

3.15 Water Resources

This section addresses surface and groundwater resources in the Project area.

3.15.1 Existing Conditions

3.15.1.1 Surface Water

The Project would be located on primarily rural land on the coastal ridges of the Santa Ynez Mountains. The proposed Lompoc Wind Energy Facility (LWEF) site is located approximately 3 miles east of the Pacific Ocean in both the South Coast and the Santa Ynez River hydrologic units. The wind turbine generators (WTGs) would be situated on hills and ridges that drain into Honda, San Miguelito, and Espada creeks (Figure 3.15-1). Honda Creek is approximately 9.3 miles long and is within the South Coast Hydrologic Unit draining to the Pacific Ocean. Beneficial uses of Honda Creek identified in the 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 (Central Coast RWQCB, 1994).

San Miguelito Creek is located within the Santa Ynez Hydrologic Unit. The creek is approximately 9 miles long, and the watershed area is approximately 11.6 square miles. The stream gradient in the upper reaches of the creek is relatively high, but the lower reach of the creek is at a low gradient. The lower 2 miles of San Miguelito Creek include a concrete box culvert with several drop structures. The drop structures empty into the Santa Ynez River in the City of Lompoc. The creek runs through Miguelito County Park and enhances its natural setting. Beneficial uses of San Miguelito Creek identified in the 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, spawning habitat, and commercial and sport fishing (Central Coast RWQCB, 1994).

Espada Creek is approximately 5.24 miles long and is within the South Coast Hydrologic Unit draining directly to the Pacific Ocean. Espada Creek is intermittent in the Project area. Beneficial uses of Espada Creek identified in the Basin Plan include municipal and domestic supply, groundwater recharge, water contact recreation, non-water-contact recreation, wildlife habitat, warm freshwater habitat, and commercial and sport fishing (Central Coast RWQCB, 1994).

Several unnamed intermittent streams are present on the LWEF site and along the power line corridor (Figure 3.15-1). A number of seeps and springs also are scattered through the Project area, particularly at high elevations of the Middle and South corridors. 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 LWEF site on its eastern border.

Several small ponds are also present in the LWEF site. One is located on the western slope of the northern part of Middle Corridor, where an apparent landslide had created a small basin that collected rainwater runoff. The other ponds are located in the South Corridor and next to the agricultural field at the bottom of Honda Canyon.

Freshwater marsh develops only in very small areas in the rather steep terrain of the Project site. Landslides could impound runoff and slow drainage, creating marshy areas such as happened on northern Middle Corridor around the small pond. Freshwater marsh also surrounds the small bermed pond below South Corridor. Another small patch of freshwater marsh developed around a spring-fed cattle trough on the access route to North Corridor just beyond the staging area.

3.15.1.2 Groundwater

Groundwater is an important source of water in the general Project area, supplying the City of Lompoc, much of the surrounding unincorporated area, and Vandenberg Air Force Base (VAFB). Groundwater resources in the Project area are limited; the Project area is not located within any of the groundwater basins mapped and described in the 2005 Santa Barbara County Groundwater Report (Santa Barbara County, 2006). Low-producing wells in the Project area provide ranchers with a minimal amount of water supply for domestic use and cattle grazing operations. No irrigated agriculture occurs on the LWEF site.

3.15.1.3 Water Quality

The Project area contains no bodies of water listed as impaired by the State Water Resources Control Board or the RWQCB under Section 303(d) of the Federal Water Pollution Prevention and Control Act (that is, the Clean Water Act).

Groundwater from an unused well on the Signorelli Ranch was evaluated as a possible water source for the operations and maintenance (O&M) facility. Groundwater quality was tested at this well on January 26, 2006 (Clinical Laboratory of San Bernardino, Inc., 2006). The water sample had elevated salinity, at a level of approximately 25 percent of typical seawater. The overall total dissolved solids (TDS) concentration of the ranch well water (sample evaporated to dryness and then weighed) is 8,500 milligrams per liter (mg/L), while typical seawater is approximately 35,000 mg/L. The major ion chemistry of the ranch well water includes sodium (3,100 mg/L) and chloride (5,000 mg/L), which is similar to seawater. The ranch well water also has elevated iron (7.2 mg/L) and manganese (0.1 mg/L). The color of the water is also elevated, which might be a result of the elevated iron and manganese.

The elevated salts (TDS consisting of sodium + chloride) and metals (iron + manganese) exceed the federal and state secondary drinking water regulations, as summarized in Table 3.15-1. These secondary standards are nonenforceable guidelines regulating constituents that might cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. The United States Environmental Protection Agency (EPA) recommends secondary standards to water systems but does not require systems to comply. A comprehensive laboratory analysis of ranch well water relative to primary drinking water standards has not been performed. Primary standards are legally enforceable standards that apply to public water systems. Primary standards protect public health by limiting the levels of contaminants in drinking water.

TABLE 3.15-1
Constituents Exceeding Secondary Drinking Water Regulations

Constituent	Units	Ranch Well	Secondary Standard
Total Dissolved Solids	mg/L	8,500	500
Chloride	mg/L	5,000	250
Color	color units	50	15
Iron	mg/L	7.2	0.3
Manganese	mg/L	0.1	0.05

3.15.1.4 Precipitation

The Project area is semi-arid. Most of the precipitation falls from November through March. Monthly average rainfall at the Lompoc Flood Control Station in the City of Lompoc is presented in Table 3.15-2. Total annual average rainfall at the Lompoc Flood Control Station is approximately 15.36 inches. Annual rainfall at higher elevations is approximately 20 inches.

TABLE 3.15-2
Average Monthly Rainfall Near the Proposed Project Site in the City of Lompoc (1970 to 2005)

Precipitation	Sum	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average	15.36	3.05	3.46	3.05	0.91	0.26	0.03	0.01	0.03	0.22	0.50	1.42	2.42
Maximum		16.76	11.15	10.72	3.80	1.95	0.73	0.12	0.71	2.93	3.74	4.70	6.55
Minimum		0.13	0.07	0.20	0.05	0.03	0.00	0.00	0.32	0.00	0.14	0.12	0.19

Average monthly rainfall at the Lompoc Flood Control Station in the City of Lompoc.

3.15.1.5 Flood Hazards

The Project area is not located in a special flood hazard area as designated by the Federal Emergency Management Agency (FEMA) (FEMA, 2005).

3.15.2 Regulatory Framework

3.15.2.1 Federal

Clean Water Act

The Clean Water Act (CWA) authorizes EPA to regulate discharges of wastewater and stormwater into surface waters by issuing National Pollutant Discharge Elimination System (NPDES) permits and setting pretreatment standards. In California, the Regional Water Quality Control Boards (RWQCB) implement these permits at the state level, but EPA may retain jurisdiction at its discretion. Relevant NPDES permits for the Project include the General Construction Permit, as described.

The State Water Resources Control Board (SWRCB) is the permitting authority in California, and it has adopted a statewide General Permit for Stormwater Discharges Associated with Construction Activity (General Permit) that applies to projects resulting in 1 or more acres of soil disturbance (SWRCB Order 99-08-DWQ). The Project would result in disturbance of

more than 1 acre of soil; therefore, the Project would require coverage under the statewide General Permit. This includes the preparation of a Stormwater Pollution Prevention Plan (SWPPP) that would specify site management activities to be implemented during site development. These management activities would include construction stormwater best management practices (BMPs), dewatering runoff controls, and construction equipment decontamination. The Central Coast RWQCB requires that a Notice of Intent be filed prior to construction activities and that the SWPPP be maintained onsite during construction.

Under Section 303(d) of the CWA, states, territories, and authorized Indian tribes are to submit lists to EPA detailing water bodies for which existing pollution controls are insufficient to attain or maintain water quality standards. Impaired water bodies must be ranked, taking into account the severity of the pollution and the beneficial uses of such waters.

3.15.2.2 State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act established the SWRCB and divided the state into nine regional basins, each with its RWQCB. The SWRCB is the primary state agency responsible for protecting the quality of the surface and groundwater supplies of the state, and for enforcing the CWA and state water quality laws and regulations.

Administration is delegated to the nine RWQCBs; the Central Coast RWQCB regulates water quality in Santa Barbara County.

The Porter-Cologne Water Quality Control Act 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. A Basin Plan contains the following:

- Beneficial uses of water to be protected
- Water quality objectives for the reasonable protection of the beneficial uses
- Program of implementation for achieving the water quality objectives

California Department of Fish and Game

The California Department of Fish and Game (CDFG), Streambed Alteration Program 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 from the CDFG. Refer to Section 3.5, Biological Resources, for more information pertaining to wildlife resources.

3.15.2.3 Local

Santa Barbara County Comprehensive Plan

The Santa Barbara County Comprehensive Plan contains a number of policies applicable to water resources. The consistency of the Project with those policies is addressed in detail in Section 3.10, Land Use.

Santa Barbara County Code

Chapter 14 of Santa Barbara County Code (Ordinance No. 4477) requires that a nondiscretionary permit be obtained for projects that disturb 50 cubic yards or more of material. An Erosion and Sediment Control Plan (ESCP) must be submitted and approved as part of the permit conditions. The required contents of an ESCP are contained in Section 14-29. A SWPPP can be submitted to the County in lieu of an ESCP for purposes of complying with Chapter 14. The ESCP must specify which erosion control measures will be in place during the rainy season (November 1 through April 15) and which measures shall be in place year round. At a minimum, during the rainy season no grading shall occur unless approved erosion and sediment control measures are implemented. Erosion and sediment control measures shall be in place prior to any grading on hillsides, sloping, or mountainous terrain. Measure for nonstormwater construction site discharge shall be implemented year round.

Ordinance No. 3458 regulates the construction, modification, destruction, or inactivation of wells so that groundwater in the County is not contaminated or polluted, and that water obtained from wells will be suitable for beneficial use. All wells in the County must be constructed, modified, or inactivated in accordance with the standards set forth in the California Department of Water Resources Bulletin No. 74-90, California Well Standards.

Ordinance No. 4356 regulates onsite sewage disposal systems to ensure that they are constructed, modified, and abandoned in a manner which protects the resources of Santa Barbara County. All new septic systems require the issuance of a permit from the County and they must be in compliance with the construction, integrity, installation, and access requirements as outlined in Chapter 29 of the Santa Barbara County Code.

A new County ordinance regulating discharge of pollutants from private property is currently in preparation. It may be adopted and take effect prior to the discretionary hearing on this Project. If so, the County may determine that its provisions are applicable to this Project.

3.15.3 Project Impacts, Mitigation, and Residual Impacts

3.15.3.1 Impact Assessment Methodology

The methods for assessing impacts vary by impact category. For water quality impacts such as soil erosion and water pollution, the Project was compared to the applicable requirements of the Basin Plan and local standards to ensure compliance with regional water quality objectives. Hydrologic impacts were evaluated using the database of a geographic information system (GIS) to determine the percentage of the land surface in the Project area to be covered by impervious materials, and by reviewing all available FEMA information for the Project area. These methods provided the information necessary to evaluate the Project in comparison to various water resources significance thresholds, described below.

3.15.3.2 Thresholds of Significance

The County of Santa Barbara Environmental Thresholds and Guidelines Manual provides significance criteria used to determine whether projects in the County would have a significant impact on the environment (County, 2003). Based on this manual, impacts to water resource would be considered significant if the Project would:

- Violate any water quality objectives or regulations of the Central Coast RWQCB Basin Plan
- Substantially deplete groundwater supplies or interfere with groundwater recharge
- Increase the amount of impervious surfaces on a site by 25 percent or more
- Place permanent structures within a 100-year floodplain that would impede or redirect flows
- Result in the channelization or relocation of a natural drainage channel
- 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
- 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
- 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) (No such bodies of water are present in the Project area; thus, this criterion is not considered further.)
- Result in a discharge of pollutants of concern to a receiving body of water, as identified in by the RWQCB

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 offsite
- Type of stormwater pollutants expected
- Extent to which water quality BMPs are included in the Project design

All projects determined to have a potentially significant stormwater 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 could affect the quality of the discharges to stormwater

- The proposed design and placement of structural and nonstructural BMPs to address identified pollutants
- A proposed inspection and maintenance program
- A method of ensuring maintenance of all BMPs over the life of the Project

Implementation of BMPs identified in the SWQMP generally will be considered to reduce impacts to the stormwater quality to a less than significant level.

Land uses and projects that are generally presumed to have a less than significant project-specific water quality impact include new development and redevelopment projects that incorporate into the project design construction BMPs for erosion, sediment and construction waste control and incorporate post-construction BMPs to protect sensitive riparian or wetland resources, reduce the quantity of runoff, and treat runoff generated by the project to preprocess levels.

3.15.3.3 Project Impacts

Impact No.	Impact Description	Phase	Impact Classification
WAT-1	The proper implementation of erosion and sedimentation control would reduce erosion rates during and after construction to essentially natural rates.	Construction	Class III

Impact WAT-1: Erosion and Sedimentation. Impacts from erosion are discussed in Impact GEO-4. As noted, a SWPPP would be developed in compliance with the State Water Resources Control Board Construction Storm Water Permit and would include BMPs. The proper implementation of erosion and sedimentation control procedures included in the Project SWPPP would reduce erosion rates during and after construction to essentially natural rates. Additionally, a Grading and Drainage Plan would be required, which also would minimize the potential for erosion through the implementation of BMPs. Impacts to water quality from erosion and sedimentation would be adverse, but less than significant (*Class III*).

Impact No.	Impact Description	Phase	Impact Classification
WAT-2	Water quality could be affected by small fuel or oil spills, concrete, and trash and litter during construction.	Construction	Class III

Impact WAT-2: Pollutant Discharge. The potential for accidental releases of hazardous materials is addressed in Impact RISK-5. The risk of small fuel or oil spills is considered possible, and such spills could affect water quality should pollutants enter bodies of water. Other potential sources of pollution include concrete used for the construction of WTG foundations and the O&M facility, and trash and litter generated during construction. Measures to prevent pollution or ensure that it is cleaned up promptly would be required as part of the SWPPP and Hazardous Materials Management Plan. Potential water quality impacts associated with the discharge of pollutants would be adverse, but less than significant (*Class III*).

Impact No.	Impact Description	Phase	Impact Classification
WAT-3	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.	Construction and Operations	Class III

Impact WAT-3: Stormwater Runoff/Flooding. Table 2-5 shows the estimated number of acres that would be temporarily and permanently disturbed as a result of the Project. The estimated permanent impervious area 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. This estimated impervious area would not impact flows in the 100-year floodplain because the Project area is not located in a 100-year floodplain.

The installation of the O&M facility and the Project Substation could result in potential stormwater quality impacts. Hazardous and potentially hazardous chemicals (such as oil, grease, and ethylene glycol) used to lubricate and cool the WTGs and ancillary facilities would be stored at the O&M facility. As discussed in Impact RISK-5, these chemicals would be stored in onsite tanks or drums equipped with secondary containment areas to prevent runoff. If cleaning chemicals or detergents were used, they would generally be biodegradable and would be stored in the O&M facility in sealed containers. Oils that may be needed for normal maintenance would be stored in drums or smaller sealed containers at the O&M facility and transported to the WTGs when needed. The facility would be graded to provide for containment in the event of equipment failure to ensure onsite containment and prevent runoff. The Project Substation step-up transformers also present a potential risk of spills of hazardous materials. However, the Project Substation area would also be graded to provide for containment in the event of equipment failure to ensure onsite containment and prevent runoff as well as to protect material storage areas from stormwater runoff.

Impact GEO-4 and Impact-WAT-1 describe potential impacts resulting from soil erosion caused by construction activities and discuss the implementation of a SWPPP, Grading and Drainage Plan, and BMPs. In addition, consistent with County requirements, a SWQMP would be required to handle post-construction water quality from those areas that would be graded for the installation of the O&M facility and the Project Substation. The plan would cover design and operational practices needed to assure that impacts from stormwater runoff from paved surfaces remains less than significant during operations. SWQMP requirements are covered in the County's Storm Water Management Program (County of Santa Barbara, Project Clean Water. 2006.)

With the implementation of the SWPPP, Grading and Drainage Plan, and BMPs, as noted in Impact-WAT-1 and Impact-GEO-4, the SWQMP as noted in this impact discussion, and the Hazardous Materials Business Plan as noted in Impact-RISK-5, impacts from stormwater runoff and flooding and to water quality would be adverse, but less than significant (*Class III*).

Impact No.	Impact Description	Phase	Impact Classification
WAT-4	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.	Construction and Operations	Class III

Impact WAT-4: Groundwater. The groundwater quality at the well on the Signorelli Ranch, which is proposed as one source of water for the O&M facility, is poor and likely not suitable for potable use without treatment. The pump test conducted at this well showed that the well might not be able to produce the requisite 500 gallons per day. In the event that the well is used to supply the O&M facility, groundwater supplies would not be depleted because the well is not located within a groundwater basin; and only a small amount would be needed. Additionally, withdrawing this small amount would not affect the groundwater levels in another groundwater basin; nor would the withdrawal noticeably affect Frick Springs, which is over 1 mile away and which supplies water to several residences along San Miguelito Road and Miguelito County Park. 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, the Project would not substantially deplete groundwater supplies or interfere with groundwater recharge, and impacts would be adverse but less than significant and mitigable (*Class III*).

During the operational phase of the Project, a normal staff of 10 full-time workers would be employed at the O&M facility. Effluent from the facility drains would be disposed of through a proposed leach line system to be installed on the west side of the O&M facility. The septic system would be designed and installed consistent with the requirements of Chapter 29 of the Santa Barbara County Code. Impacts to groundwater quality would be adverse but less than significant (*Class III*).

Impact No.	Impact Description	Phase	Impact Classification
WAT-5	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.	Construction and Operations	Class II

Impact WAT-5: Vegetation Removal. The Project 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; additionally, riparian vegetation could serve as a filter for pollutants. The impacts from vegetation removal would be significant but mitigable (*Class II*).

3.15.3.4 Applicant-proposed Mitigation Measures

The following Applicant-proposed mitigation measure is considered part of the Project description. Individual measures identified in Chapter 2 have been grouped by topic and refined where appropriate to reflect the Standard Conditions of Approval and Mitigation Measures of the County, including plan requirements, timing, and monitoring actions that would be required (Santa Barbara County, 2002).

The following mitigation measures described in Sections 3.5, 3.9, and 3.13 of this EIR would also reduce impacts to water resources: A-BIO-16, -18, -19, -20; BIO-2; A-GEO-2; A-RISK-1 to -4.

Mitigation A-WAT-1: Erosion Control Plan. An Erosion Control Plan for Project construction (the County acknowledges that a SWPPP that incorporates all of the RWQCB requirements/BMPs and the measures listed below would be acceptable to comply with this requirement) shall be developed by a registered engineer to minimize potential impacts to surface water quality during construction activities. Best available erosion and sediment control measures shall be implemented during grading and construction, which could include but are not limited to:

- Use of sediment basins
- Gravel bags
- Silt fences
- Geo-bags or gravel and geotextile fabric berms
- Erosion control blankets
- Coir rolls
- Jute net
- Certified straw bales (to avoid the introduction of noxious or invasive weeds)

Additional measures could include:

- Minimizing the size of the disturbed area associated with grading/construction
- Stockpiling all excavated soils and protecting them from wind and water erosion
- Revegetating disturbed areas
- Limiting grading during construction to the dry season to the extent practicable

If grading needs to be done outside of the dry season, the Applicant shall coordinate grading work with the County and shall follow all applicable guidelines. Rainy season erosion control measures shall be utilized to control runoff and erosion in the event that revegetation is not completed prior to the rainy season.

Sediment control measures shall be maintained for the duration of the grading period and until graded areas have been stabilized by structures, long-term erosion control measures or landscaping.

Construction entrances and exits shall be stabilized using gravel beds, rumble plates, or other measures to prevent sediment from being tracked onto adjacent roadways. Any sediment or other materials tracked off site shall be removed the same day as they are tracked using dry cleaning methods.

Plan Requirements: The Erosion Control Plan (SWPPP) shall be submitted for review and approval by the County prior to zoning clearance for the first phase of construction and prior to the zoning clearance for subsequent Project phases. The plan shall be designed to address erosion and sediment control during all Project phases. Plan requirements shall be noted on all grading and building plans. The Applicant shall notify County Permit Compliance prior to commencement of grading.

Timing: Erosion and sediment control measures shall be in place throughout grading and development of the site until all disturbed areas are permanently stabilized.

MONITORING: County Permit Compliance will ensure compliance with the plan. Grading inspectors will monitor technical aspects of the construction activities (*Addresses Impact WAT-1; Mitigation A-GEO-2, Grading and Drainage Plan also addresses this impact*).

3.15.3.5 Residual Impacts

Impact WAT-1 would be mitigated by mitigation measure A-BIO-19 and A-GEO-2. In addition, mitigation measures: A-BIO-10, -18, -19, -20; BIO-2; A-GEO-2; and A-RISK-1 to -4 would further reduce impacts to water resources. Therefore, residual impacts would be less than significant given the implementation of these mitigation measures.

