, where undergrounding would cause adverse impacts. Also, a collector line would be underbuilt on the same poles as the transmission line in a 0.5- mile stretch near the Project substation.

Land Use Element Area/Community Goals Applicable to the Lompoc Area

Land Use: The natural backdrop of the area should be preserved through strict controls on hillside development. Hillside grading over 30 percent on residential and commercial land should be severely restricted.

Consistent. *[Revised Analysis]* The Project was sited strategically to minimize its visibility from the surrounding area. However, it would result in potentially significant visual impacts, some of which would be mitigated to less-than-significant levels. Significant and unavoidable visual impacts include adverse effects on views from Jalama Beach and the immediate Project vicinity, views of the transmission line from certain locations in south Lompoc and along portions of San Miguelito Road, and the visibility of FAA-required obstruction lighting. The location of WTGs and power poles on or near steep slopes is necessitated by technical requirements (see discussions under Land Use Element: Hillside and Watershed Protection Policies and Visual Resources Policies, above).

The unique character of the area should be protected and enhanced with particular emphasis on protection of agricultural lands, grazing lands, and natural amenities.

Consistent. See discussion under the policies and goals of the Agricultural Element.

Commercial and industrial development that complements and expands the existing agricultural industry of the area should be encouraged.

Consistent. See discussion under Goal I of the Agricultural Element.

Prime agricultural lands should be preserved for agricultural use only. Preservation of lesser grades of presently producing or potential agricultural land should be actively encouraged.

Consistent. See discussion under the policies and goals of the Agricultural Element.

Encouragement should be given to the preservation of significant archeological resources and sites reflecting the County's Indian, Mexican, Spanish, and Early California cultural historical heritage now in both public and private ownerships.

> **Consistent.** See discussion under the Historical and Archeological Sites Policies of the Land Use Element and the Archaeological Sites Conclusions and Recommendations of the Conservation Element, above.

Changes in natural or re-established topography, vegetation, biological communities should be minimized in an attempt to avoid the destruction of natural habitats.

> **Consistent.** *[Revised Analysis]* Due to the nature of the Project and technical feasibility issues, some Project components would be located in steep areas. The Project would not include more access roads than necessary. Project design and required mitigation measures (grading and erosion control plan, SWPPP, revegetation, and others) would minimize impacts to land, streams, and biology. The Project would result in significant impacts to vegetation and wildlife, but mitigation measures have been identified that would reduce impacts to these biological resources to the maximum extent feasible. For example, impacts to avian and bat species resulting from collisions with WTGs are expected to be significant and unavoidable, but the implementation of mitigation measures identified in Section 4.5.4.2 would reduce these impacts to the maximum extent feasible; although individual birds and bats may be killed, the overall populations of the affected species would not be eliminated. The Project also would support continued use of the property for agriculture and could reduce pressure for residential expansion into the area.

Development, construction, and roads cut in steep areas should be limited to ensure safety and protection of the terrain, as well as environmental and scenic values.

> **Consistent.** *[Revised Analysis]* Due to the nature of the Project and technical feasibility issues, some Project components would be located in steep areas. The Project would not include more access roads than necessary. Project design and required mitigation measures (grading and erosion control plan, SWPPP, revegetation, and others) would minimize impacts to land, streams, and biology. Scenic values would be protected to a great extent by the Project siting at the end of a dead-end country road; the site would be surrounded on two sides by undeveloped portions of VAFB and views from the surrounding area would be screened by intervening topography. Although the Project was sited strategically to minimize its visibility from the surrounding area, it would result in potentially significant visual impacts, some of which would be mitigated to less-than-significant levels. Adverse impacts on views from Jalama Beach and the immediate Project vicinity, views of the transmission line from certain locations in south Lompoc and along portions of San Miguelito Road, and impacts from FAA-required obstruction lighting would be significant and unavoidable. The location of WTGs and power poles on or near steep slopes is necessitated by technical requirements (see discussions under Land Use Element: Hillside and Watershed Protection Policies and Visual Resources Policies, above). The Project also would support continued use of the property for agriculture and reduce pressure for residential expansion into the area.

Circulation. Improvements to or alterations of existing roadways must minimize environmental and visual impact.

Consistent. *[Revised Analysis]* The Project would include new access roads and the widening of existing roads on private property at the SWEP site and several locations along the transmission line route. The road improvements would be consistent with other agricultural roads in the Project area. All grading would be subject to a final, approved grading and erosion control plan to minimize erosion and ensure adequate slope stabilization. Cut and fill areas would be revegetated following the roadwork. All identified potentially significant impacts due to access road construction would be mitigated to the greatest extent feasible. Grading and removal of trees at certain tight curves along San Miguelito Road would be required to enable transport of large WTG blades to the Project site. Loss of oak trees at the project site, along the transmission line route, and along San Miguelito Road would be a significant and unavoidable impact; this is the only significant and unavoidable impact identified for Project road construction or alterations. The impact would be minimized with implementation of a Tree Protection Plan, a Tree Replacement Plan, and other measures described in Section 4.5.4.2. The visual impacts of tree removal along San Miguelito Road are considered significant and unavoidable (see Section 4.2.4).

Environment:

The County should plan for and encourage the maximum conservation of energy.

Consistent. See discussion under the Goals and Policies of the Energy Element.

Pollution of streams, sloughs, drainage channels, underground water basins, estuaries, the ocean, and areas adjacent to such waters should be minimized.

Consistent. See discussion under the Hillside and Watershed Protection Policies and Streams and Creeks Policies of the Land Use Element above.

Good air quality should be maintained as one of our greatest assets.

Consistent. The Project would include mitigation measures to minimize air quality impacts during construction. During operations, the Project would benefit air quality by increasing the amount of power generated by renewable sources.

Noise Element

1) Conclusions and Recommendations. In the planning of land use, 65 dB Day-Night Average Sound Level should be regarded as the maximum exterior noise exposure compatible with noise-sensitive uses unless noise mitigation features are included in project designs.

Consistent. *[Revised Analysis]* Temporary construction noise would not exceed 65 dBA (DN) at residences not participating in the project and would exceed that threshold at only one participating property. Implementation of required mitigation measures would minimize temporary exceedances. Noise from WTG operation would be less than 50 dB (DN) at non-participating properties and less than 60 dB (DN) at participating properties. Implementation of required mitigation measures would ensure operational noise thresholds are not exceeded. (See Section 4.14.4.)

Open Space Element

The Open Space Element identifies four factors for designating land in open space and includes:

- Open Space for Public Health and Safety (e.g., fire hazard areas, steep slopes);

- Open Space for Managed Production of Resources (such as grazing lands, agricultural lands and mineral resources);
- Open Space for Outdoor Recreation;
- Open Space for the Preservation of Natural Resources (e.g. scenic areas, rare and endangered plant and wildlife communities).

Project areas include all of these designations. The purpose of the Open Space Design Concept (discussed in the Element) is to delineate lands that have the potential for open space preservation to serve one or more of the purposes prescribed in the State Planning Law (i.e., the four factors identified above). In areas with slopes 20 to 30 percent or greater, limited or no development is recommended (this includes Project areas).

> **Consistent.** Due to the nature of the Project and technical feasibility issues, some Project components would be located in an open space area and on steep slopes. The Project would include measures to ensure adequate slope stabilization and would increase fire protection and other environmental protection measures. In addition, mitigation measures are included to minimize visual, fire, and other environmental impacts. The Project would have minimal impacts on mineral or recreational resources. See also the discussion under the Agricultural Element goals and policies as well as the Conservation and Land Use Element discussions above.

Scenic Highways Element

Goal A. To enhance and preserve the valuable scenic resources located along roadways within the County.

> **Consistent.** *[Revised Analysis]* Highway 1 is a designated Scenic Highway south of the southern city limit of Lompoc. WTGs would be glimpsed in the distance from some vantage points for northbound travelers on Highway 1, but the impacts would not be significant. An existing 115-kV PG&E transmission line runs along the east side of Highway 1 in Lompoc and crosses over to the east side of the highway near the southern Lompoc city limit. From there it travels westward between a hill and a Lompoc neighborhood to the Project switchyard. The 0.6-mile section of the transmission line between the PG&E substation in Lompoc and the Project switchyard would be reconductored by PG&E to accommodate the power generated by the Project. The reconductoring will not result in a significant impact to the Scenic Highway. See Section 4.2.2 for a detailed discussion of Scenic Highway policies.

Goal C. To help maintain the economic contribution of tourism to the County.

> **Consistent.** *[Revised Analysis]* The Project would not negatively affect tourism in the County, as visual impacts to Scenic Highways would be relatively minor (see Goal A, above).

Seismic Safety and Safety Element

Section V of the Seismic Safety and Safety Element includes Land Use Planning Objectives that are designed to provide for appropriate planning in areas with identified varying degrees of geologic, soil and seismic problems in order to minimize or avoid associated hazards resulting from development. Section V of the Element also includes a discussion of the importance of the Grading and Building Codes and the importance of obtaining a detailed geologic and soil investigation for sites under consideration for development.

Consistent. The Project would include mitigation measures to minimize geologic impacts and would comply with all grading and Building Code requirements. The facilities would be designed and built to Uniform Building Code Seismic Zone 4 standards.

With regard to fire hazards, Section VI of the Seismic Safety and Safety Element provides Control Measures designed to reduce fire hazards within the County and identifies that short of prohibiting all land development in areas of extreme fire hazard, the most reasonable solution is to require that all development proposals be accompanied by a plan showing the measures that will be taken to meet County regulations to minimize fire hazard and should address access to the site, water supply, buffer strips and firebreaks around structures, and a contingency plan covering human activities during periods of critical fire weather.

Consistent. *[Revised Analysis]* The Project would include measures to minimize fire risk, including onsite storage of water for firefighting, improving site access, requiring vegetation clearances, and complying with all Fire Department requirements such as the submittal of a fire protection plan, and participation in the Red Flag Warning program with local fire agencies and the National Weather Service.

Environmental Resource Management Element (ERME)

The ERME identifies environmental factors in areas mapped with slopes 30 percent and greater. Although steep slopes are not always hazardous in themselves, landslides, erosion and other geologic hazards are prevalent in these areas. Even if landslide and slope stability problems are solved by engineering design, other problems can ensue, resulting in damage to a project site itself, as well as to sites at lower elevations. In addition, scarring of the terrain due to grading is discussed. The ERME states that development on lands with "Slopes 20 to 30 Percent" should also be minimized because they are often subject to geologic problems, comprise portions of watersheds, or form the scenic backdrop of urban communities.

Consistent. Due to the nature of the Project and technical feasibility issues, some Project components would be located in steep areas. However, the Project would include mitigation measures to minimize geologic impacts and would comply with all Grading and Building Code requirements. The Project would also include measures to ensure adequate slope stabilization.

4.13.5.2 Santa Barbara County Coastal Land Use Plan *[New Analysis]*

The Project has been designed to avoid impacts to the Coastal Zone to the extent feasible, without causing excessive or incommensurate impacts in the inland zone. The only work within the Coastal Zone would involve grading to widen access roads and build short segments of new roads for transport of WTG blades and other large loads. The roads would be surfaced with gravel, not paved. The grading would disturb approximately 6.6 acres, including areas of Critical Habitat and oak woodland. Part of this area would be only temporarily impacted. Following construction, the roads would remain the new width of 22-40 feet and the areas of cut and fill would be revegetated. No WTGs foundations or other structures would extend into the Coastal Zone, and no WTG blades would overhang the Coastal Zone Boundary. The roadwork would not be visible from public viewing areas.

Because Project construction within the Coastal Zone is limited to construction and widening of access roads, the following policy consistency analysis is limited to issues relevant to those roads.

Hillside and Watershed Protection

Policy 3-13. Plans for development shall minimize cut and fill operations. Plans requiring excessive cutting and filling may be denied if it is determined that the development could be carried out with less alteration of the natural terrain.

> **Consistent.** The Project preliminary grading plans have been revised and refined to minimize grading and disturbance. The Applicant would be required to implement MM GEO-2 (Grading and Drainage Plan) to minimize grading impacts.

Policy 3-14. All development shall be designed to fit the site topography, soils, geology, hydrology, and any other existing conditions and be oriented so that grading and other site preparation is kept to an absolute minimum. Natural features, landforms, and native vegetation, such as trees, shall be preserved to the maximum extent feasible. Areas of the site which are not suited for development because of known soil, geologic, flood, erosion or other hazards shall remain in open space.

> **Inconsistent.** *[New Analysis]* The road work is designed to follow existing access roads, as much as possible, rather than building new roads. Hence, the roads would conform to site topography and minimize grading and disturbance. In addition to the *Grading and Drainage Plan*, additional mitigation measures would be required to minimize ground disturbance and hydrological and biological impacts (see Section 4.5.4 and 4.12.4.). However, as discussed above, the proposed Project is inconsistent with maximum feasible preservation of trees. This SEIR includes a Project alternative (*Modified Project Layout, Including Elimination of WTGs E-7 and E-8),* which would substantially reduce the number of oak trees removed for access roads and WTG sites. Given that this alternative layout is considered feasible and would substantially reduce impacts to oak trees, the proposed Project (as described in the Project Description) cannot be found consistent with this policy.

Policy 3-15. For necessary grading operations on hillsides, the smallest practical area of land shall be exposed at any one time during development, and the length of exposure shall be kept to the shortest practicable amount of time. The clearing of land should be avoided during the winter rainy season and all measures for removing sediments and stabilizing slopes should be in place before the beginning of the rainy season.

> **Consistent.** The Applicant would be required to implement MM GEO-2 (Grading and Drainage Plan), which would limit grading to the dry season to the extent practicable. If construction were to occur during the rainy season, MM GEO-2 requires the Applicant to coordinate this grading work with the County. All work would be conducted in accordance with the Erosion Control Plan and SWPPP.

Policy 3-17. Temporary vegetation, seeding, mulching, or other suitable stabilization method shall be used to protect soils subject to erosion that have been disturbed during grading or development. All cut and fill slopes shall be stabilized immediately with planting of native grasses and shrubs, appropriate nonnative plants, or with accepted landscaping practices.

> **Consistent.** The Applicant would minimize impacts to soils through implementation of MM GEO-2 (Grading and Drainage Plan) and an Erosion Control Plan. Areas of temporary disturbance would be revegetated to a natural state with an approved seed mix.

Environmentally Sensitive Habitat Areas

Policy 9-1. Prior to the issuance of a development permit, all projects on parcels shown on the land use plan and/or resource maps with a Habitat Area overlay designation or within 250 feet of such designation or projects affecting an environmentally sensitive habitat area shall be found to be in conformity with the applicable habitat protection policies of the land use plan. All development plans, grading plans, etc., shall show the precise location of the habitat(s) potentially affected by the proposed project. Projects which could adversely impact an environmentally sensitive habitat area may be subject to a site inspection by a qualified biologist to be selected jointly by the County and the applicant.

> **Consistent.** Several biological resource surveys have been conducted at the Project site over a span of 15 years by qualified biologists. Final Project plans will show sensitive habitats. Pre-construction surveys and construction monitoring will minimize impacts to sensitive species and habitats. Potential impacts and associated mitigation measures are described in Section 4.5.4.2.

Policy 9-35. Oak trees, because they are particularly sensitive to environmental conditions, shall be protected. All land use activities, including cultivated agriculture and grazing, should be carried out in such a manner as to avoid damage to native oak trees. Regeneration of oak trees on grazing lands should be encouraged.

> **Inconsistent.** *[New Analysis]* The preliminary grading plans for the Project have been revised and refined to minimize grading and, specifically, to minimize impacts to oak woodlands to the greatest extent feasible. However, an estimated 81 trees, including 24 coast live oak trees, would be lost in the Coastal Zone as a result of access road construction. Implementation of several required mitigation measures will help minimize losses (e.g., MMs BIO-1, BIO-2, BIO-4a, BIO-4c, BIO-11c, BIO-11d). MM BIO-4b (Tree Replacement Plan) would ensure that the lost oak trees be replaced at a 6:1 replacement ratio. This SEIR includes a Project alternative (*Modified Project Layout, Including Elimination of WTGs E-7 and E-8),* which would substantially reduce the number of oak trees removed for access roads and WTG sites. Given that this alternative layout is considered feasible and would substantially reduce impacts to oak trees, the proposed Project (as described in the Project Description) cannot be found consistent with this policy.

Policy 9-36. When sites are graded or developed, areas with significant amounts of native vegetation shall be preserved. All development shall be sited, designed, and constructed to minimize impacts of grading, paving, construction of roads or structures, runoff, and erosion on native vegetation. In particular, grading and paving shall not adversely affect root zone aeration and stability of native trees.

> **Consistent.** See consistency discussion in the Coastal Land Use Plan's Policies 9-1 and 9-35, above.

Archaeological and Historical Resources

Policy 10-2. When developments are proposed for parcels where archaeological or other cultural sites are located, project design shall be required which avoids impacts to such cultural sites if possible.

> **Consistent.** SWEP cultural surveys identified three cultural resource sites within the Coastal Zone. Implementation of required MMs CULT-1 to CULT-10 would prevent any impacts to archaeological and historical resources resulting from access road construction.

Policy 10-3. When sufficient planning flexibility does not permit avoiding construction on archaeological or other types of cultural sites, adequate mitigation shall be required. Mitigation shall be designed in accord with guidelines of the State Office of Historic Preservation and the State of California Native American Heritage Commission.

> **Consistent.** If cultural sites were located near the construction zone, impacts would be mitigated by Avoidance, Phase 2 Subsurface Testing or Phase 3 Excavation, or Site Capping. (See MMs CULT-1, CULT-6, and CULT-9.)

Policy 10-4. Off-road vehicle use, unauthorized collecting of artifacts, and other activities other than development which could destroy or damage archaeological or cultural sites shall be prohibited.

> **Consistent.** Presence of SWEP operational personnel onsite and Project security measures will reduce unauthorized activities. MMs CULT-4, CULT-5, and CULT-9 will deter authorized artifact collection.

Policy 10-5. Native Americans shall be consulted when development proposals are submitted which impact significant archaeological or cultural sites.

> **Consistent.** The NAHC and local Native American tribes have been consulted regarding this Project. MM CULT-4 requires that all ground disturbances be monitored by a Native American monitor.

Air Quality

Policy 11-1. The provisions of the Air Quality Attainment Plan shall apply to the coastal zone.

> **Consistent.** The Project would comply with Attainment Plan emission control measures, as discussed in SEIR Section 4.4.

4.13.5.3 Santa Barbara County Land Use and Development Code

Chapter 35.30.090- Height Measurement, Exception and Limitations

Describes height limits and exceptions to those limits. The section indicates that certain structures that are not used for human activity may be up to 50 feet in height. The section includes exemptions for specific structures and equipment and states that in the inland area, WTGs allowed in compliance with Chapter 35.57 may exceed applicable height limits where compliance would render operations technically infeasible.

> **Consistent.** *[Revised Analysis]* Wind turbines in the inland area of the County allowed under Section 35.57 may exceed height limits if compliance is technically infeasible (Sec. 35.30.090.E.3.d). Refer also to the discussion under Chapter 35.57 below.

Chapter 35.57 Wind Energy Conversion Systems

35.57.050-Development Standards

Wind energy conversion systems shall be in compliance with the following standards:

A. Setbacks. Wind turbines shall comply with all setback requirements of the applicable zone.

> **Consistent.** The Project complies with setback requirements for the AG-II-100 zone district for all portions of the WTG area adjacent to private property; for example, buildings would be set back at least 50 feet from the centerline and 20 feet from the right-of-way of any street. See also G. *Horizontal Access Wind Turbine Setbacks*, below.

B. Access Control. Towers shall be constructed to provide one of the following means of access control, or other appropriate method of access control:

- Tower-climbing apparatus located no closer than 12 feet from the ground.
- A locked anti-climb device installed on the tower.
- A locked, protective fence at least six feet in height that encloses the tower.

> **Consistent.** Towers would be accessed for service via a door at the base of each tower. It is expected that the door would remain locked at all times. Due to the remote nature of this Project and the limited number of people present in the area, a locked door would be considered to meet these requirements.

C. Tower structures. Wind energy system tower structures shall be designed and constructed to be in compliance with pertinent provisions of the Uniform Building Code and National Electric Code.

> **Consistent.** The tower structures would be designed and constructed in compliance with the pertinent provisions of these codes.

D. Over-speed controls. Wind energy systems shall be equipped with manual and automatic over-speed controls. The conformance of rotor and over-speed control design and fabrication with good engineering practices shall be certified by the manufacture.

> **Consistent.** The wind energy systems would be equipped with the appropriate speed controls, certified by the manufacturer to comply with good engineering practices.

E. Height: Minimum height. To prevent harmful wind turbulence from existing structures, the minimum height of the lowest part of any horizontal axis wind turbine blade shall be at least 30 feet above the highest structure or tree within a 250-foot radius. Modification of this standard by the review authority may be allowed when the applicant demonstrates that a lower height will not jeopardize the safety of the wind turbine structure.

> **Consistent.** All WTGs would be located away from structures or trees.

F. Guy wires. Anchor points for any guy wires for a system tower shall be located within the property that the system is located on and not on or across any above-ground electric transmission or distribution lines. The point of attachment for the guy wires shall be enclosed by a fence six feet high or sheathed in bright orange or yellow covering from three to eight feet above the ground.

> **Consistent.** *[Revised Analysis]* Guy wires are not proposed for the WTGs. One meteorological tower with guy wires is proposed for the Project (Section 2.5.8). However, guyed meteorological towers are prohibited under MM BIO-15b(c) due to potentially significant impacts to avian and bat collusions.

G. Horizontal axis wind turbines. Horizontal axis wind turbines shall be placed at a distance of at least two times the total tower height from any occupied structure. Additionally, the base of the tower shall be setback from all property lines a minimum distance equal to the height of the system,

including the wind turbine, provided that it also complies with any applicable fire setback requirements in compliance with Public Resources Code Section 4290.

> **Consistent.** *[Revised Analysis]* The Project complies with setback requirements for all portions of the WTG area adjacent to private property. The Applicant has requested variances to reduce the setback to 230 feet (slightly greater than one WTG blade length) along the VAFB property line and to remove the requirement for setbacks between Project-participant properties. If the variances are approved pursuant to LUDC Section 35.82.200, the decision to approve would ensure consistency with this development standard.

I. Electromagnetic interference. The system shall be operated so that no electromagnetic interference is caused. If it is demonstrated that a system is causing harmful interference, the system operator shall promptly mitigate the harmful interference or cease operation of the system.

> **Consistent.** Proximity to VAFB communication facilities was addressed during Project development in consultation with VAFB. No electromagnetic interference is identified with Project design.

J. Color and non-reflective surfaces. The system's tower and blades shall be painted a non-reflective, unobtrusive color that blends the system and its components into the surrounding landscape to the greatest extent possible and incorporate non-reflective surfaces to minimize any visual disruption.

> **Consistent.** *[Revised Analysis]* The standard color and finish of commercial WTGs, as established by FAA regulations, complies with this development standard.

K. Visual impact. The system shall be designed and located in such a manner to minimize adverse visual impacts from public viewing areas (e.g., public parks, roads, trails). To the greatest extent feasible, the wind energy system:

- Shall not project above the top of ridgelines.
- If visible from public viewing areas, shall use natural landforms and existing vegetation for screening.
- Shall not cause a significantly adverse visual impact to a scenic vista from a County or State designated scenic corridor.
- Shall be screened to the maximum extent feasible by natural vegetation or other means to minimize potentially significant adverse visual impacts on neighboring residential areas.

> **Consistent.** *[Revised Analysis]* The relatively remote location of the Project site and intervening topography provide limited screening of the WTGs from many public viewing locations. The wind resource distribution along the coastal ridges at the Project site dictates the locations of WTGs, making it infeasible to use visual screening to mitigate the visual impacts. The WTGs in the westernmost array would create significant and unavoidable impacts to viewers at Jalama Beach County Park. However, the non-reflective, neutral gray finish of the WTGs would minimize contrast with the sky, and obstruction lighting would be kept to the minimum required by the FAA. In addition, the Applicant will make a one-time $100,000 payment to the County, to be used by the County Parks Department exclusively to preserve and enhance the natural beauty of Jalama Beach County Park (MM VIS-3).

L. Exterior lighting. Exterior lighting on any structure associated with the system shall not be allowed except that which is specifically required by the Federal Aviation Administration.

Consistent. *[Revised Analysis]* As this standard applies to WTGs, lighting would be installed in conformance with FAA requirements. A landscape and lighting plan would be required for other project facilities, and would be reviewed and approved by the CBAR.

M. Underground electrical wires. Onsite electrical wires associated with the system shall be installed underground except for "tie-ins" to a public utility company and public utility company transmission poles, towers and lines. This standard may be modified by the review authority if the project terrain is determined to be unsuitable due to reasons of excessive grading, biological impacts, or similar factors.

Consistent. *[Revised Analysis]* The Project proposes to underground all communication cables/internal power lines, except in those cases where placing the lines aboveground would minimize environmental impacts. The proposed 115-kV transmission line would be constructed aboveground, consistent with accepted industry standards, protective measures, and established industry guidelines. Undergrounding of portions of the transmission line was considered in possible project alternatives in the LWEP EIR, but was discarded as infeasible due to technical difficulties associated with steep slopes, as impacts to biological, geological, and cultural resources, and high costs.

N. Signage. At least one sign shall be posted on the tower at a height of five feet warning of electrical shock or high voltage and harm from revolving machinery. No brand names, logo or advertising shall be placed or painted on the tower, rotor, generator or tail vane where it would be visible from the ground, except that a system or tower's manufacturer's logo may be displayed on a system generator housing in an unobtrusive manner.

Consistent. *[Revised Analysis]* Safety signage would be posted where necessary around WTGs, transformers, and other high-voltage facilities, and along roads, in conformance with applicable State and Federal regulations. Commercial signage, if any, would be reviewed and approved by the CBAR.

O. Access roads. Construction of onsite access roadways shall be minimized. Temporary access roads utilized for initial installation shall be re-graded and re-vegetated to the pre-existing natural condition after completion of installation.

Consistent. *[Revised Analysis]* Access roads would follow existing roads to the extent feasible. Construction would involve widening existing roads, and construction of new roads would be minimized. Areas along the access roads disturbed by construction would be restored and revegetated. The access roads would be permanent, not temporary, and would not be narrowed to their original widths after construction. This would allow transport of cranes and large replacement parts (including WTG blades) during operations without disturbing newly renovated areas along access roads.

Chapter 35.62: Ridgeline and Hillside Development

35.62.040- Ridgeline and Hillside Development Guidelines

This section is intended to provide “visual protection of the County’s ridgelines and hillsides by requiring that the Board of Architectural Review evaluate each proposed structure within [certain] areas… in terms of the [development] guidelines” and “encourage architectural designs and landscaping that conforms to the natural topography on hillsides and ridgelines.” The guidelines apply to each structure proposed where there is a 16-foot drop in elevation within 100 feet in any

direction from the proposed building footprint. The Board of Architectural Review may exempt a new structure or an alteration to an existing structure from review provided that in their review of the structure they find that one or more of the following situations applies to the proposed development:

b. In certain circumstances, allowing greater flexibility in the guidelines will better serve the interests of good design, without negatively affecting neighborhood compatibility or the surrounding viewshed.

> **Consistent.** *[Revised Analysis]* Due to the nature of the Project and technical feasibility issues, some Project components would be located in steep areas and near ridgelines. The Project was sited strategically to minimize its visibility from the surrounding area. Scenic values would be protected to a great extent by the Project siting at the end of a relatively remote, dead-end country road. The site would be surrounded on two sides by undeveloped portions of VAFB, and views from the surrounding area would be screened by intervening topography. However, the WTGs would cause significant and unavoidable visual impacts as viewed from Jalama Beach and in the immediate Project vicinity. Placement of WTGs would be avoided on steeper slopes, where possible, to minimize grading. The Project would not include more access roads than necessary. The Project will implement a Site Restoration and Revegetation Plan and a Landscape and Lighting Plan, which would minimize the visual impacts from Project construction; native and drought-resistant plants that are compatible with the climate would be used. The Project would support continued use of the property for agriculture and reduce pressure for residential expansion into the area, which would help preserve the area's rural character.

4.13.5.4 Santa Barbara County Article II Coastal Zoning Ordinance *[New Analysis]*

This analysis is limited to the portion of the project proposed to be located within the Coastal Zone, which would involve grading to widen access roads and to build short segments of new roads for transport of WTG blades and other large loads (see the introduction to Section 4.13.5.2 *Santa Barbara County Coastal Land Use Plan*, above).

Section 35-65. Archaeology.

1. When developments are proposed for lots where archaeological or other cultural sites are located, project design shall be required which avoids impacts to such cultural sites if possible.
2. When sufficient planning flexibility does not permit avoiding construction on archaeological or other types of cultural sites, adequate mitigation shall be required. Mitigation shall be designed in accord with guidelines of the State Office of Historic Preservation and the State of California Native American Heritage Commission.
3. Native Americans shall be consulted when development proposals are submitted which impact significant archaeological or cultural sites.

> **Consistent.** See discussion above under Conservation Element Archaeological Sites Conclusions and Recommendations.

35-97. ESH - Environmentally Sensitive Habitat Area Overlay District.

The Coastal Land Use Plan designates Environmentally Sensitive Habitat Areas (ESHAs) within the County's Coastal Zone, which are defined by Section 30107.5 of the Coastal Act as "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments." The proposed Project does not fall within any mapped ESHA. However, according to Section 3.9.4 of the Coastal Land Use Plan, native plant communities are considered a county-wide ESHA that "are not designated on the land use maps because they occur in so many areas," and as such, "the policies will have to be applied on a case-by-case basis as projects are reviewed." Native plant communities include coastal sage scrub, chaparral, California native oak woodland and individual oak trees, and endangered, rare, or endemic plant species.

ESH-related sections of the Coastal Zoning Ordinance that are relevant to the Project are as follows:

Section 35-97.10 Development Standards for Native Grassland Habitats.

2. Development shall be sited and designed to protect native grassland areas.

   Consistent. See discussion on Section 35-97.18(2), below.

Section 35-97.18 Development Standards for Native Plant Community Habitats.

Examples of such native plant communities are: coastal sage scrub, chaparral, coastal bluff, closed cone pine forest, California native oak woodland (also individual oak trees), endangered and rare plant species as designated by the California Native Plant Society, and other plants of special interest such as endemics.

1. Oak trees, because they are particularly sensitive to environmental conditions, shall be protected. All land use activities, including cultivated agriculture and grazing, should be carried out in such a manner as to avoid damage to native oak trees. Regeneration of oak trees on grazing lands should be encouraged.

   Inconsistent. *[New Analysis]* The proposed project would result in removal of approximately 81 trees in the coastal zone, of which 24 would be coast live oaks and the rest would be tanbark oaks. Although the Applicant has submitted revised grading plans to substantially reduce loss of oak trees, while preserving the proposed overall layout of the wind farm, the impacts would still be significant and unavoidable. The impacts would be mitigated to the maximum extent feasible by implementation of several mitigation measures, including a Tree Protection Plan and a Tree Replacement Plan (see Section 4.5.4.2).

   This SEIR includes a Project alternative (*Modified Project Layout, Including Elimination of WTGs E-7 and E-8),* which would substantially reduce the number of oak trees removed for access roads and WTG sites. Given that this alternative layout is considered feasible and would substantially reduce impacts to oak trees, the proposed Project (as described in the Project Description) cannot be found consistent with this policy.

2. When sites are graded or developed, areas with significant amounts of native vegetation shall be preserved. All development shall be sited, designed, and constructed to minimize impacts of grading, paving, construction of roads or structures, runoff, and erosion on native vegetation. In

particular, grading and paving shall not adversely affect root zone aeration and stability of native trees.

Consistent. As presented in Section 4.5.4.2 and supported by detailed vegetation and habitat mapping, grading in the Coastal Zone would result in impacts to native plant communities, habitats, and special status species located within or adjacent to the areas of disturbance. The grading plans have been revised by the Applicant to reduce grading to the minimum required to construct the necessary roads. Implementation of prescribed MMs BIO-1 to BIO-14 would reduce impacts on native vegetation communities, habitats, and special status species to the greatest extent feasible. The measures comprise a range of strategies to minimize impacts, including worker education, preconstruction surveys, biological monitoring, minimizing ground disturbance, fencing, tree protection, site restoration and revegetation, and specific plans to protect sensitive species.

Section 35-140. Tree Removal.

Section 35-140.1 Purpose and Intent.

The purpose of this section is to regulate the removal of certain trees within the Coastal Zone. The intent is to preserve healthy trees that are important for the protection of habitat areas and the scenic and visual quality of the County.

Section 35-140.2 Applicability.

A Coastal Development Permit under Section 35-169 shall be required for the removal of any tree which is six inches or more in diameter measured four feet above the ground and six feet or more in height and which is 1) located in a County street right-of-way; or 2) located within 50 feet of any major or minor stream except when such trees are removed for agricultural purposes; or 3) oak trees; or 4) used as a habitat by the Monarch Butterflies.

Section 35-140.3 Processing.

In addition to the requirements for the issuance of a Coastal Development Permit set forth in Section 35-169, a Coastal Development Permit for the removal of trees shall not be issued unless the Coastal Planner makes one of the following findings:

1. The trees are dead.
2. The trees prevent the construction of a project for which a Coastal Development Permit has been issued and project redesign is not feasible.
3. The trees are diseased and pose a danger to healthy trees in the immediate vicinity, providing a certificate attesting to such fact is filed with the Planning and Development Department by a licensed tree surgeon.
4. The trees are so weakened by age, disease, storm, fire, excavation, removal of adjacent trees, or any injury so as to cause imminent danger to persons or property.

Inconsistent. *[New Analysis]* The proposed Project would result in removal of approximately 81 trees in the Coastal Zone, of which 24 would be coast live oaks. See discussion under Sec. 35-97.18 Development Standards for Native Plant Community Habitats (1), above.

4.13.6 Cumulative Effects

Geographic Extent/Context

The geographic context for land use considers the extent to which the Project's adverse effects to quality of life for the surrounding community (specifically noise, traffic, and neighborhood incompatibility) would combine with the impacts from other projects to create an effect that is cumulatively considerable. The geographic extent of cumulative land use impacts includes residences near the switchyard, residences along San Miguelito Road, participating residences within the Project area, and nonparticipating residences surrounding the Project area. The LWEP Final EIR concluded that cumulative quality of life impacts that may occur during Project construction or operation from noise and traffic would not be cumulatively considerable. SWEP Table 3-1 identifies the most recent list of cumulative projects applicable to this SEIR.

Cumulative Effects

County Plans, Policies, and Development Standards. The Project would be consistent with all applicable County plans, policies, and development standards through the siting and design process, through ongoing coordination with the County, and through required mitigation measures. None of the Project impacts could combine with the effects of another project listed in Section 3.3, Table 3-1, to create an inconsistency with a County plan or development standard.

FAA Air Navigation Requirements. The Project would comply with FAA requirements and would obtain FAA approval prior to construction. None of the cumulative projects listed in Section 3.3, Table 3-1, could combine with the Project to create a substantial air navigation hazard. The Project would not contribute to a cumulative impact to air navigation.

Compatibility with VAFB Operations. The Project has been designed to comply with military requirements and to minimize interference with telemetry equipment. None of the cumulative projects listed in Section 3.3, Table 3-1, could combine with the Project to create a substantial impact to VAFB operations. Given ongoing consultation and an executed agreement with the Airforce, the Project would not contribute a cumulative impact to VAFB.

Quality of Life - Traffic. Cumulatively adverse traffic impacts could occur if nearby projects were to be constructed concurrently with the proposed Project. None of the projects listed in Section 3.3, Table 3-1, are located within three miles of the SWEP site. Because of variable construction schedules, the potential for the combined effects of construction traffic to result in substantial cumulative impacts is unlikely. Furthermore, traffic impacts from the proposed Project would be short term, lasting approximately ten months. Cumulative quality of life impacts associated with increased traffic are not anticipated.

Quality of Life - Noise. Cumulatively adverse noise impacts could occur if nearby projects were to be constructed concurrently with the proposed Project, or if the noise from these cumulative projects were to affect participating residences within the Project area and nonparticipating residences surrounding the Project area. None of the projects listed in Section 3.3 are located within three miles of the SWEP site, although the switchyard would be less than one mile from cumulative projects within the City of Lompoc. However, because of variable construction schedules, the potential for the combined effects of construction to result in excessive cumulative construction noise is unlikely. Furthermore, given the three-mile distance of these projects from the proposed WTGs, the

operational noise of these projects would not combine with the operational noise of the SWEP to create a cumulative noise impact affecting quality of life for the nearby residences. Cumulative quality of life impacts associated with noise are not anticipated.

4.13.7 Residual Impacts

As summarized in Section 4.13.4, Impacts LU-1a, LU-2, and LU-3 would be less than significant. With implementation of proposed mitigation measures, residual effects from Impact LU-4 (construction), LU-5a, LU-5b, LU-6, and LU-7 would not be significant. Residual effects from Impact LU-1b would remain significant.

4.13.8 Impact and Mitigation Summary

Table 4.13-3 below provides a summary of the SWEP's impacts related to land use and planning. The table also indicates the mitigation measures proposed to reduce each significant impact.

Table 4.13-3. SWEP Impact and Mitigation Summary – Land Use and Planning

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
LU-1a	LUDC Visual Impact Development Standards. The Project poses potential inconsistency with County Plans, Policies, and Development Standards concerning visual impacts.	None required	Class III
LU-1b	Tree Protection. The proposed Project is inconsistent with County Plans, Policies, and Development Standards concerning tree removal.	MM BIO-1: Worker Education and Awareness Program MM BIO-2: Ground Disturbance MM BIO-4a: Tree Protection Plan MM BIO-4b: Tree Replacement Plan MM BIO-4c: Invasive Plant Pathogen Abatement (SOD Prevention) MM BIO-11c: Biological Monitoring MM BIO-11d: Monitoring Report	Class I
LU-2	FAA Air Navigation Requirements. Potential conflict with FAA air navigation requirements from installation of WTGs and meteorological towers, and possible use of helicopters during construction.	None required.	Class III
LU-3	Compatibility with VAFB Operations. Potential incompatibility with VAFB operations, such as radar, telemetry antennas, and microwave links.	None required.	Class III
LU-4	Quality of Life – Traffic. Construction activities would result in increased traffic in relatively quiet neighborhoods.	TC-1: Traffic Management Plan (construction)	Class II
LU-5a	Quality of Life – Noise. Noise from Project construction could cause temporary impacts to quality of life of residences within and surrounding the Project area.	NOI-2: Construction Hours NOI-3: Telephone Number for Noise Complaints NOI-4: Noise Complaint Resolution Plan. NOI-5: Maintenance of Construction Equipment NOI-6: Resident Notification	Class II

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
LU-5b	Quality of Life – Noise. Noise from WTG operation could potentially impact quality of life of nearby residences.	NOI-1: WTG Maintenance NOI-3: Telephone Number for Noise Complaints NOI-4: Noise Complaint Resolution Plan NOI-7: Acoustical Analysis NOI-8: Noise Monitoring and Control Plan NOI-9: Maintenance Hours	Class II
LU-6	Coastal Resources. Possible unpermitted encroachment into the Coastal Zone, impacting coastal resources.	LU-1: Staking of Coastal Zone.	Class II
LU-7	Decommissioning and Reclamation Plan. Long-term impacts to land use following end of Project.	LU-2: Decommissioning & Reclamation Plan LU-3: Financial Assurance for Decommissioning and Reclamation	Class II

Class I. Significant unavoidable adverse impact.

Class II. Significant environmental impacts that can be feasibly mitigated or avoided.

Class III. Adverse impacts found not to be significant.

Class IV. Impacts beneficial to the environment.

4.13.9 References

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_____. 2018b. Santa Barbara County Land Use and Development Code. Published December 2011. Updated September 2018.

_____. 2018c. Santa Barbara County Environmental Thresholds and Guidelines Manual. Published March.

_____. 2016. Santa Barbara County Comprehensive Plan. Updated through November 2016.

_____. 2014a. Santa Barbara County Coastal Land Use Plan. Adopted 1982. Republished May 2014. Partially Certified by the State Coastal Commission March 1981.

_____. 2014b. Santa Barbara County Uniform Rules for Agricultural Preserves and Farmland Security Zones. September.

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4.14 Noise

Presented within this section is information on ambient noise conditions in the vicinity of the proposed Project and applicable regulations pertaining to noise and vibration. Noise and vibration impacts associated with construction and operation of the proposed Project are based on evaluating the exposure of persons to Project-related increases in noise and vibration levels in excess of defined thresholds.

4.14.1 Environmental Setting

Fundamentals of Noise

The LWEP EIR described the environmental setting for noise, including: definitions of acoustical terminology and fundamental descriptors, measurement and analysis of sound, examples of comparative noise levels, and typical sound levels measured in the environment. The most common metric is the overall A-weighted sound level measurement (dBA).

The effects of noise on people can be grouped into three general categories:

- Subjective effects of annoyance, nuisance, dissatisfaction
- Interference with activities such as speech, sleep, learning
- Physiological effects such as startling and hearing loss

In most cases, environmental noise produces effects in the first two categories only. However, workers in industrial plants might experience noise effects in the last category.

The LWEP EIR summarized how a person's subjective reaction may vary depending on the individual's habituation to noise. Thus, an important way of determining a person's subjective reaction to a new noise is by comparison with the existing or "ambient" environment to which that person has adapted. In general, the more the level or the tonal (frequency) variations of a noise exceed the previously existing ambient noise level or tonal quality, the less acceptable the new noise will be, as judged by the exposed individual. When comparing sound levels from similar sources (for example, changes in traffic noise levels), a 3-dBA change is considered a just-perceivable difference; 5 dBA is clearly perceivable, and 10 dBA is considered a doubling in loudness.

Measuring the noise environment involves three variables to establish the characteristics of the noise: magnitude, frequency and duration. Loudness captures the magnitude of the variations in air pressure associated with sound waves. Loudness refers to how people judge the volume of sound. As a rule of thumb when comparing sounds with similar frequency and duration characteristics, a 1-dB change in sound level requires close attention to notice a change in loudness, a 3-dB change is clearly noticeable, and a 10-dB change will be nearly twice (or one-half) as loud. For example, a noise of 70 dB sound is about twice as loud as 60 dB (County, 2018).

The frequency characteristics of environmental noise sources are normally evaluated using the A-weighted sound levels (expressed as dBA). This is because the way the human ear perceives sound correlates well with the A-weighted scale (Brennan, 2018), and the applicable threshold criteria and planning policies for community noise analysis are in terms of dBA (County, 2018). Other weighting scales can be used to characterize sources of noise source. For example, C-weighting highlights sounds at lower-frequencies, which are a concern for hearing loss in loud settings.

Existing Conditions

The primary existing land use at the site is cattle grazing, although scattered residences are present within the Project boundary. Residences within the Project boundary are considered to be "participating" residences. Nearby private residences are also located on nonparticipating properties outside the perimeter of the Project boundary and near the proposed power line route along San Miguelito Road and in the City of Lompoc.

Baseline Noise Levels

The LWEP EIR included a narrative description of the existing conditions at the site. In the absence of actual noise measurements at the time, background literature was used to describe existing ambient noise levels. Background noise levels in the vicinity of the Project boundaries were assumed to be approximately 40 dBA CNEL.

The ambient noise levels on the Project site are characterized as low, which is typical of rural areas. At the site, little traffic noise occurs because of the infrequency of use of San Miguelito Road. Ambient noise levels also increase as wind speeds increase in strength. The Applicant sponsored measurements in 2017 to determine the existing background noise levels at three locations, one (LT-1) near the Project boundary at the nearest nonparticipating residential property line and two (LT-2 and LT-3) near residences and San Miguelito Road (Brennan, 2018). Table 4.14-1 shows the existing measured noise levels.

Table 4.14-1. Existing Background Noise Level Measurements

Location	Description	Minimum L_{90} (dBA)	Minimum Leq (dBA)	Daytime Average Leq (dBA)	Nighttime Average Leq (dBA)	Ldn (dBA)
LT-1	Property line, northwest of R1, east of WTG #20 (Turbine N-7)	37	45	62	57	65
LT-2	Property line, east of R3, near San Miguelito Road	42	43	51	48	55
LT-3	Property line, west of R4 near San Miguelito Road	42	47	59	54	62

Source: Measurements taken March 30 and 31, 2017; J.C. Brennan & Associates, Inc., 2018.

Notes: The "average" values shown are the average of the 1-hour duration measurements in the daytime or nighttime period. Daytime: 7:00 a.m. to 10:00 p.m. (15 one-hour measurements). Nighttime: 10:00 p.m. to 7:00 a.m. (9 one-hour measurements).

Off-site baseline noise levels depend on proximity to the major transportation noise sources in the County or airports. Between Lompoc and the lower end of the San Miguelito Canyon where San Miguelito Road leads to the entrance of the Imerys Mine, noise levels have been modeled to occur up to 70 dBA CNEL along San Miguelito Road, due to a railroad that serves the diatomaceous-earth-mining operation. The railroad is part of a branch that connects the mine on San Miguelito Road through Lompoc to Surf along the coastal railroad mainline (County, 2009).

The County's Comprehensive Plan Noise Element includes a map of noise contours for Lompoc (1986) showing some locations north of Highway 246 as being influenced by noise from aircraft operations at VAFB, over 60 dBA Ldn. The Project site is located outside the 60 Ldn aircraft noise contour caused by VAFB operations (County, 2009).

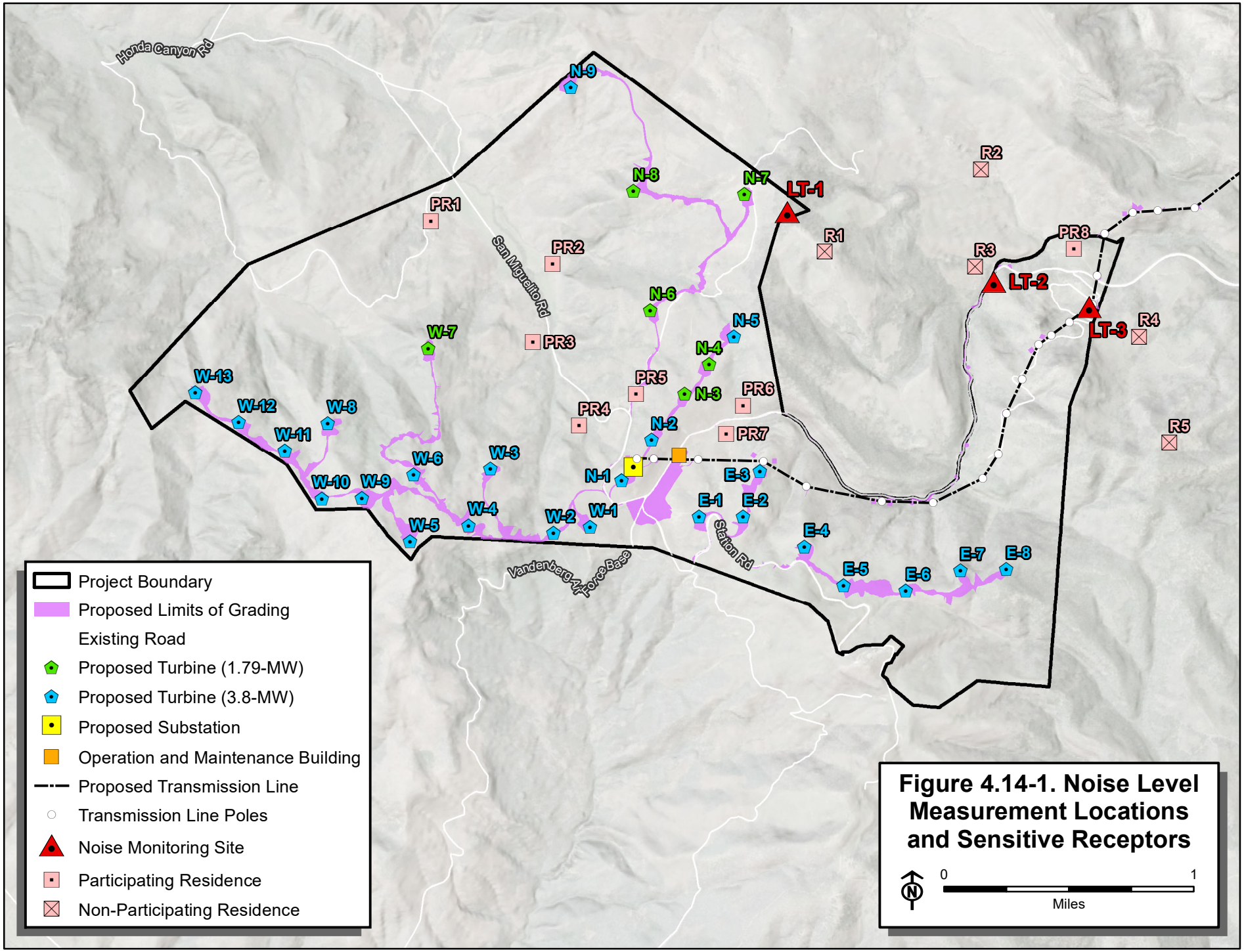

Figure 4.14-1. Noise Level Measurement Locations and Sensitive Receptors

Sensitive Receptors

Noise-sensitive receptors include all residences, including nonparticipating properties near the Project site and those participating properties scattered within the Project boundary. Sensitive receptors also include residences outside the Project boundary. Rural residences, including approximately 12 single-family residences or mobile homes, would be within roughly one mile of the proposed Project wind turbine generators (WTGs), residences also occur along upper San Miguelito Road near the Project site and along the approximately two-mile segment of San Miguelito Road south of the City of Lompoc that would be roughly parallel to and near the proposed transmission line corridor. Approximately 20 homes would be within 1,600 feet of the proposed transmission line corridor along San Miguelito Road and north of Miguelito Park. County parks are not defined as noise-sensitive locations (County, 2018).

Residences occur at the highest densities in the City of Lompoc along Project traffic access routes and in the neighborhoods in southeastern Lompoc. Homes east of South 7th Street and near the southeastern City Limits would be within 1,600 feet of the proposed Project switchyard location, that would be on the Imerys Mine property. Specifically, about 30 homes along Sheffield Drive and within the southern City Limits would be adjacent to the construction access road for the proposed Project switchyard location. Three of these homes would be less than 150 feet from the switchyard.

The private residence that is closest to a proposed WTG site and on a nonparticipating residential property (R1) is located 2,000 feet from the proposed wind turbine site for N-7 (WTG#20), and this residence is approximately 1,000 feet outside the perimeter of the Project boundary. The nearest sensitive receptor (R1) is on elevated terrain that overlooks portions of the Project site.

Table 4.14-2 summarizes the locations of the residences nearest to the proposed Project WTGs. The locations of these sensitive receptors are shown on Figure 4.14-1.

Table 4.14-2. Summary of Noise-Sensitive Receptor Locations

Residence	Latitude, North (degrees)	Longitude, West (degrees)	Base Elevation (feet)	Distance to Nearest Proposed Turbine (feet)
R1	34.589320°	-120.504502°	1,746	2,000
R2	34.594273°	-120.493334°	873	4,900
R3	34.587956°	-120.493817°	846	5,150
R4	34.585261°	-120.481853°	1,015	5,650
R5	34.578752°	-120.479687°	1,658	4,370
PR1	34.590216°	-120.532367°	828	2,470
PR2	34.588597°	-120.523619°	771	2,400
PR3	34.583495°	-120.524945°	894	2,150
PR4	34.578617°	-120.521180°	1,082	1,350
PR5	34.580664°	-120.517624°	1,186	900
PR6	34.579971°	-120.510202°	1,237	1,150
PR7	34.578469°	-120.511191°	1,221	900
PR8	34.589627°	-120.486515°	788	7,150

Source: Applicant, Noise Receptor Locations & Elevations, October 10, 2018.

Notes: R: Nonparticipating Residence
PR: Participating Residence

4.14.2 Regulatory Setting

Santa Barbara County, Comprehensive Plan, Noise Element. The Santa Barbara County Board of Supervisors adopted the Noise Element of the Comprehensive Plan on March 5, 1979. The Noise Element includes amendments through 1997 and was republished in May 2009 (County, 2009). The Noise Element policies have not changed since the LWEP EIR. The maximum exterior noise exposure compatible with noise-sensitive uses is 65 dBA Ldn. For additional description of the Noise Element, see Section 3.11.2.1 of the LWEP EIR.

Santa Barbara County Land Use and Development Code (LUDC), County Code Chapter 35. The County Code includes development standards for Wind Energy Conversion Systems (LUDC Section 35.57.050) that do not specify noise limits. This provides the County flexibility in the review of large wind energy developments in order to consider the site-specific setting and context of each proposal. Therefore, the standards for reviewing noise impacts rely on those adopted with the Noise Element, County Environmental Thresholds and Guidelines Manual (2018), and State CEQA Guidelines.

City of Lompoc, 2030 General Plan, Noise Element (Adopted September 23, 2014). Because certain project-related activities may occur within the City of Lompoc, one "implementation measure" from the City's General Plan Noise Element would be relevant:

> NOISE-4. The City shall amend the Noise Ordinance to include the following measures:
>
> - For construction near sensitive receptors, require that noisy construction activities be scheduled for periods, such as between 8 a.m. and 6 p.m. on weekdays and 9 a.m. to 6 p.m. on Saturday, when loud noises would have the least impact on adjacent residents or other sensitive receptors [Policy 2.4].
> - Develop a construction schedule that minimizes potential cumulative construction noise impacts and accommodates particularly noise-sensitive periods for nearby land uses (e.g., for schools, churches, etc.).
> - Where feasible, require use of caissons instead of driven piles to reduce the intensity level and duration of noise impacts [Policy 2.4].
> - Where feasible, construct temporary, solid noise barriers between source and sensitive receptor(s) to reduce off-site propagation of construction noise [Policy 2.5].
> - Require internal combustion engines used for construction purposes to be equipped with a properly operating muffler of a type recommended by the manufacturer. Also, require impact tools to be shielded per manufacturer's specifications [Policy 2.4].

City of Lompoc, Municipal Code, Noise Ordinance. The City of Lompoc (Section 8.08.030) prohibits certain noisy construction activities in residential zones or within 500 feet during nighttime hours (9:00 p.m. to 7:00 a.m.).

4.14.3 Significance Thresholds

Thresholds of Significance

Noise Thresholds. The following are thresholds of significance for assisting in the determination of significant noise impacts. The thresholds are intended to be used with flexibility, as each project must

be viewed in its specific circumstances (County, 2018). The noise thresholds described here and in the LWEP EIR were approved by the Board of Supervisors in August 1993 (County, 2018).

(a) A proposed development that would generate noise levels in excess of 65 dBA CNEL and could affect sensitive receptors would generally be presumed to have a significant impact.

(b) Outdoor living areas of noise sensitive uses that are subject to noise levels in excess of 65 dBA CNEL would generally be presumed to be significantly impacted by ambient noise. A significant impact would also generally occur where interior noise levels cannot be reduced to 45 dBA CNEL or less.

(c) A project will generally have a significant effect on the environment if it will increase substantially the ambient noise levels for noise-sensitive receptors adjoining areas. Per item (a), this may generally be presumed when ambient noise levels affecting sensitive receptors are increased to 65 dBA CNEL or more. However, a significant effect may also occur when ambient noise levels affecting sensitive receptors increase substantially but remain less than 65 dBA CNEL, as determined on a case-by-case level.

(d) Noise from grading and construction activity proposed within 1,600 feet of sensitive receptors, including schools, residential development, commercial lodging facilities, hospitals or care facilities, would generally result in a potentially significant impact. According to U.S. EPA guidelines (referenced in County Environmental Thresholds and Guidelines Manual; 2018), average construction noise is 95 dBA at a 50-foot distance from the source. A 6-dB drop occurs with a doubling of the distance from the source. Therefore, locations within 1,600 feet of the construction site would be affected by noise levels over 65 dBA. To mitigate this impact, construction within 1,600 feet of sensitive receptors shall be limited to weekdays between the hours of 8 a.m. to 5 p.m. only. Noise attenuation barriers and muffling of grading equipment may also be required. Construction equipment generating noise levels above 95 dBA may require additional mitigation.

The County Environmental Thresholds and Guidelines Manual (2018) recommends that all noise studies evaluating ambient noise levels and changes resulting from project development should be prepared by licensed acoustical engineers. The noise thresholds approved by the County in 1993 have not changed since the publication of the LWEP EIR. Accordingly, this analysis follows with the same approach and guidelines as set forth in the LWEP EIR.

The LWEP EIR used the following approach in determining whether ambient noise levels would increase "substantially." For new projects in quiet rural areas, addressing a "substantial increase" is normally the controlling noise criterion or threshold. Assuming an existing background noise level of 40 dBA CNEL, an increase of 10 dBA, resulting in an absolute threshold of 50 dBA CNEL at any nonparticipating residence is a reasonable threshold of significance. Although a 10-dBA increase represents a doubling of perceived noise levels, outdoor noise levels at 50 dBA CNEL are still considered quiet and are well below the sound levels considered to be requisite for protecting public health and welfare (U.S. EPA, 1978), and far below the County-established noise threshold of 65 dBA CNEL (County, 2018).

The thresholds for evaluating the magnitude of WTG operational noise apply over the durations of one-hour and 24-hour periods, with time-weighting factors applied to nighttime and evening Leq values. Due to the 10-dBA penalty applied to nighttime noise levels and the 5-dBA penalty for evening noise in computing CNEL, an outdoor noise level threshold of 50 dBA CNEL translates to a steady or

continuous noise level of 43.3 dBA hourly Leq from the Project, which is within the limits of accurate measurement. WTG noise levels that exceed 43.3 dBA Leq (1-hour) or cause an increase of more than 10 dBA at nonparticipating residences would be considered significant.

Because Project participants (those residents within the 2,950-acre WTG area) do so willingly and receive benefit from the Project, the 65 dBA CNEL County threshold applies at participating residences. The County believes establishing a more protective threshold of 50 dBA CNEL is reasonable and prudent to ensure that residents who are not part of the Project and who value their quiet rural setting are not affected by intrusive noise levels. In contrast, Project participants willingly enter into contracts to have turbines on their land, they are financially compensated by the Project, and their contracts include provisions for accepting a certain level of noise.

The LWEP EIR focused on use of the CNEL metric from the County Environmental Thresholds and Guidelines Manual and the Leq (1-hour) metric for WTG specification rather than the Ldn metric of the County Comprehensive Plan Noise Element. The rationale for doing so in the LWEP EIR was that, for equivalent noise sources, the CNEL metric is a slightly more stringent threshold than Ldn. In practice, general community noise levels in terms of CNEL and Ldn are virtually identical, and the two measures consistently agree within approximately 1.0 dB. For this reason, the County thresholds use CNEL and Ldn interchangeably (2018).

Impact Assessment Methodology

The Applicant sponsored and prepared a noise impact analysis for the proposed Project (Brennan, 2018) that updates and replaces the noise analysis for the LWEP EIR. The updated noise analysis is based on the proposed layout of 30 WTGs located in three corridors, with each turbine modeled at a hub-height of 80 meters. Subsequent to the updated noise analysis, the Applicant refined slightly the locations and hub heights of the proposed Project WTGs to result in proposed hub-heights at either 80 meters or 81.5 meters (Dudek, 2018).

The proposed WTGs would consist of 6 each GE 1.79-MW WTGs and 24 each GE 3.8-MW WTGs. The 1.79-MW WTGs would be 427 feet (130 meters) in total height from foundation to blade tip and the 3.8-MW WTGs would be 493 feet (150 meters) from foundation to blade tip. Published noise data from GE indicates this turbine has a maximum sound power level of 107 dBA between 10 m/s and the cut-out wind speed of 14 m/s at the hub height (GE, 2016). Additionally, a +2-dB adjustment was made to account for the uncertainty of the manufacturer provided sound-power-level data (Brennan, 2018).

The frequency characteristics of the WTGs are modeled in terms of the A-weighted decibel scale (dBA) for comparison with the County's threshold criteria and planning policies that are in terms of dBA (County, 2018). The County recognizes the community concerns, expressed during the scoping period, regarding infrasound (less than 20 hertz [Hz]), low-frequency noise (between 10 and 200 Hz), and potentially disturbing "whooshing" or "concussive" thumping noise or vibration. Modern WTGs avoid creating problematic levels of infrasound or low-frequency noise because the upwind blades of the turbines do not pass through the turbulence generated by the wind shadow downwind of the tower. According to the frequency spectra within the proposed WTG vendor specifications, the WTGs would produce apparent sound levels of 80 dBA or lower at frequencies of 31.5 Hz or below (GE, 2016). This low-frequency noise would be more than 20 decibels below the total sound power level (107 dBA) considered in this analysis. With no specific threshold applicable to infrasound or audible low-frequency noise, these topics are not discussed further.

Transformers are expected to have a National Electrical Manufacturers Association (NEMA) sound rating of 87 dBA and would not be audible off the Project site. The off-site high-voltage power lines and switchyard associated with the Project would be 115 kilovolts (kV) or less and would not include any notable stationary sources of noise, other than occasional switching of circuit breakers. Audible noise from switchyard equipment or foul-weather corona is typically associated with higher-voltage transmission lines and is not anticipated to be present (Brennan, 2018).

The impact analysis used standard acoustical engineering methods for modeling complex industrial plants, using proprietary software (DataKustik GmbH: CadnaA Noise Prediction Model (CadnaA)] to determine the operational noise from the proposed SWEP. The sound propagation factors used in the model were adopted from International Organization for Standardization (ISO) 9613. The ISO 9613 standard used in the modeling software assumes each receptor is downwind from each source or that the wind is flowing radially from each WTG in all directions at the same time.

The Applicant's consultant modelled for simultaneous operation of all 30 WTGs, at the highest wind speed (and therefore the greatest noise generation level). Noise levels reported for the modelled sensitive receiver locations therefore include contributions from all wind turbines combined. This results in a conservative hourly noise level that is assumed to be maintained over a 24-hour period to calculate the 24-hour average Ldn. Each WTG was considered as a point source at the 80-m hub height over the existing ground topography with no vegetation shielding corrections (Brennan, 2018).

4.14.4 Environmental Impacts and Mitigation Measures

Table 4.14-3 below lists the impacts and mitigation measures identified for noise in the LWEP EIR. These same impacts are addressed in this section for the SWEP. The right-hand column of the table below indicates whether the LWEP impacts or mitigation measures have been modified for the SWEP.

Table 4.14-3. LWEP Impacts and Mitigation Measures – Noise

Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
NOI-1	Short-term Construction Noise. Some types of construction equipment would generate short-term noise impacts to nonparticipating residences less than 2,000 feet from a construction area.	NOI-2: Construction Hours. NOI-3: Telephone Number for Noise Complaints. NOI-4: Noise Complaint Resolution Plan. NOI-5: Maintenance of Construction Equipment. NOI-6: Resident Notification.	Modified impact statement. Updated impact discussion. Updated Mitigation Measure NOI-2.
NOI-2	Long-term Wind Turbine Generator Noise. Adjacent nonparticipating residences would be exposed to noise levels greater than 43.3 dBA Leq (50 dBA CNEL); and four of the nine participating residences would be exposed to noise levels at or greater than 65 dBA CNEL.	NOI-1: WTG Maintenance. NOI-3: Telephone Number for Noise Complaints. NOI-4: Noise Complaint Resolution Plan. NOI-7: Acoustical Analysis. NOI-8: Noise Monitoring and Control Plan. NOI-9: Maintenance Hours.	Modified impact statement. Updated impact discussion.

The noise impacts of the proposed SWEP are discussed below.

NOI-1 Short-term Construction Noise. Some types of construction equipment ~~would~~ could generate short-term noise impacts to ~~non-participating~~ residences less than 2,000 feet from a construction area.

The LWEP EIR included Impact NOI-1, which addressed short-term construction noise. Construction activities for the proposed Project would be typical of comparable large construction projects. The noise levels would vary during the construction period, depending upon the construction phase and types of equipment in use. Construction would be anticipated to take approximately 10 months. Within the duration of construction, the Applicant anticipates that construction would normally occur during daylight hours, Monday through Saturday; however, some activities could require extended hours because of scheduling constraints or other time-sensitive matters, or to maintain structural integrity of concrete placement. The Applicant's noise impact analysis assumes that all construction activity would occur between 7:00 a.m. to 10:00 p.m. (Brennan, 2018) hours.

Table 4.14-4 shows the typical noise levels that would be expected to occur within the site.

Table 4.14-4. Typical Construction Noise Levels

Construction Phase	Construction Phase Noise Level at 50 feet, Leq (dBA)
Ground Clearing (Grading)	84
Excavation or Road Construction	89
Foundations	78
Erection (Installation)	87
Finishing (Clean-up)	89

Source: Brennan, 2018.

On-site Construction Noise

Site preparation and construction activities would temporarily increase noise levels at residences in and around the Project site. The noise would occur mainly from heavy-duty construction equipment (e.g., heavy-duty trucks, graders, bulldozers, backhoes, drill rigs). For the proposed Project, the upper range of construction noise levels would occur during scraping, grading, crane pad development, and excavation for turbine foundations. Road construction would also entail use of heavy equipment and the noise levels would be similar to those of excavation and grading. Grading, ground clearing, and tree removal would cause lower levels of noise. Once the pads are constructed and the foundations excavated, the loudest source of noise would be the cranes lifting the turbines into place. Decommissioning the facility at the end of its useful life would cause noise levels comparable with those of construction.

The construction noise levels around on-site activities are predicted considering only the attenuating mechanism of divergence of the sound waves in open air where a 6-dB reduction per doubling of distance is applied. The potential attenuation or shielding effects of topography or vegetation were not considered; intervening topography or terrain would result in additional reductions.

The short-term noise levels at residences in and around the Project site could increase by more than 5 dBA above the existing minimum ambient noise levels (43 to 45 dBA Leq) at nonparticipating sensitive receptors R1 and R3, if construction activities were to take place when ambient noise levels are the lowest. This potentially significant impact would be limited to the duration of on-site construction activities that occur nearest to the receptors. Additionally, the participating resident at

PR5 could be exposed to periods of construction noise exceeding 65 dBA Leq, which could also exceed the County's 65 dBA CNEL exterior noise level standard if the construction noise were to persist during all daytime hours. This impact would occur during construction of the access road, which passes in close proximity to PR5.

Mitigating the potentially significant on-site construction noise impact involves limiting the duration of the noise by limiting the hours of construction and avoiding annoyance, nuisance, or sleep interference at nearby sensitive receptors through a complaint resolution plan and advance notification. Through the recommended mitigation, the on-site construction noise impact can be reduced to a less-than-significant level with the application of Mitigation Measures (MMs) NOI-2 (Construction Hours), NOI-3 (Telephone Numbers for Noise Complaints), NOI-4 (Noise Complaint Resolution Plan), NOI-5 (Maintenance of Construction Equipment), and NOI-6 (Resident Notification) (Class II).

Table 4.14-5 shows the predicted construction noise levels that would be expected to occur within the site.

Table 4.14-5. Predicted Construction Noise Levels at Sensitive Receptors

Residence	Approximate Distance to Nearest Construction Spread (feet)	Lower-Range Construction Noise Level, Leq (dBA)	Upper-Range Construction Noise Level, Leq (dBA)
R1	1,824	46	58
R2	4,344	38	49
R3	2,554	38	49
R4	1,753	37	48
R5	2,711	39	50
PR1	2,337	44	56
PR2	1,257	44	57
PR3	1,978	45	57
PR4	1,493	49	63
PR5	889	53	87
PR6	1,188	51	63
PR7	1,112	53	65
PR8	2,483	35	47

Source: Table 5 of Brennan, 2018.
Notes: R: Nonparticipating Residence
PR: Participating Residence

Off-site Construction Noise

Construction activities would occur off site. Locations of concern for off-site construction noise impacts include the sites of the proposed Project transmission line (7.3 miles), the Project switchyard south of Sheffield Drive, cut-and-fill work along San Miguelito Road, tree trimming and removal along San Miguelito Road, and removing trees and obstructions for on-road transport of Project components. For example, within the City of Lompoc, street trees would need to be removed or trimmed, and transport may require removal and replacement of street lights, signs, traffic signals, and overhead utilities. Additionally, light-duty helicopter use could be necessary to pull a sock line for stringing the transmission line.

Construction noise levels at the nonparticipating residences would vary widely depending on the proximity of the work at the various locations near the Project transmission line, switchyard, access road improvements or activities to remove obstructions along the transport route. Receptors near the Project site would experience up to 58 dBA Leq, based on the noise from typical on-site activities (Brennan, 2018), and off-site receptors could briefly experience higher noise levels of 89 to 95 dBA Leq if within 50 feet of off-site work for the transmission line, switchyard, access road modifications or activities to remove obstructions along the transport route.

Durations of the higher noise levels along the transportation routes, at the switchyard site, or along the alignment of the proposed Project transmission line would be limited to the periods while the proposed Project components are being trucked and while the transmission line and Project switchyard are being installed. The noise levels associated with passing trucks and commuting worker vehicles would be approximately 71 to 76 dBA at 50 feet, and construction traffic noise would be concentrated along San Miguelito Road and other access roads leading to the site, transmission line, and switchyard. Within the 10 months of construction, the passing trucks of construction traffic would increase the daytime noise levels for receptors along all access routes. This impact would be most noticeable for approximately 20 homes along San Miguelito Road and about 30 homes along Sheffield Drive within the southeastern Lompoc City Limits. These locations would be adjacent to construction travel routes and construction access roads for the proposed Project transmission line and switchyard. Construction of the switchyard would cause increased noise (up to 87 dBA from 7 a.m. to 10 p.m., Monday through Saturday) for the homes near Sheffield Drive within the Lompoc City Limits during the second half of the overall 10-month construction duration. The City of Lompoc Noise Ordinance would prohibit construction noise between 9 p.m. and 7 a.m. at the switchyard site because it would be within 500 feet of several residences.

For the proposed Project transmission line, each helicopter operation could come within 250 feet from the ground and/or residences near the alignment. Residences and other locations adjacent to the transmission alignment would experience approximately 84 dBA Leq (1-hour) during times of nearby helicopter hovering; this result assumes that the helicopter would hover near the work site for a 15-minute period within an hour. At each pole site, construction of the transmission line would create a readily perceptible, but temporary, increase in daytime noise. The construction activities would be limited to a small crew that would move from site to site so that construction would only intermittently affect any one location at a time. While County parks are not defined as noise-sensitive locations, Miguelito Park would experience increased construction noise levels due to traffic and work at roughly five sites of new transmission line poles that would be within 1,600 feet of the park. Homes along the approximately two-mile segment of San Miguelito Road south of the City of Lompoc would experience increased construct noise levels due to traffic and work at approximately 24 pole sites along the proposed transmission line corridor.

These off-site noise levels during construction could occur during the Applicant's proposed hours of construction activity, which include evening hours. The Applicant anticipates construction occurring normally during daylight hours. The daily duration of the Applicant's proposed construction activities would need to be curtailed to between the hours of 7 a.m. to 10 p.m. in order to mitigate off-site construction noise impacts. MM NOI-2, regarding construction hours, from the LWEP EIR is revised here to ensure that the potentially significant impact of off-site construction noise can be reduced to a less-than-significant level (Class II), as presented below.

Mitigation Measures

The following mitigation measures (MMs) recommended for the LWEP EIR would remain applicable to the proposed Project:

MM NOI-2 **Construction Hours.** All Project construction activities, including those that involve use of heavy equipment (i.e., greater than 2-axle vehicles) along San Miguelito Road, shall be limited to between the hours of 7:00 a.m. to 10:00 p.m., Monday through Friday, unless otherwise approved by the County, except that construction at the project site at locations at least 1,600 feet from non-participating residences shall be limited to 7:00 a.m. to 6:00 p.m. Work at the switchyard site shall be limited to 7:00 a.m. to 9:00 p.m. Temporary noise barriers shall be installed at the switch yard site to shield the nearest residences from on-site construction noise. Work may occur within the WTG sites after hours or on weekends and holidays, subject to at least 48 hours written authorization from the County, and weekend and holiday work shall be limited to 8:00 a.m. to 5:00 p.m. Requests for weekend and holiday work shall be submitted to the County for approval in advance shall include a description of the activity to occur, including equipment usage and duration. All complaints received regarding weekend and holiday work shall be immediately submitted to the County.

Plan Requirements. The Applicant shall include notes on the final plans requiring compliance with the construction time limits for blasting or pile driving. County staff shall review all requests for weekend and holiday work, and issue written approvals or denials as applicable. County staff shall consider all noise complaints when reviewing subsequent requests for weekend/holiday work.

Timing. County staff will confirm that the notification is included on the final plans prior to issuance of the zoning clearance.

Monitoring. County staff will inspect the site during construction to enforce compliance with this condition.

MM NOI-3 **Telephone Number for Noise Complaints.** The Applicant shall establish a telephone number for use by the public to report any significant undesirable noise conditions associated with the construction and operation of the Project. If the telephone is not staffed 24 hours per day, the Applicant shall include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This telephone number shall be posted at the Project site during construction in a manner visible to passersby and the number shall be maintained until the Project has been operational for at least 1 year.

Plan Requirements and Timing. The Applicant shall establish a phone number and required features prior to zoning clearance for construction.

Monitoring. County staff will inspect the site during construction to enforce compliance with this condition.

MM NOI-4 **Noise Complaint Resolution Plan.** Throughout the construction and operation of the Project, the Applicant shall document, investigate, and evaluate all complaints and attempt to resolve all legitimate Project-related noise complaints.

Plan Requirements. The Applicant shall prepare a noise complaint resolution plan. The plan shall describe the specific steps that will be carried out by the Applicant in response to noise complaints. The final determination as to whether the response is adequate will be made by the County. The noise complaint forms will include instructions for filing the form with the Applicant and with the County.

Timing. The Applicant shall submit a noise complaint resolution plan for approval by the County prior to zoning clearance for construction.

Monitoring. County staff will review any forms submitted and ensure that complaints are being resolved. The County may require further noise analyses and require additional mitigation measures, if appropriate.

MM NOI-5 **Maintenance of Construction Equipment.** Construction contractors shall be required to ensure that construction equipment is well tuned and maintained according to the manufacturer's specifications, and that the standard noise reduction devices on the equipment are in good working order.

Plan Requirements. The Applicant shall ensure that equipment is maintained in good working order during construction.

Timing. Conditions will be enforced throughout all construction periods.

Monitoring. County staff will inspect the site during construction to enforce compliance with this condition.

MM NOI-6 **Resident Notification.** In coordination with the County, the Applicant shall hold a pre-construction meeting for residents of Miguelito Canyon to review upcoming construction activities and associated noise and traffic. The Applicant shall notify residences within 1 mile of any unusually loud construction activities, including the use of helicopters, blasting or pile driving, at least 1 week prior to their scheduled occurrence. In addition, the Miguelito Canyon residents shall be notified at least one week prior of any anticipated road/lane closures and property owner ingress/egress restrictions. Such activities shall be limited to between the hours of 8:00 a.m. to 5:00 p.m., Monday through Friday, unless otherwise approved by the County.

Plan Requirements and Timing. The Applicant shall provide proof of notification to the County 1 week prior to the schedule occurrence of loud construction activities. An example of the notification shall be provided prior to zoning clearance for construction.

Monitoring. County staff will review the notice and enforce compliance with this condition.

NOI-2 Long-term Wind Turbine Generator Noise. Adjacent residences could be exposed to substantial noise levels during Project operations. ~~Adjacent nonparticipating residences would be exposed to noise levels greater than 43.3 dBA Leq (50 dBA CNEL); and four of the nine participating residences would be exposed to noise levels at or greater than 65 dBA CNEL.~~

The LWEP EIR included Impact NOI-2, which addressed long-term wind turbine generator noise. Operation of the proposed Project would increase the noise levels of the surroundings above those that occur in the baseline conditions. Changes to the proposed Project, included with SWEP, would generally result in lower noise levels than those presented in the LWEP EIR. That is because, substantially fewer WTGs are proposed for the SWEP compared to the LWEP, and the proposed 1.7-MW and 3.8-MW WTG units would generate total apparent sound power levels of 107 dBA, lower than the those assumed in the LWEP EIR (up to 112 dBA). Additionally, in order to optimize noise emissions, the 3.8-MW WTG rotor blades come equipped with Low-Noise-Trailing-Edges (LNTEs) at along the blade's rear edge; LNTEs are thin jagged plastic strips, affixed to the rotor blades of the 3.8-MW units at the factory (GE, 2016). The LWEP EIR discussion of infrasound (less than 20 hertz [Hz]) and low-frequency noise (between 10 and 200 Hz) would not change with the SWEP.

The Applicant's environmental noise study (Brennan, 2018) presents the results of modeling each of the proposed Project WTGs. The study summarizes the predicted noise levels of the proposed WTGs at the nonparticipating and participating residences in terms of Leq and Ldn, and a map of Ldn noise level contours is provided based on the currently-proposed layout.

Noise generated by the proposed WTGs would increase with increasing wind speeds at the site. Noise measurements in the Applicant's environmental noise study also show how ambient noise levels increase with increasing wind speeds. Ambient noise measurements were observed to be between 55 dBA to 65 dBA Ldn, during March 30 and 31, 2017, which included periods of moderate to high wind speeds exceeding 15 to 19 meters/second (m/s) or over 40 miles per hour (Brennan, 2018). Normal operation of the WTGs would occur during less-windy conditions between wind speeds at the hub height of 4 to 14 m/s (GE, 2016). WTG noise would likely be most noticeable when wind speed aloft is sufficient to drive the WTGs, but insufficient at the ground surface to create enough ground level wind noise to mask the WTG noise. When compared with the WTGs of the evaluated in the LWEP EIR, the larger WTGs of the proposed Project are capable of efficiently operating with lower wind speeds at the hub-height, which can correlate with calmer conditions at the surface.

The noise level contours modeled by the Applicant's noise study and noise levels at the locations of the nearest sensitive receptors are shown on Figure 4.14-2.

Table 4.14-6 summarizes the noise levels associated with the operational phase of the Project.

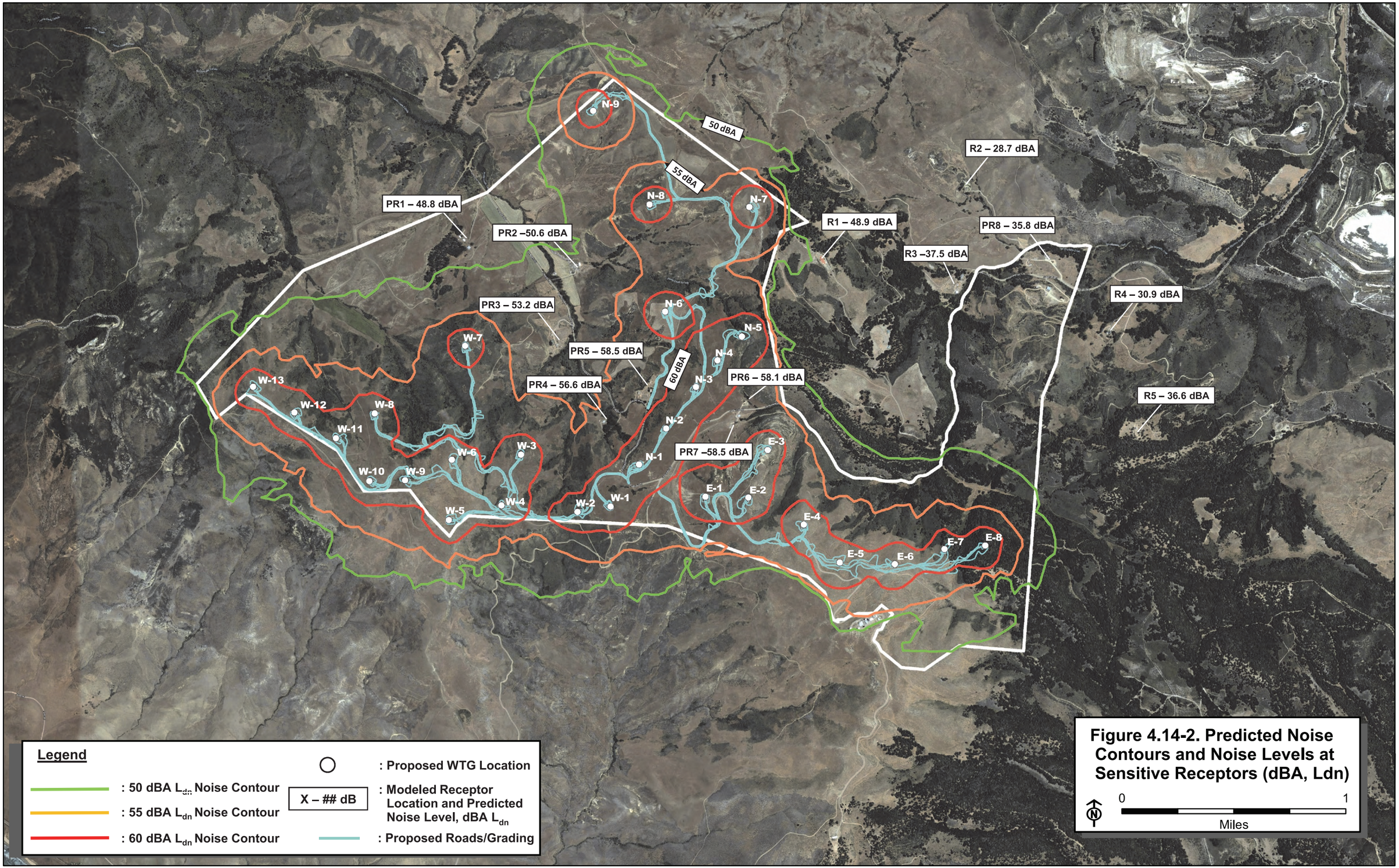

Figure 4.14-2. Predicted Noise Contours and Noise Levels at Sensitive Receptors (dBA, Ldn)

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Table 4.14-6. Predicted WTG Noise Levels for Nearby Residences

Residence	Distance to Nearest Proposed Turbine (feet)	Predicted Noise Level Leq (dBA)	Nonparticipating Residence over 43.3 dBA Leq?	Predicted Noise Level Ldn (dBA)	Applicable Threshold CNEL or Ldn (dBA)	Substantial Increase in Noise Levels?
R1	2,000	42.4	No	48.9	50	No
R2	4,900	22.2	No	28.7	50	No
R3	5,150	30.9	No	37.5	50	No
R4	5,650	24.3	No	30.9	50	No
R5	4,370	30.0	No	36.6	50	No
PR1	2,470	42.3	---	48.8	65	No
PR2	2,400	44.1	---	50.6	65	No
PR3	2,150	46.6	---	53.2	65	No
PR4	1,350	50.1	---	56.6	65	No
PR5	900	52.0	---	58.5	65	No
PR6	1,150	51.5	---	58.1	65	No
PR7	900	51.9	---	58.5	65	No
PR8	7,150	21.3	---	27.8	65	No

Source: Table 6 of Brennan, 2018.

Notes: R: Nonparticipating Residence
PR: Participating Residence

The results of the Applicant's environmental noise study indicate that the maximum WTG noise levels experienced at a nonparticipating residence would be 42.4 dBA Leq (1-hour) and 48.9 dBA Ldn. As described in Section 4.14.3, a significant impact would occur if WTG noise levels exceed 43.3 dBA Leq (1-hour) at any nonparticipating sensitive receptor. The modeling indicates that in the current configuration, the proposed Project would not exceed the significance threshold of 43.3 dBA Leq (1-hour). The modeled result is within 1-dBA of the significance threshold, and changes in the predicted noise levels would be somewhat sensitive to minor changes that could occur in the final site layout prior to construction.

Additionally, a significant impact could occur if ambient noise levels would increase substantially at any nonparticipating sensitive receptor by causing a predicted impact in excess of 50 dBA CNEL. Ambient noise levels during calm conditions and away from traffic on San Miguelito Road would be substantially less than the measured 55 dBA to 65 dBA Ldn (Table 4.14-1). To account for this, the Applicant's noise study assumed that average daytime and nighttime ambient noise levels could be as low as 40 dBA Leq on days with moderate wind speeds sufficient for turbine operation. This assumption results in a baseline minimum background noise level of 46.4 dBA Ldn or 46.7 dBA CNEL. In contrast, the LWEP EIR assumed 40 dBA CNEL for the baseline. The maximum WTG noise levels experienced at a nonparticipating residence would be approximately 49 dBA Ldn or CNEL. As such, the proposed Project would not exceed the significance threshold of 50 dBA CNEL and the associated increase in ambient noise levels would not be substantial.

Because the predicted noise levels would be sensitive to refinements, revisions or modifications to the proposed WTG sites, the results of the environmental noise study would need to be reevaluated upon determining the final site layout prior to zoning clearance. Mitigation Measures (MMs) NOI-7 and NOI-8, respectively, presented in the LWEP EIR would require County approval of a detailed acoustical analysis prior to zoning clearance along with noise monitoring and control for WTG noise levels. This

analysis recommends retaining these mitigation measures to validate the predicted maximum WTG noise levels for the final site layout prior to construction and to confirm the incremental increase in ambient noise levels through a comprehensive noise monitoring program after the startup of commercial operations.

Traffic associated with long-term operation and maintenance of the proposed Project, the proposed transformers within the on-site Project substation, and the off-site high-voltage power lines and switchyard, and the sporadic use of heavy equipment for occasionally servicing and repairing the facilities could cause noise levels that would be disruptive to surrounding uses, if nighttime maintenance becomes necessary. These activities would need to be curtailed to between the hours of 8 a.m. to 5 p.m. in order to mitigate off-site noise impacts of maintenance activities. With MM NOI-9, regarding maintenance hours, from the LWEP EIR, traffic and equipment noise during routine operation and maintenance would not generate substantial off-site noise that could impact sensitive receptors.

Mitigation measures from the LWEP EIR are recommended for ensuring that long-term WTG noise levels from proposed Project are avoided, reduced, and controlled to the extent feasible. The LWEP recommended mitigation for WTG maintenance, acoustical analysis, and operational noise monitoring along with a complaint resolution plan to safeguard against substantial noise level increases at nearby sensitive receptors. With recommended mitigation, the operational noise impact can be reduced to a less-than-significant level (Class II).

Mitigation Measures

The following MMs recommended for the LWEP EIR would remain applicable to the proposed Project:

MM NOI-1 **WTG Maintenance.** The Applicant shall maintain all WTGs in excellent working order to minimize operational noise impacts.

Plan Requirements. The Applicant shall provide maintenance records to the County, upon request, demonstrating that the WTGs are being maintained appropriately.

Timing. Condition will be enforced throughout the life of the Project.

Monitoring. County staff will enforce compliance with this condition.

MM NOI-3 **Telephone Number for Noise Complaints.** The full text of this measure presented under Impact NOI-1 above.

MM NOI-4 **Noise Complaint Resolution Plan.** The full text of this measure presented under Impact NOI-1 above.

MM NOI-7 **Acoustical Analysis.** The Project will be designed and operated to ensure the noise level attributable to the Project does not exceed 43.3 dBA Leq (1 hour) under normal operating conditions at any existing nonparticipating residences, or 58.3 dBA Leq at participating residences. The Applicant shall submit to the County a detailed acoustical analysis of the final site layout and selected WTGs. All calculations or modeling input and output files shall be made available to the County. The analysis shall include all available vendor sound-level data (specified as either guaranteed or expected), including a site-specific analysis of how sound power levels increase with wind speed.

If a stall-controlled WTG is selected, sound power level data must be sufficient to estimate maximum sound levels under any stall condition because this could fall

outside the range reported by IEC 61400-11 (IEC, 2006). Control strategies, if available, to reduce Project noise levels also shall be discussed and evaluated.

Plan Requirements. This requirement shall be shown on the final plans. The acoustical analysis and final layout and specification of WTGs shall be submitted to the County for review. County acceptance of the acoustical analysis and WTG layout does not constitute endorsement nor relieve the Applicant from ensuring the actual WTG operating noise levels are in compliance with the limits of 43.3 dBA Leq (1-hour) limit for at nonparticipating residences, and 58.3 dBA Leq at the participating residences.

Timing. The County shall approve the acoustical study and final WTG layout prior to zoning clearance.

Monitoring. County staff will ensure that the final plans incorporate the WTG layout and turbine specifications, as used for the approved acoustical analysis.

MM NOI-8 **Noise Monitoring and Control Plan.** The Applicant shall prepare and submit a "Noise Monitoring and Control Plan" prior to zoning clearance.

Plan Requirements. The plan shall be authored and implemented under the direction of a County-approved professional acoustical engineer or an engineer who is certified by the Institute of Noise Control Engineering to characterize the existing ambient noise levels in terms of CNEL, Ldn, and Leq (1-hour) and determine the actual noise level generated by the Project at the participating and nonparticipating residences. The Applicant may use the IEC 61400-11 methodology to measure and analyze noise from the wind turbine generators, but the results will need to be presented in terms CNEL, Ldn, and Leq (1-hour) to determine noise levels at nearby residences.

Monitoring existing conditions shall occur for sufficient periods to characterize the existing noise levels during daytime and nighttime conditions and a range of wind speeds that includes calm conditions and wind speeds typical for WTG operation. Operational noise monitoring shall occur at the same locations for a period of at least 72 continuous hours of WTG operation. The Applicant shall be responsible for all expenditures associated with this analysis, including County staff time. If the analysis finds that the noise generated by the WTGs exceeds 43.3 dBA Leq (1-hour) or causes an increase of greater than 10 dBA CNEL at nonparticipating residences or exceeds 58.3 dBA Leq at the participating residences, the Applicant shall develop and implement measures to reduce Project noise levels to comply with this level. One example of a measure that can be implemented depending on the results of noise monitoring after commercial operations would be for the Applicant to engage with the turbine vendor for a control system that continuously adapts wind turbine operations to respond to local wind speeds and wind directions to achieve the targeted noise levels, known as a Wind Farm Noise Management system (GE, 2016). The proposed measures shall be submitted to the County for approval before implementation. Post-mitigation noise monitoring may be conducted by the County's acoustical consultant. The Applicant shall also reimburse the County for these expenditures.

Timing. The County shall approve the plan prior to zoning clearance. The noise measurements to characterize baseline ambient noise levels shall commence at least 3 months prior to site grading or as otherwise approved by the County. Operational noise

monitoring shall commence within 3 months following startup of commercial operations.

Monitoring. County staff will enforce this condition.

MM NOI-9 **Maintenance Hours.** Maintenance or other routine noise-generating operations activities within 1,600 feet of nonparticipating residences shall be limited to weekdays between the hours of 8:00 a.m. to 5:00 p.m. only, unless activities are for emergency repairs or as otherwise approved by the County.

Plan Requirements. This note shall be printed on all final plan sets for Project components that are within 1,600 feet of nonparticipating residences.

Timing. Conditions will be enforced throughout Project operational phases.

Monitoring. County staff will enforce this condition.

4.14.5 Cumulative Effects

Geographic Extent/Context

The geographic context of analysis for cumulative noise impacts considers the geographic area potentially subject to adverse noise impacts of the proposed Project. The geographic context for cumulative impacts would include any project within approximately one mile from the Project site or a sensitive receptor affected by the proposed Project.

The geographic extent of cumulative noise impacts from truck transport during construction is generally limited to the potentially overlapping effects of projects within approximately 0.5 mile of the transportation route. At distances greater than 0.5 mile, the cumulative effects of noise would not be likely to combine with transportation noise and because the traffic noise effects would attenuate to blend in with background noise levels.

Cumulative Effects

As listed in Section 3.3, Table 3-1 and shown in Figure 3-1, no cumulative projects would be near enough to be considered for analysis relative to noise from the site of the proposed Project, although some cumulative projects could be adjacent to proposed Project construction travel routes.

Short-term Construction Noise. Cumulatively adverse noise impacts could occur if nearby projects were to be constructed concurrently with the proposed Project and within 1 mile of a sensitive receptor affected by the proposed Project. The potential for cumulative construction noise would be greatest at any sensitive receptors located proximate to two or more work sites.

Construction activities within the site, along San Miguelito Road, and within the transmission line alignment and switchyard site, and at staging areas would create both intermittent and continuous noises. Construction would also cause noise along the roadways accessing the site and off-site components, primarily from commuting workers and from trucks needed to bring materials to the site. Noise from construction activities would be audible to residences and other noise-sensitive uses near these activities. The duration of construction work for the proposed Project would be approximately 10 months and, after that time, construction noise would cease.

None of the projects listed in Section 3.3, Table 3-1 and shown in Figure 3-1, are located in the immediate vicinity of the proposed Project or off-site components, and because of variable construc-

tion schedules, the potential for the combined effects of construction to result in excessive cumulative construction noise is unlikely. Because construction noise reduces rapidly with distance, cumulative projects are not likely to combine with noise generated from the construction of the proposed Project to create significant adverse cumulative effects.

Long-term Wind Turbine Generator Noise. The proposed Project would contribute to a long-term cumulative increase in ambient noise levels for locations within approximately 1 mile of the Project site. The WTGs would be the primary permanent sources of noise that could contribute to an adverse cumulative noise impact. All cumulative project operations would generate noise from employee vehicles or deliveries accessing the cumulative project sites. These vehicles may cause localized cumulative noise levels to increase where multiple projects or shared transportation routes occur adjacent to a sensitive receptor. No cumulative projects would be located such that cumulative noise could impact the residences that are near the proposed Project. As such, noise generated from operation of the proposed Project would create significant adverse cumulative effects, but the Project's incremental contribution to the cumulative noise impact would not be considerable.

4.14.6 Residual Impacts

With implementation of proposed mitigation measures, residual effects from Impacts NOI-1 and NOI-2 would not be significant.

4.14.7 Impact and Mitigation Summary

Table 4.14-7 below provides a summary of the SWEP's impacts related to noise. The table also indicates the mitigation measures proposed to reduce each significant impact.

Table 4.14-7. SWEP Impact and Mitigation Summary – Noise

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
NOI-1	Short-term Construction Noise. Some types of construction equipment could generate short-term noise impacts to residences less than 2,000 feet from a construction area.	NOI-2: Construction Hours. NOI-3: Telephone Number for Noise Complaints. NOI-4: Noise Complaint Resolution Plan. NOI-5: Maintenance of Construction Equipment. NOI-6: Resident Notification.	Class II
NOI-2	Long-term Wind Turbine Generator Noise. Adjacent residences could be exposed to substantial noise levels during Project operations.	NOI-1: WTG Maintenance. NOI-3: Telephone Number for Noise Complaints. NOI-4: Noise Complaint Resolution Plan. NOI-7: Acoustical Analysis. NOI-8: Noise Monitoring and Control Plan. NOI-9: Maintenance Hours.	Class II

Class I. Significant unavoidable adverse impact.
Class II. Significant environmental impacts that can be feasibly mitigated or avoided.
Class III. Adverse impacts found not to be significant.
Class IV. Impacts beneficial to the environment.

4.14.8 References

Brennan (J.C. Brennan & Associates, Inc.) 2018. Strauss Wind Energy Project. Environmental Noise Analysis. Prepared by J.C. Brennan & Associates, Inc. and Saxelby Acoustics. February 28, 2018. [Appendix H of CUP Application]

County (County of Santa Barbara). 2009. Comprehensive Plan, Noise Element. Adopted by the Board of Supervisors March 5, 1979. Republished 2009.

County. 2018. Environmental Thresholds and Guidelines Manual. Revised February 2018.

Dudek. 2018. Memo to Strauss Wind, LLC. Subject: Environmental Noise Analysis, Strauss Wind Energy Facility Report Addendum. September 12, 2018. [Appendix H of CUP Application]

GE (General Electric Company). 2016. Technical Documentation, Wind Turbine Generator Systems, 1.7-100 and 3.8-130 - 50/60 Hz. Product Acoustic Specifications. [Appendix M of CUP Application]

IEC (International Electrotechnical Commission). 2006. International Standard IEC 61400-11, Wind Turbine Generator Systems – Part 11: Acoustic Noise Measurement Techniques, Edition 2.1.

Lompoc (City of Lompoc). 2014. City of Lompoc, 2030 General Plan, Noise Element.

U.S. EPA (U.S. Environmental Protection Agency). 1978. Protective Noise Levels, Condensed Version of EPA Levels Document. EPA 550/9-79-100. November.

4.15 Paleontological Resources

Paleontological resources, or fossils, are the evidence of once-living organisms preserved in the geologic record. They include both the fossilized remains of ancient plants and animals and the traces thereof (e.g., track ways, imprints, burrows, eggshells, etc.). In general, fossils are greater than 5,000 years old (middle Holocene) and are typically preserved in sedimentary rocks. Although rare, fossils can also be preserved in volcanic rocks and low-grade metamorphic rocks under certain conditions. The LWEP EIR addressed paleontological resources in the LWEP EIR Section 3.12, *Paleontological Resources*, and concluded that impacts to paleontological resources would be less than significant with mitigation.

4.15.1 Environmental Setting

California can be divided in to eleven geomorphologic provinces. Santa Barbara County lies at the junction of two of these provinces: the Transverse Ranges and the Coastal Ranges. The geology of Santa Barbara County is dominated by marine sediments ranging in age from Mesozoic to Pleistocene. Dibblee (1950) said of Santa Barbara County, "The complex structure and resultant physiography of Santa Barbara County were developed by the series of diastrophic event starting with the early Miocene Yuezan orogeny and culminating with Pleistocene Coast Range orogeny, caused by a recurrent stress system of increasing intensity, these events together constituting the local effect of the Cascadian revolution."

Petroleum production and mining of diatomite have been the main mineral extraction enterprises in Santa Barbara County.

4.15.1.1 Data Sources

Geologic mapping

The LWEP EIR reviewed geological maps to determine what geologic units occur in the Project footprint and powerline route. The geologic units that were used in that document were the Franciscan Formation, Espada Formation, Anita Shale/Juncal Formation, Matilija Formation, Cozy Dell Shale Formation, Sacate-Gaviota (Coldwater) Formation, Tranquillon Volcanics, Vaqueros Sandstone, Rincon Sandstone, Monterey Shale, Sisquoc Shale, Older Quaternary Dissected Surficial sediments, Quaternary Landslide and Fluvial deposits, and Quaternary surficial sediments. The LWEP Fiinal EIR concluded that the rocks at and near the surface of the Project area are composed primarily of Neogene (Miocene and Pliocene) marine sediments.

The geologic mapping on which this assessment is based are the pertinent 7.5' quadrangle mapping of the Thomas Dibblee Foundation, specifically the Lompoc, Lompoc Hills, and Tranquillon Mountains quadrangles (Dibblee, 1988a, 1988b, 1988c). The features of the Project are superimposed on these geologic maps in Figure 4.15.1.

Museum Record Searches

No paleontological survey was performed for the LWEP or for the present assessment. A paleontological records search was not requested for the LWEP, but there was a review of paleontological localities in Santa Barbara County from the UCMP paleontological locality online database. The conclusion was

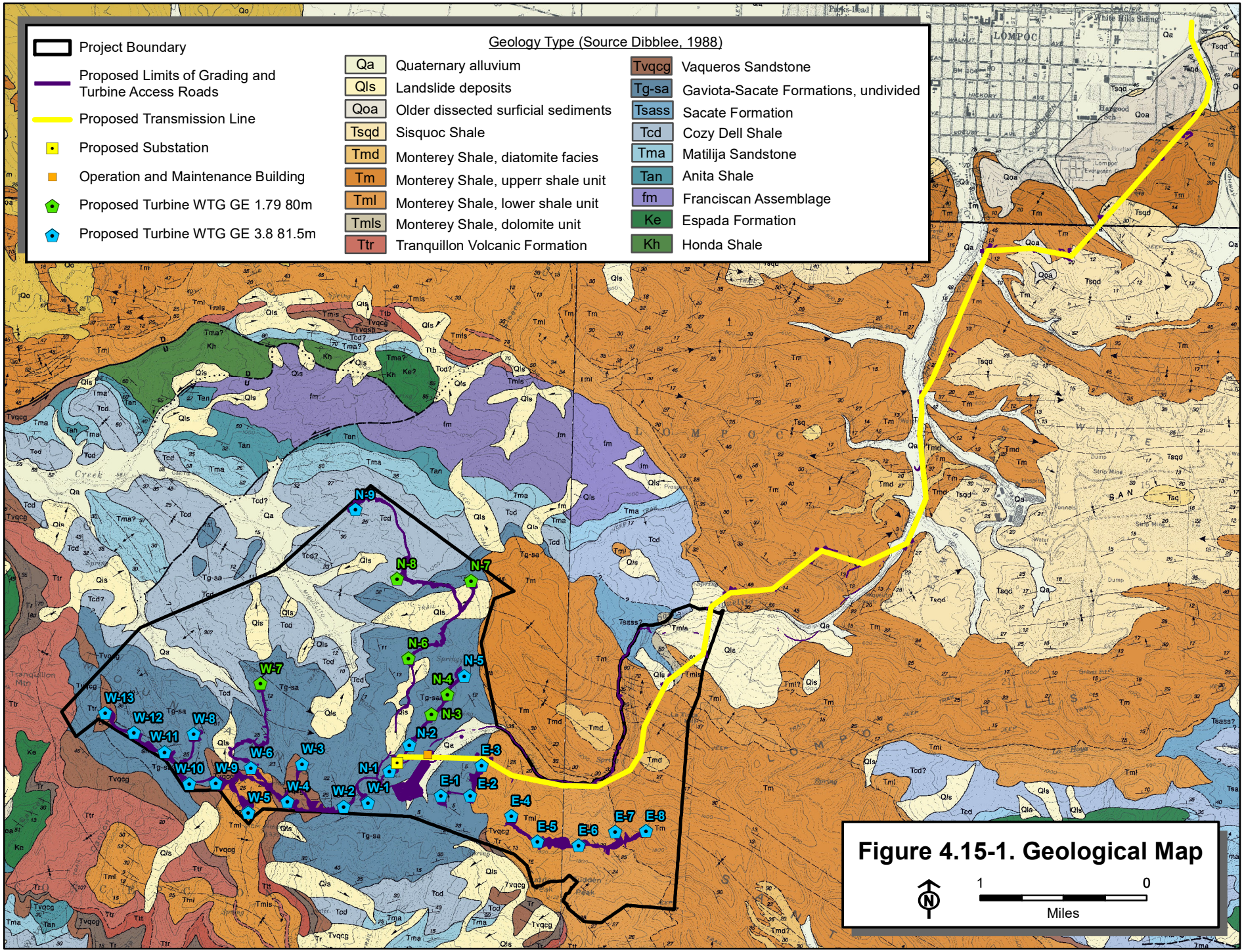
Project Boundary
Proposed Limits of Grading and Turbine Access Roads
Proposed Transmission Line
Proposed Substation
Operation and Maintenance Building
Proposed Turbine WTG GE 1.79 80m
Proposed Turbine WTG GE 3.8 81.5m
Geology Type (Source Dibblee, 1988)
Qa Quaternary alluvium
Qls Landslide deposits
Qoa Older dissected surficial sediments
Tsqd Sisquoc Shale
Tmd Monterey Shale, diatomite facies
Tm Monterey Shale, upperr shale unit
Tml Monterey Shale, lower shale unit
Tmls Monterey Shale, dolomite unit
Ttr Tranquillon Volcanic Formation
Tvqcg Vaqueros Sandstone
Tg-sa Gaviota-Sacate Formations, undivided
Tsass Sacate Formation
Tcd Cozy Dell Shale
Tma Matilija Sandstone
Tan Anita Shale
fm Franciscan Assemblage
Ke Espada Formation
Kh Honda Shale
N-9
N-8
N-7
N-6
N-5
N-4
N-3
N-2
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Figure 4.15-1. Geological Map
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that there were 127 total localities within Santa Barbara County and that 17 were from the Franciscan melange, 56 were from the Vaqueros Formation, 3 were from the Rincon Formation, 12 were from the Monterey Formation, and 21 were from the Sisquoc Formation.

Aspen requested a paleontological records search from the Vertebrate Paleontology Department of the Natural history Museum of Los Angeles County (LACM) for information on localities within the Project footprint and within one mile of it. Dr. Sam McLeod of that institution related that the institution had no localities in the Tranquillon Volcanics, Cody Dell Shale, or Gaviota-Sacate Formations undivided. He stated that there is a locality in the Vaqueros Formation just south of Lake Cachuma that produced five types of sharks.

LACM locality 6590 lies in the Monterey Formation just west of the northern part of the Project area less than one mile north of Miguelito Park. It has produced fossils of the herring *Etringus*. LACM locality 4156 is in a diatomite quarry just west of 6590 and has produced teeth of the shark *Isurus hastalis*, as well as the skeletons of many bony fish species, including *Xyne, Eclipes, Lompoquia*, sparids, flounders, rockfish, *Chauliodus, Hipposynghanthus*, a bird, a sea lion *Pithanotaria*, and the sperm whale *Scaldicetus*. In the White Hills east of LACM 6590 is a locality within the Monterey Formation. It has produced teeth of the shark *Isurus oxyrhinchus*, and skeletons of numerous kinds of bony fishes. These include *Lampanyctus, Thrysocles, Lompoquia, Scomber, Protanthias, Rhythmias, Pleuronichthys, Bathylagus, Sebastodes, Cyclothone,* and *Argyropelecus*. The holotype of *Protanthias fossilis* came from this locality. Most of these specimens were published by Lore David in 1943. In the northeastern part of the Project area in the Santa Ynez Mountains is LACM locality 6589, listed as being in the Sisquoc Formation. Due to changing usages of the of the Sisquoc and Monterey formations, it is probable that some or all of these specimens come from the Monterey Formation. Bony fishes found there include serrivomerids, belonids*, Zelosis, Scomberesox*, *Etringus, Ganolytes*, *Xyne, Eclipes, Physiculus, Microlepidium, Lampanyctus*, scombrids, trichiurids, flounders, bathylagids, melanostomatids, *Chauliodus, Cyclothone, Argyropelecus*, and *Hipposyngnathus imporcitor.*

Literature Search

The LWEP concluded that geologic and paleontological research in the specific Project area has been limited. Aspen found that there is an extensive body of literature on the geological and paleontological resources of western Santa Barbara County, but the paleontological literature focuses on the fossils of the Monterey and Sisquoc formations. Aspen searched a compilation of Fierstine et al. (2012) for fossil fishes published from the Lompoc vicinity. Fierstine et al. (2012) record at least 47 species of bony fish that have been named on specimens from the Monterey and Sisquoc formations of this part of Santa Barbara County. Most of these were published by Dr. David Starr Jordan, one-time chancellor of Stanford University. Referred specimens of at least four kinds of fish have been described from this rock.

Several kinds of birds and one mammal have been described from rocks of the Monterey and/or Sisquoc formations of the Project area.

Aspen also searched the compilations of Jefferson (1991a, 1991b) to determine whether any Pleistocene vertebrate fossils were listed for the area. None were listed.

Paleosensitivity

Dr. McLeod advised in his records search report that excavations in the exposures of the Tranquillon Volcanics in the Project area will not uncover any recognizable fossils. Shallow excavations in the younger Quaternary Alluvium exposed in the drainages of the Project area are unlikely to encounter

significant vertebrate fossil remains. Deeper excavations in those deposits that extend down into older sedimentary deposits, or any excavations in the exposures of the Cozy Dell Shale, Gaviota-Sacate Formations undivided, Vaqueros Sandstone, Miocene Monterey Shale Formation, or Sisquoc Formation in the Project area; however, may well uncover significant vertebrate fossils.

Dr. McLeod advised that any substantial excavations in the sedimentary deposits in the Project area, therefore, should be monitored closely to quickly and professionally recover any fossil remains discovered while not impeding development. He mentioned that sediment samples should be collected and processed to determine the small fossil potential in the Project area. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

The SVP standard guidelines contain a method of rating the paleontological sensitivity for any given formation. Other methods are utilized by the Bureau of Land Management. The LWEP employed the SVP methodology. Potential mitigation measures also follow an established protocol codified by the SVP. The present review utilizes the most recent version (2010) of the SVP guidelines.

An ancillary matter in ranking the paleontological sensitivity of rock units is how one defines a significant paleontological resource. The SVP guidelines (2010) define a significant paleontological resource as fossils and fossiliferous deposits of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years).

In the SVP system of sensitivity rating, rock units are described as having (a) high, (b) undetermined, (c) low, or (d) no potential for containing significant paleontological resources

The SVP system defines High Potential Rock Units as those from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have a high potential for containing additional significant paleontological resources. Rocks units classified as having high potential for producing paleontological resources include, but are not limited to, sedimentary formations and some volcaniclastic formations (e. g., ashes or tephras), and some low-grade metamorphic rocks which contain significant paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils (e. g., middle Holocene and older, fine-grained fluvial sandstones, argillaceous and carbonate-rich paleosols, cross-bedded point bar sandstones, fine-grained marine sandstones, etc.). Paleontological potential consists of both: (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, plant, or trace fossils; and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, paleoecologic, taphonomic, biochronologic, or stratigraphic data. Rock units that contain potentially datable organic remains older than late Holocene, including deposits associated with animal nests or middens, and rock units that may contain new vertebrate deposits, traces, or trackways are also classified as having high potential.

Undetermined Potential Rock Units are defined as units for which little information is available concerning their paleontological content, geologic age, and depositional environment are considered to have undetermined potential. Further study is necessary to determine if these rock units have high or low potential to contain significant paleontological resources. A field survey by a qualified professional paleontologist to specifically determine the paleontological resource potential of these

rock units is required before a paleontological resource mitigation program can be developed. In cases where no subsurface data are available, paleontological potential can sometimes be determined by strategically located excavations into subsurface stratigraphy.

Low Potential Rock Units are those which are poorly represented by fossil specimens in institutional collections, or based on general scientific consensus only preserve fossils in rare circumstances and the presence of fossils is the exception not the rule, e. g. basalt flows or Recent colluvium. Rock units with low potential typically do not require measures to protect fossils.

No Potential Rock Units are those having no potential to contain significant paleontological resources as high-grade metamorphic rocks (such as gneisses and schists) and plutonic igneous rocks (such as granites and diorites). Rock units with no potential require no protection nor mitigation measures relative to paleontological resources.

The LWEP EIR found that it would appear that the older Franciscan (including the Espada) Formation, and the younger, chiefly Neogene marine sequence (Vaqueros Sandstone and Rincon, Monterey, and Sisquoc shales) are paleontologically productive. The LWEP rated Qa (surficial sediments) as low sensitivity, but rated here as high, because of Dr. McLeod's warning that older Quaternary sediments could underlie Qa sediments.

Table 4.15-1 below shows the paleosensitivities assigned to the various rock units in the Project area by the LWEP EIR and by the present analysis.

Table 4.15-1. Paleosensitivity of the Project Site Rock Units

Map symbol	Name of rock unit	LWEP Paleontological Sensitivity	SWEP Paleontological Sensitivity
Qa	Surficial sediment	Low	High
Qlsl	Landslide debris	Moderate	Low
Qoa	Older dissected surficial Sediments	Low	High
Neogene Marine Rocks			
Tsqd	Sisquoc Shale	High	High
Tml, Tmls, Tm, and Tmd	Monterey Shale	High	High
Tr	Rincon Shale	High	High
Tvqcg	Vaqueros Sandstone	High	High
Ttr	Tranquillon Volcanics	Low	Low
Paleogene Marine Rocks			
Tsass	Sacate-Gaviota (Coldwater) Sandstone	Moderate	High
Tcd	Cozy Dell Shale	Low	Low
Tma	Matailija Sandstone	Low	Low
Ta	Anita Shale / Juncal Formation	Low	Low
Mesozoic Rocks			
Ka	Espada Formation	Low	Low
fm	Franciscan melange	Moderate	High

4.15.2 Regulatory Setting

Local

The County of Santa Barbara General Plan has no provisions for, and no references to, paleontological resources. The City of Lompoc General Plan has no provisions for, and no references to, paleontology.

Professional Standards

The Society of Vertebrate Paleontology (SVP) is an international organization for vertebrate paleontologists. The SVP has formulated standards for mitigation of project-related impacts to significant paleontological resources. These standards were updated nearly a decade ago (SVP, 2010). Numerous state and local jurisdictions recognize these standards. The LWEP EIR recognized earlier versions of these standards, but the paleontology portion of the LWEP EIR was written prior to the 2010 update.

4.15.3 Significance Thresholds

The County of Santa Barbara has no significance threshold for paleontological resources.

The LWEP EIR recognized that The California Environmental Quality Act (CEQA) applies to the Project. CEQA Guidelines (Appendix G, Section V, Part c) refer to whether or not implementation of a project would "directly or indirectly destroy a unique paleontological resource." Additionally, the Public Resources Code, Section 31244, states that "where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required." SWEP will also use these thresholds of significance.

4.15.4 Environmental Impacts and Mitigation Measures

Table 4.15-2 below lists the impacts and mitigation measures identified for paleontological resources in the LWEP EIR. These same impacts are addressed in this section for the SWEP. The right-hand column of the table below indicates whether the LWEP impacts or mitigation measures have been modified for the SWEP.

Table 4.15-2. LWEP Impacts and Mitigation Measures – Paleontological Resources

Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
PALEO-1	Exposure and Potential Destruction of Significant Paleontological Resources. Ground-disturbing activities such as mechanical excavation, drilling, or trenching could affect paleontological resources.	PALEO-1: Pre-construction Workshop PALEO-2: Implement Monitoring PALEO-3: Discovery of Fossils	Updated impact discussion. Revised/updated mitigation. Added new mitigation.
PALEO-2	Unauthorized Fossil Collection. Unauthorized collection of fossils by construction workers or operational personnel may occur.	PALEO-1: Pre-construction Workshop	Revision mitigation. New mitigation added.

Impact Assessment Methodology

The SVP standard guidelines contain a method of rating the paleontological sensitivity for any given formation. Other methods are utilized by the Bureau of Land Management. The LWEP EIR employed

the SVP methodology. Potential mitigation measures also follow an established protocol codified by the SVP. The present review utilizes the most recent version (2010) of the SVP guidelines.

An ancillary matter in ranking the paleontological sensitivity of rock units is how one defines a significant paleontological resource. The SVP guidelines (2010) define a significant paleontological resource as fossils and fossiliferous deposits of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radio-carbon years).

In the SVP system of sensitivity rating, rock units are described as having high, undetermined, low, or no potential for containing significant paleontological resources.

The impacts of the proposed SWEP on paleontological resources are discussed below.

PALEO-1 Exposure and Potential Destruction of Significant Paleontological Resources. Ground-disturbing activities such as mechanical excavation, drilling, or trenching could affect paleontological resources.

The LWEP EIR stated that ground-disturbing activities that could affect paleontological resources include mechanical excavation, drilling, or trenching that either (1) extends to sufficient depth to affect sediments that are unaltered by soil development and undisturbed and that possess moderate to high paleontological sensitivity, or (2) affects exposed fossiliferous rocks such as in road cuts, natural outcrops, and arroyo walls. If a unique paleontological resource or site were destroyed, the impact is capable of being mitigated to a less-than-significant level (Class II). Activities such as clearing, grubbing, and blading to prepare site surfaces and laydown areas are examples of construction-related work that would not be expected to adversely affect paleontological resources.

The impact described in the LWEP EIR has changed in two respects. First, the current system of sensitivity ranking employed by the Society of Vertebrate Paleontology (SVP 2010) does not have a “medium” category, so the categories now are “low” and “high”. For the sake of consistency, all the sedimentary units classified as “medium” sensitivity in the LWEP are now classified as “high”. Thus, the term “moderate” no longer applies. Second, the concept that activities such as clearing, grubbing, and blading would not be expected to adversely affect paleontological resources may not be correct. The impact of clearing and grubbing on vegetated surfaces depends on how near the surface sensitive sediments lie. Where sensitive sediments lie just below the surface, or where they are exposed at the surface, grubbing might affect paleontological resources. Blading would very likely impact paleontological resources. MM PALEO-1 requires a Qualified Professional Paleontologist to submit a Paleontological Resource Mitigation and Monitoring Plan (PRMMP) to the County for review and approval; MM PALEO-2 requires paleontological resources monitoring of mechanical disturbance only in Project areas known to have high sensitivity sediments; and MM PALEO-3 requires a Qualified Professional Paleontologist and the Paleontological Resource Monitor(s) to temporarily halt surface disturbing actions in the immediate vicinity of a fossil find until an assessment of the find is completed. Implementation of MMs PALEO-1, PALEO-2, and PALEO-3 would reduce the adverse effects from ground-disturbing activities on paleontological resources to a less-than-significant level (Class II).

Mitigation Measures

The following three mitigations are from the LWEP EIR; however, they have been expanded to provide more specificity and additional requirements.

MM PALEO-1 **Pre-construction Workshop.** The Applicant shall retain the services of a paleontologist who meets the SVP (2010) criteria of a Qualified Professional Paleontologist and who is County qualified. Prior to any ground disturbance, the Qualified Professional Paleontologist shall submit a Paleontological Resource Mitigation and Monitoring Plan (PRMMP) to the County for the review and approval. The County shall review the plan for sufficiency prior to acceptance. The PRMMP shall be prepared and implemented under the direction of the Project Paleontologist and shall address and incorporate Mitigation Measures PALEO-1 through PALEO 4. The PRMMP shall be prepared at the sole expense of the Applicant and be based on SVP assessment and mitigation guidelines. A monitoring plan must minimally address the following:

1. Identification and mapping of impact areas of high sensitivity what will be monitored during construction;
2. A coordination strategy to ensure that a Qualified Professional Paleontologist or a qualified Paleontological Resource Monitor will conduct Monitoring at the appropriate locations at the appropriate intensity;
3. The significance criteria to be used to determine which resources will be avoided or recovered for their data potential;
4. The need for Paleontological Resource Monitors to test loose sediment for microvertebrate remains and to secure, store and process a standard sample [as defined by the SVP Guidelines (2010)] of sediment from each formation that shows signs of preserving identifiable microvertebrate fossils;
5. The need for spoils from excavation and borings in diatomite sediments to be set aside until the Qualified Professional Paleontologist and/or the Paleontological Resource Monitor(s) can split the larger piece to test for the presence of significant fossils;
6. Procedures for the discovery, recovery, preparation, and analysis of significant paleontological resources encountered during construction, in accordance with standards for recovery, reporting, and curation established by the SVP (2010);
7. Stipulation that the Qualified Professional Paleontologist will oversee preparation, identification, and reporting of significant fossils recovered;
8. Stipulation that the methods employed to monitor and recover fossils in each formation shall be included in the final report;
9. Stipulation that the significance of the fossils recovered be analyzed in the final report;
10. Provisions for verification that the Applicant has an agreement with a recognized paleontological repository, as defined by the guidelines of the SVP (2010), for the disposition of recovered fossils and that the fossils shall be

prepared prior to submittal to the repository as required by the repository (e.g., stabilized, prepared, analyzed, curated, and catalogued);

11. Description of monitoring reports that will be prepared which shall include daily logs, monthly reports, and a final report with an itemized list of specimens found to be submitted to the County Planning Department, the Applicant, and the designated repository within 90 days of completion of monitoring;
12. Person(s) expected to perform each of the tasks, their responsibilities, and the reporting relationships between Project construction management and the mitigation and monitor team shall be identified;
13. All impact avoidance measures (such as flagging or fencing to prohibit or otherwise restrict access to sensitive resource areas that are to be avoided during ground disturbance, construction, and/or operation shall be described. Any areas where these measures are to be implemented shall be identified. The description shall address how these measures would be implemented prior to the start of ground disturbance and how long they would be needed to protect the resources from project-related impacts

The County and the Qualified Professional Paleontologist shall conduct a pre-construction workshop with construction workers and other Project personnel. The workshop shall inform personnel what fossil resources are and what they look like, what do and who to notify in case of a paleontological discovery, and penalties for the illicit disturbance of fossils. The workshop shall inform personnel that the Qualified Professional Paleontologist and the Paleontological Resource Monitor(s) are authorized to halt construction in the vicinity of a suspected fossil find so that it may be investigated. Attendees will receive sticker for hardhat. Construction personnel not permitted on site without sticker.

Plan Requirements. All construction personnel must receive training. All construction personnel must have designated sticker. The Applicant will keep training records onsite for review by the County, if requested.

Timing. Training will occur prior to commencement of any construction-related activity.

Monitoring. County staff will receive and review the PRMMP. County staff will receive and review the training material prior to any training, spot check construction staff to ensure construction staff have required sticker, and request training attendance records, if determined necessary.

MM PALEO-2 **Implement Monitoring Program.** Paleontological resources monitoring of mechanical disturbance only in Project areas known to have high sensitivity sediments shall occur concurrently with those construction activities. The Qualified Professional Paleontologist shall supervise the monitoring for paleontological resources. Monitoring shall be performed by one or more individuals meeting the SVP (2010) criteria for a Paleontological Resource Monitor and who is determined by the County to be qualified to identify paleontological resources. Based on field data, the Qualified Professional Paleontologist may decrease or increase in the monitoring of specific activities and areas. The Qualified Professional Paleontologist will ensure that all monitoring and specimen recovery be conducted in a manner consistent with the PRMMP.

Plan Requirements and Timing. Prior to start of construction, a contract or Letter of Commitment between the Applicant and Qualified Professional Paleontologist and the Paleontological Resource Monitor, consisting of a project description and scope of work, shall be prepared. The contract shall be executed and submitted to the County for review and approval prior to the issuance of the zoning clearance for the first phase of construction and all subsequent construction phases.

Monitoring. County staff will confirm monitoring through the Qualified Professional Paleontologist and County grading inspectors shall spot check field work.

MM PALEO-3 **Discovery of Fossils.** If fossils are found by the monitor or by construction personnel, the Qualified Professional Paleontologist and the Paleontological Resource Monitor(s) shall have the authority to temporarily halt surface disturbing actions in the immediate vicinity until an assessment of the find is completed, and the following actions will be taken:

- Construction activity shall cease within 50 feet of the find;
- Follow appropriate notification procedures consistent with the PRMMP;
- Assessment of the find, usually in the field by the Project paleontologist and determination of recovery procedures;
- Construction activity avoidance of the designated area until a find is assessed and, if recovery is called for, scientifically recovered; construction-related excavations would continue in other areas away from the discovery;
- Continued monitoring of construction in all appropriate areas while the find is being recovered;
- Post-field initial study, preparation, reporting, and subsequent curation.

Plan Requirements. Fossils that may be discovered during construction must first be assessed to determine whether they are scientifically significant and whether recovery measures are warranted. If recovery is recommended, it shall be completed in a manner reflecting scientific standards currently applied to paleontological excavations. Within those limits, all appropriate measures shall be taken to expedite recovery and to minimize interference with construction scheduling. The County shall be notified within 48 hours of a paleontological resource discovery assessed by the Project paleontologist to be significant and warranting recovery. The paleontological monitor shall periodically update the County during the recovery and notify them upon completion of recovery.

Timing. This measure shall be in effect throughout all construction phases.

Monitoring. County staff shall ensure that this measure is implemented through regular contact with the monitor and site visits as appropriate.

PALEO-2 <u>Unauthorized Fossil Collection.</u> Unauthorized collection of fossils by construction workers or operational personnel may occur.

As described in the LWEP EIR, the unauthorized collection of fossils by construction workers or operational personnel may occur where newly exposed sediment reveals fossil-bearing strata. This impact may be significant but can be reduced to a less-than-significant level with implementation of MMs PALEO-1 and PALEO-4 (Class II). MM PALEO-1 requires a Qualified Professional Paleontologist to submit a Paleontological Resource Mitigation and Monitoring Plan (PRMMP) to the County for review and approval. MM PALEO-4 requires a Qualified Professional Paleontologist to conduct or supervise a pedestrian survey of parts of the Project footprint on high sensitivity sediments to determine where clearing, grubbing, and grading could affect paleontological resources.

Mitigation Measures

MM PALEO-4 was not included in the LWEP EIR but is required for SWEP because the results of the required pedestrian survey must be utilized to design the PRMMP stipulated in MM PALEO-1.

MM PALEO-1 **Pre-construction Workshop.** Described under Impact PALEO-1 above.

MM PALEO-4 **Pre-construction Pedestrian Survey.** A Qualified Professional Paleontologist shall conduct or supervise a pedestrian survey of parts of the Project footprint on high sensitivity sediments to determine where clearing, grubbing, and grading could affect paleontological resources. The results of this survey must be utilized to design the PRMMP stipulated in Mitigation Measure PALEO-1. The boundaries of the areas having high paleontological sensitivity and to be cleared, grubbed, or graded shall be programed into a GPS device so that the places where sensitive sediments lying not far below the ground surface can be defined.

Timing. Survey will occur prior to completion of the PRMMP.

Monitoring. County staff shall ensure that this measure is implemented prior to receiving PRMMP to review.

4.15.5 Cumulative Effects

Scope and Geographic Extent

The scope for considering cumulative impacts on paleontological resources includes projects that would potentially disturb paleontological resources through ground disturbance, as these were the type of potential impacts identified for the proposed project. No identified paleontological resources would be impacted by the proposed project. Therefore, the geographic extent of the analysis of cumulative impacts on paleontological resources is limited to construction impacts on previously unidentified paleontological resources that could occur as a result of the proposed Project, and where the same unidentified resources could also be affected by construction of other projects. The geographic context of the scope is west central Santa Barbara County (specifically, the City of Lompoc and the White Hills, Lompoc Hills, and Santa Ynez Mountains).

Existing Cumulative Conditions

Twenty-nine projects in the cumulative scenario (see project nos. 81-92, 94-95, 100-102, 109, 111, 113-116, and 119 in Section 3) are located in or around the disturbed urban areas of the City of Lompoc and would impact Quaternary alluvium. Only two of the projects (16 and 20) are in rural areas southeast of Lompoc. The sediments impacted there are Miocene marine sediments (Sisquoc and Monterey formations). These have a much greater probability of impacting significant paleontological resources. Ground-disturbing activities, such as those that would take place as part of the proposed project, could disturb unknown paleontological resources.

Cumulative Impact Analysis

As discussed in Section 4.15.4 above, the proposed Project could disturb unknown subsurface or paleontological resources through excavation and ground disturbance. Several other projects in the cumulative scenario could take place in the same area as the proposed Project components. There is some potential that the proposed Project and another project could affect the same unknown resource or result in cumulatively significant impacts on unknown resources. However, the proposed Project has adequate mitigation measures for impacts to paleontological resources, even if the others do not. Therefore, the Project's contribution to the total potential impacts on unknown paleontological resources within the cumulative study area is not considerable.

4.15.6 Residual Impacts

With implementation of proposed mitigation measures, residual effects from Impacts PALEO-1 and PALEO-2 would be less than significant.

4.15.7 Impact and Mitigation Summary

Table 4.15-3 below provides a summary of the SWEP's impacts related to paleontological resources. The table also indicates the mitigation measures proposed to reduce each significant impact.

Table 4.15-3. SWEP Impact and Mitigation Summary – Paleontological Resources

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
PALEO-1	Exposure and Potential Destruction of Significant Paleontological Resources. Ground-disturbing activities such as mechanical excavation, drilling, or trenching could affect paleontological resources.	PALEO-1: Pre-construction Workshop. PALEO-2: Implement Monitoring. PALEO-3: Discovery of Fossils.	Class II
PALEO-2	Unauthorized Fossil Collection. Unauthorized collection of fossils by construction workers or operational personnel may occur.	PALEO-1: Pre-construction Workshop. PALEO-4: Pre-construction Pedestrian Survey.	Class II

Class I. Significant unavoidable adverse impact.

Class II. Significant environmental impacts that can be feasibly mitigated or avoided.

Class III. Adverse impacts found not to be significant.

Class IV. Impacts beneficial to the environment.

4.15.8 References

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Dibblee, T. W. 1988b. Geologic Map of the Lompoc Hills and Conception quadrangles, Santa Barbara County, California. Dibblee Foundation Map DF-19. Scale 1:24,000.

Dibblee, T. W. 1988c. Geologic Map of the Pont Arguello and Tranquillon Mountain quadrangles, Santa Barbara County, California. Dibblee Foundation Map DF-20. Scale 1:24,000.

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4.16 Recreation

This section describes effects on recreation that would be caused by construction and operation of the Project. The LWEP EIR addressed possible effects on recreation in Section 3.15, *Other Issue Areas*, and concluded that no significant recreation impacts would occur. The following discussion describes the status of recreation activities in the Project area, and provides an update to applicable policies, potential impacts, and recommended mitigation measures.

4.16.1 Environmental Setting

As described in the LWEP EIR, the Project area is a scenic region characterized by hillsides, forests, agriculture, and ranch lands, and is popular for informal recreation activities that include cycling, running, birding, and sightseeing. The Project area includes one developed recreational facility, Miguelito County Park, which is located on San Miguelito Road approximately 250 feet south of the proposed transmission line alignment.

Several local recreational groups commonly utilize the Project area. The Lompoc Valley Bicycling Club (LVBC) has identified a 15-mile stretch of Miguelito Canyon Road as one of the club's popular routes (LVBC, 2018). The Lompoc Valley Distance Club (LVDC) coordinates running races throughout the Lompoc community, which may include portions of San Miguelito Road. At this time, no races are currently scheduled in the Project area (LVDC, 2018). Birding is popular at Miguelito County Park and along San Miguelito Road near Sudden Road. The Santa Barbara Audubon Society (SBAS) has identified Miguelito County Park as a hotspot[1] during the spring, summer, and winter seasons (sbcoBirding, 2018), and San Miguelito Road at Sudden Road is included in *eBird's* map of hotspot locations (eBird, 2019).

4.16.2 Regulatory Setting

No applicable federal or state regulations were identified in the LWEP EIR.

4.16.2.1 Local

The LWEP EIR identified one applicable planning document: the Santa Barbara County Comprehensive Plan. Please refer to the LWEP for a discussion of this plan, and to Section 4.13, *Land Use and Planning*, for an analysis of policy consistency.

4.16.3 Significance Thresholds

The LWEP EIR did not include significance thresholds for Recreation. The following significance thresholds are included in the County's Environmental Thresholds and Guidelines Manual to address recreation-related concerns in the Project area. The proposed Project would have a significant recreation impact if it would:

- Conflict with an ongoing recreation activity or scheduled recreational event.
- Contribute to the long-term loss or degradation of a recreational use or facility.

[1] "Hotspots" are public birding locations that have been identified through users of *eBird*, which is a real-time, online checklist program sponsored by the Cornell Land of Ornithology. A Hotspot is frequented by multiple birders in order to share birding data from the same location (eBird, 2018).

4.16.4 Environmental Impacts and Mitigation Measures

Table 4.16-1 below summarizes the effects to recreation that were described in Section 3.16.1 of the LWEP EIR. The LWEP's impact analysis for recreation did not include specific impact statements, but instead summarized the less than significant effects associated with this topic. This LWEP summary of recreation effects is presented in Table 4.16-1. To address SWEP-specific recreation concerns identified by the County, impact statements have been developed for the subsequent SEIR analysis.

Table 4.16-1. LWEP Impacts and Mitigation Measures – Recreation

Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
NA	Impacts in any given location would be short-term and potential loss of recreational opportunities would be low.	None identified.	Modified impact statement. Updated impact discussion. Significance conclusion change. New mitigation measure.

The recreation impacts of the proposed SWEP are discussed below.

REC-1 Loss of Recreation. Project construction-related activities could interfere with recreational activities in the Project area ~~Impacts in any given location would be short-term~~.

The LWEP concluded that recreation impacts in any given location would be temporary, and the potential loss of recreational opportunities would be low. The following discussion has been updated since the LWEP to consider adverse effects to specific recreation groups who frequently use visit the Project area.

No Project staging activities are proposed at Miguelito County Park, and no road improvements are proposed along San Migeulito Road north of the park. Project construction would not require closure of the park, nor would it limit use within the park. However, birding activities within the park would be adversely affected on a temporary basis by construction noise and traffic that may reduce the presence of birds.

Proposed road improvements would begin immediately south of the entrance to Miguelito County Park and would continue over a three-mile stretch of San Miguelito Road as it extends southwest into the Project site (Logisticus Project Group, 2018). Please see Figures 2-6a through 2-6c for the location of these road improvements. Along this stretch of San Miguelito Road south of the park, public traffic would need to be temporarily stopped using flaggers or traffic control devices to accommodate construction truck trips and various work areas in road shoulders. While San Miguelito Road would remain publicly accessible, recreation activities along this stretch of road would be interrupted during periods of construction-related traffic and safety concerns. Mitigation to reduce adverse recreational impacts includes posting informational signs to inform the public of the construction-related traffic schedule and temporary traffic hazards. Mitigation would require the applicant to provide current information on the construction schedule to identified recreational groups that utilize the Project area, thereby allowing these groups to plan the location of their recreational activities and to inform their members accordingly (see Special Mitigation Measure REC-01, below).

Following the 10-month construction schedule, San Miguelito Road would be fully accessible to recreational groups such as the LVBC, LVDC, and SBAS. Birding activities at Miguelito County Park and

along San Miguelito Road would no longer be affected by the temporary construction-related noise impacts. Therefore, the physical use of the Project area would remain fully accessible to informal recreation (i.e., cycling, running, birding, sightseeing) during Project operation. Post-construction visual and biological impacts due to modifications to San Miguelito Road and installation of the WTGs and other facilities are discussed in Section 4.2, *Aesthetics/Visual Resources*, and Section 4.5, *Biological Resources*, of this SEIR.

Project impacts to recreation would be short term in nature and would be reduced to a less-than-significant level with implementation of Special MM REC-01 (Class II).

Mitigation Measure

Special Mitigation Measure (MM) REC-01 is recommended to avoid conflicts with recreation activities that often occur within the Project area.

Special

MM REC-01 **Community Signage and Coordination with LVDC, LVBC, and SBAS.** The Applicant shall post signage at Miguelito County Park and coordinate with the Lompoc Valley Distance Club (LVDC), Lompoc Valley Bicycling Club (LVBC), and Santa Barbara Audubon Society (SBAS) regarding the proposed construction schedule and anticipated construction activities along San Miguelito Road.

Requirements. The Applicant shall communicate the proposed construction schedule directly with the LVDC, LVBC, and SBAS. The Applicant shall post information regarding the Project construction schedule in a conspicuous location at Miguelito Canyon Park. In the event that there would be a substantial delay in the construction schedule (i.e., one month or longer beyond the original schedule), the Applicant shall update the signage at Miguelito County Park, and shall communicate the revised construction schedule with the LVDC, LVBC, and SBAS.

Timing. The Applicant shall coordinate with LVDC, LVBC, and SBAS no less than 30 days prior to the start of Project construction. The Applicant shall also post the required Project information at Miguelito County Park no less than 30 days prior to construction.

Monitoring. The Applicant shall provide the County with documentation of this coordination no less than 2 weeks prior to the start of construction.

4.16.5 Cumulative Effects

Geographic Extent/Context

The geographic context for recreation considers the extent to which the Project's adverse effects on developed and informal recreation opportunities would combine with the impacts from other projects to create an effect that is cumulatively considerable. The geographic extent of cumulative recreation impacts includes developed recreation facilities within the area surrounding the Project site (i.e., Miguelito County Park) as well as the stretch of San Miguelito Road that is popular for informal recreational uses. The LWEP did not include a discussion of cumulative impacts associated with recreation.

Cumulative Effects

Loss of Recreation. Cumulatively adverse recreation impacts could occur if nearby projects were to be constructed concurrently with the proposed Project. None of the projects listed in Section 3.3, Table 3-1, are located within three miles of the SWEP site. Because of variable construction schedules, the potential for the combined effects of construction noise and traffic to result in substantial cumulative impacts to recreational activities along San Miguelito Road and within Miguelito County Park is low. Furthermore, construction-related impacts from the proposed Project would be temporary, and the Project area would remain fully accessible to recreation during operation. Cumulative recreation impacts associated with Project construction and operation are not anticipated.

4.16.6 Residual Impacts

With implementation of proposed mitigation, residual effects from Impact REC-1 would not be significant.

4.16.7 Impact and Mitigation Summary

Table 4.16-2 below provides a summary of the SWEP's impact related to recreation and indicates the mitigation measure proposed to reduce that impact to a less-than-significant level.

Table 4.16-2. SWEP Impact and Mitigation Summary – Recreation

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
REC-1	Loss of Recreation. Project construction-related activities could interfere with recreational activities in the Project area.	REC-01: Community Signage and Coordination with LVDC, LVBC, and SBAS.	Class II

Class I. Significant unavoidable adverse impact.
Class II. Significant environmental impacts that can be feasibly mitigated or avoided.
Class III. Adverse impacts found not to be significant.
Class IV. Impacts beneficial to the environment.

4.16.8 References

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4.17 Transportation and Traffic

This section evaluates the potential impacts of the proposed Project on transportation and traffic conditions on the roadways and other transportation facilities in the vicinity of the Project site. The analysis includes the study area roadways, which are in the jurisdictions of the City of Lompoc, County of Santa Barbara, and State of California Department of Transportation (Caltrans), and also addresses the Project's effects on safety.

The Strauss Wind Energy Project (SWEP) and the proposed transmission line would be located south of the City of Lompoc in unincorporated Santa Barbara County. Both Project components would be accessed via San Miguelito Road, which is a County-owned rural road that extends south as a continuation of I Street in Lompoc. Figure 2-1 shows the regional location of the proposed Project.

The traffic impact analysis addresses two general categories of Project impacts:

- The first category involves the typical day-to-day impacts associated with the construction of the proposed facilities. The approach for the analysis of this category of impacts is consistent with a standard traffic impact study; i.e., the most directly affected intersections are evaluated with regard to before and after traffic volumes and levels of service.
- The second category involves the effects of transporting the rotor blades and towers for the wind turbine generators, which would require the use of oversized and overweight vehicles. The analysis of this issue involves an assessment of physical conditions and the ability of the roadways to accommodate the transport of the Project components along the designated routes. This analysis does not address traffic volumes and levels of service.

4.17.1 Environmental Setting

Existing Roadway Network

The environmental setting for the proposed Project includes the public roadways that provide regional and local access to the Project site. For the standard traffic impact analysis, the roadways in the Project vicinity that provide regional access to the Project area include U.S. Highway 101, State Route 1 (SR-1), and State Route 246 (SR-246). The roadways that provide local access to the Project site include Ocean Avenue, F Street, H Street, I Street, Cypress Avenue, and San Miguelito Road. Figure 4.17-1 depicts the layout of the local access roadways and shows the number of lanes and the speed limit on each roadway segment, the type of traffic control at each study area intersection, and the lane configuration at each intersection. A description of these roadways is provided below. Additional information regarding these roadways is provided in Section 3.14.1.1 of the Lompoc Wind Energy Project (LWEP) EIR.

- **U.S. Highway 101**. U.S. Highway 101 is a major north-south regional roadway that links the Project area to Santa Maria and San Francisco to the north and to Santa Barbara and Los Angeles to the south. Access from U.S. Highway 101 to the Project vicinity is provided by SR-1 and SR-246, each of which has an interchange with U.S. Highway 101 approximately 15 miles east of the Project site. U.S. Highway 101 is owned and operated by Caltrans.
- **State Route 1**. SR-1 is a north-south highway that runs through the coastal cities of Las Cruces, Lompoc, Guadalupe, and Pismo Beach. Within the City of Lompoc, SR-1 runs along Ocean Avenue

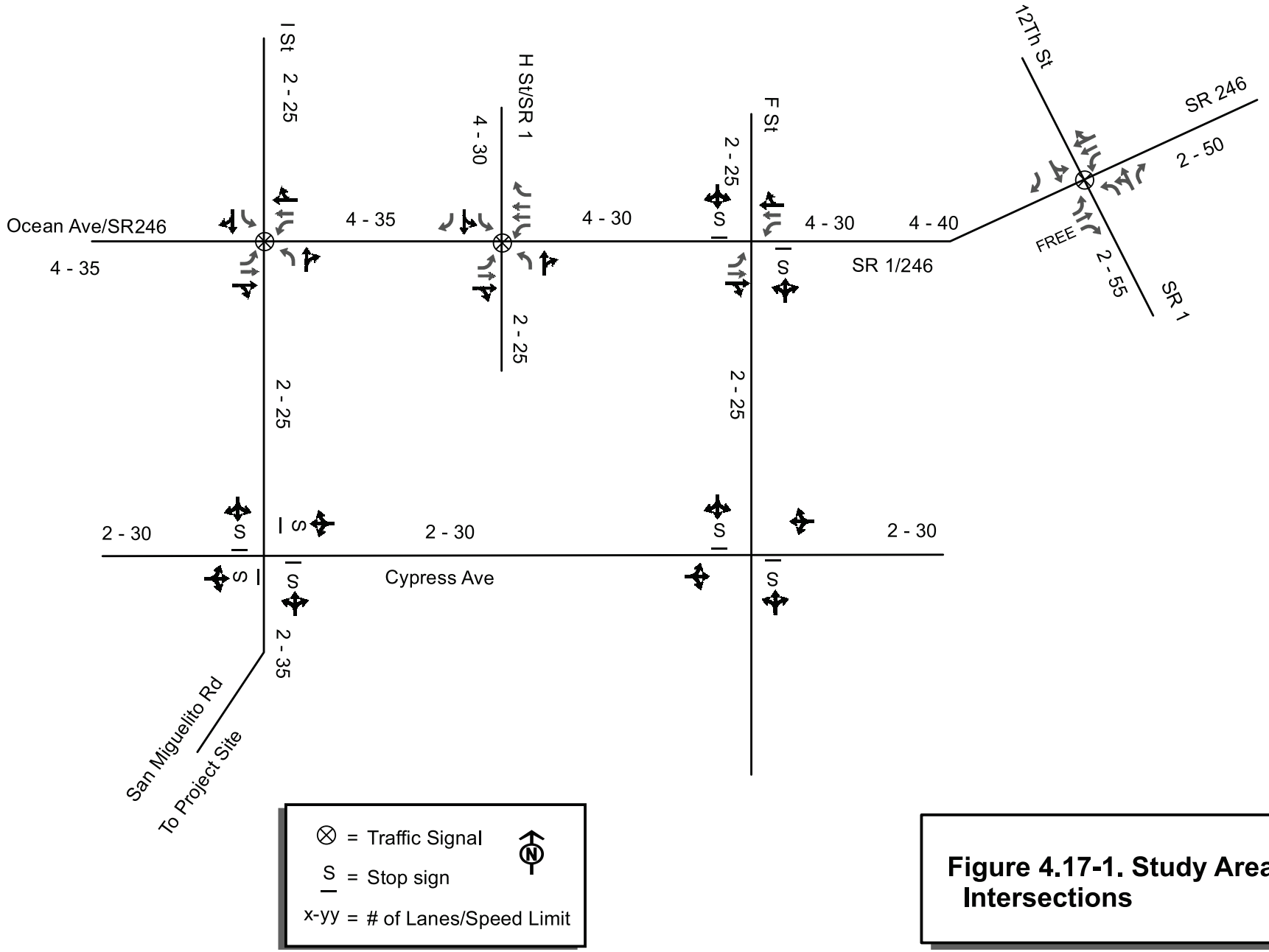

Figure 4.17-1. Study Area Intersections

(between 12th Street and H Street) and H Street (north of Ocean Avenue). SR-1 joins with U.S. Highway 101 southeast of Lompoc at Las Cruces and is owned and operated by Caltrans.

- **State Route 246**. SR-246 is an east-west roadway that extends from Lompoc to Buellton, Solvang, and Santa Ynez. Within the City of Lompoc, SR-246 runs along Ocean Avenue. SR-246 joins with U.S. Highway 101 east of Lompoc at Buellton and is owned and operated by Caltrans.
- **Ocean Avenue**. Ocean Avenue is an east-west roadway that is classified as a major arterial in the City of Lompoc General Plan. It has four travel lanes through the study area west of 12th Street and two lanes east of 12th Street. Ocean Avenue is a Caltrans facility and is designated as SR-1 and SR-246 between H Street and 12th Street, SR-246 west of H Street, and SR-246 east of 12th Street. The speed limit on Ocean Avenue is 35 miles per hour (mph) west of H Street, 30 mph east of H Street, 40 mph west of 12th Street, and 50 mph east of 12th Street. Ocean Avenue is designated as a truck route by the City of Lompoc.
- **F Street.** F Street is a two-lane north-south street that provides a link between Ocean Avenue and Cypress Avenue. The segment of F Street between Ocean Avenue and Cypress Avenue is classified as a collector street and is designated as a truck route. North of Ocean Avenue and south of Cypress Avenue, F Street is classified as a local street and is not a truck route. The speed limit on F Street is 25 mph and it is a City of Lompoc street.
- **H Street.** H Street is a north-south street that is classified as a major arterial north of Ocean Avenue. It has four lanes north of Ocean Avenue and two lanes south of Ocean Avenue. H Street is designated as SR-1 and as a truck route north of Ocean Avenue. South of Ocean Avenue, H Street is a local street and is not a truck route. The speed limit on H Street is 30 mph north of Ocean Avenue and 25 mph south of Ocean Avenue. H Street is a City of Lompoc street.
- **I Street.** I Street is a two-lane north-south street that provides a link between Ocean Avenue and San Miguelito Road. It is classified as a minor arterial south of Ocean Avenue and as a local street north of Ocean Avenue. I Street is designated as a truck route south of Cypress Avenue. The speed limit on I Street is 25 mph north of Cypress Avenue and 35 mph south of Cypress Avenue. I Street is a City of Lompoc street.
- **Cypress Avenue.** Cypress Avenue is a two-lane east-west street that provides a link between F Street and I street south of Ocean Avenue. It is classified as a collector street in the General Plan and the segment of Cypress Avenue between F Street and I Street is designated as a truck route. The speed limit on Cypress Avenue is 30 mph and it is a City of Lompoc street.
- **San Miguelito Road.** San Miguelito Road is a two-lane north-south rural roadway that is the southerly continuation of I Street. It is the only roadway that provides access to the Project site. San Miguelito Road is classified as a minor arterial and is designated as a truck route. The speed limit on San Miguelito Road is 35 mph in the Lompoc area and 40 mph to the south. San Miguelito Road begins in Lompoc, but is in the jurisdiction of Santa Barbara County south of Lompoc.

The roadways that would be used as an access route to transport the oversized and overweight tower and blade components are as follows:

- Interstate 5
- State Highway 166
- Thompson Avenue
- U.S. Highway 101
- Business U.S. Highway 101/State Highway 135

- State Highway 1/State Highway 135
- State Highway 1
- State Highway 246
- Ocean Avenue
- F Street
- Cypress Avenue
- I Street
- San Miguelito Road

A map illustrating the travel route for these oversized and overweight trucks is shown on Figure 4.17-2.

Existing Daily Traffic Volumes

Daily traffic volume data were assembled for each of the study area roadway segments where information was available, as provided in Table 4.17-1.

Table 4.17-1. Daily Traffic Volumes

Roadway Segment	# of Lanes	Daily Traffic Volume
U.S. Highway 101		
North of SR-246	4	20,800
Between SR-1 and SR-246	4	22,400
South of SR-1	4	29,500
SR-246/Ocean Avenue		
West of H Street	4	10,300
East of H Street	4	13,500
West of 12th Street/SR-1	4	11,000
East of 12th Street/SR-1	2	10,000
SR-1/H Street		
North of Ocean Avenue	4	11,600
SR-1		
South of Ocean Avenue	2	8,500
F Street		
South of Ocean Avenue	2	1,900
I Street		
South of Ocean Avenue	2	2,000
Cypress Avenue		
Between F Street and I Street	2	3,900
San Miguelito Road		
South of Lompoc	2	1,800

Sources: (Caltrans 2016), (Lompoc 2009)

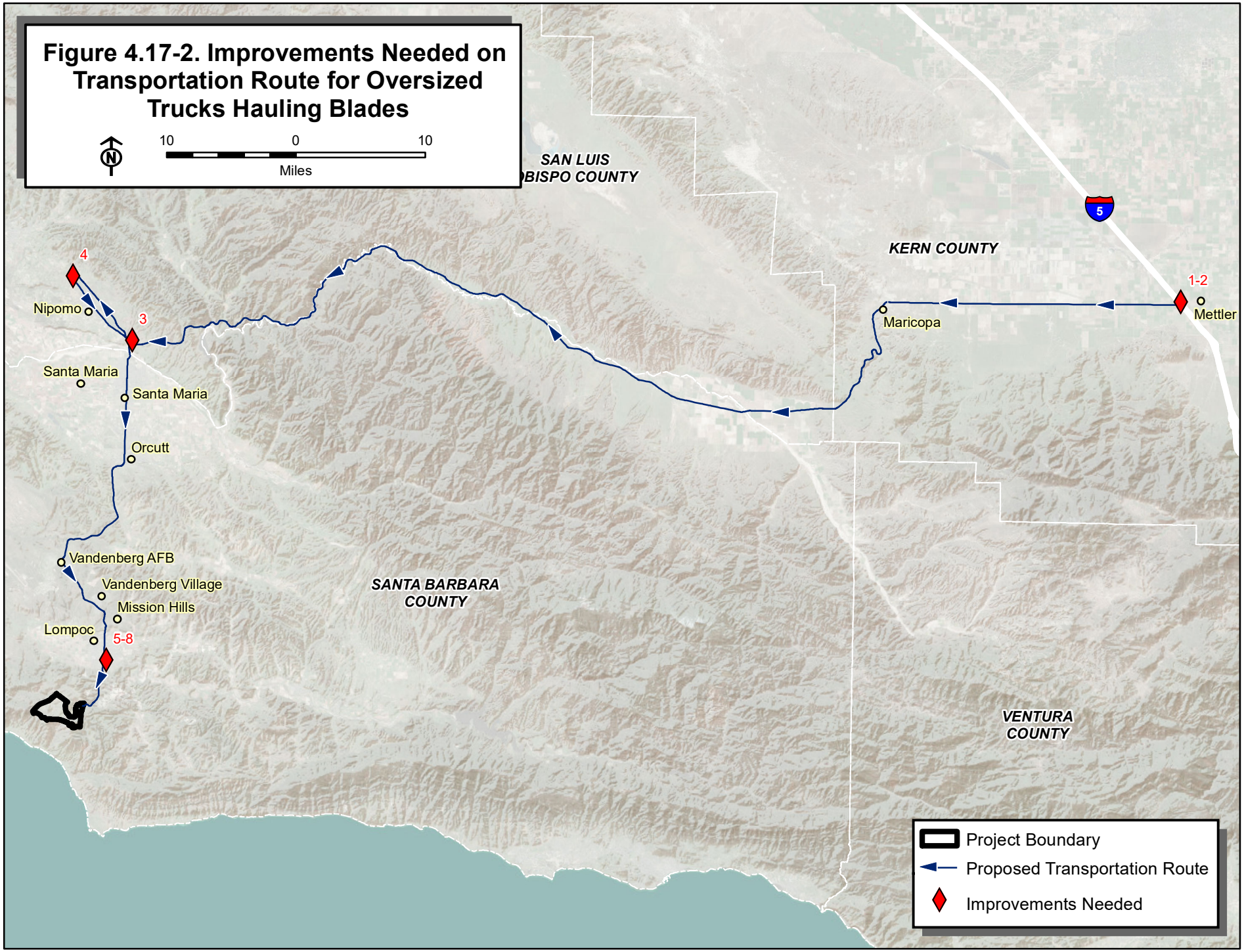
Figure 4.17-2. Improvements Needed on Transportation Route for Oversized Trucks Hauling Blades
10
0
10
Miles
SAN LUIS OBISPO COUNTY
KERN COUNTY
SANTA BARBARA COUNTY
VENTURA COUNTY
5
4
3
1-2
5-8
Nipomo
Santa Maria
Santa Maria
Orcutt
Vandenberg AFB
Vandenberg Village
Mission Hills
Lompoc
Maricopa
Mettler
Project Boundary
Proposed Transportation Route
Improvements Needed

Existing Intersection Levels of Service

The traffic analysis addresses six intersections in the study area, as shown in Table 4.17-2. The table lists the intersections and shows the responsible public agency and the type of traffic control that is in place at each intersection.

Manual traffic counts were taken at the six study area intersections in September 2018 during the morning and afternoon peak periods from 7:00 to 9:00 AM and 4:00 to 6:00 PM. The one-hour interval of peak traffic flow within each of the two-hour monitoring periods was identified for each intersection. Figure 4.17-3 shows the existing peak-hour traffic volumes and turning movements at each intersection for the AM and PM peak hours. The numbers were rounded to the nearest five for values under 20 and to the nearest 10 for values over 20.

Table 4.17-2. Study Area Intersections

Intersection	Jurisdiction	Type of Traffic Control
Ocean Avenue / SR-246 at I Street	Caltrans	Traffic Signal
Ocean Avenue / SR-246 at H Street / SR-1	Caltrans	Traffic Signal
Ocean Avenue / SR-1 / SR-246 at F Street	Caltrans	Stop Signs on NB & SB F Street
Ocean Avenue / SR-246 at 12th Street / SR-1	Caltrans	Traffic Signal
Cypress Avenue at I Street / San Miguelito Road	City of Lompoc	4-Way Stop Signs
Cypress Avenue at F Street	City of Lompoc	Stop Signs on NB & SB F Street

NOTE: NB & SB = Northbound & Southbound

The traffic counts included a classification count to quantify the number of automobiles/light-duty vehicles separately from the number of trucks traveling through the intersections during the peak periods. The traffic volumes shown on Figure 4.17-2 represent the number of vehicles counted during the peak hours, which includes the total number of cars, other light-duty vehicles, and trucks/buses. For purposes of the level of service calculations, however, the trucks were converted to passenger car equivalents (PCEs) at each intersection. A PCE adjustment accounts for the fact that a truck occupies more roadway capacity than an automobile because of its larger size and slower acceleration rates. A PCE factor of 2.5 was applied to the trucks to calculate the overall PCE volume at each intersection. The truck percentages that were counted at each intersection are shown in Table 4.17-3.

Table 4.17-3. Existing Truck Percentages at Each Intersection

Intersection	AM Peak Hour	PM Peak Hour
Ocean Avenue / SR-246 at I Street	2.2 %	1.3 %
Ocean Avenue / SR-246 at H Street / SR-1	3.6 %	1.4 %
Ocean Avenue / SR-1 / SR-246 at F Street	3.6 %	1.4 %
Ocean Avenue / SR-246 at 12th Street / SR-1	3.9 %	0.8 %
Cypress Avenue at I Street / San Miguelito Road	10.8 %	1.2 %
Cypress Avenue at F Street	4.4 %	0.5 %

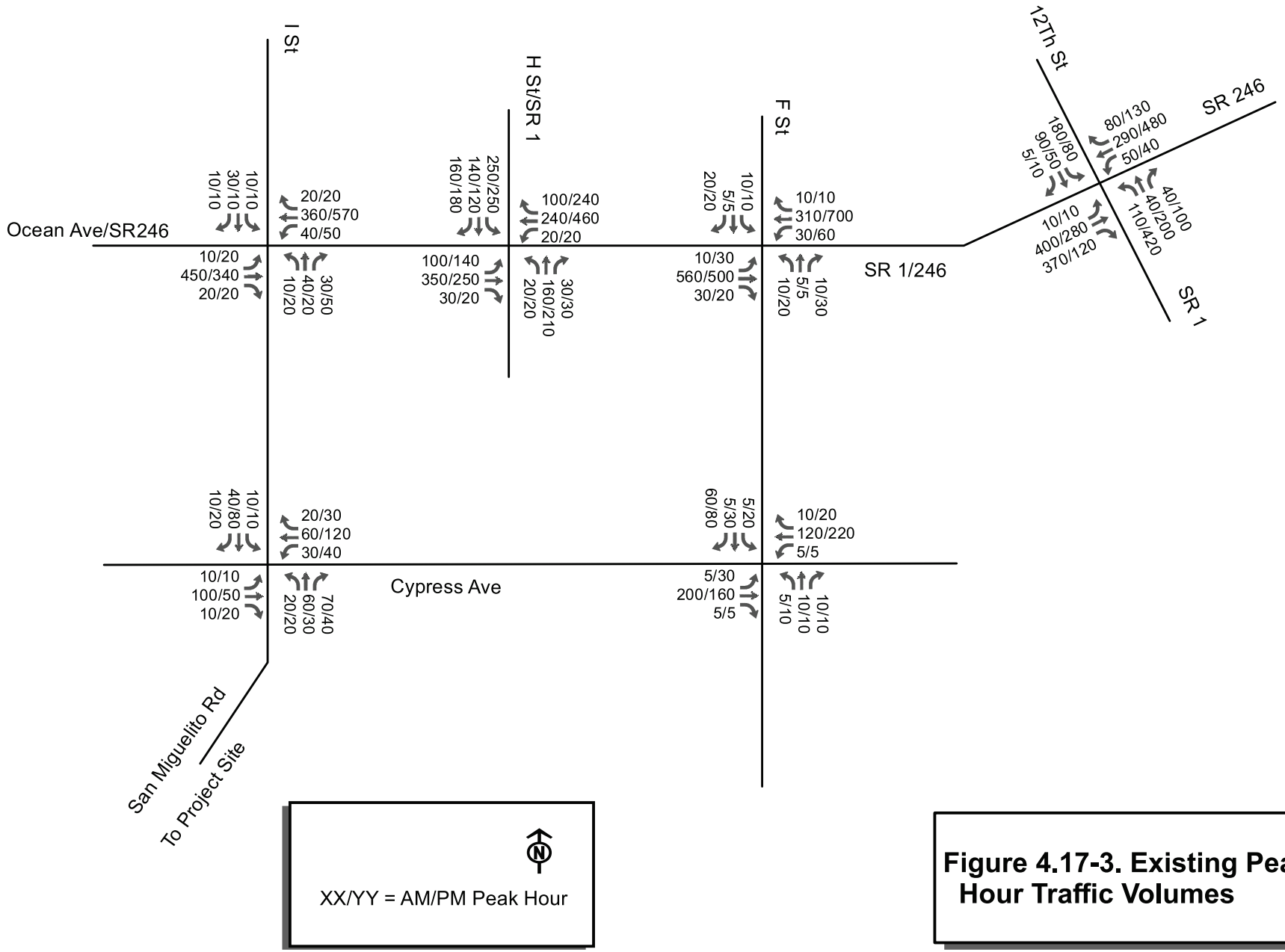

Figure 4.17-3. Existing Peak Hour Traffic Volumes

A level of service analysis was conducted for the study area intersections using two separate methodologies: the Intersection Capacity Utilization (ICU) methodology and the Highway Capacity Manual (HCM) methodology (Transportation Research Board 2016). Two methodologies were used because the Santa Barbara County "Environmental Thresholds and Guidelines Manual" (Santa Barbara County 2018) specifies that intersections should be evaluated using the ICU procedure while the City of Lompoc and Caltrans guidelines specify that the HCM methodology should be used (Lompoc 2009) (Caltrans 2002).

Level of service values at intersections range from LOS A to LOS F. LOS A represents excellent operating conditions with little or no delay to motorists, while LOS F represents congested conditions with excessive vehicle delay. LOS E is typically defined as the operating "capacity" of a roadway. Santa Barbara County, the City of Lompoc, and Caltrans define LOS A, B, and C as acceptable operating conditions. The relationship between ICU values, delay values, and the corresponding levels of service at intersections is shown in Table 4.17-4.

Table 4.17-4. Relationship between ICU Values, Delay Values, and Levels of Service

Level of Service	ICU Values	Delay at Signalized Intersection (seconds per vehicle)	Delay at Unsignalized Intersection (seconds per vehicle)
A	0.00 to 0.60	0.0 to 10.0	0.0 to 10.0
B	> 0.60 to 0.70	> 10.0 to 20.0	> 10.0 to 15.0
C	> 0.70 to 0.80	> 20.0 to 35.0	> 15.0 to 25.0
D	> 0.80 to 0.90	> 35.0 to 55.0	> 25.0 to 35.0
E	> 0.90 to 1.00	> 55.0 to 80.0	> 35.0 to 50.0
F	> 1.00	> 80.0	> 50.0

To quantify the existing baseline traffic conditions, the six study area intersections were analyzed to determine their operating conditions during the morning and afternoon peak hours. Based on the peak-hour traffic volumes, turning movement counts, and existing number of lanes at each intersection, the ICU values and levels of service have been determined for each intersection, as summarized in Table 4.17-5. As shown, all six of the study area intersections currently operate at an acceptable LOS A or B during the peak hours.

Table 4.17-5. Existing Intersection Levels of Service – ICU Methodology

Intersection	ICU Value & Level of Service	
	AM Peak Hour	PM Peak Hour
SIGNALIZED INTERSECTIONS		
Ocean Avenue / SR-246 at I Street	0.327 – A	0.350 – A
Ocean Avenue / SR-246 at H Street / SR-1	0.493 – A	0.605 – B
Ocean Avenue / SR-246 at 12th Street / SR-1	0.616 – B	0.579 – A
UNSIGNALIZED INTERSECTIONS		
Ocean Avenue / SR-1 / SR-246 at F Street	0.339 – A	0.385 – A
Cypress Avenue at I Street / San Miguelito Road	0.315 – A	0.309 – A
Cypress Avenue at F Street	0.289 – A	0.360 – A

Based on the peak-hour traffic volumes, turning movement counts, and existing number of lanes at each intersection, the delay values and levels of service have been determined at each intersection using the HCM methodology, as summarized in Table 4.17-6. The average levels of vehicle delay for each intersection and the resulting levels of service were determined using the Highway Capacity Software (HCS). As shown, all six of the study area intersections currently operate at an acceptable LOS A, B, or C during the peak hours.

The delay values and levels of service shown in Table 4.17-6 for the intersections with traffic signals and four-way stop signs represent the average vehicle delays for the entire intersection. The delay values and levels of service for the intersections with two stop signs (Ocean Avenue at F Street and Cypress Avenue at F Street) represent the vehicle delay for the movements at the stop sign with the highest delay value.

Table 4.17-6. Existing Intersection Levels of Service – HCM Methodology

Intersection	Delay Value (seconds) & Level of Service	
	AM Peak Hour	PM Peak Hour
SIGNALIZED INTERSECTIONS		
Ocean Avenue / SR-246 at I Street	8.9 – A	9.1 – A
Ocean Avenue / SR-246 at H Street / SR-1	19.9 – B	25.7 – C
Ocean Avenue / SR-246 at 12th Street / SR-1	21.8 – C	24.3 – C
UNSIGNALIZED INTERSECTIONS		
Ocean Avenue / SR-1 / SR-246 at F Street	17.4 – C	24.0 – C
Cypress Avenue at I Street / San Miguelito Road	8.6 – A	8.5 – A
Cypress Avenue at F Street	11.0 – B	12.6 – B

Future Baseline Traffic Conditions

The future baseline traffic conditions without the Project were established for the anticipated year of construction for the proposed Project, which is anticipated to be 2020. The baseline traffic conditions for the year 2020 were estimated by applying a growth factor of two percent to the existing traffic volumes. The two percent increase (one percent annual growth rate for two years) is consistent with the assumptions used in other recent traffic studies that were conducted for development projects in Lompoc; e.g., the Summit View Homes Project (Lompoc 2012). This growth factor accounts for the traffic increases associated with general ambient regional growth and the cumulative increase in traffic volumes that would be generated by other proposed development projects in the area.

Staff at the City of Lompoc's Planning Division of the Community Development Department were consulted to determine if there were other proposed development projects that would be completed and occupied prior to the construction of the proposed Project that would result in a cumulative impact on the study area intersections. Four projects were identified:

- Wine Storage – 13,906 square feet – 440 Commerce Court
- Sobhani Industrial Warehouse – 15, 000 square feet – 424 Commerce Court
- Summit View Homes – 44 units – Harris Grade Road at Purisima Road
- Transit Yard – 320 North D Street

Because these projects are either geographically separated from the study area intersections or would result in minor increases in generated traffic volumes, a detailed cumulative traffic analysis was not conducted. The assumed ambient growth factor would account for the minor effects that these projects would have on the study area intersections.

Based on the projected peak-hour traffic volumes, the future (year 2020) baseline levels of service were calculated for the study area intersections for each peak period, as summarized in Table 4.17-7 for the ICU analysis methodology and on Table 4.17-8 for the HCM methodology. As shown, all of the study area intersections are projected to operate at acceptable levels of service (LOS A, B, or C) during the weekday morning and afternoon peak hours.

Table 4.17-7. 2020 Intersection Levels of Service – ICU Methodology

Intersection	ICU Value & Level of Service	
	AM Peak Hour	PM Peak Hour
SIGNALIZED INTERSECTIONS		
Ocean Avenue / SR-246 at I Street	0.332 – A	0.354 – A
Ocean Avenue / SR-246 at H Street / SR-1	0.500 – A	0.614 – B
Ocean Avenue / SR-246 at 12th Street / SR-1	0.628 – B	0.590 – A
UNSIGNALIZED INTERSECTIONS		
Ocean Avenue / SR-1 / SR-246 at F Street	0.343 – A	0.390 – A
Cypress Avenue at I Street / San Miguelito Road	0.317 – A	0.313 – A
Cypress Avenue at F Street	0.292 – A	0.365 – A

Table 4.17-8. 2020 Intersection Levels of Service – HCM Methodology

Intersection	Delay Value (seconds) & Level of Service	
	AM Peak Hour	PM Peak Hour
SIGNALIZED INTERSECTIONS		
Ocean Avenue / SR-246 at I Street	8.9 – A	9.1 – A
Ocean Avenue / SR-246 at H Street / SR-1	20.2 – C	26.7 – C
Ocean Avenue / SR-246 at 12th Street / SR-1	22.5 – C	25.2 – C
UNSIGNALIZED INTERSECTIONS		
Ocean Avenue / SR-1 / SR-246 at F Street	17.8 – C	25.0 – C
Cypress Avenue at I Street / San Miguelito Road	8.6 – A	8.5 – A
Cypress Avenue at F Street	11.0 – B	12.7 – B

Potential Physical Constraints to Truck Traffic

Some of the roadways and intersections in the Project area have physical constraints that would limit the ability to accommodate the movement of oversized and overweight trucks. The truck and trailer combinations that would be used to transport the blades and tower components would have dimensions up to 255 feet long, 16 feet high, and 15 feet wide with weights up to 200,000 pounds (ATS 2017, Logisticus 2018). As lane widths vary from 10 to 12 feet, the maximum legal weight limit for a

vehicle is 80,000 pounds according to the California Vehicle Code (California 2018), and 255 feet is extremely long for a vehicle, the trucks and trailers that would be used as transport vehicles would certainly be oversized and overweight. In addition to the 80,000-pound weight limit for a vehicle, the Vehicle Code has specific weight limits for individual axles and wheels, as determined by the design of the vehicles and trailers and the distance between axles. The weight limits are applicable to State highways and well as local County and City-owned roadways. As many of the truck and trailer combinations for the proposed Project would be oversized and/or overweight, special permits would have to be obtained from Caltrans and the affected local authorities authorizing the applicant to operate the oversized and overweight vehicles on the designated roadways. Additional information regarding the State and local roadway regulations is provided in the "Regulatory Framework" section of the LWEP EIR and the "Regulatory Setting" section of this SEIR.

As an example of the potential physical constraints, the minimum vertical clearance on SR-1 at the Gaviota Creek separation is 16.24 feet, which would barely be adequate to accommodate these vehicles. In addition, the City of Lompoc has a concern regarding vehicle weights at the Robinson Bridge on SR-246. San Miguelito Road has overhanging trees that would be lower than the vertical clearances of some of the construction trucks and loads, and there are horizontal curves along San Miguelito Road that have turning radii that are too small to accommodate the Project's oversized trucks/trailers. Similarly, there are multiple intersections along the haul route, particularly in the City of Lompoc, that have turning radius constraints that would restrict the movement of the Project's oversized trucks/trailers. The affected intersections in Lompoc are Ocean Avenue at H Street, Ocean Avenue at F Street, Cypress Avenue at F Street, and Cypress Avenue at I Street. The affected intersections along the roadways outside of Lompoc include the Interstate 5 off-ramps at State Highway 166/Maricopa Highway, State Highway 166 at Thompson Avenue, Thompson Avenue at the U.S. Highway 101 ramps, and State Highway 1/Cabrillo Highway at California Boulevard at Vandenberg Air Force Base. Temporary modifications would be made at these intersections to provide enough space for the trucks and trailers to traverse the intersection, such as the removal of signs, street light poles, traffic signal poles, street trees, and wires. Preliminary studies indicate that a total of 28 signs, two traffic signal poles, five street light poles, and eight trees would be temporarily removed at the eight affected intersections. In addition, physical modifications would be required along San Miguelito Road, including widening the road to provide passable turning radii and removing potentially 158 oak trees along San Miguelito road.

Existing Transit Service

The study area is served by the City of Lompoc Transit (COLT), a public transit agency that provides bus service to Lompoc and Vandenberg Village. Route 1 runs along I Street, Cypress Avenue, and an eastern segment of Ocean Avenue and Route 2 runs along I Street and Cypress Avenue (Lompoc 2014). There is no transit service to the Project site along San Miguelito Road.

In addition, The Breeze Bus Route 100 provides weekday commuter service between Lompoc, Vandenberg Air Force Base, and Santa Maria; and Clean Air Express provides commuter service from Lompoc to Goleta and Santa Barbara.

Existing Pedestrian and Bicycle Facilities

Sidewalks are currently in place along most of the streets in the Lompoc study area, although there are some missing links to the sidewalk network on F Street, Cypress Avenue, and I Street south of

Cypress Avenue. There are no sidewalks along San Miguelito Road, so pedestrians walk along the bike lane and/or shoulder of the roadway. Bike lanes are currently in place along Cypress Avenue and on I Street south of Cypress Avenue. The I Street bike lanes continue to the south along San Miguelito Road for approximately 1¼ mile south of the Lompoc city boundary. There are no bike lanes on the remainder of San Miguelito Road toward the Project site.

Aviation Facilities

There are two airports in the vicinity of the Project site: Lompoc Airport and Vandenberg Air Force Base. Lompoc Airport is a general aviation airport located on the north side of Lompoc west of SR-1 and north of Central Avenue. The runway at Lompoc Airport is approximately six miles north of the Project site and it has an east-west alignment. Vandenberg Air Force Base is a military base with a runway that is located approximately seven miles northwest of the Project site. The runway has a southeast to northwest alignment.

4.17.2 Regulatory Setting

A discussion of the regulatory setting for the Project relative to transportation and traffic is provided in Section 3.14.2, *Regulatory Framework*, of the LWEP EIR. That section presents information regarding the applicable Federal agencies (U.S. Department of Transportation and Federal Highway Administration), State of California agencies (Caltrans), and local agencies (Santa Barbara County, Santa Barbara County Association of Governments, and the City of Lompoc).

The study area roadways are within the jurisdiction of Caltrans, the County of Santa Barbara, and the City of Lompoc. Caltrans is responsible for SR-1, SR-246, and U.S. Highway 101. Santa Barbara County is responsible for San Miguelito Road. The City of Lompoc is responsible for F Street, I Street, H Street south of Ocean Avenue, and Cypress Avenue. These agencies are responsible for the operation and maintenance of the study area roadways.

In addition to the information provided in the LWEP EIR regarding the regulatory setting, the Federal Aviation Administration has authority over any features that could potentially affect air space operations and safety, as detailed below.

Federal Aviation Administration (FAA). The FAA has broad authority for airspace review and the evaluation of any project that could pose a potential hazard to air navigation. The clearest trigger for FAA review is a physical penetration of airspace. The FAA conducted an aeronautical study on each proposed turbine at the Project site and determined that each turbine would not exceed obstruction standards and would not be a hazard to air navigation provided that the structure is to be marked/ lighted in accordance with FAA Advisory circular 70/7460-1 L Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines) (FAA 2018).

4.17.3 Significance Thresholds

Santa Barbara County. The significance criteria used by Santa Barbara County for evaluating the potential traffic impacts of proposed projects are outlined in the "Environmental Thresholds and Guidelines Manual". As stated in Chapter 19 Section B, a significant traffic impact occurs when:

a. The addition of project traffic to an intersection increases the volume to capacity (V/C) ratio by the value provided below or sends 5, 10, or 15 trips to an intersection operating at LOS F, E, or D.

LEVEL OF SERVICE (including project)	INCREASE IN V/C GREATER THAN
A	0.20
B	0.15
C	0.10
	Or the Addition Of:
D	15 trips
E	10 trips
F	5 trips

b. Project access to a major road or arterial road would require a driveway that would create an unsafe situation or a new traffic signal or major revisions to an existing traffic signal.

c. Project adds traffic to a roadway that has design features (e.g., narrow width, road side ditches, sharp curves, poor sight distance, inadequate pavement structure) or receives use which would be incompatible with substantial increases in traffic (e.g., rural roads with use by farm equipment, livestock, horseback riding, or residential roads with heavy pedestrian or recreational use, etc.) that will become potential safety problems with the addition of project or cumulative traffic. Exceedance of the roadways designated Circulation Element Capacity may indicate the potential for the occurrence of the above impacts.

d. Project traffic would utilize a substantial portion of an intersection(s) capacity where the intersection is currently operating at acceptable levels of service (A-C) but with cumulative traffic would degrade to or approach LOS D (V/C of 0.81) or lower. Substantial is defined as a minimum change of 0.03 for intersections which would operate from 0.80 to 0.85 and a change of 0.02 for intersections which would operate from 0.86 to 0.90, and 0.01 for intersections operating at anything lower.

If the above thresholds are exceeded, construction of improvements or project modifications to reduce the levels of significance to insignificance are required.

City of Lompoc. As stated in the City of Lompoc General Plan (Lompoc 2013), the City's traffic impact threshold is: "The City shall maintain intersection traffic levels of service (LOS) at LOS C or better throughout the City, with the exception of intersections monitored in accordance with the Congestion Management Program (CMP) administered by the Santa Barbara County Association of Governments (SBCAG). CMP intersections shall maintain a LOS in accordance with the most recent CMP standards (at LOS D or better), when it can be demonstrated that all feasible mitigation measures have been applied to the project and LOS C, with said modification, cannot be achieved."

Peak-hour traffic generates the heaviest demand on the circulation system and the lane configuration at intersections is the limiting factor in roadway capacity; therefore, peak-hour intersection capacity analyses address "worst-case conditions."

Caltrans. The level of service (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 recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway

facility is operating at less than the appropriate target LOS, the existing MOE should be maintained (Caltrans 2002).

4.17.4 Environmental Impacts and Mitigation Measures

Table 4.17-9 below lists the impacts and mitigation measures identified for transportation and traffic in Section 3.14, *Traffic and Circulation*, of the LWEP EIR. These same impacts are addressed in this section for the SWEP. The right-hand column of the table below indicates whether the LWEP impacts or mitigation measures have been modified for the SWEP.

Table 4.17-9. LWEP Impacts and Mitigation Measures – Transportation and Traffic

Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
TC-1	LOS and V/C Ratio. Project-related construction traffic would temporarily affect traffic levels and LOS on Project area roadways.	TC-1: Traffic Management Plan. TC-2: Traffic Mitigation Fees.	Updated impact discussion. Changed significance conclusion. Revised/updated mitigation (MM TC-1 only).
TC-2	Roadway Safety. Long, heavy trucks used to deliver equipment during construction could present safety concerns, and physical modifications to the roadway or nearby trees and power lines may be required.	TC-1: Traffic Management Plan. TC-2: Traffic Mitigation Fees. TC-4: Oversize Load Permits.	Updated impact discussion. Revised/updated mitigation (MM TC-1 only).
TC-3	Truck Delivery Routes-Weight and Load Limitations. Heavy-haul trucks would be required to transport large and heavy equipment subject to weight, height, and load limitations.	TC-1: Traffic Management Plan. TC-2: Traffic Mitigation Fees.	This impact has been removed.
TC-4	Road Blockages/Traffic Delays. During peak construction, several oversized trucks per day could slow traffic and necessitate temporary blockages of intersections.	TC-2: Traffic Mitigation Fees.	Updated impact discussion. Revised/updated mitigation (none required).
TC-5	Damage to Roadways. Trucks carrying heavy equipment could damage existing streets. Project vehicles could track dust and soil onto public roads.	TC-2: Traffic Mitigation Fees. TC-3: Roadway Repairs.	Updated impact discussion. Revised/updated mitigation (MM TC-3 only).

The traffic analysis in the LWEP EIR relative to traffic volumes and LOS on the Project area roadways was based on daily traffic volumes on specific roadway segments, as summarized in Table 3.14-5 of Section 3.14.3.3 of the LWEP EIR. As the significance thresholds outlined above in Section 4.17-3 state that the traffic impact analysis should be based on the Project's impacts at intersections, the traffic analysis for the SWEP addresses the traffic volumes and LOS at the intersections that would be most-directly affected by the Project.

Impact Assessment Methodology

The objective of the traffic analysis is to quantify the impacts of the proposed Project on the roadways and intersections in the vicinity of the Project site and determine if the impacts would be significant. Construction of the Project would generate relatively heavy traffic volumes associated with workers driving to and from the Project site and materials being delivered to the site. As the operation of the

facility after construction is complete would generate only negligible traffic volumes (i.e., occasional maintenance and repair activities), the focus of the traffic analysis is the impacts during construction.

The methodology for the traffic study, in general, was to (1) establish the existing and projected future baseline traffic conditions without the Project, (2) estimate the levels of traffic that would be generated by the proposed Project during construction, and (3) conduct a comparative analysis of traffic conditions with and without the Project's construction activities to determine if there would significant Project-related impacts. The analysis is based on the weekday morning and afternoon peak-hour traffic volumes at the study area intersections.

Project-generated Traffic

The volumes of traffic that would be generated by the proposed Project during construction were determined in order to estimate the impacts of the Project on the study area roadways and intersections. While the Project would be constructed over an estimated 10-month period, the traffic analysis is based on the impacts during months 6 and 7, which is the time during which the Project would generate the highest levels of traffic.

Table 4.17-10 shows the volumes of peak-hour and daily trips that would be generated by the proposed Project during this peak construction period. The table shows the number of vehicle trips and the number of trips in terms of passenger car equivalents (PCEs) using a PCE factor of 2.5 for trucks. This adjustment was made because trucks occupy more roadway capacity than passenger cars/light-duty vehicles relative to roadway capacity. It should be noted that the PCE factor of 2.5 is not applicable to the oversize and overweight trucks that would be used to transport the blades and tower components; i.e., the truck and trailer combinations that would be up to 255 feet long, 16 feet high, and 15 feet wide. The traffic volumes and PCE values shown in the table were used in the standard traffic impact analysis for the level of service calculations. It is assumed that the trucks transporting the blades and tower components would travel during non-peak times and potentially at night and/or on the weekends to minimize traffic disruptions because the procedures required to move the equipment through the intersections would temporarily close the intersections.

The number of worker trips is based on the assumption that 100 workers would be utilized during the periods of peak construction activities and that there would be an average carpool usage of 1.1 workers per vehicle. The number of truck trips is based on the assumption that there would be 108 truck trips per day and that 25 percent of these trips could potentially occur during the peak hours (which is a conservatively high estimation). As shown, the Project would generate an estimated 145 peak-hour vehicle trips during the peak hours and 290 trips per day, which equates to a total of 227 PCE trips during the peak hours and 454 PCE trips per day.

Table 4.17-10. Project Generated Traffic during Construction

Vehicle Category	AM Peak Hour			PM Peak Hour			Daily
	Inbound	Outbound	Total	Inbound	Outbound	Total	
Workers – Autos/Pick-up Trucks	91	0	91	0	91	91	182
Trucks	27	27	54	27	27	54	108
Trucks in PCEs	68	68	136	68	68	136	272
Total Vehicles	118	27	145	27	118	145	290
Total PCEs	159	68	227	68	159	227	454

NOTE: PCE = Passenger Car Equivalents

The worker commute traffic that would be generated by the proposed Project during the morning and afternoon peak hours was distributed onto the roadway network based on the anticipated geographical distribution of the workers' residences and the observed traffic patterns on the study area roadway network. Figure 4.17-4 shows the assumed geographic distribution of the employee commute traffic. Using the generated traffic volumes for workers shown in Table 4.17-10 and the geographical distribution assumptions outlined above, the volumes of commuter traffic at each study area intersection were determined, as shown on Figure 4.17-4 for the AM and PM peak hours.

The geographical distribution of the Project-generated truck traffic and the volumes of truck traffic at each study area intersection are shown on Figure 4.17-5. The figure shows the number of peak-hour vehicles and the number of PCEs at each intersection.

For purposes of quantifying the impacts of the proposed Project, the traffic analysis considers two scenarios. One is the Project's impacts on existing conditions and the other is the Project's impacts on the projected year 2020 conditions. To quantify the impacts on existing conditions, the Project-generated traffic volumes shown on Figures 4.17-4 and 4.17-5 were added to the existing traffic volumes. The resulting "existing plus Project" traffic volumes are shown on Figure 4.17-6. The total volumes of traffic projected for the year 2020 traffic conditions were determined by expanding the existing traffic volumes by a growth factor of two percent and then adding the Project-generated traffic volumes.

Intersection Impact Analysis

An analysis of traffic impacts was conducted by quantifying the before-and-after traffic volumes, then determining the levels of service at the study area intersections for the "without Project" and "with Project" scenarios. Two methodologies were used for the intersection analysis; the intersection capacity analysis (ICU) methodology, which is consistent with the Santa Barbara County guidelines, and the Highway Capacity Manual (HCM) methodology, which is consistent with the City of Lompoc and Caltrans guidelines.

For the ICU analysis methodology, the before-and-after ICU values and levels of service at each of the study area intersections are summarized in Table 4.17-11 for the AM and PM peak hours for the existing conditions baseline scenario. The intersection of Ocean Avenue/SR-246 at I Street, for example, currently operates with an ICU value of 0.327 and LOS A for existing conditions and would operate with an ICU value of 0.364 and LOS A for the existing plus Project scenario. The Project would result in an increase in the ICU value of 0.037, which would not constitute a significant impact.

Table 4.17-11 indicates that all six of the study area intersections would continue to operate at acceptable levels of service (LOS A and B) for the scenario with the proposed Project and that none of the study area intersections would be significantly impacted by the proposed Project according to the Santa Barbara County significance criteria presented previously.

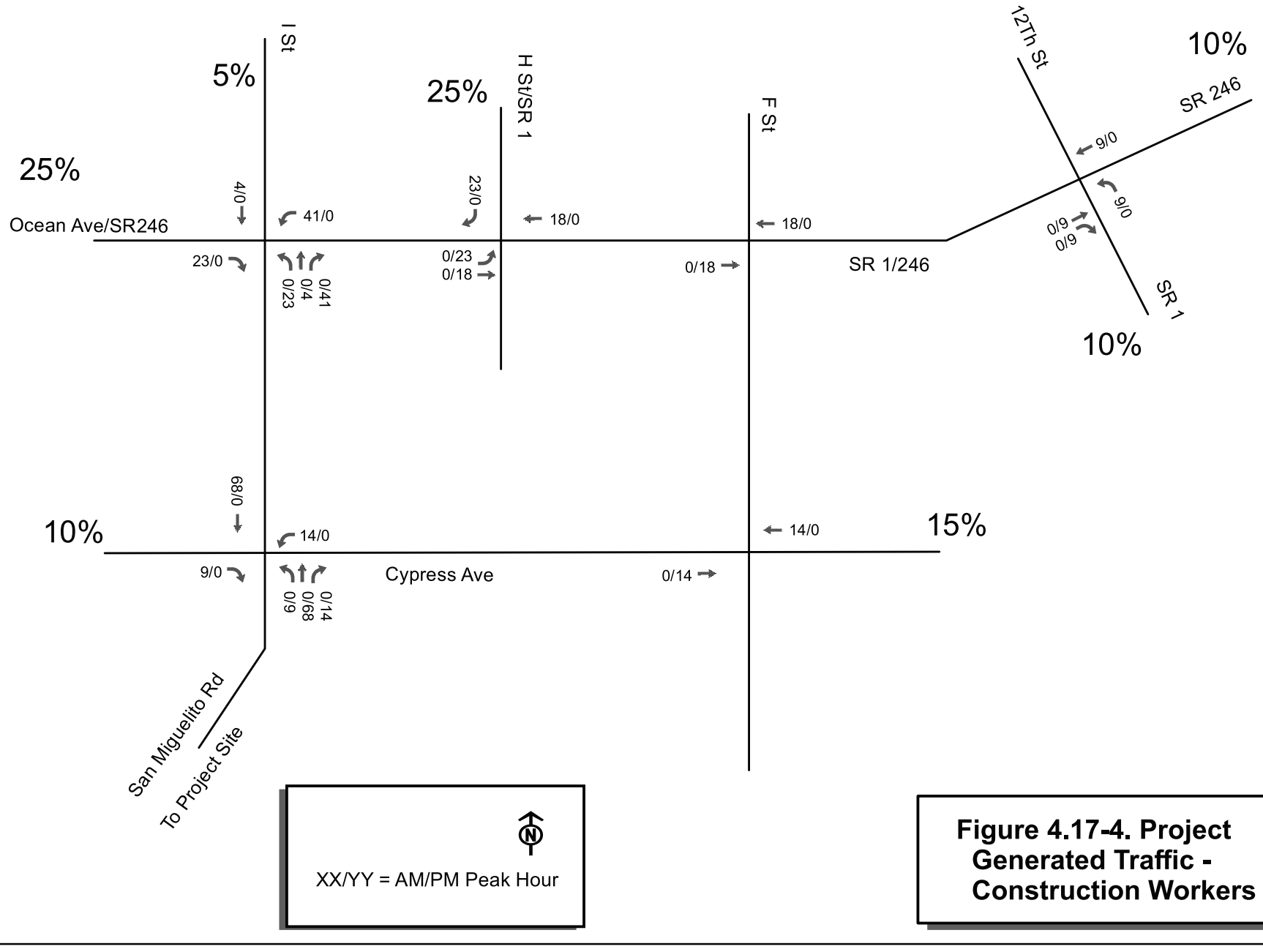

Figure 4.17-4. Project Generated Traffic - Construction Workers

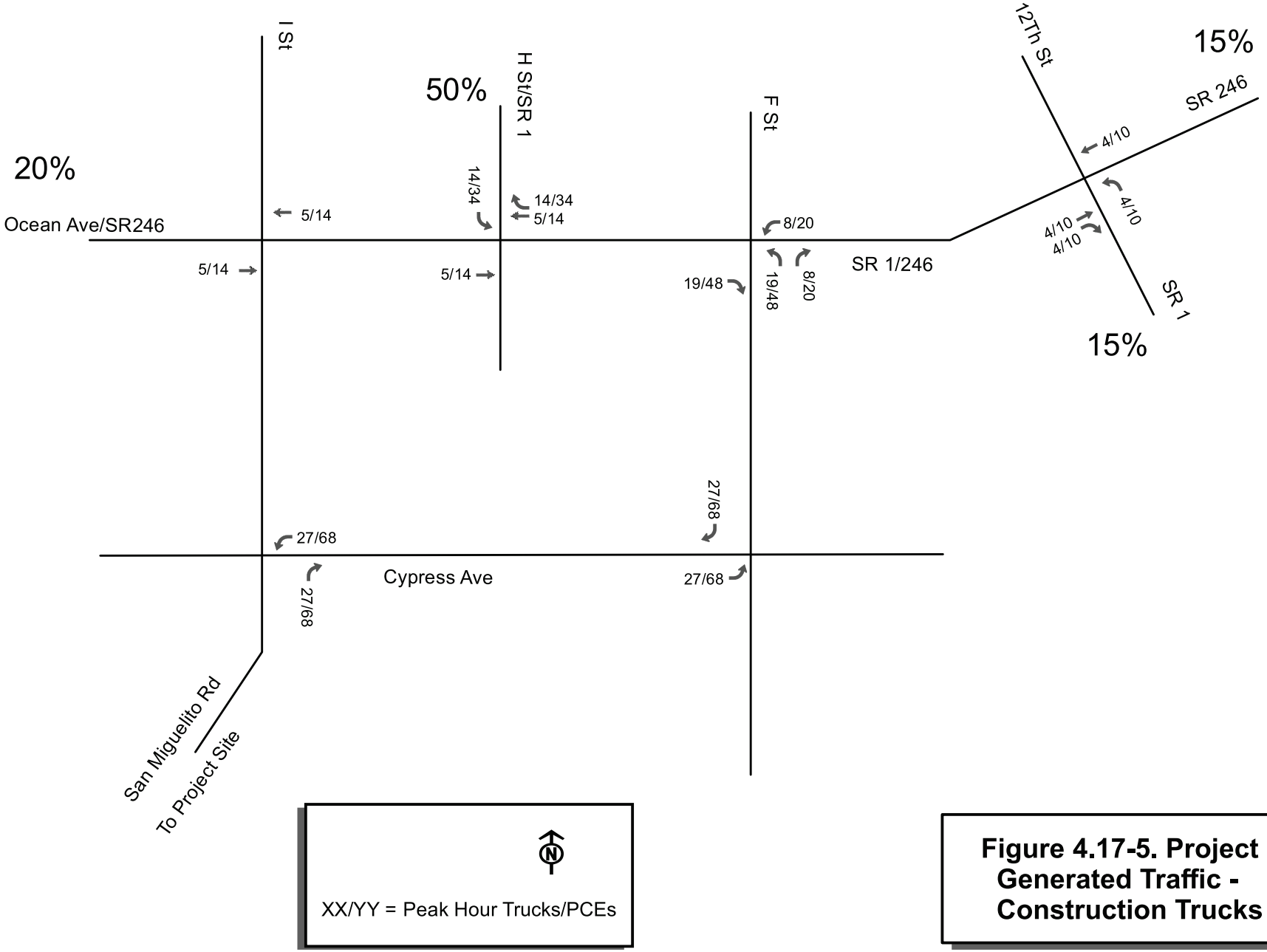

Figure 4.17-5. Project Generated Traffic - Construction Trucks

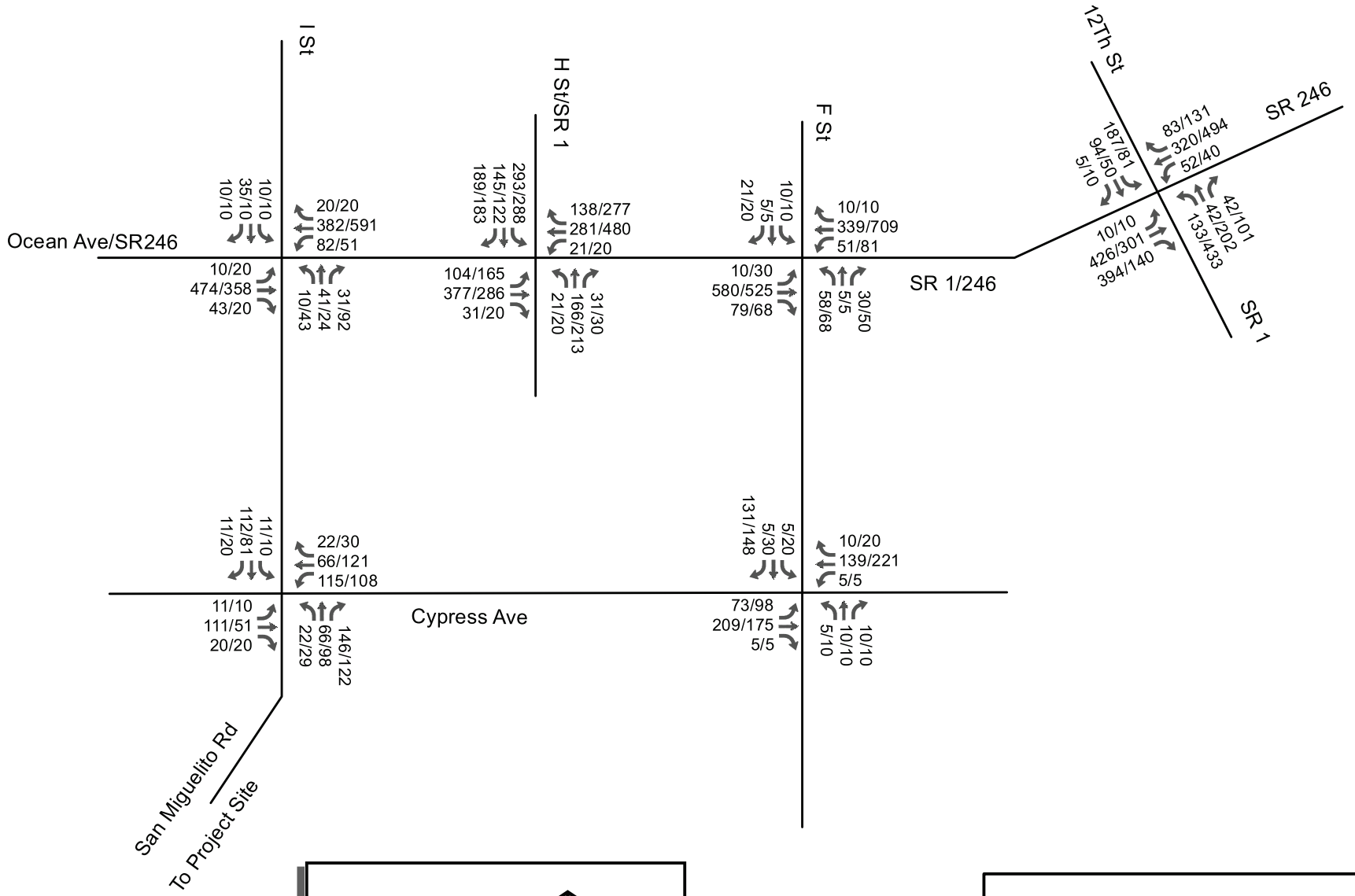

Figure 4.17-6. Existing Plus Project Traffic Volumes

Table 4.17-11. Project Impact on Intersection Levels of Service – ICU Methodology, Existing Baseline

Intersection	ICU Value & Level of Service		Increase in ICU Value	Significant Impact
	Existing Conditions	Existing Plus Project		
SIGNALIZED INTERSECTIONS				
Ocean Avenue / SR-246 at I Street				
AM Peak Hour	0.327 – A	0.364 – A	0.037	No
PM Peak Hour	0.350 – A	0.383 – A	0.033	No
Ocean Avenue / SR-246 at H Street / SR-1				
AM Peak Hour	0.493 – A	0.513 – A	0.020	No
PM Peak Hour	0.605 – B	0.633 – B	0.028	No
Ocean Avenue / SR-246 at 12th Street / SR-1				
AM Peak Hour	0.616 – B	0.630 – B	0.014	No
PM Peak Hour	0.579 – A	0.593 – A	0.014	No
UNSIGNALIZED INTERSECTIONS				
Ocean Avenue / SR-1 / SR-246 at F Street				
AM Peak Hour	0.339 – A	0.402 – A	0.063	No
PM Peak Hour	0.385 – A	0.427 – A	0.042	No
Cypress Avenue at I Street / San Miguelito Road				
AM Peak Hour	0.315 – A	0.414 – A	0.099	No
PM Peak Hour	0.309 – A	0.430 – A	0.121	No
Cypress Avenue at F Street				
AM Peak Hour	0.289 – A	0.373 – A	0.084	No
PM Peak Hour	0.360 – A	0.445 – A	0.085	No

The before-and-after ICU values and levels of service at each of the study area intersections are shown in Table 4.17-12 for the year 2020 baseline scenario. The table indicates that all six of the study area intersections would operate at acceptable levels of service (LOS A and B) for the scenario with the proposed Project and that none of the study area intersections would be significantly impacted.

Table 4.17-12. Project Impact on Intersection Levels of Service – ICU Methodology, 2020 Baseline

Intersection	ICU Value & Level of Service		Increase in ICU Value	Significant Impact
	2020 Without Project	2020 With Project		
SIGNALIZED INTERSECTIONS				
Ocean Avenue / SR-246 at I Street				
AM Peak Hour	0.332 – A	0.368 – A	0.036	No
PM Peak Hour	0.354 – A	0.387 – A	0.033	No
Ocean Avenue / SR-246 at H Street / SR-1				
AM Peak Hour	0.500 – A	0.520 – A	0.020	No
PM Peak Hour	0.61408 – B	0.643 – B	0.029	No
Ocean Avenue / SR-246 at 12th Street / SR-1				
AM Peak Hour	0.628 – B	0.639 – B	0.011	No
PM Peak Hour	0.590 – A	0.606 – B	0.016	No

Intersection	ICU Value & Level of Service		Increase in ICU Value	Significant Impact
	2020 Without Project	2020 With Project		
UNSIGNALIZED INTERSECTIONS				
Ocean Avenue / SR-1 / SR-246 at F Street				
AM Peak Hour	0.343 – A	0.407 – A	0.064	No
PM Peak Hour	0.390 – A	0.432 – A	0.042	No
Cypress Avenue at I Street / San Miguelito Road				
AM Peak Hour	0.317 – A	0.418 – A	0.101	No
PM Peak Hour	0.313 – A	0.433 – A	0.120	No
Cypress Avenue at F Street				
AM Peak Hour	0.292 – A	0.377 – A	0.085	No
PM Peak Hour	0.365 – A	0.450 – A	0.085	No

For the HCM analysis methodology, the before-and-after delay values and levels of service at each of the study area intersections are summarized in Table 4.17-13 for the existing conditions baseline scenario. The intersection of Ocean Avenue/SR-246 at I Street, for example, currently operates with an average delay value of 8.9 seconds and LOS A for existing conditions and would operate with a delay value of 9.4 seconds and LOS A for the existing plus Project scenario. The Project would result in an increase in average delay of 0.5 seconds per vehicle and would not result in a significant impact.

Table 4.17-13 indicates that five of the six study area intersections would continue to operate at acceptable levels of service (LOS A, B, and C) for the scenario with the proposed Project, but that one intersection would be significantly impacted according to the City of Lompoc and Caltrans criteria because the intersection of Ocean Avenue/SR-1/SR-246 at F Street would operate at LOS D during the AM peak hour and LOS F during the PM peak hour.

Table 4.17-13. Project Impact on Intersection Levels of Service – HCM Methodology, Existing Baseline

Intersection	Delay Value & Level of Service		Increase in Delay Value	Significant Impact
	Existing Conditions	Existing Plus Project		
SIGNALIZED INTERSECTIONS				
Ocean Avenue / SR-246 at I Street				
AM Peak Hour	8.9 – A	9.4 – A	0.5	No
PM Peak Hour	9.1 – A	9.6 – A	0.5	No
Ocean Avenue / SR-246 at H Street / SR-1				
AM Peak Hour	19.9 – B	20.8 – C	0.9	No
PM Peak Hour	25.7 – C	31.0 – C	5.3	No
Ocean Avenue / SR-246 at 12th Street / SR-1				
AM Peak Hour	21.8 – C	22.3 – C	0.5	No
PM Peak Hour	24.3 – C	25.1 – C	0.8	No

Intersection	Delay Value & Level of Service		Increase in Delay Value	Significant Impact
	Existing Conditions	Existing Plus Project		
UNSIGNALIZED INTERSECTIONS				
Ocean Avenue / SR-1 / SR-246 at F Street				
AM Peak Hour	17.4 – C	27.8 – D	10.4	Yes
PM Peak Hour	24.0 – C	61.5 – F	37.5	Yes
Cypress Avenue at I Street / San Miguelito Road				
AM Peak Hour	8.6 – A	9.9 – A	1.3	No
PM Peak Hour	8.5 – A	10.2 – B	1.7	No
Cypress Avenue at F Street				
AM Peak Hour	11.0 – B	12.7 – B	1.7	No
PM Peak Hour	12.6 – B	15.8 – C	3.2	No

It should be noted that the deficient levels of service shown for the intersection of Ocean Avenue/SR-1/SR-246 at F Street represent the delays on northbound F Street for vehicles waiting at the stop sign to turn onto Ocean Avenue. The LOS values for an intersection with stop signs on the minor approaches to the intersection are based on the delay values for vehicles stopped at the stop signs (as opposed to the delays for the entire intersection).

The before-and-after delay values and levels of service at each of the study area intersections are shown in Table 4.17-14 for the year 2020 baseline scenario. The table indicates that five of the six study area intersections would operate at acceptable levels of service (LOS A, B, and C) for the scenario with the proposed Project, but that one intersection would be significantly impacted; i.e., the intersection of Ocean Avenue/SR-1/SR-246 at F Street, which would operate at LOS D during the AM peak hour and LOS F during the PM peak hour.

Table 4.17-14. Project Impact on Intersection Levels of Service – HCM Methodology, 2020 Baseline

Intersection	ICU Value & Level of Service		Increase in ICU Value	Significant Impact
	2020 Without Project	2020 With Project		
SIGNALIZED INTERSECTIONS				
Ocean Avenue / SR-246 at I Street				
AM Peak Hour	8.9 – A	9.4 – A	0.5	No
PM Peak Hour	9.1 – A	9.6 – A	0.5	No
Ocean Avenue / SR-246 at H Street / SR-1				
AM Peak Hour	20.2 – C	21.1 – C	0.9	No
PM Peak Hour	26.7 – C	32.3 – C	5.6	No
Ocean Avenue / SR-246 at 12th Street / SR-1				
AM Peak Hour	22.5 – C	23.0 – C	0.5	No
PM Peak Hour	25.2 – C	26.2 – C	1.0	No
UNSIGNALIZED INTERSECTIONS				
Ocean Avenue / SR-1 / SR-246 at F Street				
AM Peak Hour	17.8 – C	29.0 – D	11.2	Yes
PM Peak Hour	25.0 – C	67.1 – F	42.1	Yes

Intersection	ICU Value & Level of Service		Increase in ICU Value	Significant Impact
	2020 Without Project	2020 With Project		
Cypress Avenue at I Street / San Miguelito Road				
AM Peak Hour	8.6 – A	10.0 – A	1.4	No
PM Peak Hour	8.5 – A	10.2 – B	1.7	No
Cypress Avenue at F Street				
AM Peak Hour	11.0 – B	12.8 – B	1.8	No
PM Peak Hour	12.7 – B	16.0 – C	3.3	No

Proposed Actions to Accommodate Oversized Vehicles

Several detailed reports have been prepared by the Applicant's consultants that specify the proposed haul routes for the oversized vehicles that would be transporting the blades and tower components of the wind turbine generators. The reports identify the constrained locations along the haul route and present measures that should be taken to accommodate the oversized trucks at each location. The constrained locations that are most critical are the eight intersections presented previously where the trucks and trailers would have to make 90-degree turns and 31 locations along San Miguelito Road where the existing turning radius is too sharp to accommodate the long truck and trailer combinations (Logisticus 2018). In addition, there are 27 locations along the haul route, particularly on San Miguelito Road, where trees and other vegetation would disrupt the movement of the oversized load because of the excessive height, width, and length of the vehicle (ATS 2017). Potentially 158 oak trees would be removed along San Miguelito road.

The reports present various actions that should be taken to accommodate the movement of the oversized trucks through each of the constrained locations. The proposed actions are as follows:

Intersections. Removing signs, street light poles, traffic signal poles, street trees, and bus shelters and adding gravel adjacent to the roadway. Re-installing and re-activating all signs, street light poles, traffic signal poles, and bus shelters and replacing trees where needed. Typically, these features are removed an hour or two in advance of the vehicle passage, then the signs and street light/traffic signal poles are put back in place as soon as possible after the passage of the vehicle, possibly on temporary foundations for ease of removal for the next vehicle passage. It is possible that multiple trucks could be traveling in tandem as a convoy, which would reduce the number of times that the features would be removed and replaced, but would increase the duration of each intersection closure. When all of the oversized vehicle deliveries are completed, the signs, poles, and bus shelters would be permanently replaced, and new trees would be planted to replace the trees that were removed.

San Miguelito Road Curves. Reinforcing and adding gravel to the shoulders, adding fill material to widen the shoulders, cutting back the hillside adjacent to the road, and clearing trees and brush adjacent to the road. Replacing trees and vegetation where needed and restoring road to original condition if required by County and adjacent property owner. For any actions that would physically affect features on private property, such as driveways, fences, gates, and trees, the applicant would coordinate with the property owner to develop a mutually acceptable methodology for the removal, modification, and replacement/repair of any affected features.

Entire Haul Route. Provide police escorts and repair all damaged facilities.

The transportation and traffic impacts of the proposed SWEP are discussed below.

TC-1 LOS and V/C Ratio. Project-related construction traffic ~~would~~ could temporarily affect traffic levels and LOS on Project area roadways.

Impact TC-1 regarding traffic volumes and levels of service on the study area roadways was presented in Section 3.14.3.3 of the LWEP EIR and the finding was that the Project would result in Class III impacts, which are adverse impacts found not to be significant. The revised analysis in the SWEP SEIR (i.e., the standard traffic impact analysis that addresses the peak hour impacts of workers' commute vehicles, light-duty trucks, and legal-sized haul trucks) concludes that the Project would result in a Class II impact, as there are significant environmental impacts that can be feasibly mitigated or avoided. The impact classification changed from a Class III impact in the LWEP EIR to a Class II impact in the SWEP SEIR because the SWEP SEIR traffic analysis included a detailed evaluation of the delays and levels of service at the study area intersections during the peak periods. This level of analysis was not conducted for the LWEP EIR.

A potentially significant impact could occur at the intersection of Ocean Avenue/SR-1/SR-246 at F Street because of the excessive vehicle delays and unacceptable LOS at the stop sign. This impact could be mitigated by deploying a flag person at that intersection to facilitate the movement of trucks from northbound F Street onto Ocean Avenue and/or by prohibiting northbound truck movements at that intersection during the AM and PM peak periods. This measure would be included as a component of Mitigation Measure (MM) TC-1, which is a Traffic Management Plan (TMP) that would be prepared by the Applicant for approval by Santa Barbara County, the City of Lompoc, and Caltrans. The TMP would be implemented in conjunction with the construction of the proposed Project.

Mitigation Measures

Although the finding in the LWEP EIR was that the Project would not have a significant impact with regard to Impact TC-1, it nevertheless recommended two mitigation measures for this impact: MM TC-1 (Traffic Management Plan) and MM TC-2 (Traffic Mitigation Fees). For the SWEP, implementation of MM TC-1 would be appropriate to reduce this impact, but MM TC-2 is not recommended because contributing to a County of Santa Barbara fee program would not mitigate the LOS impact, particularly since the type of fee is not specified in the LWEP EIR. While Project-related fees might be required by Santa Barbara County, the City of Lompoc, and/or Caltrans (e.g., encroachment permit fees, plan check fees, excavation permit fees, etc.), they are not recommended as an SEIR mitigation measure for the SWEP because they are standard fees that are not associated with corresponding CEQA impacts.

MM TC-1 **Traffic Management Plan (TMP).** The Applicant shall prepare a TMP for submittal to the County of Santa Barbara, City of Lompoc, and Caltrans. The purpose of the TMP is to address potential hazards associated with Project truck traffic. The plan will require measures such as informational signs, flagmen when equipment may result in blockages of throughways, and traffic control to implement any necessary changes in temporary lane configuration.

Specific provisions would include, but not be limited to:

- Location and use of flag persons and pilot cars during the delivery of large/heavy loads.
- Requirements to limit the hours for transporting large/heavy loads to minimize traffic impacts.
- Limit the number of large/heavy loads per day, or to specific days.

- Provide for advance notification of residents, businesses, emergency providers, and hospitals when roads or intersections may be partially or completely closed.
- Develop protocols for passage of emergency vehicles and regular traffic when large/heavy vehicles are traveling at slow speeds.
- Ensure adequate parking for workers, construction vehicles, and trucks.
- Encourage measures for using carpooling, shuttle buses, cycling, or motorcycling to travel to the construction site.
- Transportation Demand Management (TDM), including agreements, employee information, reporting, and traffic count monitoring.
- Prepare and implement detailed plans to safely accommodate the movement of oversized vehicles along the proposed haul routes, with particular emphasis on constrained locations such as intersections where the oversized vehicles will be turning and curves on San Miguelito Road where the turning radius cannot adequately accommodate the passage of the oversized vehicles. The plans would include, but not be limited to, detour signage, use of traffic control officers, time of day and/or day of week restrictions, and required coordination with police, fire, and other emergency service providers. The oversized vehicles would also be required to have police escorts along the entire travel route. These provisions are subject to review and approval by the affected public agencies.

Plan Requirements. All requirements shall be shown on grading and building plans prior to zoning clearance for the first and all subsequent Project phases.

Timing. The TMP shall be approved by all involved agencies prior to Zoning Clearance.

Monitoring. County staff will ensure that the measures that are included in the TMP will be implemented throughout the construction phase and will monitor the locations to ensure compliance.

TC-2 **Roadway Safety.** Long, heavy trucks used to deliver equipment during construction could present safety concerns, and physical modifications to the roadway or nearby trees and power lines will be required.

Impact TC-2, regarding safety concerns associated with the use of oversized trucks to transport the Project's construction materials to the Project site, was presented in Section 3.14.3.3 of the LWEP EIR and the finding was that the Project would result in Class II impacts, which are significant impacts that can be feasibly mitigated or avoided. For the SWEP, this impact would also be potentially significant but can be reduced to a less-than-significant level with mitigation (Class II). The truck and trailer combinations would be longer for the proposed SWEP as compared to the LWEP because the largest blades for the SWEP would be 225 feet in length (68.5 meters) while the largest blades assumed for the LWEP were 135 feet long. This would result in a truck/trailer combination length of up to 255 feet for the SWEP as compared to 165 feet for the LWEP.

The proposed Project would have 30 wind turbine generators (WTGs) and each WTG would have three blades. So there would be a total of 90 oversized vehicles transporting the blades to the Project site as a worst-case scenario. It is possible that multiple blades could be transported on a single truck and trailer combination, which would reduce the total number of vehicle trips, but it is more likely that each blade would be transported individually. In addition, the towers would be transported in four

pieces (a base, a mid-section, a top, and a hub and nose cone assembly), which would result in a total of 120 additional oversized/overweight vehicle trips for the 30 WTGs. In total, the Project would generate up to 210 oversized and/or overweight vehicle trips during the construction phase.

The Project would require equipment, materials, and supplies to be transported to the Project site on public roadways and many of the loads would require the use of oversized and/or overweight trucks. These trucks would potentially result in safety issues and would require special measures, particularly along San Miguelito Road where there are constraints associated with sharp curves, vegetation, oak trees, and terrain issues, and at intersections where the trucks would be turning. Locations such as these would require physical modifications to such features as utility lines, poles, traffic signals, signs, trees, vegetation, and the roadway design.

The Project's impacts are also considered potentially significant because the driveway access points to the various Project site locations could result in safety issues. This relates to criterion "b" of the Santa Barbara County thresholds of significance presented in Section 4.17.3 above. In addition, the Project would add oversized truck traffic to a roadway that has design features that would become potential safety problems with the addition of Project traffic, which relates to criterion "c."

Several detailed analyses have been prepared by the Applicant that specify the haul routes, identify the constrained locations, and present measures that should be taken to accommodate the oversized trucks at each location. These strategies are presented in the "Strauss Wind 67m Blade Feasibility Assessment" (Logisticus 2018, see SEIR Appendix F), the "Transportation Study for San Miguelito Road Strauss Wind Energy Project" (LAV/Pinnacle Engineering 2018, see Appendix G), and "Strauss Wind Project Review" (ATS 2017, see Appendix H). It is stated in the "Strauss Wind 67m Blade Feasibility Assessment" report that the blade transport activities would result in a high risk level, which is consistent with the finding of a Class II impact for Roadway Safety in this SWEP EIR. The Logisticus report highlights off-site road improvements, blade length, and police escorts, all of which have been addressed in this impact assessment.

The dimensions of the oversized truck and trailer combinations greatly exceed the size of conventional tractor/trailer vehicles and the maximum vehicle weights far exceed the legal weight limit of 80,000 pounds. The measures proposed in the reports for accommodating the oversized vehicles are summarized in a previous section. As stated, physical modifications would be made at each of the intersections where the trucks would be turning, such as the removal of signs, light poles, traffic signals, trees, and bus shelters so that the trucks could slowly make their turns through the intersections. This would result in temporary blockages and delays to motorists at the affected locations. Typically, these features are removed an hour or two in advance of the vehicle passage, then the signs and street light/traffic signal poles are put back in place as soon as possible after the passage of the vehicle, possibly on temporary foundations for ease of removal for the next vehicle passage. It is possible that multiple trucks could be traveling in tandem as a convoy, which would reduce the number of times that the features would be removed and replaced, but would increase the duration of each intersection closure. When all of the oversized vehicle deliveries are completed, the signs, poles, and bus shelters would be permanently replaced, and new trees would be planted to replace the trees that were removed.

Similarly, there are numerous locations along San Miguelito Road where the transport vehicles would be too large to negotiate the sharp curves. These locations would be modified by reinforcing shoulders, added gravel to shoulders, using fill material to widen shoulders, cutting back hillsides, and potentially removing 158 oak trees and other vegetation, resulting in about 3.2 acres of total vegetation loss along

the road. These actions, along with continuous police escorts, would facilitate the passage of the oversized vehicles through these constrained locations. While these transport operations would be an inconvenience to the traveling public by creating blockages and delays, the safety risks would be mitigated by including components in the Traffic Control Plan to address such issues and then implementing the plan in conformance with the direction of the affected public agencies. The information provided in the haul route documents will be used by the public agencies as input to the issuance of required permits for oversized and overweight trucks and will be included in the Traffic Control Plan to ensure compliance with the proposed CEQA mitigation.

The LWEP EIR identified three mitigation measures for this impact: MM TC-1 (Traffic Management Plan), MM TC-2 (Traffic Mitigation Fees), and MM TC-4 (Permits for Oversize Loads). MM TC-1 would be required to offset the impacts of the SWEP, and this measure is described in detail under Impact TC-1 above. Neither MM TC-2 nor MM TC-4 would be needed for the SWEP. MM TC-2 is not included because contributing to a fee program would not mitigate the significant impact, as discussed above for Impact TC-1. MM TC-4 is not included because permits are automatically required from a public agency if a truck operator intends to transport oversized and/or overweight vehicles on a public roadway. The Applicant or the Applicant's representative will be required to obtain such permits from Caltrans, Santa Barbara County, and the City of Lompoc if oversized or overweight vehicles will be used regardless of the findings of this SEIR.

Mitigation Measures

MM TC-1 Traffic Management Plan (TMP). See Impact TC-1 for the full text of this measure.

~~**TC-3 Truck Delivery Routes-Weight and Load Limitations.** Heavy-haul trucks would be required to transport large and heavy equipment subject to weight, height, and load limitations.~~

Impact TC-3, regarding the use of overweight trucks to transport the Project's construction materials to the Project site, was presented in Section 3.14.3.3 of the LWEP EIR and the finding was that the Project would result in Class III impacts, which are adverse but not significant impacts. For the SWEP, this impact has been deleted as it is addressed in Impacts TC-2, TC-4, and TC-5.

TC-4 Road Blockages/Traffic Delays. During peak construction, several oversized trucks per day could slow traffic and necessitate temporary blockages of intersections.

Impact TC-4, regarding the use of oversized trucks that could slow traffic and necessitate temporary blockages of intersections, was presented in Section 3.14.3.3 of the LWEP EIR and the finding was that the Project would result in Class III impacts, which are adverse but not significant impacts. For the SWEP, this impact is considered to be potentially significant, but can be mitigated to a less-than-significant level (Class II). The impact category was changed to Class II because the size of the blades that would be transported and the number of oversized trucks that would be generated for the SWEP project would be substantially greater than what was assumed for the LWEP EIR traffic analysis.

The Project would require equipment, materials, and supplies to be transported to the Project site on public roadways and many of the loads would require the use of oversized trucks, which would result in temporary blockages and/or traffic delays where the trucks would be blocking lanes while they are

slowly turning through the intersections. As described in detail in Impact TC-2 above, the Project would generate up to 210 oversized and/or overweight vehicle trips during the construction phase. Permits are automatically required from a public agency if a truck operator intends to transport oversized vehicles on a public roadway. The Applicant would be required to obtain permits from Caltrans, Santa Barbara County, and the City of Lompoc if oversized vehicles will be used.

Several detailed analyses have been prepared by the Applicant that specify the haul routes, identify the constrained locations, and present measures that should be taken to accommodate the oversized trucks at each location. These strategies are presented in the "Strauss Wind 67m Blade Feasibility Assessment" (Logisticus Project Group 2018, see SEIR Appendix F), the "Transportation Study for San Miguelito Road Strauss Wind Energy Project" (LAV/Pinnacle Engineering 2018, see SEIR Appendix G), and "Strauss Wind Project Review" (ATS 2017, Appendix H). The information provided in these documents will be used by the public agencies as input to the issuance of required permits for oversized and overweight trucks.

The dimensions of the oversized truck and trailer combinations greatly exceed the size of conventional tractor/trailer vehicles. The measures proposed in the technical reports for accommodating the oversized vehicles are summarized in a previous section. As stated, physical modifications would be made at each of the intersections where the trucks would be turning, such as the removal of signs, light poles, traffic signals, trees, and bus shelters so that the trucks could slowly make their turns through the intersections. This would result in temporary blockages and delays to motorists at the affected locations for approximately one hour at each intersection for each truck passage. Similarly, there are numerous locations along San Miguelito Road where the transport vehicles would be too large to negotiate the sharp curves. These locations would be modified by reinforcing shoulders, adding gravel to shoulders, using fill material to widen shoulders, cutting back hillsides, and removing trees and other vegetation. These actions, along with continuous police escorts, would facilitate the passage of the oversized vehicles through these constrained locations. While these transport operations would be an inconvenience to the traveling public by creating blockages and delays, the blockages and traffic delays would be mitigated by including components in the Traffic Control Plan to address such issues and then implementing the plan in conformance with the direction of the affected public agencies.

MM TC-1 would be required to offset the impacts of the road blockages and traffic delays. Although the finding in the LWEP EIR was that the Project would have a Class III impact (not significant) with regard to Impact TC-4, it identified one mitigation measure for this impact: MM TC-2 (Traffic Mitigation Fees). MM TC-2 is not required as a mitigation measure for the SWEP because the payment of fees would not mitigate a potentially significant impact. While Project-related fees might be required by Santa Barbara County, the City of Lompoc, and/or Caltrans for permits, the fees are not included as SEIR mitigation measures.

Mitigation Measures

MM TC-1 Traffic Management Plan (TMP). See Impact TC-1 for the full text of this measure.

TC-5 Damage to Roadways. Trucks carrying heavy equipment could damage existing streets~~ and Project vehicles could track dust and soil onto public roads~~.

Section 3.14.3.3 of the LWEP EIR discussed the possibility of damage to public roadways from the use of heavy trucks transporting the Project's construction materials to the Project site. The finding was that the Project would result in Class II impacts, which are significant impacts that can be feasibly mitigated or avoided. For the SWEP, damage to public roadways would also result in a Class II impact. Trucks could potentially cause damage to the roadway surfaces, shoulders, culverts, and other infrastructure. While the maximum legal weight on a public roadway is 80,000 pounds, the overweight trucks that would be used to transport WTG blades and tower components to the Project site would weigh approximately 150,000 pounds and potentially up to 200,000 pounds for certain loads (ATS 2017, Logisticus 2018). To transport overweight loads of these magnitudes on public streets, the operator must obtain overweight permits and will typically be required to use specialized trucks with multiple axles and tires to disperse the individual loads to numerous tires and thereby minimize excess pressure on the pavement. The specialized trucks are designed to minimize or avoid damage to the roadways, but the effectiveness cannot be guaranteed.

The impacts associated with roadway damage would be mitigated with the implementation of MM TC-3 (Roadway Repairs) whereby the applicant shall enter into an agreement with the affected jurisdictions to ensure that any damage to roadways attributable to the Project will be repaired or reconstructed to the original conditions. The roads will be photographed or videotaped prior to construction to ensure that the repairs will return the road to pre-construction conditions or better.

The LWEP EIR identified two mitigation measures for Impact TC-5: MM TC-2 (Traffic Mitigation Fees) and MM TC-3 (Roadway Repairs). While MM TC-3 is needed for the SWEP to offset this impact, MM TC-2 is not necessary because contributing to a fee program would not mitigate the potentially significant impact, as discussed above for Impact TC-1.

Mitigation Measures

MM TC-3 **Roadway Repairs.** The Applicant shall enter into an agreement with affected jurisdictions to ensure that any damage to roadways attributable to Project traffic is mitigated through repair or reconstruction to original conditions. Roads will be photographed or videotaped prior to construction to ensure that final repairs are sufficient to return the road to pre-construction conditions. The Applicant shall also comply with the requirements of the hauling permits from affected jurisdictions prior to the construction of the Project.

Plan Requirements. All requirements shall be included in the TMP. The applicant shall pay for any repairs needed during the construction phase to maintain the roads in acceptable condition, as determined by the TMP. At the conclusion of each major construction phase, all affected roads shall be restored to pre-construction conditions in consultation with the affected jurisdictions. In addition, prior to the start of the rainy season, the roadways impacted by construction activities and heavy load delivery shall be surveyed to ensure that any roadway damage will not be subject to further damage from erosion caused by precipitation. If roadways are determined to need repair,

interim repairs shall be proposed for review and approval by the affected jurisdictions and implemented in an approved timeframe to avoid further roadway damage.

Timing. The TMP shall be approved prior to the zoning clearance. Any bonds associated with post road repairs shall be secured prior to Zoning Clearance. Bonds shall not be released until all roadway repairs meet agencies satisfaction.

Monitoring. County staff will ensure that road damage is adequately documented and required repairs are completed.

TC-6 Soil on Roadways. Project vehicles could track dust and soil onto public roads.

Section 3.14.3.3 of the LWEP EIR discussed the effects of dust and soil being tracked onto public roadways. The finding was that the Project would result in Class III impacts, which are adverse impacts found not to be significant. Similar to the LWEP, this impact would not be significant for the SWEP (Class III). Although tracked out dust is a Class III impact relative to traffic and circulation, it is addressed as a PM10 air quality impact and has been determined to have a potentially significant impact. It is a Class II air quality impact because it can be mitigated with the implementation of MM AQ-2 (Dust Control Plan).

4.17.5 Cumulative Effects

Geographic Extent/Context

The geographic area of the cumulative analysis for transportation and traffic is the area generally defined by the City of Lompoc and the unincorporated area of Santa Barbara County south of Lompoc along San Miguelito Road. This area was selected because it includes the roadways that would primarily be affected by the proposed Project and the proposed development projects that would generate additional traffic volumes. The study area for cumulative impacts would also include locations outside the geographic area defined above where there are projects that would contribute traffic to the study area street segments. There would also be some minor cumulative traffic impacts in Kern County and San Luis Obispo County because the movement of oversized trucks through these counties could contribute to traffic delays, particularly along State Highway 166, which is a two-lane highway.

Cumulative Effects

Other construction projects within or near the study area would have an indirect cumulative traffic impact if they were to occur simultaneously with the construction of the proposed Project because they would generate additional traffic volumes on the roadways impacted by the proposed Project. In addition, land development projects in the area would have a cumulative traffic impact if they were to be completed and operational prior to the construction of the proposed Project. These cumulative impacts were considered by applying an ambient growth factor to the existing traffic volumes while forecasting the future 2020 baseline traffic volumes. The cumulative impacts for this scenario are summarized in Tables 4.17-7 and 4.17-8 for the study area intersections.

As the cumulative impact of other projects was assumed to result in only a two percent increase in baseline traffic volumes, the cumulative impacts would be minor with regard to traffic and transportation issues. The proposed Project's contribution to the cumulative impacts would be the

same as what was shown for the Project-only impact analysis; i.e., that it would have a significant temporary impact (Class II) related to congestion during construction (Impact TC-1), roadway safety (Impact TC-2), roadway blockages by oversized vehicles (Impact TC-4), and damage to public roads (Impact TC-5).

4.17.6 Residual Impacts

As summarized in Section 4.17.4, Impact TC-6 would be less than significant. With implementation of proposed mitigation measures, residual effects from Impacts TC-1, TC-2, TC-4 and TC-5 would be less than significant.

4.17.7 Impact and Mitigation Summary

Table 4.17-15 below provides a summary of the SWEP's impacts related to transportation and traffic. The table also indicates the mitigation measures proposed to reduce each significant impact.

Table 4.17-15. SWEP Impact and Mitigation Summary – Transportation and Traffic

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
TC-1	LOS and V/C Ratio. Project-related construction traffic could temporarily affect traffic levels and LOS on Project area roadways.	TC-1: Traffic Management Plan.	Class II
TC-2	Roadway Safety. Long, heavy trucks used to deliver equipment during construction could present safety concerns and physical modifications to the roadway or nearby trees will be required.	TC-1: Traffic Management Plan.	Class II
TC-4	Road Blockages/Traffic Delays. During peak construction, several oversized trucks per day could slow traffic and necessitate temporary blockages of intersections.	TC-1: Traffic Management Plan.	Class II
TC-5	Damage to Roadways. Trucks carrying heavy equipment could damage existing streets.	TC-3: Roadway Repairs.	Class II
TC-6	Soil on Roadways. Project vehicles could track dust and soil onto public roads.	None required.	Class III

Class I. Significant unavoidable adverse impact.
Class II. Significant environmental impacts that can be feasibly mitigated or avoided.
Class III. Adverse impacts found not to be significant.
Class IV. Impacts beneficial to the environment.

4.17.8 References

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4.18 Utilities and Service Systems

This section describes effects on utilities and service systems within the greater proposed Project area (unincorporated Santa Barbara County and City of Lompoc lands) that could be caused by implementation of the Project. This section focuses primarily on solid waste, water supply, and wastewater impacts associated with the proposed Project. The information and analysis in this section addresses existing environmental conditions in the affected area, identifies and analyzes potential environmental effects associated with the Project implementation, and recommends measures to reduce or avoid the Project's adverse impacts. Existing laws and regulations relevant to utilities and service systems are also described. In some cases, compliance with these existing laws and regulations would serve to reduce or avoid certain adverse effects that might otherwise occur with Project implementation. Utilities and service systems was briefly covered in the LWEP EIR in Section 3.16.4, under Other Issue Areas.

4.18.1 Environmental Setting

The LWEP EIR did not address the Environmental Setting for utilities and service systems.

Existing conditions relative to solid waste and water supply are described below. There is currently no wastewater system in place that would serve the proposed Project. The Applicant proposes to install a septic system to serve the Project rather than connect to an existing wastewater system. Therefore, no description of existing wastewater systems is presented. The proposed septic system is analyzed in Section 4.9, *Geology and Soils*, and Section 4.12, *Hydrology and Water Quality*, of this SEIR.

Solid Waste

There are four landfills operating within the County of Santa Barbara that could potentially accept waste from the proposed Project. The first is the Tajiguas Landfill, which is operated by the County of Santa Barbara and accepts waste from the South Coast, Santa Ynez Valley, Cuyama and Ventucopa regions. The second is the Lompoc Landfill, which is operated by the City of Lompoc and accepts waste from both the incorporated and unincorporated areas of the Lompoc Valley. The third is the Santa Maria Landfill, which is operated by the City of Santa Maria and accepts waste from both the incorporated and the unincorporated areas of the Santa Maria Valley. Additionally, Vandenburg Air Force Base operates a private landfill on the base; however, it is unlikely to accept waste from the proposed Project.

Additionally, there are two waste recycling and transfer stations and two waste transfer stations that service the County of Santa Barbara's unincorporated areas. These are the South Coast Recycling and Transfer Station (serving the South Coast area), Santa Ynez Valley Recycling and Transfer Station (serving the Santa Ynez Valley), Cuyama Transfer Station (serving Cuyama Valley), and Ventucopa Transfer Station (serving the Ventucopa area) (SBCPW 2019).

Water

For construction, non-potable water would be trucked to the Project site from the Lompoc Regional Wastewater Reclamation Plant (LRWRP) at 1801 W. Central Avenue in the City of Lompoc. The LRWRP has received approval from the Central Coast Regional Water Quality Control Board to sell up to 62,000 gallons per day of recycled water to trucked water uses. One of the largest uses of water during

construction will be for the concrete batch plant that will be located on site. Water use associated with the batch plant is approximately 10,000 gallons per day. The Applicant has received a "Can and Will Serve" letter from the City of Lompoc for provision of up to 20,000 gallons per day of recycled water for construction of the Project. A proposed on-site well may provide additional flexibility to meet construction water needs and also provide a potable water source during construction. Additional information on the proposed water supply system is presented in Section 2.5.6, *Operation and Maintenance Building/Laydown Yard*.

Stormwater Drainage Systems

The proposed Project does not include the installation of any substantial stormwater drainage systems and would not directly connect to any existing drainage or flood control infrastructure. The reader is referred to the discussions of Impact WAT-3 in Section 4.12, *Hydrology and Water Quality*, which addresses stormwater runoff and concludes that impacts would not be significant (Class III).

Natural Gas Facilities

The Project would not utilize natural gas and, as a result, no new or expanded natural gas facilities or infrastructure are needed to serve the Project.

Other than the facilities proposed for the Project (and described in Chapter 2), no additional new facilities would be needed to construct, operate, and maintain the proposed Project.

4.18.2 Regulatory Setting

The LWEP EIR did not address the Regulatory Setting for utilities and service systems.

State

California Green Building Standards Code (CCR, Title 24, Part 11 - CALGreen)

CALGreen is California's mandatory green building standards code. The California Building Standards Code has the authority to propose CALGreen standards for nonresidential structures that include, but are not limited to, new buildings or portions of new buildings, additions and alterations, and all occupancies where no other state agency has the authority to adopt green building standards applicable to those occupancies. CalGreen requires that projects recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste in accordance with Section 5.408.1.1, 5.408.1.2 or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent.

California Integrated Solid Waste Management Act

In September 1989, the California Integrated Solid Waste Management Act (also known as AB 939) was enacted into law. It required each municipality in the state to divert at least 50 percent of its solid waste from landfill disposal through source reduction, recycling, and composting by 2000. This 50 percent requirement also includes the waste stream that comes exclusively through construction and demolition (C&D) of buildings and homes in the County.

Local

County of Santa Barbara

Comprehensive Plan Energy Element. Goal 4 of the County's Comprehensive Plan Energy Element (Water Use and Solid Waste) requires an assessment of construction-generated waste, and strongly encourages recycling.

Comprehensive Plan Land Use Element. Land Use Development Policy 4 of the County's Comprehensive Plan Land Use Element requires a finding that there are adequate public services (in this case landfill capacity) to serve new development. This policy also provides the basis for inclusion of waste reduction mitigation measures as part of the conditions of project approval. Preparation and implementation of a SWMP for projects that exceed the defined threshold will reduce all solid waste impacts to a less-than-significant level.

County Source Reduction and Recycling Element. As of 2004, 63 percent of all solid waste generated in the unincorporated areas of the County of Santa Barbara was diverted for recycling or re-use (as certified by the California Integrated Waste Management Board). This diversion level is the result of implementation of the County Source Reduction and Recycling Element adopted by the Board of Supervisors in February 1992. Despite these diversion levels, landfill space is still limited.

4.18.3 Significance Thresholds

The current Santa Barbara County Solid Waste Thresholds were approved by the County Board of Supervisors on September 16, 2008. These thresholds were adopted after the analysis was conducted in the LWEP EIR, which was published in August 2008. Therefore, the significance thresholds in this SEIR were not utilized in the LWEP EIR. The significance thresholds presented below for solid waste have been taken from the Santa Barbara County Environmental Thresholds and Guidelines Manual, as amended March 2018. The thresholds related to utilities and service systems are based on State CEQA Guidelines Appendix G.

Solid Waste Thresholds

Construction and Demolition

Construction and demolition waste accounts for 31 percent of all waste generated by residents of Santa Barbara County. In order to comply with AB939 requiring a minimum of 50 percent of all waste to be diverted from landfills, the particular source of waste has been targeted.

Any construction, demolition or remodeling project of a commercial, industrial or residential development that is projected to create more than 350 tons of construction and demolition debris is considered to have a significant impact on public services.

Although amounts of waste generated vary project to project we have the following estimates of projects that will reach the threshold of significance:

a. Remodeling projects over 7,000 square feet for residential projects and 17,500 square feet for commercial/industrial projects.

b. Demolition projects over 11,600 square feet for residential buildings and 7,000 square feet for commercial/industrial buildings.

c. New construction projects over 47,000 square feet for residential buildings and 28,000 square feet for commercial/industrial buildings.

These estimates are based on the U.S. Environmental Protection Agency's 1998 construction and demolition study (Document: EPA530-R-98-010; June 1998) and data gathered by the San Luis Obispo Integrated Waste Management Authority in 2005 and 2006.

Operations/Occupancy

Project Specific

The following thresholds are based on the projected average solid waste generation for Santa Barbara County from 1990 to 2005. The goals outlined in the Source Reduction and Recycling Element (SRRE) assume a 1.2 percent annual increase, which equates to approximately 4,000 tons per year increase in solid waste generation over the 15-year period. A project is considered to result in a significant impact to landfill capacity if it would generate five percent or more of the expected annual increase in waste generation thereby using a significant portion of the remaining landfill capacity. Based on the analysis conducted, the numerical value associated with the five percent increase is 196 tons per year. As indicated above, source reduction, recycling and composting can reduce a project's waste stream (generated during operations) by as much as 50 percent. If a proposed project generates 196 or more tons per year after reduction and recycling efforts, impacts would be considered significant and unavoidable.

Cumulative Thresholds

The Santa Barbara County Environmental Thresholds and Guidelines Manual (as amended March 2018) states that projects with an ongoing operational impact as identified above (196 tons/year or more) are considered cumulatively significant, as the project-specific threshold of significance is based on a cumulative growth scenario. However, because landfill space is limited, any increase of one percent or more of the estimated increase accounted for in the SRRE would be considered an adverse contribution to regional cumulative solid waste impacts and require mitigation. One percent of the SRRE-projected increase in solid waste equates to 40 tons per year (in operational impacts). To reduce adverse cumulative impacts, and to be consistent with the SRRE, mitigation should be recommended for projects that generate between 40 and 196 tons of solid waste per year. Projects that generate less than 40 tons per year of solid waste would not be considered to have an adverse effect due to the small amount of solid waste generated by these projects and the existing waste reduction provisions in the SRRE.

Utilities and Service Systems Thresholds

In addition to the County of Santa Barbara thresholds for significance related to solid waste, the following thresholds would also be applicable to the proposed Project. These thresholds have been adapted from the State CEQA Guidelines, Appendix G. If the Project were to exceed any of these thresholds, a significant impact may occur.

Would the Project:

- Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities or the construction or relocation of which could cause significant environmental effects?

- Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?
- Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?
- Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?

4.18.4 Environmental Impacts and Mitigation Measures

Impacts associated with utilities and service systems were not analyzed as part of the LWEP EIR and, therefore, the impacts addressed in this section do not supplement any information presented in the LWEP EIR. Impacts are discussed below for solid waste, water supply, and wastewater.

The proposed Project does not include the installation of any substantial stormwater drainage systems and would not directly connect to any existing drainage or flood control infrastructure. The reader is referred to the discussions of Impact WAT-3 in Section 4.12, *Hydrology and Water Quality*, which addresses stormwater runoff and concludes that impacts would not be significant (Class III).

USS-1 **Solid Waste.** The Project could potentially impact landfills with disposal of solid waste generated during construction.

No solid waste impacts were identified in the LWEP EIR. During construction, the proposed Project would generate multiple forms of solid waste. The primary conventional ("clean") waste would be waste concrete and rubble generated from the concrete batch plant. Other solid wastes would include:

- Vegetation removed during re-grading
- Universal wastes such as batteries, paints, pesticides, or bulbs
- Scrap metals, rubber, plastic, glass, carpet, insulation, and masonry products
- Packaging materials including wood, paper, and plastic
- Construction wastes including brick, mortar, timber, steel and metal scraps, pipe and electrical cuttings, nonhazardous equipment parts, styrofoam, and other materials used to transport and package construction materials
- Domestic wastes such as cans, cups, paper bags, plastic wrappers, and cigarettes

In order to determine the significance of solid waste impacts for construction, it is necessary to estimate the weight of the main sources of expected wastes, which would be vegetation waste and concrete waste. Other wastes (such as universal wastes, construction materials, and domestic wastes) are not expected to be generated in significant quantities during construction of the Project.

The main source of construction waste would be generated by the concrete batch plant. As described in Section 2.6.8, *Equipment and Water Requirements*, a portable "wet mix" concrete batch plant would be set up to meet construction needs at the staging area located north of the intersection of San Miguelito and Sudden Road. Foundations for each WTG would require up to several hundred yards of

concrete. After concrete is poured, the chutes of ready mixed concrete trucks and hoppers of concrete pump trucks must be washed out to remove the remaining concrete before it hardens. All concrete washouts would utilize washout pits or containers. All hardened concrete contained in the pits and/or containers would be hauled off site and disposed of at one of landfills serving the Project area.

As described in Chapter 2, *Project Description*, the concrete batch plant is expected to produce approximately 12,000 cubic yards of concrete during construction of the proposed Project. During typical construction activities, approximately 3 percent of concrete produced by the batch plant is lost as waste during various activities, such as concrete washouts. Using an estimated weight of 1.8 tons per cubic yard, the following formula results in an estimated concrete waste weight during construction.

$$12{,}000 \text{ cy} \times 0.03 \times 1.8 \text{ ton/cy} = 648 \text{ tons}$$

Construction of the proposed Project is expected to require the removal of a significant number of mature trees during the construction of the SWEP turbine areas and the access roads. The Applicant's consultant, Dudek, estimates that approximately 607 coast live oak and tanoak trees would be removed for the construction of the SWEP (see Table 4.5-3). Dudek's estimation was based on a combination of on-site tree inventories and desktop estimates of tree numbers for inaccessible parts of the Project site (Dudek, 2018). The Applicant has committed to chipping and spreading a large percentage of the vegetative waste that would be generated during construction, with less than 3 percent assumed to leave the site. The Project is estimated to generate 1,485 tons of vegetative waste as a result of tree removals.

The current California Green Building Standards Code requires non-residential projects to divert at least 65 percent of all construction wastes from entering landfills. A 65 percent reduction in concrete waste, along with the recycling and disposal requirements required by MM USS-1 (Source Reduction and Solid Waste Management Plan) would reduce the waste from construction of the proposed Project below the 350-ton threshold of significance. Additionally, the Applicant (and their contractors) are financially incentivized to take all opportunities to recycle wastes associated with the proposed Project and expected waste reduction percentages are likely to be much greater than the 65 percent regulatory requirement. The County of Santa Barbara has a number of policies in place to promote the recycling and reuse of construction waste. In 2011, the County adopted the California Green Building Standards which require all construction waste generated from any construction project to be recycled at a minimum of 65 percent. Construction and operation of the Project would need to be compliant with all applicable federal, State, and local management and reduction statutes and regulations related to solid waste.

Operation of the proposed Project would generate only minor amounts of waste, due to the small staff and nature of the Project design. As further detailed in Section 2.7, *Operation*, approximately five to seven staff members would be employed on site at the O&M facility. The main O&M activities that would be conducted during operation of the Project (blade cleaning, inspections, and testing) are not expected to generate large quantities of waste.

Per the Santa Barbara County Environmental Thresholds, the primary mitigation measure for reducing solid waste impacts to a less-than-significant level is preparation and implementation of Standard Mitigation Measure (MM) USS-1 (Source Reduction and Solid Waste Management Plan). Implementation of MM USS-1 would ensure that operation of the proposed Project does not generate solid waste quantities in excess of County significance thresholds or State regulatory requirements and would reduce

the overall waste generation from the Project by ensuring that at least 65 percent of all waste generated from the Project would be recycled. Preparation and implementation of a Source Reduction and Solid Waste Management Plan would reduce all solid waste impacts to a less-than significant-level (Class II).

Mitigation Measure

Standard

MM USS-1 **Source Reduction and Solid Waste Management Plan (SWMP).** The Applicant shall develop and implement a solid waste management plan to be reviewed and approved by Public Works Department Resource Recovery and Waste Management Division and the Planning and Development Department, which shall outline how all waste generated from the proposed Project would be either recycled or disposed. The Plan shall identify all opportunities for recycling of construction and operations wastes and shall reduce the waste stream from the Project by at least 65 percent (or below 350 tons; whichever is more stringent). The Plan shall include the following measures:

- Require a minimum of 65 percent of construction waste generated from the Project be recycled.
- Disposal of vegetative waste by either chipping or mulching the waste and spreading in on site or recycling it at an off-site location. No vegetative waste shall enter local landfills.
- Provision of space and/or bins for storage of recyclable materials within the site.
- Establishment of a recyclable material pickup area.
- Development of a plan for accessible collection of materials on a regular basis (may require establishment of private pick-up depending on availability of County sponsored programs).
- Implementation of a monitoring program (quarterly, bi-annually) to ensure a 35 - 50 percent minimum participation in recycling efforts, requiring businesses to show written documentation in the form of receipts.
- Development of Source Reduction Measures, indicating method and amount of expected reduction.
- Implementation of a program to purchase recycled materials used in association with the proposed project (paper, newsprint etc.). This could include requesting suppliers to show recycled material content.

If feasible, the Applicant shall use concrete waste or excess rock as fill within the annulus of the WTG foundations, assuming P&H foundations are used.

Permit Requirements. The Applicant shall submit the SWMP to the Santa Barbara County Public Works Department, Resource Recovery and Waste Management Division, and the Santa Barbara County Planning and Development Department for review and approval of the SWMP.

Timing. The SWMP shall be reviewed and approved by the County prior to Zoning Clearance. Implementation of the Plan shall occur prior to the start of construction.

Monitoring. The County shall ensure compliance with the SWMP throughout all phases of construction and operation. The Applicant shall provide all information the

County deems necessary to monitor compliance, including disposal manifests and chain of custody forms.

USS-2 Water Supply. The proposed Project could impact water supplies during both construction and operation.

For the LWEP's construction, total water usage for dust control and foundation construction was estimated at approximately 38 acre-feet. Reclaimed water was to be obtained from the Lompoc Wastewater Plant for dust control, and additional water would be trucked in for the concrete batch plant(s) and would be obtained from the City of Lompoc just below its storage facility at the north end of San Miguelito Road. No impacts to water supply were identified in the LWEP EIR.

For SWEP's construction, the concrete batch plant would be the main consumer of water. Water would also be utilized for other construction activities, such as equipment washing and dust control. The concrete batch plant would consume approximately 10,000 gallons per day of water, with the concrete for each WTG foundation using approximately 3,300 gallons of water. As many as 9,000 gallons of water (5 to 6 truck trips) could be required for dust control on dry, dusty days. Reclaimed water trucked in from the LRWRP would be in the primary water source for construction, and the Applicant proposes using an on-site well as a supplemental water source during construction.

On days when the concrete batch is in full use and substantial water is needed for dust suppression, these two activities would consume as much as 19,000 gallons of water. The amount of water available through both the Can and Will Serve Letter and the on-site well exceeds the total daily water usage needs of the Project during construction. The "Can and Will Serve" Letter from LRWRP provides for up to 20,000 gallons per day of recycled water for the Project and the on-site well capacity would additional flexibility to meet water needs during construction.

For the LWEP's operation, approximately 500 gallons per day was estimated and would of either been obtained from a new shallow well or existing spring on the property. The SWEP would require relatively small amounts of water during operations. The Applicant estimates that less than 250 gallons of potable water would be needed to serve the Project on a daily basis. This water usage would occur at the O&M facility and would be used predominantly for sanitation purposes for the O&M staff. The Applicant would use potable water from an existing on-site well to meet these needs.

A periodic activity that would require use of reclaimed water during the SWEP's operation is WTG and blade cleaning. WTG and blade cleaning are performed on an as-needed basis, so there is no defined timing or interval for this work. In the event excessive dirt, grease, or oil is found on the external surfaces of the WTG (hub, blades, nacelle, tower), an evaluation would be performed to determine a safe method of cleaning. In the majority of cleaning cases, a lift basket is used to hoist a wind turbine technician who then uses a biodegradable cleaner and cloths to perform the cleaning. In the event additional cleaning, such as pressure washing, is required, a third-party would be contracted to perform this work. The third-party contractor would truck in water from their own off-site sources for pressure washing, and on-site water supplies would not be utilized to clean blades.

As a result, the proposed Project would not require the development of a new public water supply or the expansion of existing public facilities in order for sufficient water supplies to be available to serve the Project. In addition, the Project does not include any future development on the site that would require additional water supplies. Therefore, impacts related to water supply would not be significant (Class III).

USS-3 **Wastewater.** The Project's proposed wastewater system could impact groundwater or watercourses on site.

The LWEP EIR did not address wastewater during construction. The proposed Project would generate relatively small amounts of wastewater during construction. Portable sanitary facilities would be provided for construction work crews and serviced by a private company. This would generate a nominal amount of wastewater to be treated under existing contracts.

For LWEP operations, effluent from the O&M facility would have been disposed of through a leach line system and would not have required treatment by the regional wastewater treatment plant. No impacts to wastewater systems were identified in the LWEP EIR. Wastewater treatment during operation of the proposed Project would be via a proposed leach line septic system. Percolation test results show that the O&M facility site vicinity is characterized by native soils with permeability ranging from 42 to 100 minutes per inch. Groundwater levels are expected to fluctuate with rainfall. Local perched ground water was observed by boring to be at a depth of 9 feet after a period of heavy rain. Design sewage flow generated by the O&M facility is estimated at 250 gallons per day, which is conservative since the California plumbing code estimate roughly 20 gallons per person per day for a typical office. Five to seven employees are expected to occupy the O&M facility, which would make actual use approximately 100 to 140 gallons per day.

The proposed system is a conventional in-ground septic system, including a septic tank to remove solids and grease, a 4-inch pipeline to a distribution box, and two leach lines, sized to accommodate the design flows for the field soils. An in-ground septic disposal system requires, depending upon the permeability of the soil, a minimum separation requirement between the bottom of the leach trenches and the groundwater table; groundwater levels in the alluvium near the proposed Project O&M site are relatively shallow, encountered at approximately 20 feet below ground surface and rising to about 8 feet below ground surface (ESP, 2017).

The septic system design will depend on final engineering calculations. At this time, it is estimated that a 1,000-gallon septic tank with roughly 200 feet of leaching lines (two lines each 100 feet long) would be adequate to dispose of the generated wastes. A leach trench depth of approximately 42 inches would have adequate (more than five feet) separation from the wet weather groundwater location. Installation of a septic system would not require wastewater treatment services from a local provider and would not affect treatment capacity. Therefore, the Project would not affect the capacity of the local wastewater collection and treatment system (Class III).

USS-4 **Public Infrastructure.** The Project could impact public infrastructure in the City of Lompoc.

Delivery of turbine blades for construction of the proposed Project would require temporary removal of some infrastructure along the blade transport route. This would include removal and sleeving of street signs, modifications to turning radiuses, removal of light poles, signs, or traffic signals, removal of certain street trees to allow for increased tip swing, and removal of a bus shelter. (Section 4.17, *Transportation and Traffic*, analyzes the impacts to traffic and safety from the temporary removal of street infrastructure.) Except for the street trees, the relocations required for blade transport would be temporary in nature. All facilities would be returned to their previous condition upon completion of transport and removed street trees would be replaced. The work necessary to perform these activities is not anticipated to result in significant environmental impacts as it would not occur in any

environmentally sensitive areas and would not disturb any known sensitive resources. Therefore, impacts associated with the temporary removal and replacement of facilities would not be significant (Class III).

4.18.5 Cumulative Effects

Geographic Extent/Context

The geographic extent of the cumulative analysis is limited to the proposed Project. As discussed above under Section 4.18.3, *Significance Thresholds*, Santa Barbara County has adopted thresholds of significance for solid waste since the LWEP EIR was published. These thresholds divide solid waste impacts into two main categories.

1. Short-term waste generated from construction and demolition projects
2. Long-term waste generated during Project occupancy/operation.

The thresholds applicable to cumulative effects of the proposed Project are 40 tons/year.

Cumulative Effects

As discussed in Section 4.18.4, operation of the proposed Project would generate only minor amounts of waste due to the small staff and nature of the Project design. Implementation of MM USS-1 (Source Reduction and Solid Waste Management Plan) would ensure operation of the proposed Project does not generate solid waste quantities in excess of County significance thresholds.

Preparation and implementation of a SWMP for projects that exceed the defined threshold would reduce all solid waste impacts to a less-than-significant level (Class II).

4.18.6 Residual Impacts

As summarized in Section 4.18.4, Impacts USS-2, USS-3, and USS-4 would be less than significant. With implementation of proposed mitigation, residual effects from Impact USS-1 would not be significant.

4.18.7 Impact and Mitigation Summary

Table 4.18-2 below provides a summary of the SWEP's impacts related to utilities and service systems. The table also indicates the mitigation measures proposed to reduce each significant impact.

Table 4.18-2. SWEP Impact and Mitigation Summary – Utilities and Service Systems

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
USS-1	Solid Waste Generation. The Project could potentially impact landfills with disposal of solid waste generated during construction.	USS-1: Source Reduction and Solid Waste Management Plan.	Class II
USS-2	Water Supply. The proposed Project could impact water supplies during both construction and operation.	None required.	Class III
USS-3	Wastewater. The Project's proposed wastewater system could impact groundwater or watercourses on site.	None required.	Class III
USS-4	Public Infrastructure. The Project could impact public infrastructure in the City of Lompoc.	None required.	Class III

Class I. Significant unavoidable adverse impact.
Class II. Significant environmental impacts that can be feasibly mitigated or avoided.
Class III. Adverse impacts found not to be significant.
Class IV. Impacts beneficial to the environment.

4.18.8 References

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