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, 2019a). 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. Historic period resources are not recorded within the Project area, but historic remains of the original La Purisima Mission aqueduct have been noted nearby and may occur buried along the east side of San Miguelito Road.

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~~ Applicant representatives. During this field visit Mr. Romero expressed concerns over the possible visual impacts that would be experienced during ceremonies and other cultural practices held periodically at both Swordfish Cave and Window Cave.

On March 4, 2019, a second site visit was conducted and attended by Freddie Romero, Tony Flores, Elise Tripp and Cody Westbay with the Santa Ynez Band of Chumash Indians. Chris Ryan, archaeologist with Vandenberg Air Force Base (VAFB), Applicant representatives, SEIR consultant representative, and Planning & Development staff representatives were also in attendance. Concerns of the Tribal Elders included site avoidance, construction equipment impacts, the use of capping roads and other site areas as a mitigation measure, and the potential for trespassing at the Tribal Cultural sites.

On August 5, 2019, a third site visit was conducted with Freddie Romero, Elise Tripp, Tony Zavalla, Bo Armenta, Raul Armenta, Vincent Gomez, a Romero Family member, Sam Cohen, and Chairman Kenneth Kahn with the Santa Ynez Band of Chumash Indians, Chris Ryan (VAFB), Applicant representatives, SEIR consultant representative, and Planning & Development representatives. The site visit focused on potential visual and auditory impacts that may occur from the WTGs during Tribal use of the Sacred Sites nearby.

On October 2, 2019, Planning & Development staff and SEIR consultant representatives met with the Tribal Chairman Kenneth Kahn, SYBCI Elders, and Sam Cohen to discuss impacts on tribal resources from the SWEP. The tribal representatives expressed concern regarding the Project's effect on tribal resources, particularly effects on the Sacred Sites, a concern they had voiced as an objection to the DSEIR in correspondence on June 14, 2018. The Applicant and the Tribe have worked together to balance the potential impacts of the Project with its economic and clean energy benefits and have agreed on culturally appropriate voluntary protection measures which will ensure, to the Tribe's satisfaction, that the Project will not result in significant impacts to archeological or Tribal resources.

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~~ LWEP 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 California Register of Historical Resources (CRHR).

SWEP Phase 2 Study

The previous site evaluations left nine archaeological resources still to be evaluated for CRHR eligibility. An additional four sites were noted to be within 100 meters of Project impact areas. Dudek (2019a) recently conducted a Phase 2 CRHR Eligibility evaluation for the nine untested sites and conducted additional boundary testing for the four sites near Project impact areas. The program was comprehensive and conducted to the same standards as the previous Applied Earthworks studies. The results determined that six of the nine unevaluated sites were eligible for the CRHR while three were found not eligible. Further, additional boundary testing at four sites within 100 meters of known Project impacts indicated their boundaries to be well beyond the limits of Project impacts.

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.

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.

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.

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 13 ~~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. This impact also includes roads through sites that are not planned for additional grading. The driving of heavy equipment in roads through sites will create additional destruction and displacement or artifacts contained in them. Capping is recommended where this impact occurs.

- **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 impact to a single 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.
- **PG&E Upgrades.** Reconductoring and other upgrades to existing facilities would be located in or near existing facilities and in an existing right-of-way. Known cultural resources may be affected by the pole replacement activities.

Other Project elements that do not affect cultural or Tribal cultural resources include:

- The Operations and Maintenance Facility
- Overhead collection lines and poles
- Water well
- Meteorological tower
- Septic system and associated lines.

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	--	Recommended 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	Recommended 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	Recommended Eligible
Primary No.:P-42-002066 Trinomial: CA-SBA-2066	Site	No ground disturbance	No Impact	~~Not evaluated~~ ~~Potentially eligible~~
Primary No.: P-42-002450	Site	No ground disturbance	No Impact	~~Not evaluated~~ ~~Potentially ineligible~~
Primary No.: P-42-002465 Trinomial: CA-SBA-2465	Site	Grading ~~Two One T/L pole pad, access road cut and fill, and switching station (length/grading area)~~	2,770 m^2 ~~16,800 sq ft~~ ~~280 ft/3,400 sq ft~~	Recommended Eligible ~~Not evaluated~~ ~~Potentially ineligible~~

Table 4.6-2. Impacts on Cultural Resources

Resource Designations	Type	Project Impacts	Impact Length/Area*	CRHR Eligibility
		~~Road cut~~ ~~Road fill~~ ~~Switching station~~ ~~Pull site?~~	~~910 sq ft~~ ~~980 sq ft~~ ~~56,100 sq ft~~ ~~TBD~~	
Primary No.: P-42-002754 Trinomial: CA-SBA-2754	Site	No ground disturbance ~~Access road (length/grading area)~~ ~~Access road cut~~ ~~Access road fill~~	No Impact ~~850 ft/19,100 sq ft~~ ~~500 sq ft~~ ~~300 sq ft~~	Recommended Eligible ~~Not evaluated Potentially eligible~~
Primary No.: P-42-002756	Site	Grading Laydown yard Underground collection lines ~~WTG W-1 (partial), W-2 & N-1 Access road (length/grading area)~~ ~~Road cut~~ ~~Road fill~~ ~~Pad cut~~ ~~Substation alternative~~ ~~Water lines~~	31,630 m^2 30.250 m^2 880 m ~~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~~	Recommended Eligible ~~Evaluated by AE (2010) and determined eligible~~
Primary No.: P-42-002757 Trinomial: CA-SBA-2757	Site	Grading Underground collection line ~~WTG E-1 access road (length/grading area)~~ ~~Road cut~~ ~~Road fill~~	15,275 m^2 190 m ~~1,100 ft/63,100 sq ft~~ ~~7,620 sq ft~~ ~~21,570 sq ft~~ ~~730 ft~~	Recommended Eligible ~~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	Grading Underground collection lines~~WTG N-3, N-4 & N-5 access road (length/grading area)~~ ~~Road cut~~ ~~Road fill~~ ~~Turbine pad~~ ~~Pad cutWater line~~	24,900 m^2 800 m ~~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~~	Recommended Eligible ~~Evaluated by AE (2010) and determined eligible~~
Primary No.: P-42-003841/42	Site	Grading Underground collection lines ~~Access road (length/grading area)~~ ~~Road cut~~	1,500 m^2 265 m ~~280 ft/9,200 sq ft~~ ~~6,700 sq ft~~ ~~800 ft~~	Recommended Eligible ~~Not evaluated Potentially eligible~~
Primary No.: P-42-003843	Site	Grading ~~Access road (length/grading area)~~ ~~Road cut~~ ~~Road fill~~ ~~Collection line~~	344 m^2 ~~530 ft/21,400 sq ft~~ ~~1,100 sq ft~~ ~~5100 sq ft~~ ~~530 ft~~	Recommended Eligible ~~Not evaluated Potentially eligible~~
Primary No.: P-42-003844	Site	Grading ~~Access road (length/grading area)~~ ~~Road cut~~	7,575 m^2 ~~860 ft/67,600 sq ft~~ ~~65,600 sq ft~~	Recommended Eligible ~~Not evaluated~~

Table 4.6-2. Impacts on Cultural Resources

Resource Designations	Type	Project Impacts	Impact Length/Area*	CRHR Eligibility
				~~Potentially ineligible~~
Primary No.: P-42-003845	Site	No ground disturbance	--	
Primary No.: P-42-003846	Site	No ground disturbance	--	~~Not evaluated~~ ~~Potentially eligible~~
Primary No.: P-42-003847	Site	Grading Underground collection line ~~Access road (length/grading area)~~ ~~Access road cut~~ ~~Access road fill~~	5,422 m^2 130 m ~~375 ft/14,700 sq ft~~ ~~<100 sq ft~~ ~~1,250 sq ft~~	Recommended Not Eligible ~~Not evaluated~~ ~~Potentially eligible~~
Primary No.: P-42-003848	Site	Grading Underground collection line ~~WTG E-3 access road (length/grading area)~~ ~~Road cut~~ ~~Road fill~~ ~~Turbine pad~~ ~~Collection line~~	18,910 m^2 380 m ~~1,290 ft/184,600 sq ft~~ ~~48,000 sq ft~~ ~~51,900 sq ft~~ ~~47,150 sq ft~~ ~~2,520 ft~~	Recommended Not Eligible ~~Evaluated by AE (2010) and determined not eligible~~
Primary No.: P-42-003849	Site	~~WTG N-7~~ Grading ~~access road (length/grading area)~~ ~~Turbine pad~~ ~~Pad cut~~	2530 m^2 ~~0 ft/2,900 sq ft~~ ~~9,800 sq ft~~ ~~8,700 sq ft~~	Recommended Eligible
Primary No.: P-42-003936	Site	~~Two~~ T/L pole pad~~s~~ ~~Pull site~~	190 m^2 ~~5,200 sq ft~~ ~~TBD~~	Recommended Not Eligible ~~Not evaluated~~ ~~Potentially ineligible~~
Primary No.: P-42-003937	Site	T/L pole pad ~~Pull site?~~	740 m^2 ~~1,400 sq ft~~ ~~TBD~~	Recommended Not Eligible ~~Not evaluated~~ ~~Potentially eligible~~
Primary No.: P-42-003992	Site	Grading Underground collection lines ~~WTG W-7 access road (length/grading area)~~ ~~Road cut~~ ~~Road fill~~ ~~Turbine pad~~ ~~Pad cut~~	7,890 m^2 260 m ~~670 ft/13,100 sq ft~~ ~~1,400 sq ft~~ ~~1,900 sq ft~~ ~~58,800 sq ft~~ ~~22,400 sq ft~~ ~~800 ft~~	Recommended Not Eligible ~~Evaluated by AE (2010) and determined not eligible~~
Primary No.: P-42-003993	Site	Grading ~~Access road (length/grading area)~~ ~~Access road cut~~ ~~Access road fill~~ ~~Collection line~~	560 m^2 ~~170 ft/3,300 sq ft~~ ~~730 sq ft~~ ~~600 sq ft~~ ~~190 ft~~	Recommended Eligible ~~Evaluated by AE (2010) and determined eligible~~
Primary No.: P-42-038323	Site	Grading Underground collection line ~~Access road (length/grading area)~~ ~~Access road cut~~ ~~Collection lines~~	1510 m^2 55 m ~~190 ft/123,400 sq ft~~ ~~12,200 sq ft~~ ~~330 ft~~	Recommended Not Eligible
Primary No.:P-42-038614	Isolate	no ground disturbance	--	Recommended Not Eligible
Primary No.:P-42-038616	Isolate	no ground disturbance	--	Recommended

Table 4.6-2. Impacts on Cultural Resources

Resource Designations	Type	Project Impacts	Impact Length/Area*	CRHR Eligibility
				Not Eligible
Primary No.:P-42-038674	Isolate	no ground disturbance	--	Recommended Not Eligible
Primary No.:P-42-038884	Isolate	no ground disturbance	--	Recommended Not Eligible

* Impacts are identified as either underground collector line length or grading (in square meters) required for all other project elements including cranewalks, culverts, culvert trenches, cut and fill, downdrains, laydown yard, OM facility, pole sites, pole access, pull sites, road improvements, substation, switching station, turbine pads, turbine access, water wells, overhead collection line, meteorological towers and access, and rip-rap.

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 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~~ CRHR-eligible 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. Fencing will also be placed at CRHR-eligible sites to follow the extent of grading plus a 10-foot construction buffer to confine the grading and construction to within the ADI.

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 the requirement of a Data Recovery Plan. This MM 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 Data Recovery program with added Monitoring, Capping ~~Plan~~ (MM CULT-9), ~~and a~~ Horizontal Directional Drilling, and Reporting Plans.

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~~ determined that 13 of the 29 resources are eligible for the CRHR. Of these 13, three have been avoided leaving ten CRHR eligible resources within the Areas of Direct Impact (ADI) as the Project is currently designed. These ten resources will require Phase III data recovery to mitigate impacts (see Table 4.6-3 in MM CULT-10). Six resources that are in the ADI have been recommended not eligible to the CRHR. These resources will be included in the Monitoring Plan.

~~. 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, and 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 and 11 have been evaluated as important per Santa Barbara County Guidelines and are recommended eligible to the CRHR. 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. A special circumstance of fencing will be applied to site SBA-2754. This site will not undergo impacts because no improvements to the paved road crossing through it will occur. The fencing is required to prevent inadvertent turns off the road into the site area by vehicles or equipment.

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 to 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~~ All potentially impacted cultural resources ~~that~~ have ~~not yet~~ been evaluated and impacts to these resources will be mitigated through implementation of a Data Recovery Excavation, Monitoring, and Reporting Plan (Plan). ~~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 suggested one percent sampling of the areas that will be ~~disturbed~~ impacted. The one percent sample size is arbitrary but consistently applied in Table 4.6-3. The final Data Recovery volumes will have to have input from the archaeologists and SYBCI conducting the Phase III work. If the Data Recovery program includes data quantity thresholds, then the thresholds will determine the quantity when thresholds are met. Thresholds to consider could include excavation of 100 percent of features exposed, general quantities of various artifacts and materials for chronology building, and other data requirements for studies of site and artifact function, among others, identified in the Project Data Recovery Research Design. ~~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:

- 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 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 t~~ The depths of sites subject to collection line impacts have been ~~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.

~~**Table 4.6-3. Minimum Phase III Excavations at Archaeological Resources.**~~

~~Resource Designations~~	~~CRHR Eligibility Status~~	~~Site Area (m^2)~~	~~Area Disturbed (m^2)~~	~~% of Site Impacted~~	~~Data Recovery (m^2)*~~
~~Primary No.: P-42-002465 Trinomial: CA-SBA-2465~~	~~Not evaluated Potentially ineligible~~	~~199,130~~	~~7,265~~	~~3.65%~~	~~TBD~~
~~Primary No.: P-42-002754 Trinomial: CA-SBA-2754~~	~~Not evaluated Potentially eligible~~	~~21,770~~	~~920~~	~~4.23%~~	~~9~~ ~~TBD~~
~~Primary No.: P-42-002756~~	~~Evaluated by AE (2010) and determined eligible~~	~~180,470~~	~~51,540~~	~~28.56%~~	~~515~~
~~Primary No.: P-42-002757 Trinomial: CA-SBA-2757~~	~~Evaluated by AE (2010) and determined eligible~~	~~51,690~~	~~8,610~~	~~16.66%~~	~~86~~
~~Primary No.: P-42-003840~~	~~Evaluated by AE (2010) and determined eligible~~	~~206,370~~	~~30,785~~	~~14.92%~~	~~308~~
~~Primary No.: P-42-003841/42~~	~~Not evaluated Potentially eligible~~	~~68,740~~	~~1,550~~	~~2.25%~~	~~16~~ ~~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%~~	~~124~~ ~~TBD~~
~~Primary No.: P-42-003847~~	~~Not evaluated Potentially eligible~~	~~35,430~~	~~1,490~~	~~4.21%~~	~~TBD~~
~~Primary No.: P-42-003849~~	~~Not evaluated Potentially eligible~~	~~30,310~~	~~1,990~~	~~6.57%~~	~~20~~ ~~TBD~~
~~Primary No.: P-42-003936~~	~~Not evaluated Potentially ineligible~~	~~12,210~~	~~485~~	~~3.97%~~	~~TBD~~
~~Primary No.: P-42-003937~~	~~Not evaluated Potentially eligible~~	~~42,090~~	~~130~~	~~0.31%~~	~~TBD~~
~~Primary No.: P-42-003993~~	~~Evaluated by AE (2010) and determined eligible~~	~~14,810~~	~~450~~	~~3.04%~~	~~5~~ ~~23~~

~~* If determined important~~

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.

Table 4.6-3. Minimum Phase III Data Recovery Excavations at Recommended CRHR Eligible Archaeological Resources *Impacted*.

Resource Designations	Site Area (m^2)	Area to be Disturbed (m^2)	% of Site Impacted	Data Recovery (m^2)*
Primary No.: P-42-002465 Trinomial: CA-SBA-2465	199,150	2,770	1.39%	5
Primary No.: P-42-002754 Trinomial: CA-SBA-2754	21,770	0	0%	0
Primary No.: P-42-002756	180,450	62,480	34.62%	625
Primary No.: P-42-002757 Trinomial: CA-SBA-2757	51,680	15,416	29.83%	154
Primary No.: P-42-003840	206,350	25,500	12.36%	255
Primary No.: P-42-003841/42	68,760	1,700	2.47%	17
Primary No.: P-42-003843	40,550	472	1.16%	5
Primary No.: P-42-003844	34,520	7,575	21.94%	76
Primary No.: P-42-003849	42,530	2,528	5.94%	25
Primary No.: P-42-003993	14,810	605	4.09%	6

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,~~ Data Recovery 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,~~ Data Recovery Excavation, Monitoring, and Reporting Plan. Described under Impact CULT-1 above.

CULT-4 Impacts on Traditional Cultural Properties. Construction and Operation 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~~ Prior to release of the SWEP Draft SEIR, the SEIR preparers used a digital terrain model ~~Aspen~~ and 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. Additional Tribal outreach was conducted with the ~~SYBCI~~ Elders of the Santa Ynez Band of Chumash Indians (SYBCI) on March 4, ~~2018~~ 2019, 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. At that time, the Elders did not identify visual impacts as a concern.

During the SWEP Draft SEIR public review period, the SYBCI submitted a letter expressing concerns regarding the impact of the SWEP on its Sacred Sites. In response, a third site visit occurred on August 5, 2019, for the purpose of visiting the Sacred Sites and their context within the Project. At this visit, the Elders Council and tribal members present requested details of how the noise levels and visual impacts would manifest at the sites.

~~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.~~

To better understand the visibility of the proposed WTGs from CA-SBA-655, CA-503/256, and Tranquillon Peak, visual simulations have been prepared from these locations. These simulations, along with photographs of existing views, are presented in Figures 4.6-1 through 4.6-3 as indicated below:

- Figure 4.6-1A: Key Observation Point (KOP) 15, Window Cave – Existing View
- Figure 4.6-1B: KOP 15, Window Cave – Visual Simulation
- Figure 4.6-2A: KOP 16, Swordfish Cave – Existing View
- Figure 4.6-2B: KOP 16, Swordfish Cave – Visual Simulation
- Figure 4.6-3A: KOP 17, Tranquillon Peak – Existing View
- Figure 4.6-3B: KOP 17, Tranquillon Peak – Visual Simulation

These visual simulations show that portions of 13 WTGs would be visible from near Window Cave, although the degree of visibility would depend on the viewers exact location as intervening vegetation and terrain could obscure views of some WTGs. Portions of 5 WTGs would be visible from Swordfish Cave, although vegetation and terrain could obscure views of the WTGs depending on the exact location of the viewer, similar to views from Window Cave.

Because there is broad, unobstructed view of the Project site from Tranquillon Peak, all but 3 of the Project's proposed WTGs would be visible from this peak.

~~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.~~ The assessment of how the Project could affect Native American cultural practices also includes an evaluation of potential changes in noise levels brought about by the Project. Existing background noise levels at the Sacred Sites are dominated by natural sounds, particularly wind noise. Other existing sources of noise in the area include traffic, agricultural operations, operations at Sudden Peak Tracking Station, and the Tranquillon Peak Tracking Station, which is upwind of the caves. Ambient noise levels were not measured at the Sacred Sites; however, prevailing northwesterly winds blow away from all three Sacred Sites and toward the WTGs. Window Cave and Tranquillon Mountain are exposed to the prevailing winds, while Swordfish is more sheltered. Therefore, noise generated from the Project site would be carried away from all three sites by the wind. South winds, which typically only occur during Winter storms, could carry sound from the Project site along Honda Ridge toward Window and Swordfish Caves. Winds from other directions seem to occur only rarely. In summary, the winds would normally carry Project site sounds away from the three sites. Construction noise levels due to the Project are estimated to range from roughly 44 to 56 dBA Leq at the upper range, based on predicted levels presented at similar distances in SEIR Table 4.14-5. Construction noise would affect the daytime noise levels only, with the

recommended mitigation to limit the nighttime construction (MM NOI-2). Because Swordfish Cave is relatively sheltered, construction noise would likely be audible during certain days of construction activities nearest to the northwestern boundary of the site. The types of noise from construction equipment could be distinctive in the relatively quiet natural context of this site. Because of higher background noise levels at the other Sacred Sites exposed to prevailing winds, construction noise would be less readily audible than at Swordfish Cave.

Noise levels during WTG operation would be less noticeable than those of construction. Operational noise would not be likely to exceed 40 dBA Leq or 47 dBA Ldn at any of the Sacred Sites (Dudek 2019b). Based on existing background noise level measurements for upslope locations (in SEIR Table 4.14-1 for LT-1 & LT-2), the noise levels at the Sacred Sites due to WTG operation would be less than the levels that occur in the ambient background conditions at the nearest nonparticipating residential property. Because Swordfish Cave is relatively sheltered, during conditions of low background noise levels, operation of the WTGs may occasionally be audible. This impact would be limited to periods that may have calm winds at the site but winds at high enough speeds to trigger WTG operation. Overall, no substantial change in noise levels would occur at the Sacred Sites due to WTG operation.

On October 2, 2019, Planning & Development staff and SEIR consultant representatives met with the Tribal Chairman Kenneth Kahn, SYBCI Elders, and Sam Cohen to discuss the data above on noise and visual impacts on tribal resources from the SWEP. The Applicant and the Tribe have worked together to balance the potential impacts of the Project with its economic and clean energy benefits and have agreed on culturally appropriate voluntary protective measures which will ensure, to the Tribe's satisfaction, that the Project will not result in significant impacts to archeological or Tribal resources. These measures are subject to a separate enforceable agreement and do not conflict with Mitigation Measures MM CULT-6 through MM CULT-10 required here.

Although implementation of the proposed Project would change visual and noise 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 and operation 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.

4.6.8 References

Applegate, Richard. 1975. An Index of Chumash Placenames. San Luis Obispo County Archaeological Society Occasional Papers. No. 9. Paso Robles.

Aspen Environmental Group. 2008. Final Environmental Impact Report Lompoc Wind Energy Project. On file, County of Santa Barbara Planning and Development Department Energy Division. County EIR No. 06EIR-00000-00004. State Clearinghouse No. 2006071008.

Bolton, H.E. 1930. Diary of Sebastian Viscaino, 1602-1603. Spanish Explorations in the Southwest, 1542-1706. New York: Scribner's Sons. H.E. Bolton translation. (1967 reprint, New York: Barnes and Noble.)

Blackburn, Thomas C. 1986. The Material Culture of the Chumash Interaction Sphere: Ceremonial Paraphernalia, Games, and Amusements: Ballena Press Anthropological Papers.

CH2MHill. 2007. Supplemental Cultural Resources Inventory Report, Lompoc Wind Energy Report, Santa Barbara County, California. CH2MHill, Santa Ana. Report on file with the Central Coast Information Center, University of California, Santa Barbara.

County of Santa Barbara. 1993. Archaeological Element of the Santa Barbara County Heritage Management Plan Cultural Resource Guidelines.

County of Santa Barbara. 2018. Santa Barbara County Environmental Thresholds and Guidelines Manual. Section 8.0: Guidelines for Determining the Significance of and Impacts to Cultural Resources- Archaeological, Historic, and Tribal Cultural Resources.

Dudek. 2018. Strauss Wind Energy Project: Cultural Resources Technical Report Addendum. Prepared for County of Santa Barbara Planning and Development Department. Santa Barbara, California.

Dudek. 2019a. Archaeological Significance Evaluations for the Strauss Wind Energy Project – CONFIDENTIAL. September.

Dudek. 2019b. Technical Memorandum – Chumash Sacred Site Modeled Noise Levels. September 3.

Erlandson, J. 1994. Early Hunter Gathers of the California Coast. New York: Plenum Press.

Erlandson, Jon, and Kevin Bartoy. 1996. Protohistoric California: Paradise or Pandemic? Proceedings of the Society for California Archaeology, Vol. 9, pp. 304-309.

Gibson, Robert O. 1991. The Chumash. New York and Philadelphia: Chelsea House Publishers.

Glassow, M., L. Wilcoxon, and J. Erlandson. 1988. Cultural and Environmental Change During the Early Period of Santa Barbara Channel Prehistory. The Archaeology of Prehistoric Coastlines. G. Bailey and J. Parkington, eds. Cambridge University Press. pp. 64-77.

Grant, Campbell. 1965. Rock Paintings of the Chumash. Berkeley and Los Angeles: University of California Press.

Grant, Campbell. 1978. Chumash: Introduction. Handbook of North American Indians. Volume 8, California. R.F. Heizer, ed. Washington, D.C.: Smithsonian Institute Press. pp. 505-508.

Hodges, Charles M. 2014. A Geoarchaeological Landscape Perspective on Early Holocene Rapid and Deep Site Burial on the California Coastal Plain. SCA Proceedings, Volume 28.

Hudson, Travis and Thomas C. Blackburn. 1979. The Material Culture of the Chumash Interaction Sphere. Santa Barbara: Ballena Press.

Hudson, Travis and Ernest Underhay. 1978. Crystals in the Sky: An Intellectual Odyssey Involving Chumash Astronomy, Cosmology, and Rock Art. Socorro, New Mexico: Ballena Press Anthropological Papers No. 10.

King, Chester. 1971. Chumash Inter-Village Economic Exchange. Indian Historian. Vo. 4. pp. 31-43. San Francisco, California.

Kroeber, A.L. 1925. Handbook of California Indians. Washington D.C.: Smithsonian Institution.

Landberg, L.C. 1965. The Chumash Indians of Southern California. Southwest Museum Papers. Vol. 19. Highland Park, California.

Lebow, Clayton G., Rebecca L. McKim, Douglas R. Harro, Ann M. Munns, and Carole Denardo. 2007. Littoral Adaptations throughout the Holocene: Archaeological Investigations at the Honda Beach Site (CA-SBA-530), Vandenberg Air Force Base, Santa Barbara County, California. Applied EarthWorks, Inc., Lompoc, California. Submitted to 30th Civil Engineer Squadron, Environmental Flight, Cultural Resources Section (30 CES/CEVNC), Vandenberg Air Force Base, California.

Lebow, Clayton G, Leeann G. Haslouer, Erin A. Enright. Rebecca L. McKim, Douglas R. Harro and Ann M. Munns. 2011. Evaluations of Archaeological Site Significance Lompoc Wind Energy Project Pacific Renewable Energy Generation LLC Santa Barbara County, California.

National Park Service. 2016. Santa Barbara Mission, Santa Barbara, California. Available at: https:// www.nps.gov/nr/travel/american_latino_heritage/Santa_ Barbara_Mission.html.

Palmer, Kevin. 1999. Central Coast Continuum—From Ranchos to Rockets: A Contextual Historic Overview of Vandenberg Air Force Base, Santa Barbara County, California. Prepared by Palmer Archaeology and Architecture Associates, Santa Barbara, California. Draft submitted to 30 CES/CEVPC, Vandenberg Air Force Base, California.

Preston, William. 1996. Serpent in Eden: Dispersal of Foreign Diseases into Pre-Mission California. Journal of California and Great Basin Anthropology 18:2â€37.

Rogers, D.B. 1929. Prehistoric Man of the Santa Barbara Coast. Santa Barbara Museum of Natural History.

Sapphos Environmental, Inc. 2018. Strauss Wind Energy Project Cultural Resources Technical Report. Prepared for Strauss Wind, LLC. Pasadena, California.

Spanne, L.W. 2005. Phase I Archaeological Survey Report for Lompoc Wind Farms Project, Scolari and Signorelli Ranches, Upper Miguelito and Honda Canyons, Lompoc Vicinity, County of Santa Barbara California. Archaeological Assessment and Management, Kanab, Utah. On file with the Central Coast Information Center, University of California, Santa Barbara, Santa Barbara, California. (Supplement).

Spanne, L.W. 2008. Supplemental Phase I Archaeological Survey on Power Line and Access Roads for the Lompoc Wind Energy Project, Miguelito and Honda Canyons, County of Santa Barbara, California. Archaeological Assessment and Management, Kanab, Utah. On file with the Central Coast Information Center, University of California, Santa Barbara, Santa Barbara, California.

Wagner, H.R. 1929. Spanish Voyages to the Northwest Coast of America in the Sixteenth Century. California Historical Society Special Publications. Vol. 4. San Francisco: California Historical Society.

This page intentionally left blank.



This image presents the **Existing View** to the southeast from **KOP 15** at the roof of Window Cave, where people sometimes sit. When group visitation to the site occurs, visitors gather around the cave and experience greater or lesser Project visibility. Views of the proposed Project from near the mouth of the cave would be more obstructed, while proposed Project views from the roof of the cave (shown in this figure) would be less obstructed, as would the views from the access trail when approaching and departing the cave site.	**KOP15** **Window Cave** **Existing View**	**Strauss Wind Energy Project SEIR** **Figure 4.6-1A**



This image presents a **Visual Simulation** of the proposed Project as viewed from **KOP 15** at Window Cave. As shown in the simulation, portions of 13 WTGs of the proposed northern and eastern strings north of Sudden Peak would be visible in this frame of view. The viewing distances from KOP 15 to the visible WTGs illustrated would range from approximately 0.5 mile to approximately 2.9 miles and would appear as visually prominent, built structures that partially obscure the existing landscape.	**KOP15** **Window Cave** **Visual Simulation**	**Strauss Wind Energy Project SEIR** **Figure 4.6-1B**



This image presents the **Existing View** to the east from **KOP 16** at Swordfish Cave. This view captures a portion of the open, undeveloped, rolling ridges north of Sudden Peak. This viewpoint is located at the entrance to the cave.	**KOP16** **Swordfish Cave** **Existing View**	**Strauss Wind Energy Project SEIR** **Figure 4.6-2A**



This image presents a **Visual Simulation** of the proposed Project as viewed from **KOP 16** at Swordfish Cave. As shown in the simulation, portions of five WTGs of the proposed northern string (right to left: N-4 through N-8) would be prominently visible in this frame of view. The viewing distances from KOP 16 to the visible WTGs illustrated would range from approximately 0.9 mile to approximately 1.4 miles and would appear as visually prominent, built structures that partially obscure the existing landscape.	**KOP16** **Swordfish Cave** **Visual Simulation**	**Strauss Wind Energy Project SEIR** **Figure 4.6-2B**



This image presents the **Existing View** to the west from **KOP 17** on Tranquillon Peak. This view captures all but three (N-8 through N-1 O) of the proposed Project WTGs east of Tranquillon Peak and north of Sudden Peak. As shown in the image, the proposed Project area appears largely undeveloped.	**KOP17** **Tranquillon Peak** **Existing View**	**Strauss Wind Energy Project SEIR** **Figure 4.6-3A**



This image presents a **Visual Simulation** of the proposed Project as viewed from **KOP 17** on Tranquillon Peak. As shown in the simulation above, all but three (N-8 through N-1 0) of the 29 WTGs would be visible in this specific frame of view, and all of the WTGs would be visible from Tranquillon Peak. The viewing distances would range from approximately 0.75 mile to approximately 3.7 miles. As shown in the image, the WTGs would, collectively, appear as visually dominant built features.	**KOP17** **Tranquillon Peak** **Visual Simulation**	**Strauss Wind Energy Project SEIR** **Figure 4.6-3B**