



ENVIRONMENTAL ASSESSMENT
SANTA YNEZ BAND OF CHUMASH INDIANS
CAMP 4 FEE-TO-TRUST

AUGUST 2013

LEAD AGENCY:

U.S. Department of the Interior
Bureau of Indian Affairs
Pacific Region Office
2800 Cottage Way, Room W-2820
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SECTION 1.0

INTRODUCTION

1.1 INTRODUCTION

This Environmental Assessment (EA) has been prepared for the United States (U.S.) Bureau of Indian Affairs (BIA) to support an application from the Santa Ynez Band of Chumash Indians (hereafter, “Tribe”) for land to be placed into federal trust (Proposed Action). The BIA is the federal agency that is charged with reviewing and approving tribal applications to take land into federal trust status. The land proposed for trust acquisition, which is known as the Camp 4 site and is currently owned in fee by the Tribe, consists of approximately 1,411.1 acres plus rights of way in Santa Barbara County, California and is located within the Tribal Consolidation Area (project site). **Figure 1-1** shows the regional location of the project site, and **Figure 1-2** shows the project site in relation to the Tribe’s Reservation and the Tribal Consolidation Area. The Santa Barbara County assessor’s parcel numbers (APNs) for the project site are shown in **Table 1-1** and on **Figure 1-3**. For ease of reference, the parcels are referred to throughout this EA by the designated parcel numbers 1 through 5. As a result of the Proposed Action, the Tribe would be able to provide new tribal housing and supporting infrastructure (Project Alternatives) for tribal members.

TABLE 1-1
PROJECT SITE PARCELS

Parcel	APN(s)	Area (Acres)
1	141-121-051 141-140-010	194.9
2	141-140-010	683.3
3	141-230-023 141-140-010	257.7
4	141-240-002 141-140-010	260.5
5	141-230-023	14.7
Right of Ways	N/A	21.9
Total Area:		1433.0

SOURCE: Summit Project Management, 2011/AES

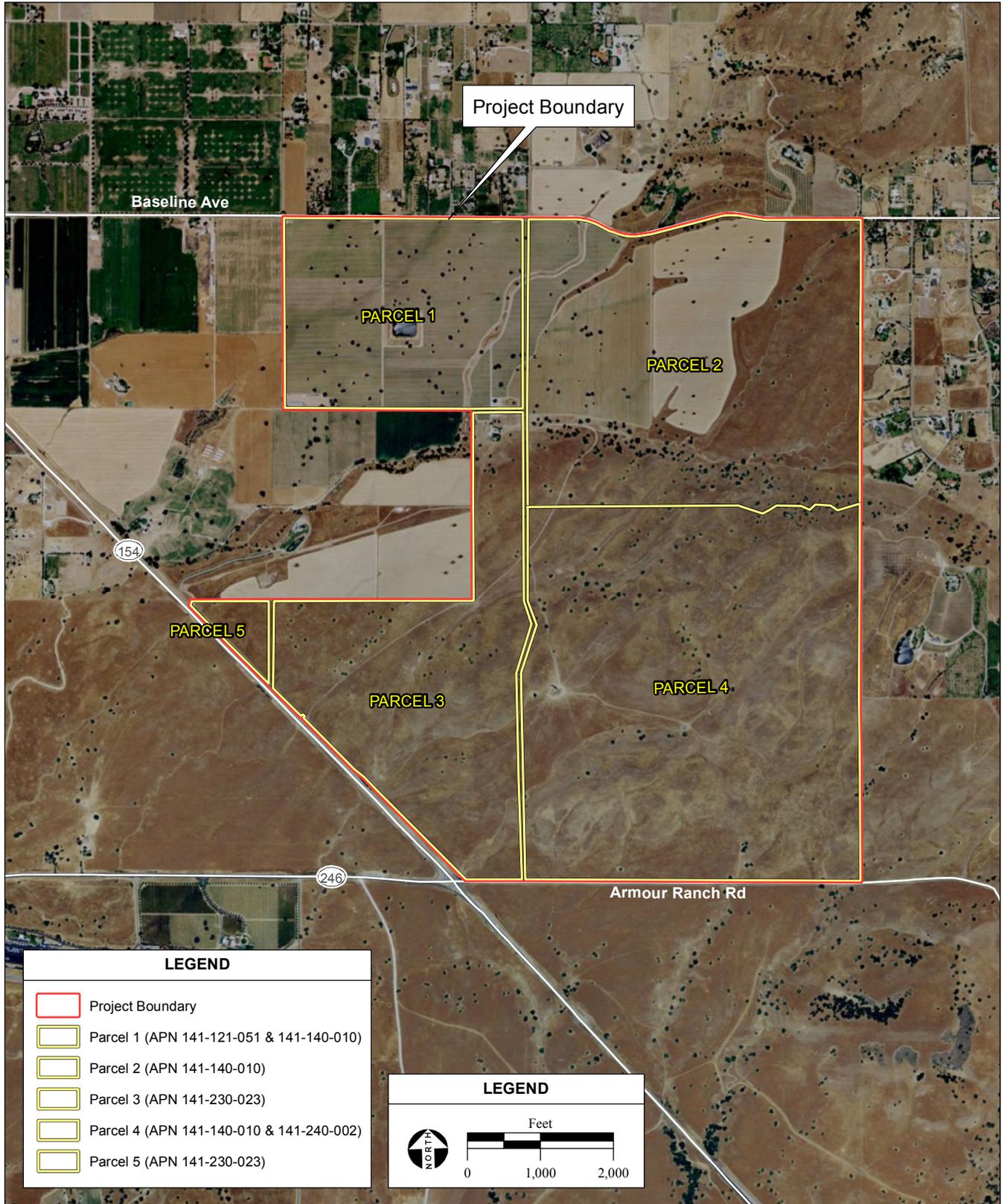
This document has been completed in accordance with the requirements set forth in the National Environmental Policy Act (NEPA) of 1969 [42 United States Code (USC) §4321 et seq.], the Council on Environmental Quality (CEQ) Guidelines for Implementing NEPA, and the BIA’s Indian Affairs NEPA Guidebook [59 Indian Affairs Manual (IAM) 3-H]. **Section 2.0** of this EA provides a detailed description of the Project Alternatives.



SOURCE: Streetmap World, 2011; AES, 2011

Santa Ynez Camp 4 EA / 201551 ■

Figure 1-1
Regional Location



SOURCE: Santa Barbara County GIS Data, 2012; Santa Ynez Band of Chumash Indians, 2011; NAIP Aerial Photograph, 6/17/2009; AES, 2012

Santa Ynez Camp 4 EA / 201551 ■

Figure 1-3
Aerial Parcel Map

Section 3.0 provides a description of the existing environmental conditions on and in the vicinity of the project site. **Section 4.0** provides an analysis of the potential environmental consequences associated with the Project Alternatives. This EA also includes a discussion of impact avoidance and mitigation measures for the Project Alternatives (**Section 5.0**). Consistent with the requirements of NEPA, the BIA will review and analyze the environmental consequences associated with the Proposed Action and Project Alternatives, and either determine that a Finding of No Significant Impact (FONSI) is appropriate, request additional analysis, or request that an Environmental Impact Statement (EIS) be prepared.

1.2 LOCATION AND SETTING

The proposed trust parcels addressed in this EA are located within an unincorporated area of Santa Barbara County, east of the Town of Santa Ynez, 3.95 miles east of the City of Solvang, and 22.2 miles northwest of the City of Santa Barbara, California. The project site is within the “Santa Ynez Valley Planning Area” of Santa Barbara County and occurs in Section 8, Township 6 North, Range 30 West on the “Santa Ynez,” California U.S. Geological Survey (USGS) 7.5-Minute Topographic Quadrangle. Pursuant to 25 CFR 151.2(h), the Tribe submitted a Proposed Tribal Consolidation and Acquisition Plan (Consolidation and Acquisition Plan) to the Secretary of the Interior in March 2013, identifying the lands shown in **Figure 1-2** as the Tribal Consolidation Area. According to the land acquisition policy defined in 25 CFR 151.3(a)(1), land may be acquired in trust status for a tribe when the property is located within a Tribal Consolidation Area and given the same level of scrutiny as land acquisition on or adjacent to a tribe's reservation. The Tribe's Consolidation and Acquisition Plan was approved on June 17, 2013 by the Regional Director of the Pacific Region of the BIA, pursuant to the authority delegated by part 209, Chapter 8, of the Department of the Interior's Departmental Manual (209 DM 8), 230 DM 1, and part 3, 3 IAM 4. Therefore, the trust application for the proposed trust parcels constitutes a request for land acquisition within an approved Tribal Consolidation Area under the authority granted to the federal government under 25 CFR 151.3(a)(1). The approved Consolidation and Acquisition Plan is included as **Appendix M**.

Regional access is provided by State Route 154 (SR-154) and State Route 246 (SR-246). SR-154 extends in a general northwest direction adjacent to the western boundaries of Parcels 3 and 5, providing access to the project area from Santa Barbara to the southeast and from Highway 101 approximately 5.7 miles northwest of the project site. SR-246 runs in a general west to east direction, originating in Lompoc approximately 26 miles east of the project site, terminating at the intersection with SR-154 at the southwest corner of the project site. SR-246 becomes Armour Ranch Road east of the intersection along the southern boundary of the project site. Site access is provided from the west via a gated unimproved roadway from SR-154, from the north via two main gated unimproved roadways from Baseline Avenue, and from the south via a gated entrance from Armour Ranch Road. No site access is provided from the eastern boundary of the project site.

The project site contains a vineyard operation covering approximately 240 acres (Parcel 1 and a portion of Parcel 2), an operating horse stable (Parcel 1), and a ranch house with a barn (northeast corner of Parcel 3).

The remainder of the project site is undeveloped pastureland consisting of rolling hills and elevated stream terraces used for cattle grazing.

The project site is bordered on the north and east by agricultural land and rural residences, on the west by agricultural land and oak savannah, and on the south by oak savannah. Surrounding land uses consist of agricultural fields, low-density rural residences, and undeveloped pasture lands.

1.3 PURPOSE AND NEED

The Tribe's purpose for taking the 1,411.1 acres plus rights of way of land into trust is to fulfill the purpose of the Consolidation and Acquisition Plan by providing housing within the Tribal Consolidation Area to accommodate the Tribe's current members and anticipated growth. The Tribal Consolidation Area constitutes the area historically held for the Tribe by the Roman Catholic Church. This geographical area was subject of the 1897 Quiet Title Action brought by the Roman Catholic Church (Bishop of Monterey) and encompasses approximately 11,500 acres of the College Rancho. These lands are part of the Tribe's ancestral territory and comprise most of its historic territory. These lands were once part of the lands of Mission Santa Ines and part of the subsequent Rancho Canada de los Pinos recognized by the U.S. government as well as being near an individual land grant made to a Santa Ynez Chumash Indian by Mexican Governor Micheltoarena. All these lands within the approved Tribal Consolidation Area were considered to have been the property of the Santa Ynez Mission Indians by the Spanish and Mexican governments and the Catholic Church. After California statehood, the Catholic Church carried forward this theory of land tenure by the Santa Ynez Chumash.

The proposed trust land would enable the Tribe to provide housing for its existing tribal members and continue to provide housing for descendants as they come of age. The current Reservation lands are highly constrained due to a variety of physical, social, and economic factors. A majority of the lands held in Trust for Santa Ynez are located in a flood plain. This land is not suitable for much, if any, development because of flooding and drainage problems. The irregular topography and flood hazards are associated with the multiple creek corridors which run throughout the property resulting in severe limitations of efficient land utilization. The current reservation has a residential capability of approximately 26 acres or 18% of the Reservation and an economic development capability of approximately 16 acres or 11% of the Reservation. The remaining 99 acres or 71% of the Reservation is creek corridor and sloped areas which are difficult to impossible to develop. Therefore, the size of the usable portion of the Santa Ynez Reservation amounts to approximately 50 acres, much of which has already been developed.

The Tribe has a population of 136 tribal members and approximately 1300 lineal descendants which it must provide for. Currently, only about 17% of the tribal members and lineal descendants have housing on tribal lands. All current land assignments on the existing Reservation shall continue to be maintained unchanged as it is difficult to cancel any existing land assignment on the Reservation. Article VIII of the Articles of Organization of the Tribe expressly states that only the General Council composed of all adults members of

the Tribe over the age of 18 can veto or cancel an existing land assignment on the Reservation. This trust land acquisition is an integral part of the Tribe's efforts to bring tribal members and lineal descendants back to the Tribe, accommodate future generations, and create a meaningful opportunity for those tribal members and lineal descendants to be a part of a tribal community revitalization effort that rebuilds tribal culture, customs and traditions. In order to meet these goals, the Tribe needs additional trust land to provide housing for tribal members and lineal descendants who currently are not accommodated with tribal housing.

Based on these constraints, the Tribe is unable to provide adequate housing for its current members, and will be unable to provide housing for future tribal members on the existing Reservation, risking the Tribe's ability to provide for future generations and maintain its cultural foundations within its ancestral lands.

The trust transfer of the Camp 4 lands would further the purpose and goals of the Consolidation and Acquisition Plan by providing necessary housing within the Tribal Consolidation Area for its current members and future generations and thereby would protect the Tribe's heritage and culture by ensuring existing and future generations are afforded the ability to live under tribal governance as a community within the Tribe's ancestral and historic land holdings. Secondly, the trust acquisition of the proposed trust land would also allow full tribal governance over its existing agricultural operations on the property; thereby allowing the Tribe to continue to build economic self sufficiency through diversified tribally-governed commercial enterprises. Under the Proposed Action, the tribal government would be able to fully exercise its sovereignty over its own future growth.

1.4 OVERVIEW OF THE ENVIRONMENTAL PROCESS

This EA is intended to satisfy the environmental review process of 59 IAM 3-H, 40 CFR § 1501.3, and 40 CFR § 1508.9. The EA has been released for a 30-day comment period. Comments will be considered by the BIA, and either a Finding of No Significant Impact (FONSI) will be prepared, or additional environmental analysis will be conducted. After the NEPA process is complete, the BIA may issue a determination on the Tribe's fee-to-trust application.

1.5 ENVIRONMENTAL ISSUES ADDRESSED

In accordance with NEPA, and based on a review of the approximately 1,433 acre project site, the following environmental issue areas are evaluated in this EA:

- Land Resources;
- Water Resources;
- Air Quality and Climate Change;
- Biological Resources;
- Cultural Resources;
- Socioeconomic Conditions / Environmental Justice;
- Transportation and Circulation;
- Land Use;
- Public Services;

- Noise;
- Hazardous Materials; and
- Visual Resources.

1.6 REGULATORY REQUIREMENTS AND APPROVALS

The following direct and indirect federal actions may occur as a result of the Proposed Action:

- Transfer of land into federal trust status for the Tribe by the Secretary of the Interior as lands within an approved Tribal Consolidation Area;
- Consultation with the U.S. Fish and Wildlife Service (USFWS) under Section 7 of the Federal Endangered Species Act (FESA), if endangered species may be impacted by the Proposed Action;
- Consultation with the State Historic Preservation Office (SHPO) under Section 106 of the National Historic Preservation Act (NHPA);
- Consultation with the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA), if any waters of the U.S. may be impacted by the project; and
- National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activity in compliance with the U.S. Environmental Protection Agency (EPA).

SECTION 2.0

PROJECT ALTERNATIVES

The Project Alternatives are described in this section. This section also summarizes the protective measures and Best Management Practices (BMPs) incorporated into each alternative to reduce potential adverse impacts to environmental resources.

2.1 SELECTION OF ALTERNATIVES FOR DETAILED EVALUATION

Section 1502.14 of the Council on Environmental Quality's (CEQ's) Regulations for Implementing NEPA states that lead agencies are required to evaluate all reasonable alternatives and discuss the reasoning as to why additional alternatives were eliminated from detailed study. For the Proposed Action (Alternative A), the only reasonable alternatives are to either take no action or take the requested parcels located within the Tribe's Tribal Consolidation Area into trust on behalf of the Tribe to alleviate the existing shortage of developable land and associated housing on the Tribe's Reservation. Other potential alternatives to the Proposed Action, such as a reduction in the number of parcels taken into trust or alternative locations do not meet the definition of "reasonable" under CEQ's Regulations for Implementing NEPA. As shown in the Tribe's various concept plans under consideration for development on the project site (**Appendix N**), all requested parcels are integral to meeting the purpose and need; as stated above in **Section 1.3**. To take fewer parcels into trust would not provide acreage for housing assignments; circulation; multiple access and egress points for residential safety; agriculture operations to diversify tribally-governed commercial enterprises; open space, recreation, and conservation in accordance with Tribal environmental ordinances; and associated utility infrastructure to support each of the designated land uses. Because the purpose and need would not be met, such an alternative is not considered reasonable and therefore is not evaluated within the Environmental Assessment (EA). There are no other available comparable lands that would provide a sufficient land base to support the proposed land uses to meet the purpose and need of the Proposed Action that are within the Tribe's Tribal Consolidation Area. In addition, lands outside the Tribe's Tribal Consolidation Area would not meet the purpose and need and would constitute an Off-Reservation trust acquisition request. Therefore, alternative locations for the trust acquisition are not evaluated within the EA.

To meet the purpose and need for the trust acquisition, the Tribe is considering nine concept plans for development on the project site (**Appendix N**):

- Five acre assignments;
- One acre assignments in the northeastern corner of project site;
- One acre assignments in the northeastern corner of project site with an expanded vineyard;
- One acre assignments in three clusters in the northeastern, central, and south-central portions of the project site;

- One acre assignments in three clusters in the northeastern, central, and south-central portions of the project site with a setback off Armour Ranch Road;
- One acre assignments in the southeastern corner of the project site;
- One acre assignments in the northwestern corner of the project site with the vineyard moved to the east of the existing vineyard;
- One acre assignments in the northwestern corner of the project site with the vineyard moved to the southwestern portion of the project site; and
- One acre assignments clustered in the central portion of the project site.

These concept plans were presented to Tribal members at a meeting held on October 30, 2012 and presented to the community during a town hall meeting on January 21, 2013. The public meeting presentation is included as **Appendix N**. The five-acre concept plan was selected to be evaluated in detail within the EA as Alternative B; being the only concept plan identifying five-acre assignments and comparatively different from the remaining eight concept plans. Although eight one-acre concept plans are being assessed by the Tribe, based on the similarities in the developments, one layout (Concept Plan Option M.0.1) was selected as the representative layout to be evaluated in detail within the EA as Alternative B. This layout includes the largest distance between assignment clusters and therefore covers a majority of the area that could be developed once a concept plan is approved by the Tribe for development. Section 1502.14 of the CEQ's Regulations for Implementing NEPA states that a lead agency should present environmental impacts of proposed alternatives in a comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision maker. Alternatives considered must include those that offer substantial environmental advantages over Alternative A and which may be feasibly accomplished in a successful manner considering economic, environmental, social, technological, and legal factors. The various one-acre assignment concept plans included in **Appendix N** all provide similar environmental advantages over Alternative A. Inclusion of all eight one-acre concept plans as fully-evaluated alternatives within the EA would result in a high level of redundancy, would not provide the contrast in alternatives as required by CEQ, and would not further educate the decision makers as to the environmental impacts of the Proposed Action. Therefore, each variation of the one-acre concept plan has not been individually subject to detailed analysis in the EA. In addition, the potential that implementation of the other one-acre concept plans would result in significant environmental impacts not identified under Alternative B is minimal; and therefore each one-acre concept plan does not warrant individual assessments within the EA. All regulatory and permitting requirements and mitigation identified under Alternative B would be implemented if a one-acre residential assignment concept plan were selected by the Tribe for development.

2.1.1 ALTERNATIVES EVALUATED IN DETAIL

The alternatives to be evaluated in detail in this EA consist of:

Alternative A – 1,433± acre (1,411.1 acres plus rights of way) trust land acquisition within a Tribal Consolidation Area and assignment of 143 five-acre residential lots for tribal members. The residential lot assignments and access roadways would cover approximately 793 acres of the project

site. The project site would include 300 acres of vineyards (256 existing acres with 44 acres dedicated for expansion), 206 acres of open space/recreational, 98 acres of riparian corridor and 33 acres of oak woodland conservation, and 3 acres of Special Purpose Zone- Utilities;

Alternative B – Identical trust land acquisition and development of 143 one-acre residential lots for tribal members. The residential lot assignments and access roadways would cover approximately 194 acres of the project site. The project site would include 775 acres of open space/recreational, 30 acres of tribal community facilities (including 80,000 square feet of tribal facilities), and the same acreages of vineyard, riparian corridor and oak woodland conservation, and utilities land uses as proposed under Alternative A; and

Alternative C (No Action Alternative) – No federal action or proposed development.

A summary of project components under the two development alternatives (A and B) is provided in **Table 2-1** and detailed descriptions of the project components are provided in **Sections 2.2** and **2.3**. The No Action Alternative is described in **Section 2.4** and a comparison of the project alternatives evaluated in detail in the EA is presented in **Section 2.5**.

TABLE 2-1
SUMMARY OF PROJECT DEVELOPMENT ALTERNATIVES

Project Components	Alternative A	Alternative B
Land Taken into Trust	1,433± acres	1,433± acres
Residential Development	143 five-acre lots (793 acres)	143 one-acre lots (194 acres)
Designated Tribal Land Uses	300 acres of Agriculture (existing and future), 206 acres of Open Space/Recreational – General/Trails, 98 acres of Resource Management Zone – Riparian Corridors, 33 acres of Resource Management Zone – Oak Woodland, and 3 acres of Special Purpose Zone- Utilities	300 acres of Agriculture (existing and future), 775 acres of Open Space/Recreational – General/Trails, and 30 acres of Special Purpose Zone -Tribal Community Facilities 98 acres of Resource Management Zone – Riparian Corridors, 33 acres of Resource Management Zone – Oak Woodland, and 3 acres of Special Purpose Zone- Utilities
Water Source	Groundwater	Groundwater
Wastewater Treatment	Onsite WWTP	Onsite WWTP

Source: AES, 2012

2.2 ALTERNATIVE A – FIVE-ACRE ALLOTMENTS

Alternative A consists of two main components: (1) the placement of 5 parcels totaling approximately 1,433 acres (the five parcels encompass a total of four assessors parcel numbers: APN 141-121-051, APN 141-140-10, APN 141-230-023 and APN 141-240-002) into federal trust status for the Tribe; and (2) the development of 143 five-acre residential plots with the remaining acreage dedicated to agriculture, open space/recreational, conservation of riparian corridors and oak woodland, and development of utilities. Development of the site

would include domestic water connections, a wastewater treatment plant (WWTP), and supporting roads and infrastructure. Alternative A is described in more detail below.

2.2.1 LAND TRUST ACTION

Alternative A consists of the fee simple conveyance of five parcels totaling 1,433± acres (referred to as the Camp 4 site) into federal trust status for the benefit of the Tribe. This trust action would shift civil regulatory jurisdiction over the 1,433± acres from the State of California (State) and Santa Barbara County (County) to the Tribe and the Bureau of Indian Affairs (BIA). The State and County would continue to exercise criminal jurisdiction under Public Law 280 and the Tribe would assert jurisdiction for the law enforcement activities identified under the Tribal Law Order Act of 2010. Federal laws, such as the Clean Water Act (CWA) and the Endangered Species Act (ESA), would continue to apply to tribal trust lands.

2.2.2 RESIDENTIAL DEVELOPMENT

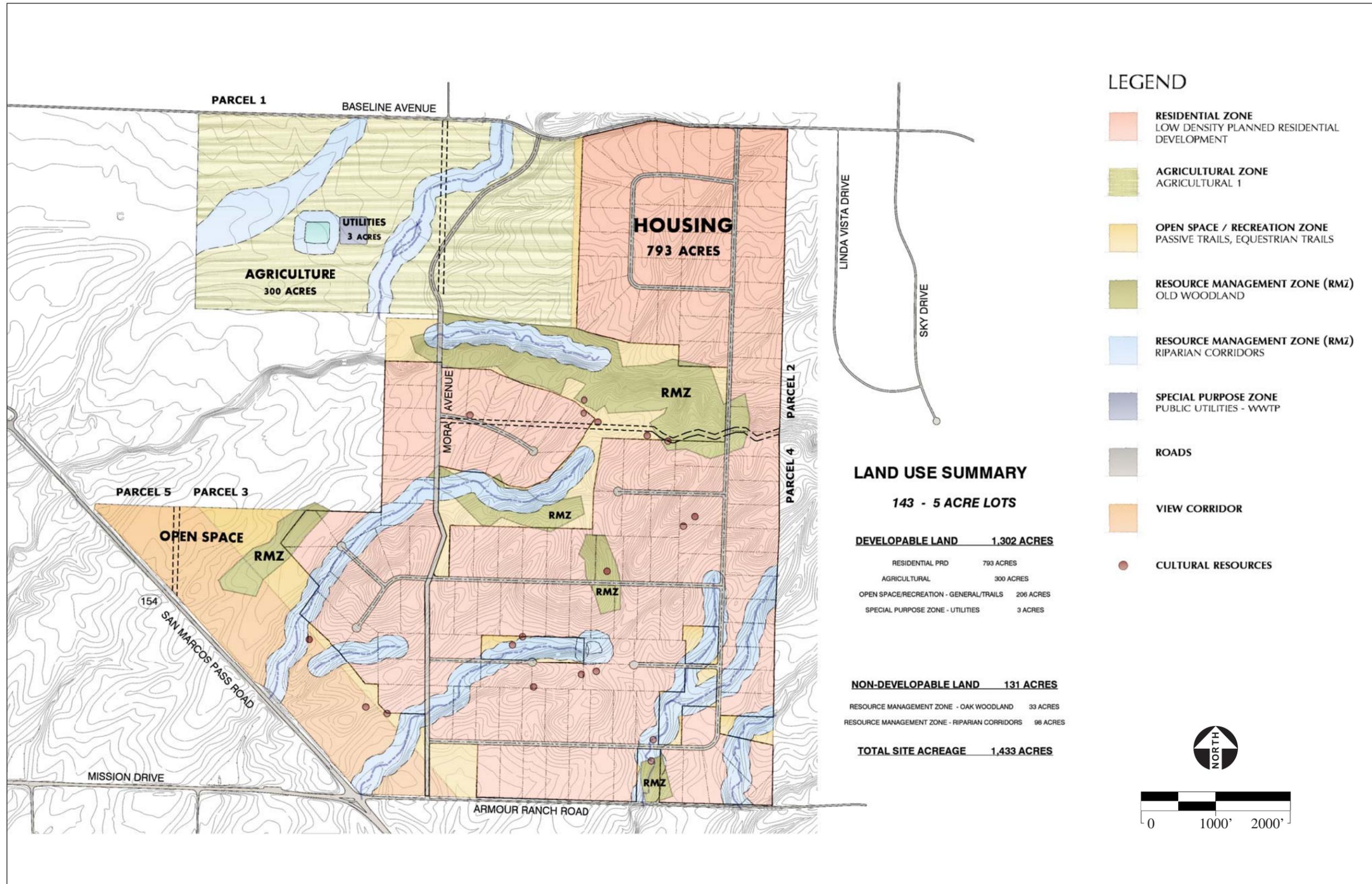
Under Alternative A, the Tribe would develop residential plots on Parcels 2, 3, and 4 of the project site (refer to **Figure 1-3**), supplementing the tribal housing on existing trust land. As discussed in **Section 1.3**, all current land assignments on the existing Reservation shall continue to be maintained unchanged as it is difficult to cancel any existing land assignment on the Reservation. The proposed housing would consist of up to 143 five-acre residential plots with construction of single-family detached houses of varying sizes ranging from 3,000 to 5,000 square feet. The housing development would be phased over time as needed. Development on each five-acre plot would include approximately 0.35 acres of disturbance for building pad development, driveway construction, utility installations, and landscaping. Additionally, new domestic water connections, improved access roads, driveways, a new wastewater treatment plant, and utilities would also be constructed to support the residences. A site plan identifying the proposed residential plots is shown in **Figure 2-1**.

2.2.3 DESIGNATED TRIBAL LAND USES

In addition to the proposed residential development, the Tribe would designate the following land uses on the subject property. No gaming would occur on the subject property.

AGRICULTURAL

The Tribe would continue operating an existing 256-acre vineyard located on Parcel 1 and a portion of Parcel 2 (**Figure 1-3**). An additional 44 acres would be designated for agricultural use on Parcel 2 to allow for expansion of the existing vineyard operation. The vineyard is currently in operation and includes a storage reservoir, existing access roadways, and a processing/shipping area. No winemaking facilities are currently located on the project site, and there are no plans to develop a winery on the project site. Various structures are located within the agricultural lands including an old abandoned house and operational horse stables.



OPEN SPACE/RECREATIONAL – GENERAL/TRAILS

Approximately 206 acres of the project site would be designated as open space and recreation. Passive trails would be designated for pedestrian use and equestrian trails would be developed to provide recreation for residents and guests in coordination with the horse stables located on the existing agricultural lands. The open space areas will be utilized for runoff control and will include the development of detention basins and vegetated swales. A description of storm water control features is provided in **Section 2.1.8**. The open space/recreational area adjacent to State Route (SR) 154 would be utilized as a viewshed protection zone. No residential development is planned within the zone adjacent to SR-154 to protect the viewshed of the scenic highway.

RESOURCE MANAGEMENT ZONE – RIPARIAN CORRIDORS

In accordance with the Tribe's commitment to conservation, 98 acres of riparian corridors would be protected from development and, where necessary, enhanced in accordance with tribal ordinances. These riparian corridors would be protected/enhanced to ensure adequate stormwater drainage is provided within the project site and to reduce the potential impact from development of the residential plots. These areas would be protected even where located on a specified residential plot (**Figure 2-1**). A qualified biologist would develop a Riparian Corridor Improvement Plan (Riparian Plan) for these areas. The Riparian Plan would provide for re-establishment of native vegetation in areas where invasive plant species have overwhelmed native vegetation. Where possible, the Riparian Plan will incorporate planting of California Live Oak trees to stabilize stream banks, provide canopy and shading, and ensure the sustainable future of the California Live Oak on the Reservation.

RESOURCE MANAGEMENT ZONE – OAK WOODLAND

In accordance with tribal ordinances, approximately 33 acres of oak woodland would be protected from development. Within the oak woodland management zone cutting, trimming, and pruning of the oaks would be monitored and controlled, and ground disturbance would be limited within the dripline of any oak tree within the zone, in accordance with the Tribe's *Tribal Ordinance Regarding Oak Tree Preservation for the Santa Ynez Band of Chumash Indians*.

SPECIAL PURPOSE ZONE- UTILITIES (WWTP)

To support the development of residential plots, a central tertiary WWTP would be developed on three acres of the agricultural lands. The tertiary WWTP is described in more detail in **Section 2.1.6**.

2.2.4 PUBLIC SAFETY AND FIRE PROTECTION SERVICES

Police and security services would be provided primarily by the tribal security force and supplemented by the County Sheriff's Department and federal law enforcement as called for under 18 United States Code (U.S.C.) 1162. Once taken into trust, the Tribe would conduct law enforcement activities in accordance with the jurisdictional duties identified under the Tribal Law Order Act of 2010. The County, Solvang/Santa Ynez

Sheriff Substation provides general public safety and law enforcement service for the project area. The Sheriff Substation is located in Solvang, approximately three miles from the project site. It provides 24-hour service to the Santa Ynez Valley and Solvang area. The County Fire Department (Fire Department) provides structural fire protection services to the project area. The Fire Department protects primarily residential areas, and responds to calls for structural fires as well as medical emergencies. The Chumash Wildland Fire Department (CWFD) provides wildland fire protection services through the region, and nationally when needed.

2.2.5 WATER SUPPLY

Implementation of Alternative A would result in an increased water demand of 380 acre-feet per year (AFY). To meet increased demands, the Tribe would develop an on-site water supply system using groundwater. Two new groundwater wells with a target rated capacity of 750 gallons per minute (gpm) would be developed and located in reasonable proximity to the proposed residential developments in the center or southern portion of the project site. The Tribe would install an onsite domestic water storage tank as well as the appropriate water distribution pipelines to the proposed tribal residences. Water quality would be no less stringent than Federal Safe Drinking Water Act standards. Inspections of the water supply system and water quality by the U.S. Environmental Protection Agency (USEPA) would ensure compliance with applicable safe drinking water standards. Tertiary treated wastewater would be utilized to meet the irrigation water demands of the vineyard operation, common area landscaping, and other irrigated uses as feasible. The existing agriculture storage reservoir would be used to meet the recycled water storage requirements. Proposed water facilities are discussed in more detail in **Appendix C**. The agricultural irrigation demands at the vineyard (265 AFY; increased to 300 AFY at full build out of Alternative A) would be met through mixing groundwater from the existing agricultural wells and recycled water from the WWTP as described below.

2.2.6 WASTEWATER TREATMENT AND DISPOSAL

A new tertiary WWTP would be constructed on Parcel 1 (**Figure 2-1**) adjacent to the existing reservoir within the vineyards. The proposed WWTP would treat wastewater to or exceeding tertiary standards under Chapter 3, Division 4, Title 22, California Code of Regulations (CCR), Section 60304, et seq. (Title 22). The WWTP would be sized to accommodate the proposed wastewater generation rates of Alternative A. The tertiary-treated effluent would be disposed of via spray irrigation for the existing agricultural operations, common area landscaping, and other irrigated uses as feasible on the project site. Drainage control would be installed along the perimeter of spray irrigation areas to prevent comingling with stormwater runoff. Spray irrigation runoff would be collected and disposed of via discharge to the WWTP. The proposed WWTP and related facilities are discussed in more detail in **Appendix C**. In general terms, wastewater facilities would include a tertiary WWTP, sewer lift stations, conveyance systems, emergency storage, runoff/spill control, and a recycled water reservoir. The sewer lift stations would be developed within the residential areas as needed. The existing water reservoir located on Parcel 1 would be repurposed to store tertiary-treated effluent from the WWTP, and enlarged if necessary, and the tertiary-treated effluent would be used for irrigation. The existing water reservoir is currently lined and prior to use as a tertiary-treated effluent reservoir, the lining

would be inspected and repaired if necessary. The proposed wastewater treatment system would produce tertiary treated effluent meeting or exceeding EPA requirements and would be operated pursuant to USEPA regulations.

2.2.7 ROADWAYS

Existing access roads would be improved and new roads constructed to provide access to the proposed residences and existing agricultural operations. **Figure 2-1** presents the internal roadway structure that would be developed to provide access to the proposed residential parcels. The rural roadways would be 24-foot wide two-lane asphalt travel ways, with gravel shoulders that would be constructed using standards comparable to Santa Barbara County requirements. Signage would be provided for the new roadways. Crossing of potential Waters of the U.S. would be limited to the extent feasible; however, span bridges would be utilized where necessary, with foundations constructed outside the mean high water mark. Access and egress from the project site would be provided from one existing easement onto Armour Ranch Road and two existing easements onto Baseline Avenue.

2.2.8 GRADING AND DRAINAGE

Construction would involve grading and excavation for building pads and roadways. Cut and fill would be balanced to the extent feasible; however, some structural grade fill may be imported to meet engineering requirements. Stormwater runoff generated from development of the residential units and associated roadways would be conveyed by a combination of open channels, storm drains, and culverts. A drainage plan has been developed for Alternative A and is included as **Appendix D**. The drainage plan includes the use of several features designed to reduce surface runoff volumes and filter surface runoff prior to release into the existing on-site natural drainage channels. Runoff from the project site would be directed into vegetated swales, which would serve as energy dissipaters and filtering mechanisms for runoff generated on-site prior to release into the on-site drainage channels. Stormwater would be detained on-site within detention basins prior to discharging off the subject property at rates equivalent to pre-development conditions.

2.2.9 PROJECT CONSTRUCTION

The project components would be constructed after the 1,433± acre project site has been placed into federal trust for the Tribe. It is assumed that construction of the project would begin in 2014 and would be phased over approximately 4 to 9 years as new tribal homes are needed. Construction would involve earthwork, placement of concrete foundations, steel and wood structural framing, masonry, electrical and mechanical work, building finishing, and paving, among other construction trades. A worksite safety plan would be prepared for construction.

2.2.10 PROTECTIVE MEASURES AND BEST MANAGEMENT PRACTICES

Protective measures and best management practices (BMPs) have been incorporated into the project design to eliminate or substantially reduce environmental impacts from Alternative A. These measures and BMPs are discussed below.

WWTP

- Sodium hypochlorite, caustic soda and/or citric acid would be stored in the chemical room of the WTP. The storage and metering facilities would be located inside a chemical spill containment area, sized to contain 150 percent of the storage volume in case of an unintentional release.
- The sodium hypochlorite would be stored in a 55-gallon drum and the citric acid would be stored as dry material and then in a 50-gallon mixing tank when needed.
- The WTP would incorporate an active odor control system such as a packaged biofilter with an active carbon absorption unit.
- All treated effluent storage dimensions will be designed to hold 100-year rainfall event precipitation amounts, which is approximately 1.5 times greater than that estimated to be required for normal rainfall years.
- Spray drift from the spray disposal irrigation areas would be monitored daily during operation by qualified personnel. Spray drift shall not be allowed to migrate outside of the irrigation area.
- Spray irrigation would cease when winds exceed 30 miles per hour.
- Disposal of treated wastewater to irrigation areas shall be adjusted based on weather conditions in order to prevent surface runoff.
- The Tribe would adopt standards equivalent to the landscape irrigation standards in the State Water Resources Control Board Recycled Water Policy (as referenced in Resolution No. 2009-0011).
- Potential groundwater impacts from irrigation and effluent storage will be minimized through treatment of effluent through nitrogen and salinity reduction processes.
- Operation and maintenance of the wastewater utility from house service laterals, through the wastewater and effluent system, to treatment and disposal will be by the Tribe utilizing contract services. Individual residents will have no responsibility regarding operation and maintenance of any aspect of the wastewater treatment and conveyance systems. The residents' sole responsibility would be to follow Tribal guidance on what should and should not be flushed down sinks and toilets. Community education shall be promoted to reduce needless contaminants to wastewater.
- The effluent storage basins and irrigation areas would be located and designed so that they are well-drained and readily accessible.
- Implementation of the following measures would be incorporated during design and operation of the wastewater and effluent system to minimize chances of system failures:
 - Solvent welded plastic house services;
 - Above grade cleanouts;
 - Dual (redundant) discharge pumps;
 - High water alarms;
 - Maintaining records of pumping, inspections, and other maintenance activities;

- Flushing of solvent, paint, paper towels, diapers, feminine hygiene products, cigarette butts, pesticides, and fertilizer would be discouraged by recurring outreach notices to the residents. The frequency of the noticing would be based on the results of ongoing system inspections.

LAND RESOURCES

- All structures would meet the Tribe's building ordinance, which meets or exceeds International Building Code (IBC) requirements.
- Non-corrosive materials and/or protective coatings shall be used for buried facilities constructed in corrosive soils.

WATER RESOURCES

- Areas outside of buildings and roads would be kept as permeable surfaces to the extent practicable; either as vegetation or high infiltration cover, such as mulch, gravel, or turf block. Pedestrian pathways would use a permeable surface where possible, such as crushed aggregate or stone with sufficient permeable joints (areas between stone or brick if used).
- Existing native vegetation would be retained where possible.
- Roof downspouts would be directed to splash blocks and not to underground storm drain systems.
- Runoff from rooftops and other impervious areas would be directed to vegetated areas to help treat and infiltrate stormwater prior to leaving the site.
- Runoff from roadways would filter through rock-lined swales and bio-swales.
- Permanent energy dissipaters would be included for drainage outlets.
- Rock rip-rap energy dissipaters would be installed at the point of release of concentrated flow.
- High water-demand plants would be minimized in landscaping plans. Native and drought-tolerant plant species (trees, shrubs, and ground cover) landscaping would be emphasized.

AIR QUALITY

The following measures would reduce project-related greenhouse gas emissions associated with climate change:

- Buildings would be sited to take advantage of shade, prevailing winds, and sun screens to the extent feasible to reduce energy use.
- Buildings would be designed to include efficient lighting and lighting control systems.
- Energy efficient heating and cooling systems as well as appliances would be installed in residences and community and governmental facilities.
- Solar or other alternative power systems would be utilized where feasible.

BIOLOGICAL RESOURCES

- Native trees would be preserved to the maximum extent feasible in accordance with the Tribe's *Tribal Ordinance Regarding Oak Tree Preservation for the Santa Ynez Band of Chumash Indians*.
- All identified wetland areas and California Live Oak would be avoided to the maximum extent feasible.

- Preservation of existing Resource Management Zones (RMZs) would result in maintaining other significant native vegetation as well; i.e. coastal sage scrub.

PUBLIC SERVICES

- Structural fire protection would be provided through compliance with tribal ordinances no less stringent than applicable International Fire Code requirements. The Tribe would ensure that appropriate water supply and pressure is available for emergency fire flows.

VISUAL RESOURCES

- Signage for all streets, community and governmental facilities, and the residential community would be subtly incorporated into the landscape.
- Lighting would only occur at street intersections and residential areas. The lighting would consist of pole-mounted lights, limited to 18 feet tall, with cut-off lenses and down cast illumination to the extent feasible.

GREEN BUILDING

The Tribe proposes to incorporate the “Build it Green” 2005 Green Building Guidelines for New Home Construction along with the Leadership in Energy and Environmental Design (LEED) for Homes criteria for all the residential units on the project site (U.S. Green Building Council, 2010). The above-noted BMPs and protective measures would aid the Tribe in achieving these standards. In addition, the following measures would be implemented:

- Individual homes would have limited personal planting areas with a portion of the watering needs satisfied from captured rainwater or reclaimed water.
- Indoor plumbing would use the highest efficiency fixtures and fittings available.
- All homes would be designed for efficient use of energy and natural resources and would be sized below the median standard based on the LEED for Homes rating system. Each plan would be oriented to maximize access to solar energy and natural daylight. Operable windows would be placed to provide efficient natural ventilation, taking advantage of prevailing breezes.
- All appliances and heating, ventilation, and air conditioning (HVAC) equipment would be Energy Star Certified for optimal performance.
- During construction, all waste material would be separated and sorted into individual bins for recycling.
- At least 75 percent of the residences built would be single story to minimize visual effects.
- Building envelopes would be designed to maximize performance of HVAC, lighting, and other energy systems. Equipment and appliances would meet or exceed California state, Title 24 energy requirements.
- HVAC equipment would have no chlorofluorocarbon (CFC) refrigerants.
- To the extent possible, building materials with recycled content would be specified for use during construction.

- Building and landscape elements would be designed to give preference to materials that are produced regionally or within 500 miles of the project.
- Wood materials and products used in construction would be specified to be Forest Stewardship Council (FSC) certified from suppliers who practice responsible and sustainable forest management.
- During construction, on-site absorptive materials would be protected from moisture damage.
- All paints, coatings, adhesives and sealants used on the interiors of buildings would have a low Volatile Organic Compound (VOC) limits to reduce odor and harmful indoor air contaminants.
- Carpets, cabinets, and other interior finishes would be selected, in part, on minimizing their potential to off-gas or adversely affect indoor air quality.

2.3 ALTERNATIVE B – REDUCED DEVELOPMENT INTENSITY

Alternative B would involve placing the 1,433-acre Camp 4 site into federal trust status for the benefit of the Tribe; however, under Alternative B, the residential parcel lot sizes would be reduced from 5 acres to 1 acre, decreasing the residential acreage from approximately 793± acres to approximately 194± acres (**Figure 2-2**). Development on each one-acre plot would include approximately 0.25 acres of disturbance for building pad development, driveway construction, utility installations, and landscaping. Additionally, new domestic water connections, improved access roads, driveways, a new WWTP, and utilities would also be constructed to support the residences. A site plan identifying the proposed residential plots is shown in **Figure 2-2**. With the decrease in residential development intensity, Alternative B would increase open space and recreation land uses from 206 acres under Alternative A to 775 acres under Alternative B. In addition, approximately 30 acres of the project site would be reserved for approximately 80,000 square feet of tribal community facilities.

The tribal facilities would include development of a banquet/exhibition hall designed with an agriculture/equestrian theme, associated administrative spaces, a tribal office complex, and a tribal community space including ceremony room and gymnasium. A breakdown of the components of the proposed tribal facilities is displayed in Table 2-2. These facilities would be open to tribal members and their guests for tribal events, functions, and ceremonies. The facilities would also be open to tribal residents of the site as a gathering place for socializing and recreation. The banquet/exhibition facilities would occasionally be made available to the public for the purposes of hosting exhibitions, business meetings, conferences, or events by appointment. No gaming would occur on the subject property. It is anticipated that the tribal development would include office space for up to 75 tribal employees and result in up to 100 events per year being held at the facilities. Approximately 400 parking spaces would be provided for the facilities. As with Alternative A, this trust action would shift civil regulatory jurisdiction over the 1,433± acres from the State and the County to the BIA and the Tribe for land held in trust for the Tribe by the federal government.

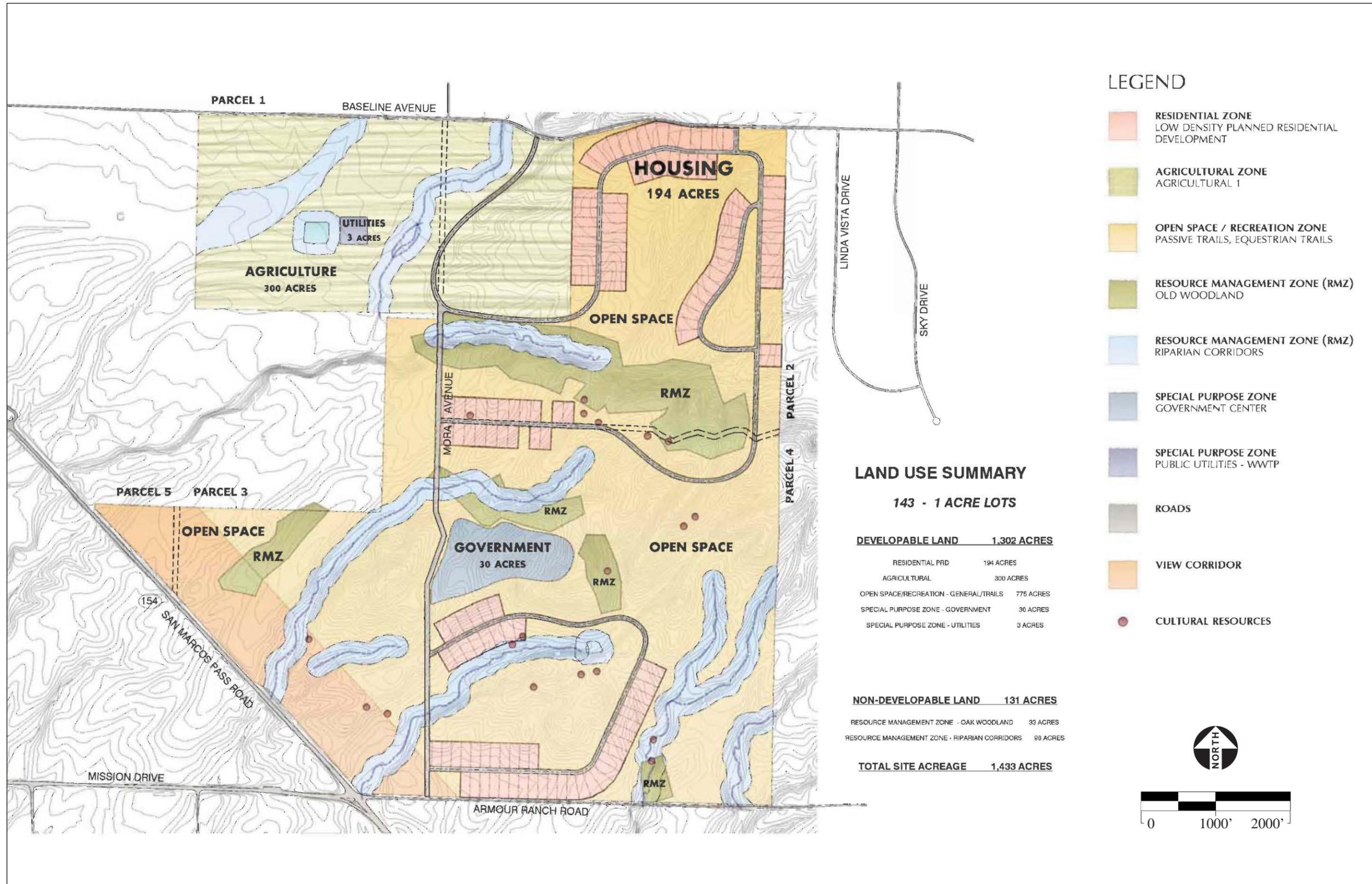


TABLE 2-2
TRIBAL COMMUNITY DEVELOPMENT — ONSITE FACILITIES

Usage	Square Footage (sf)
Community Center	34,280
Community Center Administrative Support	3,110
Tribal Office Complex	12,025
Tribal Community Space	11,480
Circulation (Misc. at 30%)	18,269
Total Development	79,164

The remaining land uses and project components under Alternative B are identical to that proposed under Alternative A including: the construction of 143 residences ranging from 3,000 to 5,000 square feet, domestic water connections, and a WWTP. Public services, water supply, wastewater treatment and disposal, and roadway improvements would all be provided for Alternative B as described for Alternative A. Project construction protective measures and BMPs would be identical to those described for Alternative A, with additional BMPs implemented for the tribal community facilities. Water demands and wastewater generation for Alternative B would be greater with the development of the tribal facilities. The proposed WWTP and water facilities are discussed in more detail in **Appendix C**. A grading and drainage plan for Alternative B is included in **Appendix D**.

2.3.1 PROTECTIVE MEASURES AND BEST MANAGEMENT PRACTICES

Alternative B would incorporate the BMPs listed under Alternative A, in addition to supplemental BMPs to reduce environmental effects associated with the tribal community facilities. These additional BMPs are discussed below.

PUBLIC SERVICES

- The tribal community facilities would be equipped with an early detection system that ensures an initial response to any fire alarm (automatic, local, or report). This would rely on automatic sprinkler systems in the occupied areas and smoke detection, along with automatic sprinkler systems, in the areas of the facility that are normally unoccupied, such as storerooms and mechanical areas.

GREEN BUILDING

- Upon completion, the tribal community facilities would have trash enclosures for separation of recyclable materials and newspapers.
- The tribal community facilities would meet all Americans with Disabilities Act (ADA) accessibility requirements. Pathways would meet required slopes and roadway crossings would include textured paving and indicators for the visually impaired.

2.4 ALTERNATIVE C – NO ACTION

Under the No-Action Alternative, the 1,433± acre project site would not be placed into trust for the benefit of the Tribe and the property would not be developed as identified under Alternatives A and B. The Tribe would retain ownership of the properties in fee title, and jurisdiction would remain with Santa Barbara County. The existing vineyard would continue to operate on the project site.

If no additional land is taken into trust for the benefit of the Tribe, then tribal housing and community facilities would continue to be confined to the existing Reservation. To provide the 143 homes and additional facilities that will be needed to support tribal members and their families in the coming years; the density of development on the existing Reservation would increase substantially and would likely include the construction of several multi-level structures. Additionally, Alternative C would not address the Tribe's Tribal Consolidation Area, which was established to aid the Tribe in acquiring additional lands to providing ample housing and government services to its members.

2.5 COMPARISON OF THE PROJECT ALTERNATIVES

Alternatives A and B include the development of residential housing units with the continued use of the vineyard. Options for supplying domestic water and for the treatment and disposal of wastewater would be identical for these two alternatives. However, while Alternative A entails development of the residential units on five-acre lots, Alternative B would include residential development on one-acre lots as well as the development of tribal community facilities. Under Alternative C, the No-Action Alternative, no development or change in use would occur on the property for the foreseeable future.

Impacts to land resources would be proportionally greatest under Alternative A, due to the larger project footprint needed for construction requiring 180,000 cubic yards of cut and 190,000 cubic yards of fill. This would require additional site grading compared to Alternative B. However, under both alternatives cut and fill volumes on the project site would be balanced, with the potential for a minor volume of import of engineered fill to meet building codes. The No-Action Alternative would have no effect on land resources, as no changes in land use are anticipated.

Water resources would be impacted to a greater extent under Alternative B. This alternative would result in a greater area of impermeable surfaces than Alternative A due to the development of the tribal community facilities. However, with the implementation of the grading and drainage plan incorporated as **Appendix C** of the EA, impacts from both alternatives would be minimized. Water demands for Alternative B would be slightly higher than Alternative A due to the services anticipated to be provided within the Tribal community center (offices, recreation, banquet, etc.); however, water for both purposes would be drawn from the same aquifer under both alternatives. Under the No-Action Alternative drainage patterns would remain unchanged from existing conditions and the existing wells would continue to be used for agricultural production.

For both Alternatives A and B, wastewater treatment would be provided from a centralized WWTP. As with water demand, Alternative B would generate greater quantities of wastewater, and therefore would result in

greater potential impacts to groundwater quality and a need for more infrastructure construction and maintenance compared to Alternative B. No impacts to water resources would result from Alternative C. Construction and operational emissions of criteria air pollutants (CAPs) and greenhouse gases (GHGs) would be slightly higher under Alternative B; however, the air basin is currently classified as attainment/unclassified for all designated CAPs and therefore emissions from either alternative would not result in adverse impacts to the regional air basin. Under Alternative C, no new impacts to air quality would occur.

Impacts to biological resources would be greater under Alternative A due to the size of the assignments. Under Alternative A, approximately 330.11 acres of critical habitat for a protected species would be removed from designation. Under Alternative B, approximately 65.28 acres of the critical habitat would be removed from designation. Both alternatives would adversely impact water of the U.S., special-status species, protected oak trees, and migratory birds without the implementation of mitigation. However, with the incorporation of mitigation measures, implementation of the project alternatives would not result in jeopardy to and would facilitate the recovery of special status species and sensitive habitats. No impacts to biological resources would occur under Alternative C, because this alternative involves no new development or changes in land use.

The implementation of Alternative B would result in similar impacts to cultural resources as those identified under Alternative A, although to a lesser degree due to smaller housing lot sizes. As with Alternative A, long-term management goals would favor formal evaluation of eligibility prior to implementing Alternative B; as development at cultural resource locations would result in adverse impacts. The No-Action Alternative would not result in impacts to cultural resources.

No adverse impacts to socioeconomic conditions or environmental justice would result from the implementation of either project alternative. Alternative A would provide a beneficial socioeconomic impact for the Tribe by easing a housing shortage and ensuring continued economic diversification and self-sufficiency; Alternative B would also extend these benefits to the Tribe, but to a greater degree by providing 30 acres of additional tribal community facilities. Alternative C would result in no change to existing socioeconomic conditions.

Alternative B would generate the greatest number of daily vehicle trips, due to the development of the Tribal community facilities. Impacts to the local transportation network from this alternative would therefore be proportionally greater than Alternative A, although both alternatives result in a similar adverse impact to the intersection of SR-246/SR-154. With the implementation of mitigation measures, operation of this intersection would continue to operate under acceptable conditions after implementation of either alternative. Alternative C would generate no new vehicle trips, and would therefore cause no impacts to local transportation and circulation networks.

Development of Alternatives A and B would result in the construction of low-density residential housing, a centralize WWTP, and extension of other utilities, and continued agricultural production on the existing

vineyard. Both alternatives are compatible with the surrounding land uses, and similar residential densities currently occur in the project vicinity. Implementation of Alternative B would result in maintaining a greater acreage of the existing open space on the project site compared to Alternative A. Alternative C would have no impact on local land use.

Alternative A would have minimal impacts on solid waste, electricity, natural gas, telecommunications, law enforcement, fire protection and emergency medical services, public schools, and parks and recreation. Alternative B would have a proportionately greater impact on solid waste, electricity, natural gas, telecommunications, law enforcement, fire protection and emergency medical services due to operation of the Tribal community facilities. Alternative C would have no impact on public services and utilities.

Neither of the project alternatives would have any impact on municipal water supply and wastewater treatment facilities, as both Alternatives A and B would use domestic water supplied from on-site wells on the project site, and would accomplish wastewater treatment using a centralized system with disposal via recycled water irrigation and storage. Alternative C would not result in an increase in demand for municipal water supply or wastewater treatment.

Impacts related to construction noise would be slightly greater under Alternative B compared to Alternative A. However, implementation of either alternative would result in noise generation below applicable thresholds. No noise-related impacts would occur under Alternative C.

Impacts related to hazards and hazardous materials and agricultural production would be nearly identical under either alternative. No new impacts related to hazards or hazardous materials would occur under Alternative C, although if current land uses continue, the use of agricultural fertilizers, pesticides, and mechanical farm equipment would also continue.

Alternative B would involve the construction of a similar residential development of reduced intensity compared to Alternative A. The visual character of both alternatives would be compatible with the neighboring East Baseline/Rancho Estates. Increased visual buffers of open space would be positioned between neighboring properties and roadways under Alternative B. No visual impacts would occur under Alternative C.

While both Alternatives A and B meet the Tribe's objectives of obtaining lands under Tribal jurisdiction within the Tribal Consolidation Area, Alternative B would result in additional beneficial socioeconomic impacts to the Tribe through the development of additional tribal community facilities. While the No-Action alternative would not result in any of the environmental effects identified for Alternatives A or B, this alternative would not meet the Tribe's objectives of providing a sufficient number of housing units for Tribal families within the Tribal Consolidation Area. Despite the proportionately greater overall effects on the environment of Alternatives A or B, none of the identified impacts would be significant and unavoidable, following implementation of protective measures and mitigation recommended in this document.

SECTION 3.0

DESCRIPTION OF AFFECTED ENVIRONMENT

This section presents relevant information concerning existing resources and other values that may be affected by the Project Alternatives. In accordance with the National Environmental Policy Act (NEPA) and the Bureau of Indian Affairs' (BIA) implementing guidelines (59 IAM 3-H), the existing conditions described herein provide the baseline for determining the environmental effects identified in **Section 4.0**. Existing setting descriptions are provided the following resource and issue areas:

- Land Resources
- Water Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Socioeconomic Conditions / Environmental Justice
- Transportation and Circulation
- Land Use
- Public Services
- Noise
- Hazardous Materials
- Visual Resources

3.1 LAND RESOURCES

The following describes the existing land resources conditions, including topography, seismicity, soils, and soil hazards that occur within the project site and general vicinity.

3.1.1 GEOLOGICAL SETTING

The project site is located within the Transverse Mountain Ranges Geomorphic Province. The Traverse Mountain Ranges extends 310 miles in an east to west direction in contrast to the main fault structure of California and associated south to north trending ranges. The project site is located north of the Santa Ynez Mountain Range, the western-most sub-range of the Traverse Range (Dibblee, 1988), within the Monterey Formation.

3.1.2 TOPOGRAPHY

The project site is situated within a relatively flat valley between the Santa Ynez Mountain and Coastal Mountain ranges. The project site is comprised of two distinct topographical features consisting of a relatively flat valley and rolling hills. The valley is located along the northern portion of the project site where the existing vineyard is located and consists of a gradually increasing eastern slope. In contrast, the remainder of the project site is characterized by rolling hills that exhibit southwestern sloping, decreasing in elevation creating lowlands at the intersection of SR-154 and Amour Ranch Road. The rolling hills influence the drainage patterns on the project site. Elevations on the project site range between approximately 661 feet above mean sea level (amsl) in the southwestern corner of the existing vineyard and 852 amsl along the eastern area of the central portion of the site.

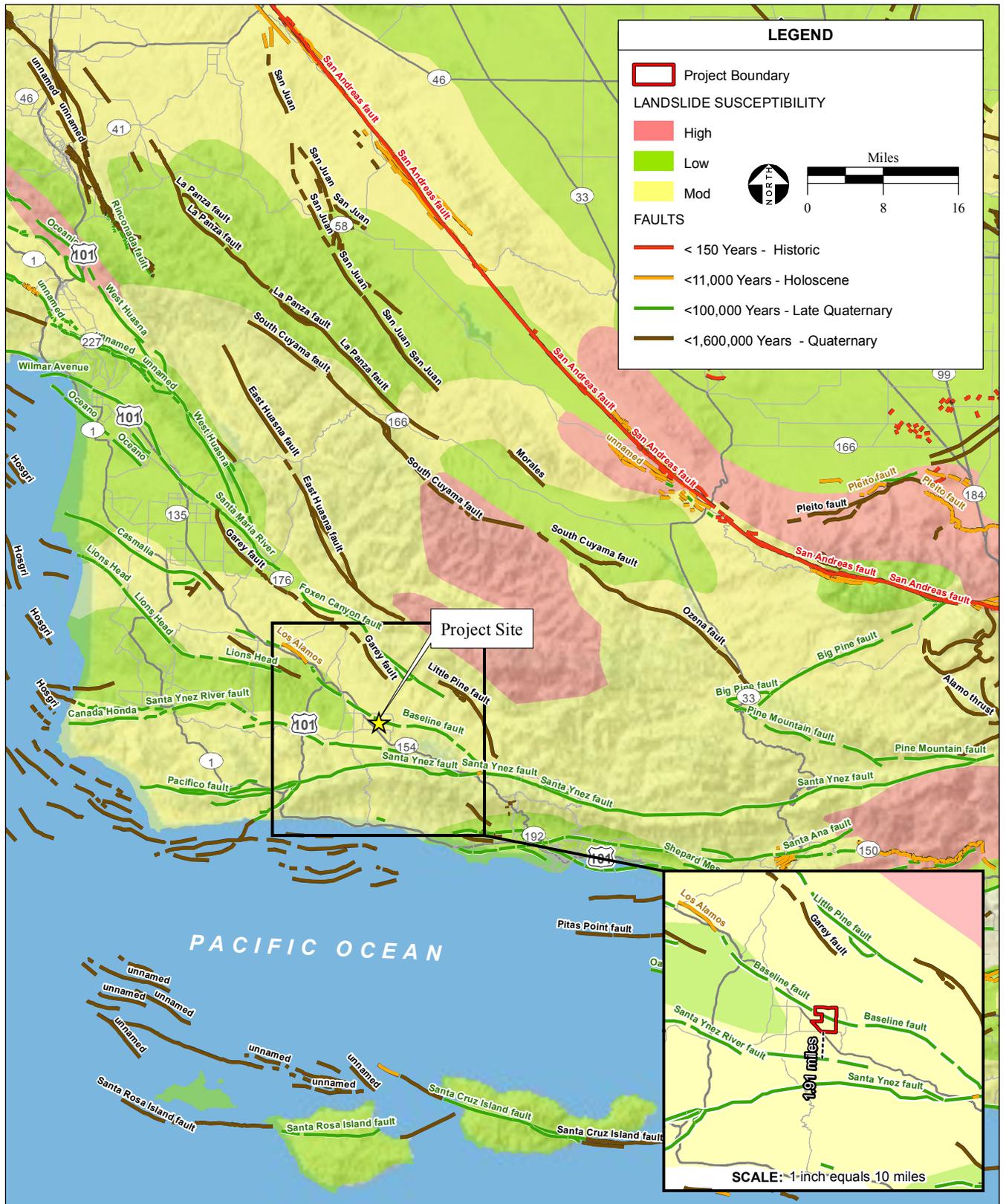
3.1.3 SEISMIC CONDITIONS

Figure 3-1 identifies potentially active faults and their relative distances to the project site. For this analysis, potentially active faults are faults that have shown signs of seismic activity during the last 1.6 million years. The Baseline Fault, which runs directly through the northern portion of the project site, is designated as a potentially active fault (Santa Barbara County, 2009). This thrust slip fault is an extension of the Los Alamos Fault to the northwest and is predicted to be capable of a 6.9 maximum magnitude fault rupture (USGS, 2012). The Santa Ynez fault is located approximately 1.91 miles south of the site. As shown on **Figure 3-1**, the USGS has determined that the last known movement along these faults occurred during the “late-Quaternary” period, between 15,000 and 100,000 years ago.

The Modified Mercalli intensity (MMI) scale is commonly used to measure earthquake effects due to ground shaking. MMI values range from I (earthquake not felt) to XII (damage nearly total) (**Table 3.1-1**). MMI values ranging from IV to X could cause moderate to significant structural damage. The damage level represents the estimated overall level of damage that will occur for various MMI levels (Bolt, 1988). CGS, in coordination with USGS, creates models of seismic hazard based on the physical and mechanical properties of the Earth’s crust. Based on these models, the CGS determines the peak horizontal ground acceleration, the fastest measured change in speed for a particle at ground level. Shaking intensity at a particular site can vary depending on the overall magnitude of the earthquake, the distance from the epicenter, and the type of geologic material. According to CGS, the project site is located within an area of moderate potential shaking intensity (ground shaking motion of 0.44 percent force of gravity) with an MMI value of VIII or IX (CGS, 2011; Bolt, 1988).

3.1.4 SOIL TYPES AND CHARACTERISTICS

A Soil Resource Report (NRCS, 2011a) was compiled for the project site and is included as **Appendix A**. The project site contains a total of 10 soil types, which are summarized in **Table 3.1-2** and depicted on **Figure 3-2**.



SOURCE: USGS Earthquake Hazards Program, 2007; AES, 2012

Santa Ynez Camp 4 EA / 201551 ■

Figure 3-1
Seismic Hazards

TABLE 3.1-1
MODIFIED MERCALLI INTENSITY SCALE

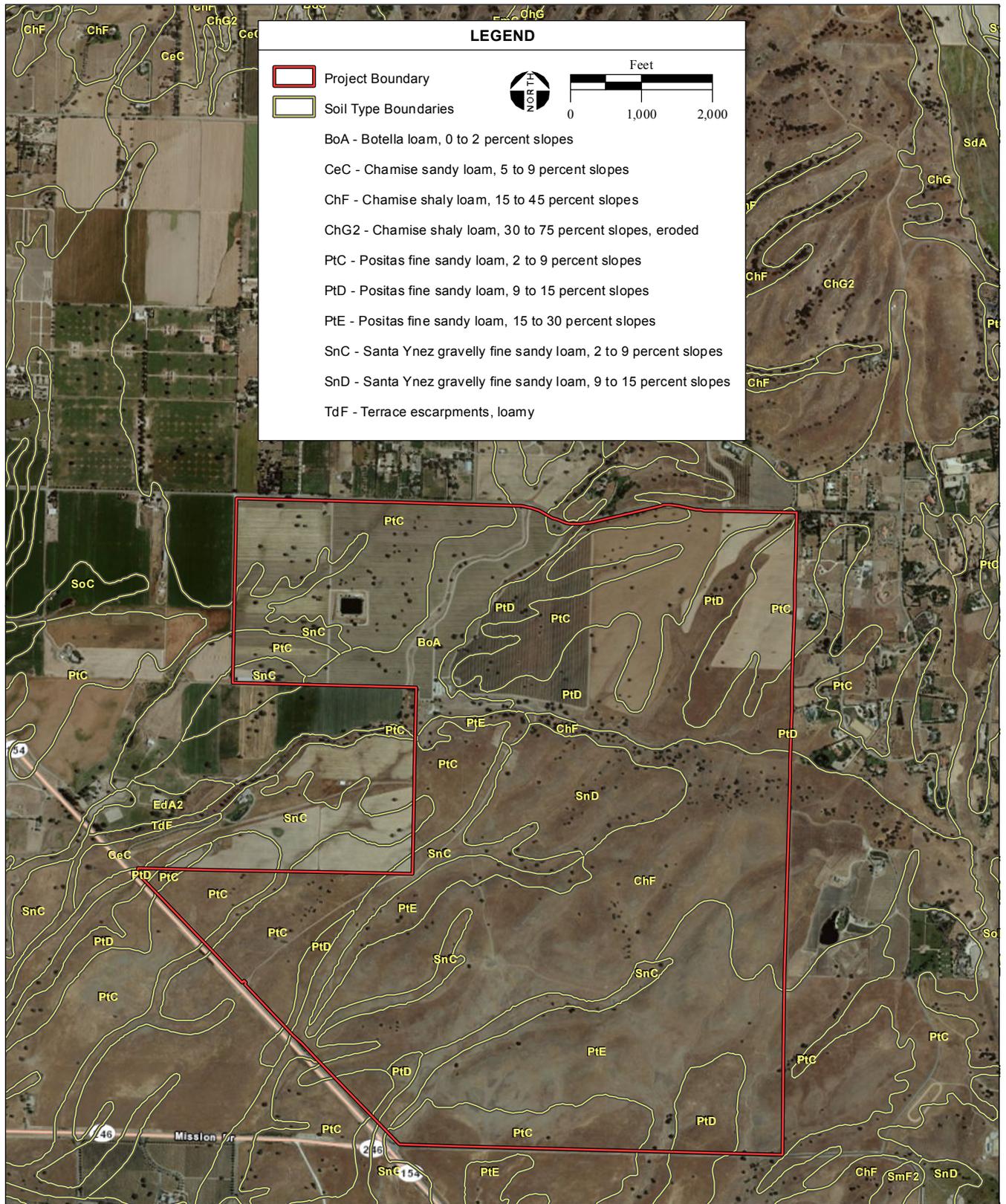
Intensity Value	Intensity Description	Average Peak Acceleration^a
I.	Not felt except by a very few persons under especially favorable circumstances.	< 0.0015g
II.	Felt only by a few persons at rest, especially on upper floors on buildings. Delicately suspended objects may swing.	< 0.0015g
III.	Felt quite noticeably indoors, especially on upper floors of buildings, but many persons do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibration similar to a passing of a truck. Duration estimated.	< 0.0015g
IV.	During the day felt indoors by many, outdoors by few. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.	0.015g-0.02g
V.	Felt by nearly everyone, many awakened. Some dishes, windows, etc., broken; a few instances of cracked plaster; unstable objects overturned. Disturbances of trees, poles, and other tall objects sometimes noticed. Pendulum clocks may stop.	0.03g-0.04g
VI.	Felt by all, many frightened and run outdoors. Some heavy furniture moved; a few instances of fallen plaster or damaged chimneys. Damage slight.	0.06g-0.07g
VII.	Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving cars.	0.10g-0.15g
VIII.	Damage slight in specially designed structures; considerable in ordinary substantial buildings, with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, and walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving motor cars disturbed.	0.25g-0.30g
IX.	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.	0.50g-0.55g
X.	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked. Rails bent. Landslides considerable from riverbanks and steep slopes. Shifted sand and mud. Water splashed (slopped) over banks.	> 0.60g
XI.	Few, if any, (masonry) structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.	> 0.60g
XII.	Damage total. Practically all works of construction are damaged greatly or destroyed. Waves seen on ground surface. Lines of sight and level are distorted. Objects are thrown upward into the air.	> 0.60g

Note: ^a g is gravity = 980 centimeters per second squared.
Source: Bolt, 1988

**TABLE 3.1-2
PROJECT SITE SOILS**

Map Unit Symbol	Map Unit Name	Occurs on Parcels	Slope Range	Erosion Hazard	Drainage Class	Flooding Occurrence	Percent of Total Project Site (Approximate)
BoA	Botella loam, 0 to 2 percent slopes	1-3	0-2 %	Moderate	Well Drained	None	5.6 %
CeC	Chamise sandy loam, 5 to 9 percent slopes	5	5-9 %	Slight	Well Drained	None	0.001%
ChF	Chamise shaly loam, 15 to 45 percent slopes	2-4	15-45 %	Slight	Well Drained	None	21.4 %
ChG2	Chamise shaly loam, 30 to 75 percent slopes, eroded	2	30-75 %	Slight	Well Drained	None	0.1 %
PtC	Positas fine sandy loam, 2 to 9 percent slopes	1-5	2-9 %	Moderate	Well Drained	None	30.2 %
PtD	Positas fine sandy loam, 9 to 15 percent slopes	1-5	9-15 %	Moderate	Well Drained	None	13.4 %
PtE	Positas fine sandy loam, 15 to 30 percent slopes	2-4	15-30 %	Moderate	Well Drained	None	15.8 %
SnC	Santa Ynez gravelly fine sandy loam, 2 to 9 percent slopes	1, 3, 5	2-9 %	Slight	Moderately Well Drained	None	7.8 %
SnD	Santa Ynez gravelly fine sandy loam, 9 to 15 percent slopes	2	9-15 %	Slight	Moderately Well Drained	None	5.7 %
TdF	Terrance escarpments, loamy	3	n/r	n/r	n/r	n/r	0.003 %

Source: NRCS, 2011a



3.1.5 SOIL HAZARDS

SOIL EROSION

Soil erosion is the wearing and removal of soil materials from the ground surface and the transportation of these soil materials resulting in deposition elsewhere. Mechanisms of soil erosion include storm water runoff and wind, as well as human activities, such as changes in drainage patterns and removal of vegetation. Factors that influence erosion include physical properties of the soil, topography (slope), and annual rainfall and peak intensity. The United States Department of Agriculture (USDA) rates the erosion potential of a map unit by taking all of the above into consideration. The ratings range from “slight” to “very severe.” The erosion hazard ratings of the 10 soils within the project site are provided in **Table 3.1-2**. As shown therein, approximately 65 percent of the project site contains soils with an erosion hazard rating of moderate, while the remaining soils have a slight erosion hazard (NRCS, 2011a).

CORROSIVITY

The portion of the project site proposed for development (Parcels 2 through 4) contains soils that are corrosive to steel and/or concrete (NRCS, 2011a; **Appendix A**).

LIQUEFACTION

Liquefaction involves soils that become highly saturated and lose their cohesive strength and subsequently act as a liquid, rather than a solid mass. Soils comprised of sands and inland fill in areas with high groundwater tables or substantial rainfall are subject to liquefaction during intense seismic shaking events. Although various soil types on the project site are comprised of sands, the area receives moderate annual rainfall levels and static groundwater levels for wells at the site are greater than 100 feet below ground surface (refer to **Section 3.2.2**); therefore, the soils found on the project site are not at risk of liquefaction.

LANDSLIDES

Landslides are defined as rock falls, topples, slides, spreads, and debris flows, which are more commonly referred to as mudslides. Landslides can occur as a result of seismic events, periods of heavy rainfall, dramatic changes in groundwater levels, or unstable disturbed slopes created during construction activities. As shown in **Figure 3-1** the project site is in an area of moderate landslide susceptibility.

3.1.6 MINERAL RESOURCES

Mining in Santa Barbara County is limited to three major classes of mineral resources: mineral fuels (petroleum and natural gas); one metallic mineral (mercury); and the non-metallic minerals diatomite, limestone, phosphate, rock, sand, and gravel. Of the minerals, fuels account for over 50 percent of mining activities while commercial mercury mining has not been conducted within the County in recent years. According to the Santa Barbara County Comprehensive Plan, there are no mineral resources of importance to the County or Mineral Resource Zones (considered valuable by the State of California) within project boundaries (Santa Barbara County, 2011b).

3.2 WATER RESOURCES

The following section describes the existing surface water, drainage, flooding, groundwater, and water quality conditions in the area surrounding the project site.

3.2.1 SURFACE WATER, DRAINAGE, AND FLOODING

WATERSHEDS AND HYDROLOGY

The project site is located within the Santa Ynez Hydrologic Unit (HU) which is characterized by a broad flat valley containing marine terraces, rolling hills, and rugged mountains. The Santa Ynez HU contains five major hydrologic areas (HA): Lompoc, Santa Rita, Buelton, Los Olivos, and the Headwater. The project site is located in the Los Olivos HA, which encompasses the drainage watershed of the Santa Ynez River from the headwaters at Cachuma Lake to Solvang. The Santa Ynez River, located approximately 2 miles south of the project site, is one of the largest rivers on the Central Coast of California. Approximately 90 miles long, the Santa Ynez River drainage basin covers approximately 900 square miles. It flows east to west through the Santa Ynez Valley until it terminates at the Pacific Ocean. Zanja de Cota Creek, a tributary of the Santa Ynez River, is located approximately one mile to the west of the project site. Zanja de Cota Creek is the major water feature in the Los Olivos HA. Originating northeast of State Route (SR) 154, the creek flows southwest approximately seven miles until its confluence with the Santa Ynez River.

The project area watershed includes a mixture of land uses including rural residential, agriculture, and open space. Tributary drainages and creeks within the project area watershed are either ephemeral or have minor base flows associated with agricultural or landscape irrigation runoff and flow into tributaries of the Zanja de Costa Creek (or percolate into the ground prior to reaching a tributary). Water resources on the project site include eight ephemeral drainages, a manmade basin located on the northwestern portion of the project site, a vernal pool, and several seasonal wetlands. Surface water resources are further addressed under waters of the U.S. in **Section 3.4**.

DRAINAGE

The Santa Ynez area received 20.54 inches of average annual precipitation from March 1, 1950 to November 25, 2011, with the majority of rain falling between December and March (WRCC, 2012). The total watershed contributory to the project is approximately 9.25 square miles and drainage enters the project site from seven locations (**Appendix D**). Slopes on the project site range from one to four and a half percent. Approximately 95 percent of the project site is overlain by type D soils. Type D soils are identified as having very slow infiltration rates and high runoff potential. The remaining five percent of the project site is mapped with soil type B, which has moderate infiltration rates. Drainage flows on the site are influenced by several ephemeral drainages and seasonal wetland swales. There is also a manmade water storage basin located on Parcel 1 that is used by the vineyard operation. There are eight points of off-site discharge under existing conditions. Runoff from the northern and western portion of the project site (Parcels 1, 2, 5, and the north and western portions of Parcel 3) discharges onto adjacent private properties to the north/northwest of the project site.

Runoff from the remaining area of Parcel 3 and the northwest portion of Parcel 4 flows into an existing culvert beneath Highway 154 to the southeast. The remaining area of Parcel 4 drains into culverts beneath Armour Ranch Road to the south.

FLOODING

Executive Order 11988 pertaining to floodplain management states that each federal agency shall “provide leadership and shall take action to reduce the risk of flood loss.” In order for each agency to carry out its responsibility, the order requires that each agency determine whether a project is located within a floodplain and consider alternatives to a project’s location within a floodplain. If a project must reside on a floodplain, the agency must minimize any potential impacts.

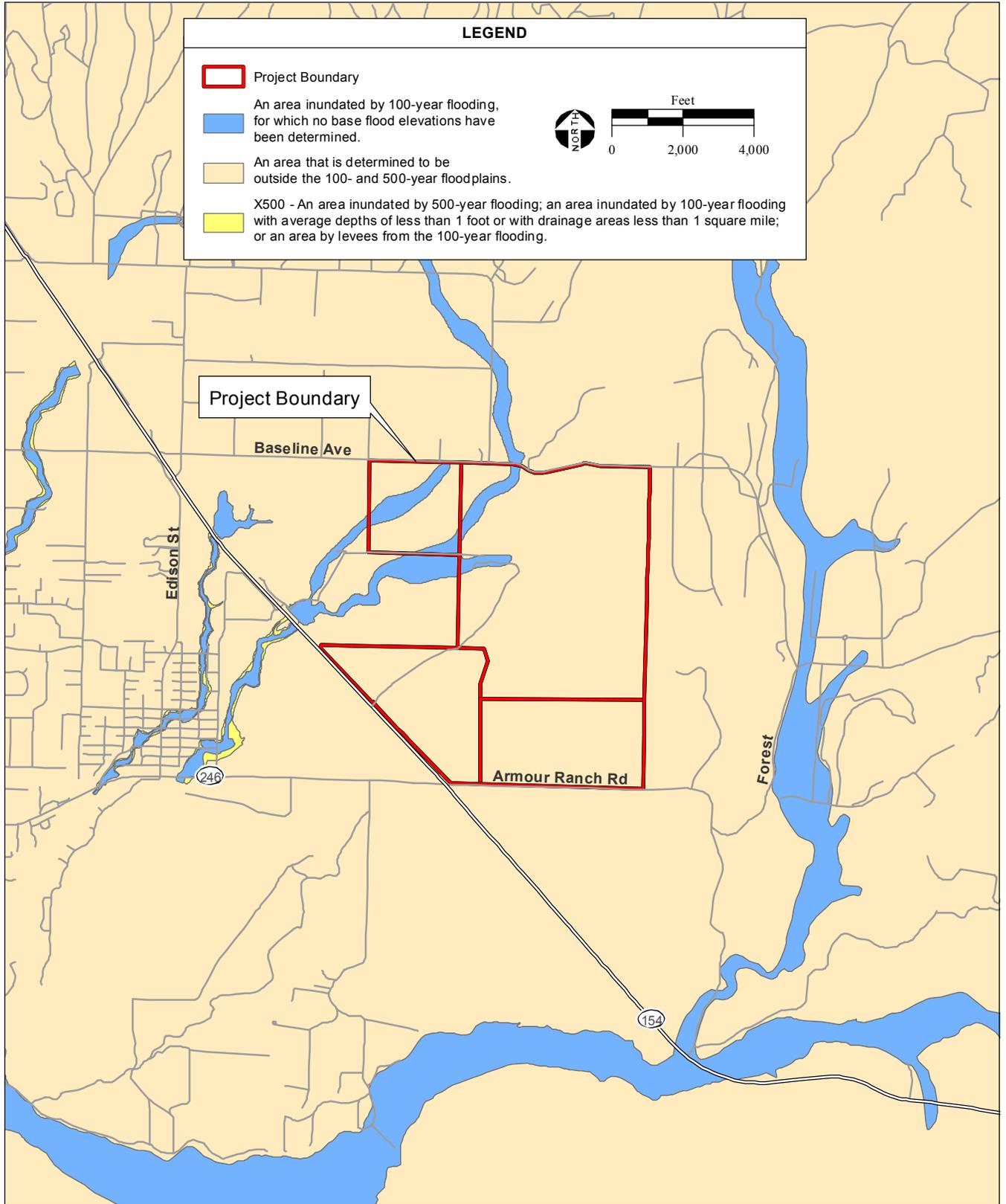
The Federal Emergency Management Agency (FEMA) is responsible for predicting the potential for flooding in most areas. FEMA routinely performs this function through the issuance of Flood Insurance Rate Maps (FIRMs), which depict various levels of predicted flood inundation. The project site is included within FIRM numbers 06083C0814F, 06083C0820F, and 06083C1085F which identify that the riparian corridors on Parcels 1 and 2 within the existing vineyard and within the northern most portion of Parcel 3 are designated as Zone A, or areas subject to inundation by the one percent annual chance flood event (**Figure 3-3**). There are no habitable structures within the Zone A designated areas on the project site. The remaining parcels (Parcels 3, 4, and 5) are located in Zone X, which is defined as an area that is determined to be outside the 100- and 500-year floodplains (FEMA, 2011).

3.2.2 GROUNDWATER

GROUNDWATER SUPPLY

The project site lies within the Santa Ynez Uplands Groundwater Basin (Uplands Basin), one of several south coast basins situated along a narrow alluvial plain between the San Rafael Mountains to the north and east, the Santa Ynez Mountains to the south, and the Pacific Ocean to the west (**Appendix C**). The Uplands Basin is part of the larger Santa Ynez River Groundwater Basin and consists of unconsolidated deposits covering approximately 130 square miles north of the Santa Ynez River. Groundwater levels are influenced by riparian underflow in local tributaries to and from the Santa Ynez River, precipitation, and irrigation using surface water from Lake Cachuma and the State Water Project (Tetra Tech, 2010). Four communities (unincorporated Santa Ynez, Los Olivos, and Ballard and the City of Solvang), scattered residential development, farms, and ranches are the main water users of the Uplands Basin.

The Upland Basin consists of unconsolidated deposits of sand, silt, clay, and gravel underlain by consolidated, relatively impermeable bedrock of Tertiary age or older (Tetra Tech, 2010). The Paso Robles Formation is the principle water bearing unit of the basin with a maximum thickness of approximately 1,500 feet. The formation consists of poorly consolidated gravel, sand, silt, and clay. The surface of the basin is overlain with Pleistocene marine terrace deposits and recent alluvial deposits along riparian creekbeds. The Pliocene-age Careaga Formation lies underneath the Paso Robles Formation as the unconsolidated fine to



medium grained marine sand and silt (DWR, 2004). Although it contains waterbearing units, this formation is generally only utilized in the southern margins of the basin where it has been uplifted to shallow depths (**Appendix C**). The Uplands Basin has a surface area of 83,200 acres (County of Santa Barbara, 1994). Groundwater flow in the Uplands Basin is generally north to south, with natural seepage into creeks and drainages. The California Department of Water Resources estimates the storage capacity of the Upland Basin at about 10 million acre feet (af), and the available water in storage is estimated to be approximately 900,000 af (DWR, 2004). The Uplands Basin is in a state of overdraft by about 2,000 AFY based on 2001 estimates (**Appendix C**). However, groundwater levels in U.S. Geological Survey monitored wells to the north, east, and west of the project site have risen since the mid- 1990s due to increased importation of supplemental water that offsets pumping in the basin.

The Paso Robles and Careaga Formations have been folded into a series of northwest-trending anticlines and synclines in the project area. Of these features, the San Lucas Anticline brings consolidated nonwater-bearing rocks to or near the ground surface south of the project site's southern boundary. Water bearing zones of the Paso Robles Formation become increasingly thick and both the Paso Robles and the Careaga Formation become increasingly deep from south to north across the project site to the roughly east-west trending Baseline fault that crosses the northern half of the project site (**Appendix C**).

Municipal Water Supply

The Santa Ynez Valley is a relatively flat agricultural area that includes the communities of Los Olivos, Ballard, Santa Ynez, and Solvang. Until the 1950s, local groundwater supplied all water needs. Water in the vicinity of the project site is supplied by either private groundwater wells or service connections to the Santa Ynez River Water Conservation District, Improvement District #1. Municipal Water supply is further addressed under Public Services in **Section 3.9**. Presently, water needs for the project site are met entirely through groundwater resources.

Existing Wells

Irrigation for the project site is provided by three on-site wells (**Appendix C**). Two active wells are used for irrigation (Well #2 and #3) of the 256 acre vineyard and one ranch/domestic well (Ranch House Well) provides water for the ranch house and for stock watering (**Appendix C**). Well #3 produces between 900 to 1,200 gallons per minute (gpm). During a four-hour pump test in November 1984, the static water level was 137 feet depth. Well #2 is located approximately one half mile east of Well #3 and is a total depth of 740 feet with perforation depth intervals from 290 to 520 feet, 550 to 620 feet, and 660 to 730 feet. In December 1999, the static water level for Well #2 was measured at 178 feet depth. Water is pumped from these wells into a lined reservoir for irrigation located on Parcel 1 (**Appendix C**). The total depth of the Ranch House Well is at 505 feet and static water level in July 2005 was measured at 105 feet depth. An eight-inch diameter well is located within the north-central portion of Parcel 4; however, the well was observed to be dry in March 2012 (**Appendix C**).

3.2.3 WATER QUALITY

SURFACE WATER QUALITY

The Clean Water Act (CWA) (33 USC 1251-1376), as amended by the Water Quality Act of 1987, is the major federal legislation governing water quality. The objective of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” The U.S. Environmental Protection Agency (EPA) is delegated as the authoritative body under the CWA. Important sections of the CWA are as follows:

- *Sections 303 and 304* provide for water quality standards, criteria, and guidelines. Section 303(d) requires states to identify impaired water bodies and develop total maximum daily loads (TMDLs) for the contaminant(s) of concern.
- *Section 401* (Water Quality Certification) requires an applicant for any federal permit that proposes an activity that may result in a discharge to waters of the U.S., to obtain certification that the discharge will comply with other provisions of the Act.
- *Section 402* establishes the National Pollutant Discharge Elimination System (NPDES), a permitting system for the discharge of any pollutant (except for dredged or fill material) into waters of the U.S. Each NPDES permit contains limits on pollutant concentrations of wastes discharged to surface waters to prevent degradation of water quality and protect beneficial uses.
- *Section 404* regulates the discharge of dredged and fill material into waters of the U.S. The U.S. Army Corps of Engineers (USACE) requires that a permit be obtained if a project proposes placing structures within, over, or under navigable waters and/or discharging dredged or fill material into waters below the ordinary high-water mark. The USACE has established a series of nationwide permits (NWP) that authorize certain activities in waters.

Antidegradation Policy

The federal antidegradation policy (40 CFR Part 131.6) is designed to protect water quality and water resources. The policy directs states to adopt a statewide policy that includes the following primary provisions: (1) existing instream uses and the water quality necessary to protect those uses shall be maintained and protected; (2) where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the state finds that allowing lower water quality is necessary for important local economic or social development; and (3) where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected. Each state must also develop procedures to implement its anti-degradation policy through water quality management processes. Each state’s anti-degradation policy must include implementation methods consistent with the provisions outlined in 40 CFR 131.12 (EPA, 1994).

Complying with the anti-degradation provision of the CWA, the Central Coast Regional Water Quality Control Board (CCRWQCB) has established general water quality objectives for all inland surface waters under state jurisdiction to protect designated beneficial uses. The Water Quality Control Plan for the Central Coast Region (Basin Plan) outlines these surface water quality objectives which are summarized in **Table 3.2-1**. **Table 3.2-2** lists the specific water quality objects outlined in the Basin Plan by parameter for surface waters under state jurisdiction within the Cachuma sub-area of the Santa Ynez River.

TABLE 3.2-1
CCRWQCB INLAND SURFACE WATER GENERAL QUALITY OBJECTIVES

Property/Constituent	Water Quality Objective
Bacteria	In waters designated for contact recreation (REC-1), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400/100 ml.
Biostimulatory Substances	Water shall not contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.
Chemical Constituents	Where wastewater effluents are returned to land for irrigation uses, regulatory controls shall be consistent with Title 22 of the California Code of Regulations and other relevant local controls
Color	Waters shall be free of coloration that causes nuisance or adversely affects beneficial uses. Coloration attributable to materials of waste origin shall not be greater than 15 units or 10 percent above natural background color, whichever is greater
Dissolved Oxygen	For waters not mentioned by a specific beneficial use, dissolved oxygen concentration shall not be reduced below 5.0 mg/l at any time. Median values should not fall below 85 percent saturation as a result of controllable water quality conditions.
Floating Materials	Water shall not contain floating material in amounts that cause nuisance or adversely affect beneficial uses.
Oil and Grease	Waters shall not contain oils, greases, waxes, or other materials in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.
Other Organics	Waters shall not contain organic substances in concentrations greater than the following: Methylene Blue Activated Substances 0.2 mg/l Phenols 0.1 mg/l PCB's 0.3 mg/l Phthalate Esters 0.002 mg/l
pH	For waters not mentioned by a specific beneficial use, the pH value shall not be depressed below 7.0 or raised above 8.5.
Pesticides	No individual pesticide or combination of pesticides shall reach concentrations that adversely affect beneficial uses. There shall be no increase in pesticide concentrations found in bottom sediments or aquatic life. For waters where existing concentrations are presently nondetectable or where beneficial uses would be impaired by concentrations in excess of nondetectable levels, total identifiable chlorinated hydrocarbon pesticides shall not be present at concentrations detectable within the accuracy of analytical methods prescribed in Standard Methods for the Examination of Water and Wastewater, latest edition, or other equivalent methods approved by the Executive Officer.
Radioactivity	Radionuclides shall not be present in concentrations that are harmful to human, plant, animal or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal or aquatic life.

Property/Constituent	Water Quality Objective
Sediment	The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
Settleable Materials	Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.
Suspended Materials	Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.
Tastes and Odors	Water shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to domestic or municipal water supplies or to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.
Temperature	The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses.
Toxicity	<p>All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, toxicity bioassays of appropriate duration, or other appropriate methods as specified by the Regional Board.</p> <p>Survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality conditions, shall not be less than that for the same water body in areas unaffected by the waste discharge or, when necessary, for other control water that is consistent with the requirements for "experimental water" as described in Standard Methods for the Examination of Water and Wastewater, latest edition. As a minimum, compliance with this objective shall be evaluated with a 96-hour bioassay.</p> <p>In addition, effluent limits based upon acute bioassays of effluents will be prescribed where appropriate, additional numerical receiving water objectives for specific toxicants will be established as sufficient data become available, and source control of toxic substances is encouraged.</p> <p>The discharge of wastes shall not cause concentrations of unionized ammonia (NH₃) to exceed 0.025 mg/l (as N) in receiving waters.</p>
Turbidity	<p>Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increase in turbidity attributable to controllable water quality factors shall not exceed the following limits:</p> <ol style="list-style-type: none"> 1. Where natural turbidity is between 0 and 50 Jackson Turbidity Units (JTU), increases shall not exceed 20 percent. 2. Where natural turbidity is between 50 and 100 JTU, increases shall not exceed 10 JTU. 3. Where natural turbidity is greater than 100 JTU, increases shall not exceed 10 percent. <p>Allowable zones of dilution within which higher concentrations will be tolerated will be defined for each discharge in discharge permits.</p>

Source: CCRWQCB, 2006

TABLE 3.2-2
GENERAL WATER QUALITY OBJECTIVES FOR THE SANTA YNEZ SUB-BASIN

SUB-AREA	Total Dissolved Solids (mg/l)	Chlorides (mg/l)	Sulfates (mg/l)	Boron (mg/l)	Sodium (mg/l)
Cachuma Reservoir	600	20	220	0.4	50

Source: CCRWQCB, 2011

The Santa Ynez River, located approximately 2 miles south of the project site, is on California's 2010 list for impaired water bodies [Section 303(d) of the CWA]. From Cachuma Lake to the City of Lompac, the Santa Ynez River is listed for total dissolved solids, sodium, temperature, and sedimentation/siltation (CASWB, 2010). Sources of contamination may include agriculture, resource extraction, flow regulation and modification, natural resources, and urban runoff. According to the State Water Board, Total Maximum Daily Load limitations will be completed by 2021.

Zanja De Cota Creek, located west of the project site, is not listed on California's 2010 list for impaired water bodies. As it flows through the Tribe's Reservation approximately 2 miles to the southwest, water quality samples are collected on a monthly basis by the Tribe. This water quality data is used to evaluate the overall ecosystem health and help identify potential sources of pollution in the creek. According to the Tribe, routine monitoring of Zanja De Cota Creek has indicated that water quality meets Tribal standards during dry weather conditions. During rainfall events, the water quality of the creek becomes temporarily impaired due to polluted stormwater runoff.

GROUNDWATER QUALITY

In order to protect drinking water supplies under the mandate of the Safe Drinking Water Act of 1974, the USEPA defines National Primary Drinking Water Regulations (primary standards). These are legally enforceable standards that apply to public water systems. These standards are established to protect human health by limiting the levels of contaminants in drinking water. The EPA also defines National Secondary Drinking Water Regulations (secondary standards).

The CCRWQCB has established general water quality objectives for all groundwaters under state jurisdiction to protect designated beneficial uses. The water quality objectives that govern off-Reservation groundwater quality are summarized in **Table 3.2-3**.

The Basin Plan provides specific groundwater quality objectives of state waters for the Central Coast region, including its sub-basin and sub-areas. **Table 3.2-4** lists the specific groundwater quality objects by parameter for the Santa Ynez Sub-basin (HU) and Sub-Area.

Groundwater quality problems most frequently encountered in the Central Coastal Basin pertain to hardness (CCRWQBC, 2011). With regards to the Uplands Basin, groundwater quality data is not consistently available to accurately assess the overall trends related to groundwater quality (County of Santa Barbara, 1994). Portions of the Uplands Basin have severe septic water problems due to interleaving of impermeable clays and silts with saturated sands and gravels within surface quaternary terrace deposits. This has led to instances of septic system failure and the contamination of surface and near surface waters by septic system effluent, and has also led to significant nitrate contamination of the main groundwater body to the southern portion of the basin.

TABLE 3.2-3
CCRWQCB GROUNDWATER QUALITY OBJECTIVES

Property/Constituent	Water Quality Objective
Tastes and Odors ¹	Groundwaters shall not taste or odor producing substances in concentrations that adversely affect beneficial uses.
Radioactivity ¹	Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life; or result in the accumulation of radionuclides in the food web to an extent which present a hazard to human, plant, animal, or aquatic life.
Bacteria ²	The median concentration of coliform organisms over any seven-day period shall be less than 2.2 100/ml.
Chemical Constituents ²	Groundwaters shall not contain concentrations of organic chemicals in excess of the limiting concentrations set forth in the California Code of Regulations, Title 22, Chapter 15, Article 5.5, Section 64444.5, Table 5, and listed in Table 3-1.
Radioactivity ²	Groundwaters shall not contain concentrations of radionuclides in excess of the limits specified in California Code of Regulations, Title 22, Chapter 15, Article 5.5, Section 64444.5, Table 4.
Organic Chemicals ²	Groundwaters shall not contain concentrations of organic chemicals in excess of the limiting concentrations set forth in California Code of Regulations, Title 22, Chapter 15, Article 5.5, Section 64444.5, Tables 2 and 3.

¹Indicates General Objectives
²Indicates objectives for Municipal and Domestic Supply
Source: CCRWQCB 2006

TABLE 3.2-4
GENERAL GROUNDWATER QUALITY OBJECTIVES FOR THE SANTA YNEZ SUB-BASIN

SUB-AREA	Total Dissolved Solids (mg/l)	Chlorides (mg/l)	Sulfates (mg/l)	Boron (mg/l)	Sodium (mg/l)	Nitrogen (mg/l)
Santa Ynez	600	50	10	0.5	20	1

Source: CCRWQBC, 2011

Water quality samples were obtained at Well #2 on December 22, 1999; no other water quality results were available for the onsite supply wells. The samples were analyzed for general minerals as well as general physical and inorganic chemicals. At the time, no analytes were present in concentrations above the primary or secondary standards for drinking water.

3.3 AIR QUALITY

The following describes existing air quality conditions, including greenhouse gases (GHG) that occur within the project site and general vicinity. Impacts of the project alternatives relating to GHG emissions are discussed in the cumulative analysis in **Section 4.4**.

3.3.1 REGULATORY CONTEXT

CLEAN AIR ACT

The Federal Clean Air Act (CAA) was enacted for the purposes of protecting and enhancing the quality of the nation's air resources to benefit public health, welfare, and productivity. Basic components of the CAA and its amendments include national ambient air quality standards (NAAQS) for major air pollutants and state implementation plans (SIPs) to ensure country-wide NAAQS compliance. Regulation of air pollution is achieved through both the NAAQS and emissions limitations for individual sources of air pollutants established through permitting requirements. The EPA is the federal agency responsible for identifying criteria air pollutants (CAPs) for which NAAQS are established, updating and revising the NAAQS, and approving and overseeing SIPs as they relate to compliance with the CAA. The EPA has identified six CAPs that are both common indicators of regional air quality and detrimental to human health. The six CAPs are ozone, carbon monoxide (CO), particulate matter (≤ 10 microns and ≤ 2.5 microns in diameter [PM₁₀ and PM_{2.5}]), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and lead. The NAAQS, appropriate metrics, and violation criteria for the six CAPs are presented in **Table 3.3-1**.

TABLE 3.3-1
NATIONAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	Standards		Violation Criteria
		parts per million (ppm)	micrograms per meter ($\mu\text{g}/\text{m}^3$)	
Ozone	8 hours	0.075	157	If exceeded on more than 3 days in 3 years.
CO	8 hours	9	10,000	If exceeded on more than 1 day per year.
PM ₁₀	24-hour	N/A	150	If exceeded on more than 1 day per year.
PM _{2.5}	24-hour	N/A	35	If exceeded on more than 1 day per year.
NO ₂	Annual	0.053	100	If exceeded.
	1-hour	0.100	N/A	If exceeded on more than 3 days in 3 years.
SO ₂	1-hour	0.075	N/A	If exceeded on more than 1 day per year.
Lead	Quarter	N/A	1.5	If exceeded on more than 1 day per year.

Source: SBCAPCD, 2011.

Federal General Conformity

Under the General Conformity Rule of the CAA, recently updated in 2010, the lead agency with respect to a federal action is required to demonstrate that a proposed federal action conforms to the applicable SIP(s) before the action is taken. There are two phases to a demonstration of general conformity:

- 1) The Conformity Review process, which entails an initial review of the federal action to assess whether a full conformity determination is necessary, and
- 2) The Conformity Determination process, which requires that a proposed federal action be demonstrated to conform to the applicable SIP(s).

The Conformity Review requires the lead agency to compare estimated emissions attributable to the federal action to the applicable general conformity *de minimis* threshold(s) for all CAPs for which the applicable air basin or region is in nonattainment for the applicable NAAQS. If the emission estimate(s) from step one is below the applicable *de minimis* threshold(s), then a General Conformity Determination is not required under the CAA (40 CFR Part 93). If emission estimates are greater than *de minimis* levels, the lead agency must conduct a Conformity Determination.

Federal Class I Areas

Title 1, Part C of the CAA was established, in part, to preserve, protect, and enhance the air quality in national parks, national wilderness areas, national monuments, national seashores, and other areas of special national or regional natural, recreational, scenic, or historic value. The CAA designates all international parks, national wilderness areas, and memorial parks larger than 5,000 acres and national parks larger than 6,000 acres as “Class I areas.” The CAA prevents significant deterioration of air quality in Class I areas under the Prevention of Significant Deterioration (PSD) program. The PSD Program protects Class I areas by allowing only a small increment of air quality deterioration in these areas by requiring assessment of potential impacts on air quality related values of Class I areas.

Any major source of emissions within 100 kilometers (km) (62.1 miles) from a federal Class I area is required to conduct a pre-construction review of air quality impacts on the area(s). A “major source” for the PSD program is defined as a facility that will emit (from direct stationary sources) 250 tons per year (tpy) of regulated pollutant. For certain industries, these requirements apply to facilities that emit (through direct stationary sources) 100 tpy or more of a regulated pollutant. Mobile sources (i.e. vehicle emissions) are by definition not stationary sources and are therefore not subject to the PSD program.

Federal Hazardous Air Pollutant Program

Title III of the CAA requires the EPA to promulgate National Emissions Standards for Hazardous Air Pollutants (NESHAPs). The NESHAPs may differ between regional sources and area sources of hazardous air pollutants (HAPs). Major sources are defined as stationary sources with potential to emit more than 10 tpy of any HAP or more than 25 tpy of any combination of HAPs (all other non-major sources are considered area sources under the NESHAPs program). The emissions standards were promulgated in two phases. In the first phase (1992–2000), the EPA developed technology-based emission standards designed to produce the maximum emission reduction achievable for major sources. For area sources, the standards were based on generally available control technology. In the second phase (2001–2008), the EPA promulgated health risk–based emissions standards necessary to address risks remaining after implementation of the technology-based NESHAP standards.

In addition to standards for stationary sources of HAPs, the CAA also requires the EPA to promulgate vehicle or fuel standards to include reasonable controls for toxic emissions, addressing at a minimum benzene and formaldehyde. Performance criteria were established to limit mobile-source emissions of toxics, including benzene, formaldehyde, and 1,3-butadiene. In addition, Section 219 of the CAA requires the use of reformulated gasoline in selected U.S. cities (those with the most severe ozone nonattainment conditions) to further reduce mobile-source emissions. NESHAP regulations are also commonly used to ensure the emission of HAPs (such as asbestos) are reduced or eliminated during construction through a permitting process.

CLIMATE CHANGE

Federal

In 2002, President George W. Bush established a national policy goal of reducing the GHG emission intensity (tons of GHG emissions per million dollars of gross domestic product) of the U.S. economy by 18% by 2012. No binding reductions were associated with the goal. Rather, the EPA administers a variety of voluntary programs and partnerships with GHG emitters, in which the EPA partners with industries producing and utilizing GHGs to reduce associated emissions.

Clean Air Act

In *Massachusetts et al. vs. Environmental Protection Agency et al.* (April 2, 2007), the US Supreme Court ruled that the CAA authorizes the EPA to regulate CO₂ emissions from new motor vehicles. The Court did not mandate that the EPA enact regulations to reduce GHG emissions, but found that the only instances where the EPA could avoid taking action were if it found that GHGs do not contribute to climate change or if it offered a “reasonable explanation” for not determining that GHGs contribute to climate change. On December 15, 2009, the EPA issued a final endangerment and cause finding (74 FR 66496), stating that high atmospheric levels of GHGs “are the unambiguous result of human emissions, and are very likely the cause of the observed increase in average temperatures and other climatic changes.” The EPA further found that “atmospheric concentrations of greenhouse gases endanger public health and welfare within the meaning of Section 202 of the Clean Air Act.” The finding itself does not impose any requirements on industry or other entities.

U.S. Environmental Protection Agency

On December 7, 2009, EPA Administrator Lisa Jackson signed a Final Action, under Section 202(a) of the CAA, finding that six key well-mixed greenhouse gases constitute a threat to public health and welfare, and that the combined emissions from motor vehicles cause and contribute to the climate change problem. The following are the most recent regulatory actions taken by the EPA:

- On July 23, 2009, the EPA published a final “rule which proposes to establish the criteria for including sources or sites in a Registry of Recoverable Waste Energy Sources (Registry),” as required by the Energy Independence and Security Act of 2007. Waste energy can be used to produce clean

electricity. The clean electricity produced by waste energy would reduce the need for non-renewable forms of electricity production, thus reducing GHG emissions.

- On September 15, 2009, the EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) proposed a new national program that would reduce GHG emissions and improve fuel economy for all new cars and trucks sold in the United States. The EPA proposed the first national GHG emissions standards under the Clean Air Act, and NHTSA proposed an increase in the Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act.
- In response to the FY2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110–161), the EPA issued the Final Mandatory Reporting of Greenhouse Gases Rule. Signed by the Administrator on September 22, 2009, the rule requires that suppliers of fossil fuels and industrial GHGs, manufacturers of vehicles and engines outside of the light duty sector, and facilities that emit 25,000 metric tons or more of GHGs per year to submit annual reports to the EPA. The rule is intended to collect accurate and timely emissions data to guide future policy decisions on climate change.
- On September 30, 2009, the EPA proposed new thresholds for GHGs that define when CAA permits under the New Source Review and title V operating permits programs would be required.
- In February, 2010 The CEQ Chair released a memorandum, *Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions*. The memorandum provides guidance on how project-related GHG emission should be analyzed in NEPA documents. The Draft Guidance provides that a NEPA climate change analysis shall provide quantification and mitigation to reduce GHG emissions. The guidance also provides that 25,000 metric tons of GHG emissions per year may be a helpful guideline to assist lead agencies in making informed decisions on climate change impacts resulting from a project subject to NEPA. The guidance notes that the 25,000 metric tons is not an indicator of a threshold of significant effects, but rather, it is an indicator of a minimum level of GHG emissions that may warrant some description in the appropriate NEPA analysis for agency actions involving emissions of GHGs.

State

California has been a leader among the states in outlining and aggressively implementing a comprehensive climate change strategy that is designed to result in a substantial reduction in total statewide GHG emissions in the future. California's climate change strategy is multifaceted and involves a number of state agencies implementing a variety of state laws and policies. A brief summary of these laws and policies is provided below.

Assembly Bill 1493 (AB 1493)

Signed by the Governor in 2002, AB 1493 requires that the California Air Resources Board (CARB) adopt regulations requiring a reduction in GHG emissions emitted by cars in the state. AB 1493 is intended to apply to 2009 and later vehicles. On June 30, 2009, the EPA granted a CAA waiver, which the state needs in order to implement AB 1493.

Executive Order S-3-05 (EO S-3-05)

EO S-3-05 was signed by the Governor on June 1, 2005. EO S-3-05 established the following statewide emission reduction targets:

- Reduce GHG emissions to 2000 levels by 2010,
- Reduce GHG emissions to 1990 levels by 2020, and
- Reduce GHG emissions to 80 percent below 1990 levels by 2050.

EO S-3-05 created a “Climate Action Team” (CAT) headed by the California EPA and including several other state agencies. The CAT is tasked by EO S-3-05 with outlining the effects of climate change on California and recommending an adaptation plan. The CAT is also tasked with creating a strategy to meet the emission reduction target required by the EO. In April 2006, the CAT published an initial report that accomplished these two tasks.

Assembly Bill 32 (AB 32)

Signed by the Governor on September 27, 2006, AB 32 codifies a key requirement of EO S-3-05, specifically the requirement to reduce statewide GHG emissions to 1990 levels by 2020. AB 32 tasks CARB with monitoring state sources of GHGs and designing emission reduction measures to comply with the law’s emission reduction requirements. However, AB 32 also continues the CAT’s efforts to meet the requirements of EO S-3-05 and states that the CAT should coordinate overall state climate policy.

In order to accelerate the implementation of emission reduction strategies, AB 32 requires that CARB identify a list of discrete early action measures that can be implemented relatively quickly. In October 2007, CARB published its expanded list of early action measures that it estimated could be implemented and would serve to meet about a quarter of the required 2020 emissions reductions (CARB, 2007). In order to assist CARB in identifying early action measures, the CAT published a report in April 2007 that updated its 2006 report and identified strategies for reducing GHG emissions (CAT, 2007). In its October 2007 report, CARB cited the CAT strategies and other existing strategies that may be utilized in achieving the remainder of the emissions reductions. AB 32 requires that CARB prepare a comprehensive “scoping plan” that identifies all strategies necessary to fully achieve the required 2020 emissions reductions. Consequently, CARB released its scoping plan to the public in early December 2008, and approved the scoping plan on December 12, 2008.

The scoping plan calls for an achievable reduction in California’s carbon footprint. Reduction of GHG emissions to 1990 levels are proposed, which equates to cutting approximately 30 percent of emissions estimated for 2020, or about 15 percent of today’s levels. The scoping plan relies on existing technologies

and improving energy efficiency to achieve the 30 percent reduction in GHG emission levels by 2020. The scoping plan provides the following key recommendations to reduce GHG emissions:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a state-wide renewable energy mix of 33 percent;
- Developing a state-wide cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long term commitment to AB 32 implementation.

Executive Order S-01-07 (EO S-01-07)

EO S-01-07 was signed by the Governor on January 18, 2007. It mandates a statewide goal to reduce the carbon intensity of transportation fuels by at least 10 percent by 2020. This target reduction was identified by CARB as one of the AB 32 early action measures identified in its October 2007 report.

Senate Bill 97 (SB 97)

Signed by the Governor on August 24, 2007, SB 97 requires that the Governor's Office of Planning and Research (OPR) prepare California Environmental Quality Act (CEQA) guidelines for evaluating the effects of GHG emissions and for mitigating such effects. The Natural Resources Agency adopted these guidelines in December 2009.

Although CEQA does not apply to the Proposed Action, the methodology for analyzing climate change impacts in this document is consistent with the CEQA Guidelines addressing GHGs.

Local

In September 2011, Santa Barbara County completed a Climate Action Study, which contains climate action strategies for reducing GHG emissions in the County (Santa Barbara County, 2011a). The County's GHG reduction strategies were developed to assist the State in meeting its goals set forth by AB 32. **Table 3.3-2** provides the County's GHG reduction strategies that pertain to Alternative A.

TABLE 3.3-2
SANTA BARBARA GHG REDUCTION STRATEGIES

Measures	Potential Actions
Energy Efficiency	Increase Utility Energy Efficiency Programs Reduce/promote reduction of energy consumption
Renewable Portfolio Standard	Achieve a 33 percent renewable portfolio standard
Green Buildings	Adopted Green Building Code Transit oriented planning Exceed Title 24 standards
Recycling and Waste	Increase diversion from landfills
Sustainable Forests	Promote urban forests Make land use decisions that conserve forest lands
Water	Increase water recycling Reuse urban runoff
Transportation	Transit oriented planning
Source: Santa Barbara County, 2011a.	

3.3.2 EXISTING AIR QUALITY

The project site is located in the South Central Coast Air Basin (SCCAB), which includes Santa Barbara, San Luis Obispo, and Ventura counties. The project site is currently under the jurisdiction of the Santa Barbara County Air Pollution Control District (SBCAPCD); however, once the project site is taken into trust the jurisdiction would shift to the EPA.

REGIONAL METEOROLOGY

The climate and topography of a region commonly dictates a region's air quality. Surface and upper-level wind flow varies both seasonally and geographically in Santa Barbara County and inversion conditions common to the area can affect the vertical mixing and dispersion of CAPs. Santa Ana winds, which are northeasterly warm winds, occur primarily during the fall and winter months. Upper-level winds are generally from the north and northwest throughout the year, but southerly and easterly winds occur in the morning during the winter. Maximum summer temperatures average approximately 70 degrees Fahrenheit (°F), while minimum winter temperatures average approximately 30°F. Surface temperature inversions (up to 500 feet) are frequent in the winter and subsidence inversions (1,000-2,000 feet), inversions that result in an increase in temperature with height and are directly related to the stability of the atmosphere, occur frequently during warmer months. The terrain and change in orientation of the coastline from north-to-south to east-to-west at Point Conception (located approximately 20 miles south of the project site) can cause counterclockwise circulation eddies to form east of Point Conception dispersing inland air pollutants.

REGIONAL AIR QUALITY

NAAQS Designations

As shown in **Table 3.3-3**, the SCCAB is in attainment or is unclassified for all CAPs under the current NAAQS designation. Since the initial designation, the EPA lowered the federal 8-hour ozone standard from 0.080 to 0.075 parts per million (ppm) and sent notice to the SBCAPCD that the SCCAB may be designated “marginal” nonattainment based on 2008-2010 monitoring data. CARB forwarded a recommendation to EPA in October 2011, that SCCAB be designated as “attainment” based on 2009-2011 monitoring data. The EPA made a final ruling on April 30, 2012 concurring with CARB and the SBCAPCD and designated the SCCAB as unclassified/attainment for 8-hour ozone NAAQS.

TABLE 3.3-3
SCCAB ATTAINMENT STATUS

Pollutant	NAAQS
Ozone	Attainment
PM ₁₀	Attainment
PM _{2.5}	Attainment
CO	Attainment/ Unclassified
NO ₂	Attainment/ Unclassified
SO ₂	Attainment/ Unclassified
Lead	Attainment

Source: SBCAPCD, 2011.

Pollutants of Concern

Pollutants of concern are CAPs that are present in quantities exceeding the NAAQS in the applicable air basin or region and air pollutants that are not designated as CAPs, such as CAP precursors (NO_x and ROG), yet can be temporarily present in high concentrations in a localized region of the SCCAB. No CAPs exceed the NAAQS in the SCCAB and since the EPA’s final ruling regarding the designation of 8-hour ozone, no CAP precursors would be temporarily present in high concentration in the SCCAB. Therefore, pollutants of concerns are not present in the SCCAB. **Table 3.3-4** summarizes estimated 2008 emissions of CAPs from major categories of air pollutant sources in Santa Barbara County

Hazardous Air Pollutants

Hazardous air pollutants (HAPs) are a group of pollutants of concern. HAPs are a specific group of airborne chemicals designated by the EPA. Sources of HAPs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Cars and trucks release at least 40 different HAPs. The most important, in terms of health risk, is diesel particulate matter (DPM), benzene, formaldehyde, 1,3-butadiene, and acetaldehyde.

TABLE 3.3-4
SANTA BARBARA COUNTY EMISSIONS INVENTORY

Stationary and Mobile Sources	ROG	CO	NOX	SOX	PM	PM10	PM2.5
	Tons per Day						
Fuel Combustion	0.53	6.48	7.16	0.2	0.38	0.37	0.37
Waste Disposal	0.11	0.06	0.01	0.02	0.06	0.02	0.01
Cleaning and Surface Coatings	4.99	-	-	-	0	0	0
Petroleum Production and Marketing	4.16	0.3	0.07	0.28	0.02	0.02	0.02
Industrial Processes	0.26	0.08	0.03	3.7	1.05	0.54	0.11
Solvent Evaporation	6.37	-	-	-	-	-	-
Miscellaneous Processes	4.22	31.97	2.11	0.02	36.3	20.72	7.24
On-road Motor Vehicles	9.15	93.88	15.75	0.06	0.64	0.63	0.43
Other Mobile Sources	8.47	42.7	64.85	29.32	5.16	4.97	4.79
Total Santa Barbara County	38.26	175.46	89.98	33.59	43.61	27.28	12.98

Source: CARB, 2010.

HAPs are less pervasive in the urban atmosphere than CAPs, but are linked to short-term (acute) or long-term (chronic or carcinogenic) adverse human health effects. There are hundreds of different types of HAPs, with varying degrees of toxicity. Currently, there are over 188 HAPs listed by the EPA.

The majority of the estimated health risk from HAPs can be attributed to relatively few compounds, the most important being DPM (CARB, 2005). Diesel engines emit a complex mixture of air pollutants, composed of gaseous and solid material. The visible emissions in diesel exhaust are particulate matter that includes carbon. Diesel exhaust also contains a variety of harmful gases and over 40 other cancer-causing substances.

FEDERAL CLASS I AREAS

The federal Class I area, San Rafael Wilderness, is located approximately 18 miles northeast of the project site.

CLIMATE CHANGE

The impacts of climate change could be both global (such as more erratic weather patterns, more frequent droughts, and rising sea level) and regional. Climate change has the potential to reduce the snow pack in the mountains, increase drought periods, reduce water tables, increase seawater intrusion, and reduce or reconfigure the coastline in California (IPCC, 2007). Development projects typically result in an increase in GHG emissions due to increases in mobile sources (trips generated), area sources (facility components or operations that directly emit GHGs), and indirect sources related to electrical power consumption.

Carbon Dioxide Equivalent

Carbon dioxide equivalent (CO₂e) is a method by which emissions of individual GHGs are normalized in relation to heat-capturing abilities. As shown in **Table 3.3-5**, CO₂ is used as the baseline for GHG

inventories and is given a CO₂e value of 1. Other GHGs are assigned a CO₂e ratio based on their ability to trap heat in comparison with that of CO₂. For example, CH₄ has the ability to capture 21 times more heat than CO₂, and therefore is given a CO₂e value of 21. To calculate total GHG emissions for a source, estimated emissions for each GHG are multiplied by the corresponding CO₂e value and then the converted values are summed for a total CO₂e emissions rate. Establishing a comparable total emissions rate provides a means for comparing emissions sources and presenting the relative overall effectiveness of emission reduction measures for reducing project contributions to global climate change.

TABLE 3.3-5
GREENHOUSE GAS CO₂ EQUIVALENT

Gas	CO ₂ e Value	Gas	CO ₂ e Value
CO ₂	1	HFCs/PFCs ¹	6,500
CH ₄	21	SF ₆ ¹	23,900
N ₂ O	310		

NOTES: CO₂e =Carbon dioxide equivalent

¹ High-global warming potential pollutants

CH₄ = methane; N₂O = nitrous oxide; HFCs/PFCs = hydroflouorocarbons perflouorocarbons; SF₆ = sulfur hexafluoride

Source: IPCC, 2007; AES, 2007a/b.

SENSITIVE RECEPTORS

Sensitive receptors are generally defined as land uses that house or attract people who are susceptible to experience adverse impacts from air pollution emissions and, as such, should be given special consideration when evaluating air quality impacts from projects. Sensitive receptors include facilities that house or attract children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Hospitals, schools, convalescent homes, parks and recreational facilities, and residential areas are examples of sensitive receptors.

Land uses in the immediate vicinity of the project site consist of agriculture, open space and residences. Residences border the northern and eastern boundary of the project site. The closest residence is approximately 100 feet north of the agricultural portion of the project site. The nearest residential receptor to where construction activities would occur is located approximately 200 feet east of the eastern property boundary. The nearest school, Valley Lutheran Church Pre-school, is located approximately one mile west of the vineyard on the project site. The Santa Ynez Charter School is located approximately one mile west of the southeastern boundary of the project site. The nearest hospital to the project site is the Santa Ynez Valley Cottage Hospital, located approximately 3.5 miles west of the project site.

3.4 BIOLOGICAL RESOURCES

The following describes the existing biological resources, including habitat and waters of the U.S., which occur within the project site and general vicinity. The assessment of the existing biological resources is based upon the results of biological field surveys, which were conducted to document the existing habitat types

onsite and to assess the potential for occurrence and/or presence of federally listed species and/or their habitats.

3.4.2 REGULATORY SETTING

FEDERAL

Federal Endangered Species Act

The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) enforce provisions stipulated within the federal Endangered Species Act (FESA) of 1973 (16 USC § 1531 et seq.). Threatened and endangered species on the federal list (50 CFR § 17.11, 17.12) are protected from take, defined as direct or indirect harm, unless a Section 10(a)(1)(B) permit is granted or a Biological Opinion (BO) with incidental take provisions is rendered. Pursuant to the requirements of FESA and NEPA, the BIA must determine whether any federally listed species may be present on the project site and determine whether a proposed project will have a potentially significant impact upon such species. Under FESA, habitat loss is considered an impact to the species. In addition, the BIA is required to determine whether a project is likely to jeopardize the continued existence of any species that is proposed for listing under the FESA or to result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC § 1536[3], [4]). Therefore, project-related impacts to these species, or their habitats, would require mitigation.

Migratory Bird Treaty Act

Most bird species, especially those that are breeding, are considered migratory, or are of limited distribution, are protected under federal and/or state regulations. Under the Migratory Bird Treaty Act of 1918 16 U.S.C. 703-712, migratory bird species and their nests and eggs on the federal list [50 Code of Federal Regulations (C.F.R.) 10.13] are protected from injury or death.

Wetlands and Other Waters of the U.S.

Any project that involves working in navigable and other waters of the U.S., including the discharge of dredged or fill material, must first obtain authorization from the USACE under Section 404 of the Clean Water Act. The EPA issues a Clean Water Act Section 401 Water Quality Certification on Trust Land in conjunction with the Section 404 permit as part of the permitting process. In addition, the EPA issues General Construction NPDES permits that require that all projects over one acre in size comply with the terms and conditions described within the NPDES permit.

TRIBAL ORDINANCE REGARDING OAK TREE PRESERVATION

Valley oak (*Quercus lobata*), coast live oak (*Quercus agrifolia*), and canyon live oak (*Quercus chrysolepis*) are protected under the Tribal Ordinance Regarding Oak Tree Preservation for the Santa Ynez Band of Chumash Indians (Oak Tree Ordinance) (Santa Ynez Band of Chumash Indians, 2000). The ordinance requires that there shall be no loss of oak trees from the Reservation, unless they pose a threat to human health

or impede development of Tribal facilities. The Oak Tree Ordinance states that there shall be no cutting, trimming, or pruning of oaks and there shall be no digging within the dripline of any oak and that care shall be taken when using heavy equipment around the dripline to prevent compaction of the root zone. Further, oak trees are to be planted to stabilize streambanks, provide canopy and shading, and to insure the sustainable future of the oak trees on the Reservation.

3.4.1 ENVIRONMENTAL SETTING

METHODOLOGY

A list of regionally occurring federally listed species in the vicinity of the project site was compiled based upon a review of pertinent literature, aerial photographs, site topographic maps, a map of special status species reported within five miles of the project site, a map of USFWS-designated critical habitat for federally listed species in the vicinity of the project site, informal consultation with the USFWS, and lists of regionally occurring special status species. The lists of regionally occurring special status species include:

1. USFWS letter of listed and candidate species that may occur in the vicinity of the project site, Santa Barbara County, California (USFWS, 2011);
2. California Native Plant Society (CNPS) list, dated March 19, 2012, of reported occurrences of special status plants within the Santa Ynez and Los Olivos U.S. Geographical Survey (USGS) 7.5-minute topographic quadrangles (quads), and
3. California Department of Fish and Game's California Natural Diversity Database (CNDDDB) list, dated March 2, 2012, of reported occurrences of special status species within the Santa Ynez and Los Olivos quads (CDFG, 2003).

The USFWS, CNDDDB, and CNPS lists are provided in **Appendix E** as well as a Biological Assessment prepared to initiate consultation with the USFWS under Section 7 of the FESA.

An AES biologist and botanist conducted biological surveys and informal delineations on September 12, 13, and 14, 2011. A follow-up site survey conducted by AES on July 16-17, 2013, indicating no major changes occurring on the project site since the original survey. The biological surveys consisted of walking and/or driving throughout the project site to characterize terrestrial and aquatic habitat types and evaluate their potential to support regionally occurring federally listed species. Terrestrial habitats were classified, where applicable, using California Wildlife Habitat Relationships (CWHR; 2005). The nomenclature described in the plant communities was based on the *Jepson Manual-Higher Plants of California* (Hickman, 1993). Wetlands potentially subject to USACE jurisdiction under Section 404 of the CWA were informally delineated using the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin, 1979). Potentially jurisdictional waters of the U.S. other than wetlands were determined using the USACE's regulations (33 CFR Part 328). Aerial photographs were used to document preliminary boundaries of habitat types during the fieldwork. All visible plants and wildlife were noted and identified to the lowest possible

taxon necessary to determine rarity and listing status. Lists of all plants and wildlife observed during the 2011 and 2012 biological surveys are provided in **Appendix E**.

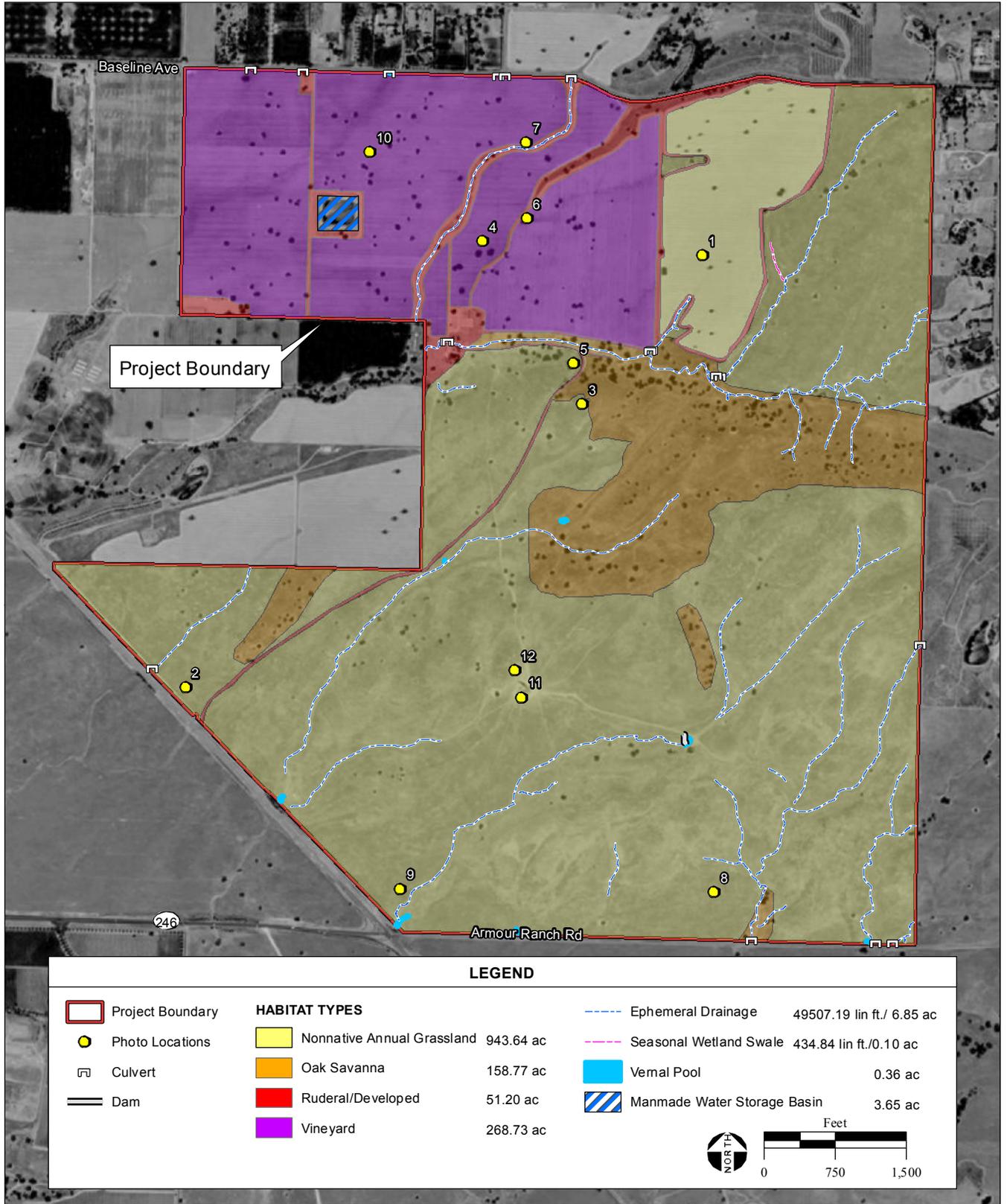
AES botanists conducted focused botanical surveys on March 7, 8, and 9, 2012 and April 23, 24, and 25, 2012. Botanical inventories were conducted in accordance with the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFG Protocols) (CDFG, 2009). All plants observed within the project site were documented during the botanical inventories (**Appendix E**).

Global Positioning System (GPS) technology, a Trimble Geo XT™ receiver, was used to locate and map preliminary boundaries of waters of the U.S. during the 2011 and 2012 fieldwork. The geographic coordinate system used to reference the data was Universal Transverse Mercator (UTM–Zone 10), North American Datum (NAD83) in meters. Potential wetland boundaries were mapped at a level of accuracy of less than one meter. Habitat boundaries were identified during the biological surveys on an aerial photograph. Environmental Systems Research Institute (ESRI) shape files were generated based on the habitat boundaries, potentially jurisdictional waters of the U.S., and other sensitive biological resources mapped within the project site. Geographic analyses were performed using Geographic Information System (GIS) software (ArcView 3.3 GIS, ESRI, Inc.). The ESRI data and GIS software were used to calculate the acreages of habitat types and wetland features.

A list of regionally occurring federally listed species was compiled based on the USFWS, CNDDDB, and CNPS lists. The potential for each of the regionally occurring federally listed species to occur on the project site was subsequently evaluated based on the results of the biological surveys and the focused botanical surveys; review of applicable literature; and proximity of known occurrences of special status species within five miles of the project site. The distribution and habitat types for each federally listed species and the potential for each species to occur on the project site are included in a list provided in **Appendix E**. Several regionally occurring federally listed species were eliminated from consideration either because the project site lacks suitable habitat or the project site occurs outside of the known elevation range or geographical distribution of the species. Federally listed species without the potential to occur within the project site are not discussed further.

HABITAT TYPES

Four terrestrial and five aquatic habitat types occur within the project site. The four terrestrial habitat types that occur within the project site are nonnative annual grassland, oak savanna, vineyard, and ruderal/disturbed areas. The five aquatic habitat types that occur within the project site are ephemeral drainage, seasonal wetland swale, vernal pool, manmade storage basin, and stock pond. A habitat map of the project site is shown in **Figure 3-4**. Representative photographs of the biological communities are shown in **Figures 3-5a** and **b**. The locations identifying where the photographs were taken within the project site are mapped on the



SOURCE: Santa Ynez Band of Chumash Indians, 2011; NAIP Aerial Photograph, 6/17/2009; AES, 2012

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Figure 3-4
Habitat Map



PHOTO 1: View northwest of nonnative annual grassland. Photograph taken from the northeastern portion of the project site.



PHOTO 2: View north of nonnative annual grassland. Photograph taken from the western portion of the project site.



PHOTO 3: View north of oak savanna surrounded by nonnative annual grassland. Photograph taken from the central portion of the project site.



PHOTO 4: View northwest of vineyard. Photograph taken from the north-central portion of the project site.



PHOTO 5: View north of ruderal/disturbed areas. Photograph taken from the west-central portion of the project site.



PHOTO 6: View west of ruderal/disturbed areas and vineyard. Photograph taken from the north-central portion of the project site.



PHOTO 7: View north of ruderal/disturbed areas and ephemeral drainage. Photograph taken from the northern portion of the project site.



PHOTO 8: View southeast of nonnative annual grassland, oak savanna, and ephemeral drainage. Photograph taken from the southwestern portion of the project site.



PHOTO 9: View southwest of vernal pool. Photograph taken from the southwestern portion of the project site.



PHOTO 10: View west of manmade basin. Photograph taken from the northwestern portion of the project site.



PHOTO 11: View south of ephemeral drainage just south of levee. Photograph taken from the south-central portion of the project site.



PHOTO 12: View southeast of vernal pool that formed as a result of construction of the manmade levee. Photograph taken from the south-central portion of the project site.

habitat map (Figure 3-4). Table 3.4-1 summarizes the habitat types by acreages. Dominant vegetation observed within the habitat types are discussed in detail below.

TABLE 3.4-1
SUMMARY OF HABITAT TYPES ON THE PROJECT SITE

	Habitat Type	Acre ¹
Terrestrial Habitats	Nonnative Annual Grassland	943.64
	Oak Savanna	158.77
	Vineyard	268.73
	Ruderal/Developed	51.20
Aquatic Habitats	Ephemeral Drainage	6.85
	Seasonal Wetland Swale	0.10
	Seasonal Wetland	0.36
	Manmade Storage Basin	3.65
	TOTAL	1,433.30

¹GIS calculations may not reflect exact acreage due to rounding.

Nonnative Annual Grassland

Nonnative annual grassland occurs throughout the majority of the project site. Dominant vegetation is comprised of predominately understory herbaceous vegetation including soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), Bermuda grass (*Cynodon dactylon*), barnyard grass (*Echinochloa crus-gali*), foxtail barley (*Hordeum murinum*), wild oat (*Avena fatua*), English plantain (*Plantago lanceolata*), filaree (*Erodium cicutarium*), field bindweed (*Convolvulus arvensis*), doveweed (*Croton setigerus*), bur clover (*Medicago polymorpha*), pigweed (*Amaranthus retroflexus*), prickly grass (*Crypsis alopecuroides*), horseweed (*Conyza canadensis*), common dandelion (*Taraxicum officianale*), wild mustard (*Brassica nigra*), short pod mustard (*Hirschfeldia incana*), and spring vetch (*Vicia sativa*). Overstory vegetation includes sparsely occurring individual blue oak (*Quercus douglasii*) trees interspersed throughout the nonnative annual grassland.

Oak Savanna

Oak savanna occurs in the central and southern portions of the project site. Dominant overstory vegetation is predominately comprised of blue oak. Dominant understory vegetation includes those identified within the nonnative annual grassland.

Vineyard

Vineyard occurs within the northern portion of the project site. The vineyard is comprised of a monoculture of grape (*Vitis* sp.) vines established on trellises in rows. Overstory vegetation includes individual valley oak (*Quercus lobata*) and coast live oak (*Quercus agrifolia*) trees. Understory vegetation is comprised of opportunistic nonnative weedy species that have established in sparse locations between the rows and along the perimeter of the vineyard.

Ruderal/Developed

Ruderal/developed areas occur within the project site. Ruderal/developed areas include residential houses and associated out buildings, equipment storage areas, graded roads, and along road cuts. Vegetation within the ruderal areas consists of various weedy upland grasses and forbs including ripgut brome, barnyard grass, Bermuda grass, field bindweed, geranium, pigweed, Jimsonweed (*Datura discolor*), Italian thistle (*Carduus pycnocephalus*), yellow star-thistle (*Centaurea solstitialis*), eleocharis (*Eleocharis macrostachya*), prickly lettuce (*Sonchus oleraceus*), and tocalote (*Centaurea melitensis*).

Ephemeral Drainage

Ephemeral drainages occur in several locations throughout the project site. Ephemeral drainages are those that flow only in direct response to precipitation, and whose channel is at all times above the water table. None of the ephemeral drainages contained water during the September 2011, March 2012, or April 2012 biological surveys of the project site.

The ephemeral drainages consist of well-defined, highly scoured beds and banks comprised of cobble substrate and predominately weedy species including English plantain, yellow star-thistle, horseweed, foxtail barley, ripgut grass, wild mustard, and common knotweed (*Polygonum arenastrum*). Overstory vegetation includes scattered blue oak trees.

Seasonal Wetland Swale

A seasonal wetland swale occurs in the northeastern portion of the project site. A swale is a broad, shallow channel with vegetation covering the side slopes and bottom. The seasonal wetland swale did not contain water during the September 2011, March 2012, or April, 2012 surveys of the project site. Dominant vegetation includes Italian ryegrass (*Lolium multiflorum*), and curly dock (*Rumex crispus*).

Seasonal Wetland

Seasonal wetlands occur within the project site. The seasonal wetlands did not contain water and were sparsely vegetated during the September 2011 or March 2012 surveys of the project site. The seasonal wetlands were saturated to inundated during the April 2012 surveys. Understory vegetation includes doveweed, vinegar weed (*Trichostema lanceolatum*), skunkweed (*Navarretia squarrosa*), Italian ryegrass, clover (*Trifolium depauperatum*), popcorn flower (*Plagiobothrys stipitatus* var. *micranthus*), toad rush (*Juncus bufonius*), and peppergrass (*Lepidium nitidum* var. *nitidum*).

Manmade Storage Basin

A manmade storage basin occurs within the northwestern portion of the project site. The manmade storage basin is a concrete-lined feature and constructed in uplands to store irrigation water for the surrounding vineyard. The manmade storage basin lacks vegetation.

Stock Pond

A manmade stock pond occurs within the southeastern portion of the project site. An earthen dam was constructed to form the stock pond. The majority of the stock pond was devoid of vegetation except for isolated doveweed plants. The stock pond did not contain water during the September 2011 or March 2012 surveys of the project site, however, was inundated during the April 2012 surveys of the project site.

WILDLIFE

Wildlife observed within the project site during the September 2011, March 2012, and April 2012 biological surveys include: coyote (*Canis latrans*), California ground squirrel (*Spermophilus beecheyi*), western fence lizard (*Sceloporus occidentalis*), red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), turkey vulture (*Cathartes aura*), American crow (*Corvus brachyrhynchos*), and northern mockingbird (*Mimus polyglottos*). A complete list of wildlife species observed within the project site is included in **Appendix E**.

Wildlife Corridors

Wildlife corridors provide physical connections that allow wildlife to move between patches of suitable habitat in undisturbed landscapes, as well as environments fragmented by urban development. Wildlife corridors are essential to the regional ecology of a species because they provide avenues of genetic exchange and allow animals to access alternative territories as dictated by fluctuating population densities. Wildlife corridors connect two or more habitat patches that would otherwise be fragmented or isolated from one another. Riparian corridors surrounding perennial streams are considered wildlife corridors because they provide food, water, and cover, and often link other habitats.

The project site is bound by roads on all sides. Land uses surrounding the project site include residential development to the north and east, nonnative annual grassland to the southeast, south, and southwest, and agricultural crops to the west. Although the project site lacks riparian vegetation, the ephemeral drainage that extends in a southwestern direction through the vineyard is comprised of highly incised three and ten-foot high banks with shrubby upland vegetation present, which provides cover and a link to other habitats located to the north and southwest of the project site.

OAK TREES

Coast live oak and valley oak occur within the vineyard. Blue oak trees occur within the oak savanna and nonnative annual grassland. The oak trees are protected under the Tribal Oak Tree Ordinance.

WATERS OF THE U.S.

The National Wetlands Inventory (NWI; USFWS, 1976, 1981, 1984, and 2006) map does not identify any wetland features within the project site. A formal delineation has not been conducted within the project site. The ephemeral drainage, seasonal wetland swale, and vernal pools may be considered potentially jurisdictional waters of the U.S., subject to Section 404 of the CWA. The manmade storage basin is not

considered a potentially jurisdictional water of the U.S. because it is a concrete-lined feature excavated fully in uplands, and lacks a hydrological connection to any waters of the U.S.

FEDERALLY LISTED SPECIES

Federally listed species evaluated in this EA as required under NEPA include species listed as endangered, threatened, or that are candidates for listing under FESA and migratory birds and other birds of prey protected under the Migratory Bird Treaty Act. Federally listed species with the potential to occur within the project site are discussed in detail below. Federally listed species that have no potential to occur in the project site are not discussed further. A CNDDDB map of special status species occurring within five miles of the project site is provided in **Figure 3-6**. A critical habitat map in the vicinity of the project site is provided in **Figure 3-7**.

Federally Listed Plants

The project site does not provide habitat for any federally listed plants. No federally listed plants occur within the project site.

Federally Listed Wildlife

Two federally listed wildlife species have the potential to occur within the project site, vernal pool fairy shrimp (*Branchinecta lynchi*; VPFS) and California red-legged frog (*Rana aurora draytonii*; CRLF). These species are discussed in detail below.

Vernal Pool Fairy Shrimp (*Branchinecta lynchi*; VPFS)

Federal Status – Threatened

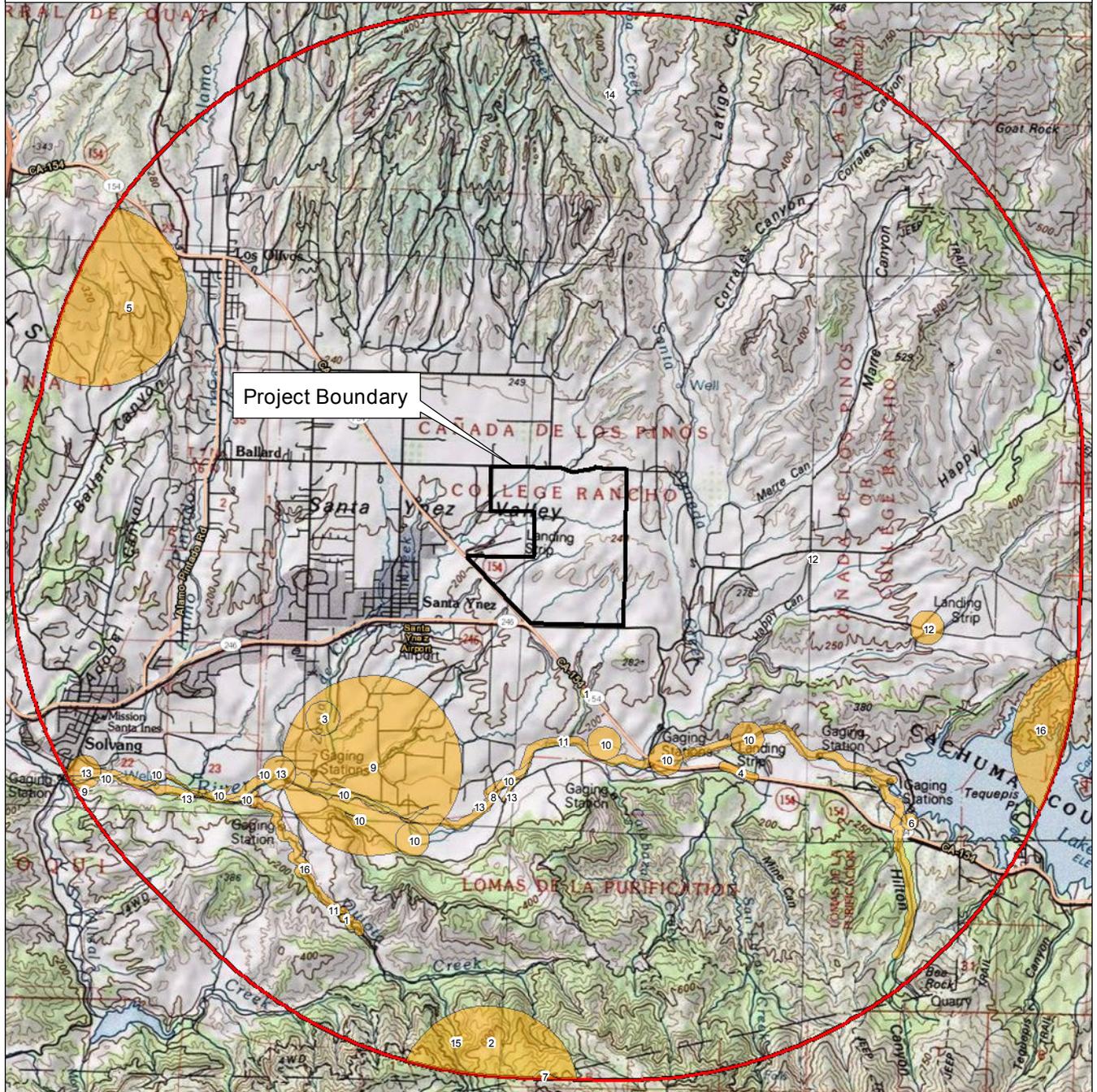
Biology: VPFS inhabit vernal pools of the Central Valley and Coast Ranges from 10 to 290 meters above mean sea level (amsl). VPFS are most commonly found in small swales, earth slumps, or basalt-flow depression basins with grassy or muddy bottoms in unplowed soils, and occasionally in clear depressions less than one meter in diameter in sandstone outcrops surrounded by foothill grasslands. VPFS occur in waters between 4.5 and 23°C, with low to moderate total dissolved solids (48 to 481 parts per million (ppm)), and a pH between 6.3 and 8.5 (Syrdahl, 1993; Eriksen and Belk, 1999). When the vernal pools fill with rainwater, VPFS hatch from eggs (shell-covered dormant embryos) present in the soil from previous years of breeding. Eggs normally hatch when water less than 10°C fills vernal pools. VPFS reach maturity in approximately 18 days under conditions when daytime temperatures reach 20°C, but 41 days are more typical if water remains near 15°C (Gallagher, 1996; Helm, 1998).

Regional Distribution: VPFS are known from Alameda, Butte, Calaveras, Colusa, Contra Costa, El Dorado, Fresno, Glenn, Kings, Madera, Merced, Monterey, Napa, Placer, Riverside, Sacramento, San Benito, San Joaquin, San Luis Obispo, Santa Barbara, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Ventura, Yolo, and Yuba counties in California and in southern Oregon (NatureServe, 2011).

SPECIAL STATUS SPECIES DATA

 Project Boundary	3 - Cooper's hawk	8 - Southern California Steelhead Stream	13 - Southern Willow Scrub
 5-Mile Radius	4 - Coulter's goldfields	9 - Southern Coast Live Oak Riparian Forest	14 - tricolored blackbird
 CNDDB Occurrences	5 - Hoover's bent grass	10 - Southern Cottonwood Willow Riparian Forest	15 - umbrella larkspur
1 - California redlegged frog	6 - paleyellow layia	11 - southern steelhead southern California DPS	16 - western pond turtle
2 - chaparral ragwort	7 - Refugio manzanita	12 - Southern Vernal Pool	

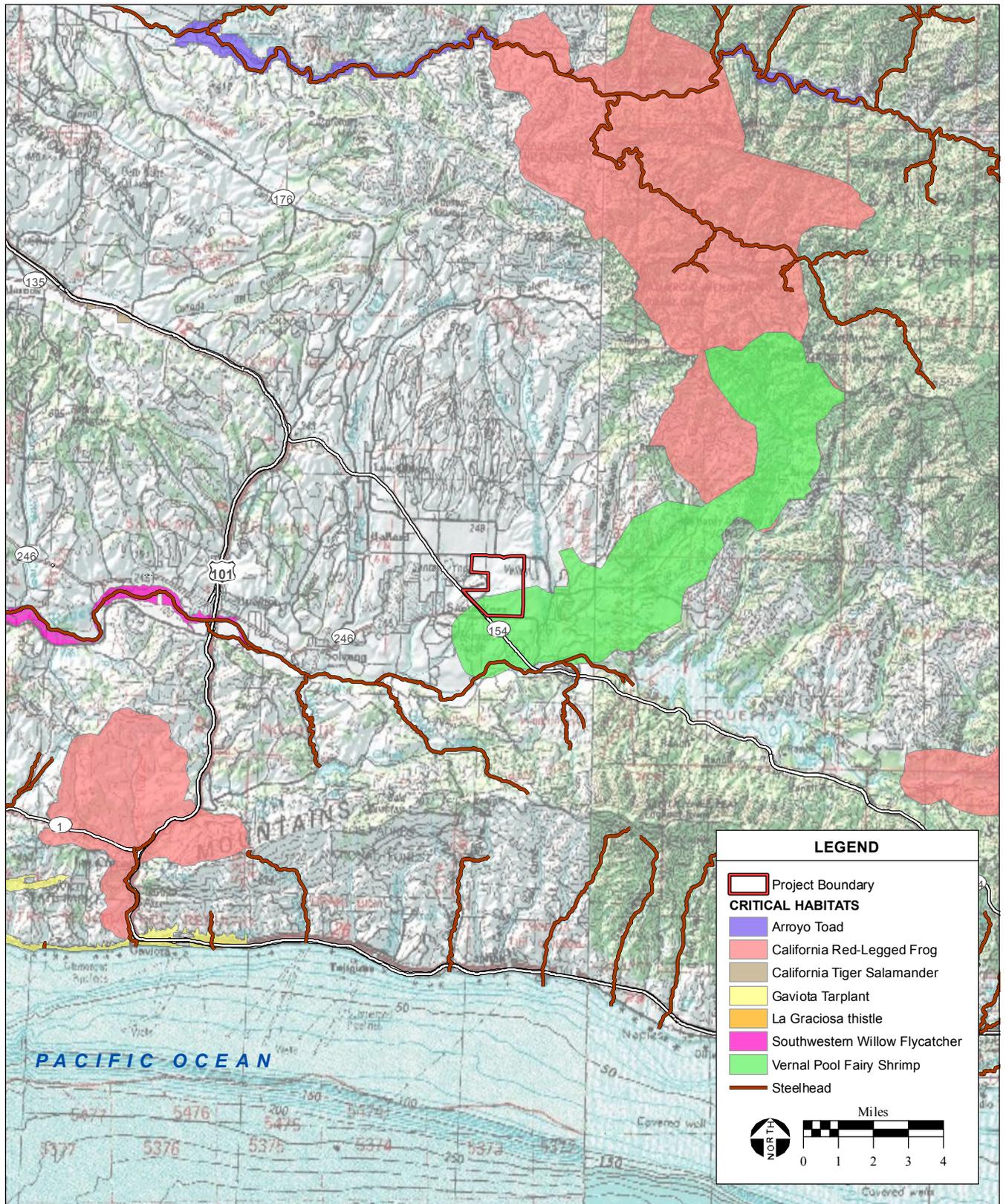


SOURCE: California Natural Diversity Database, 9/2011; "Los Olivos, CA" & "Santa Ynez" USGS 7.5 Minute Topographic Quadrangles, T7N, R 31W & T6N, R29W, Unsectioned Area of Santa Ynez Valley, Mt. Diablo Baseline & Meridian; AES, 2013

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Figure 3-6
CNDDB 5-Mile Radius



SOURCE: "Santa Maria, CA" USGS 100k Topographic Quadrangle, San Bernardino Baseline and Meridian; USFWS Critical Habitats Surveys, 1977,1994,2002, and 2004-2006; AES, 2013

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Figure 3-7
Critical Habitats

There are no CNDDDB records for VPFS within five miles of the project site. There is only one documented CNDDDB record for VPFS within Santa Barbara County. The record is from 2004 and is mapped approximately 48.3 kilometers (30 miles) north of the project site (CNDDDB occurrence number: 359). The record states that an estimated 10,000 VPFS adults were observed within a small swale comprised of rocky, clay soil surrounded by grazed blue oak/grassland.

Recovery Plan: VPFS is covered as a federally listed threatened species under the *Recovery Plan for Vernal Pool Ecosystems for California and Southern Oregon* (Vernal Pool Recovery Plan) (USFWS, 2005b). The USFWS published the Recovery Plan on December 15, 2005. The Vernal Pool Recovery Plan covers 20 federal threatened or endangered species and 13 special status species that inhabit vernal pool ecosystems in California and southern Oregon (USFWS, 2005b). The southern portion of the project site occurs within the Santa Barbara Vernal Pool Region within the Lake Cachuma core area of the Vernal Pool Recovery Plan (2005b).

Potential to Occur in the Action Area: The project site provides habitat for VPFS within the vernal pools and is located within a core area of the Vernal Pool Recovery Plan. The vernal pools did not contain water during the September 2011, March 2012, and April 2012 biological surveys of the project site. Because of the factors above, VPFS are considered to have the potential to occur within the project site.

California Red-Legged Frog (*Rana aurora draytonii*; CRLF)

Federal Status: Threatened

Biology: CRLF require aquatic breeding areas embedded within a matrix of riparian and upland dispersal habitats from sea level to approximately 1,500 meters amsl (75 FR 12816-12959). Breeding aquatic habitats include pools and backwaters within streams, creeks, ponds, marshes, springs, sag ponds, dune ponds, and lagoons. CRLF also breed in artificial impoundments including stock ponds. The breeding period is from November through April. CRLF mate between February and March. The eggs hatch into tadpoles in approximately three weeks. The tadpoles subsequently metamorphose into juveniles between 11 and 20 weeks, which generally occurs between June and September. CRLF use a variety of areas, including aquatic, riparian, and upland habitats. CRLF require a breeding pond, or slow-flowing stream reach or deep pool within a stream with vegetation or other material to which egg masses may be attached. These areas must hold water long enough for tadpoles to complete their metamorphosis into juvenile frogs that can survive outside of water. The CRLF use riparian and upland habitats for foraging, shelter, cover, and nondispersal movement (75 FR 12816-12959). Upland habitats include crevices under boulders or rocks and organic debris, such as downed trees or logs; industrial debris; and agricultural features, such as drains, watering troughs, abandoned sheds, or hay-ricks. Beginning with the first rains of fall, CRLF may make overland excursions through upland habitats during the night. CRLF may move distances up to 1.6 kilometers (one mile) throughout one wet season (USFWS, 2002).

Regional Distribution: CRLF are known from Alameda, Butte, Contra Costa, El Dorado, Fresno, Kern, Los Angeles, Marin, Mariposa, Mendocino, Merced, Monterey, Napa, San Benito, San Bernardino, San Diego, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Siskiyou, Solano, Sonoma, Stanislaus, Tehama, Trinity, Tuolumne, and Ventura counties (NatureServe, 2011).

Recovery Plan: The USFWS published the *Recovery Plan for the California Red-legged Frog (Rana aurora draytonii)* (CRLF Recovery Plan) on May 28, 2002 (USFWS, 2002b). The objective of the CRLF Recovery Plan is to reduce any threats to the species and to improve the status of the CRLF populations sufficiently to warrant delisting. The CRLF Recovery Plan designated eight recovery unit boundaries throughout California and 35 Core Areas within each unit boundary. Recovery units are “regions of the species’ distribution that are distinct from one another based on ecological characteristics, status of the species, threats to the continued existence of the species, or recovery actions needed within the area.” Core Areas are “watersheds, or portions thereof, that have been determined to be essential to the recovery of the CRLF.” Core Areas have no legal mandate for protection under FESA and solely rely upon voluntary implementation (USFWS, 2002b). The project site does not occur within any of the recovery unit boundaries for CRLF.

There are two CNDDDB records for CRLF within five miles of the project site. The nearest CNDDDB record is from 2003 and is approximately 1.13 kilometers (0.7 miles) south of the project site (occurrence number: 769). The record states that one juvenile CRLF was observed within a narrow riparian corridor within a tributary to the Santa Ynez River below a six-foot high impassible waterfall. The other CNDDDB record is from 2002 and is approximately 6.12 kilometers (3.8 miles) southwest of the project site (occurrence number: 665). The record states that eight CRLF adults and 27 juveniles were observed on a bank within a small pool within Quiota Creek (CDFG, 2003).

Potential to Occur in the Action Area: The project site does not provide breeding habitat for CRLF as the manmade water storage basin is concrete lined and lacks vegetation and the ephemeral drainages do not hold permanent water long enough for CRLF larvae to develop into adults (USFWS, 2010). The NWI map identifies palustrine, emergent or unconsolidated bottom, seasonally or semi-permanently flooded, excavated or diked/impounded wetland features to the east and west of the project site that may provide habitat for CRLF. The NWI map identifies six of these wetland features within 1.6 kilometers (one mile) to the west of the project site. The NWI map identifies one wetland feature within 1.6 kilometers (one mile) to the east of the project site; however, the aerial photograph provided as **Figure 3-5** identifies approximately four additional wetland features within 1.6 kilometers (one mile) to the east of the project site. Because these features occur on private land, they were not ground-truthed during the biological surveys. Therefore, it is uncertain whether these features lack barriers between the wetland features and potential upland habitat within the project site and/or whether the wetland features are comprised of emergent vegetation required for CRLF to breed. CRLF has the potential to utilize upland habitat within the project site.

Migratory Birds

Migratory birds and other birds of prey, protected under 50 CFR 10 of the Migratory Bird Treaty Act, have the potential to nest within the trees within the nonnative annual grassland, oak savanna, vineyard, and ruderal/developed areas. The nesting season generally extends from March 1 to September 15. No migratory birds or other birds of prey were observed nesting during the 2011, 2012, and 2013 biological surveys of the project site. Migratory birds and other birds of prey have the potential to nest within the project site.

Critical Habitat

Vernal Pool Fairy Shrimp (*Branchinecta lynchi*; VPFS)

The USFWS designated critical habitat for 15 vernal pool species on August 11, 2005 (50 CFR 17) (USFWS, 2005a). The primary constituent elements of critical habitat for VPFS are the habitat components that provide: topographic features characterized by mounds and swales and depressions within a matrix of surrounding uplands that result in complexes of continuously, or intermittently, flowing surface water in the swales connecting the pools, providing for dispersal and promoting hydroperiods of adequate length in the pools; depressional features including isolated vernal pools with underlying restrictive soil layers that become inundated during winter rains and that continuously hold water for a minimum of 18 days, in all but the driest years; thereby providing adequate water for incubation, maturation, and reproduction; sources of food, expected to be detritus occurring in the pools, contributed by overland flow from the pools' watershed, or the results of biological processes within the pools themselves, such as single-celled bacteria, algae, and dead organic matter, to provide for feeding; and pool structure consisting of organic and inorganic materials, such as living and dead plants from plant species adapted to seasonally inundated environments, rocks, and other inorganic debris that may be washed, blown, or otherwise transported into the pools, that provide shelter. The southern portion of the project site occurs within area designated by USFWS as Critical Habitat Unit 31 (**Figure 3-7**).

California Red-Legged Frog (*Rana aurora draytonii*; CRLF)

The USFWS revised the critical habitat designated for CRLF on March 17, 2010 (USFWS, 2010; 75 FR 12816-12959). The USFWS designated approximately 1,636,609 acres of critical habitat within 48 units of 27 counties in California. The project site does not occur within critical habitat for CRLF. The nearest critical habitat units in the vicinity of the project site include SBT-3 and SBT-6. SBT-3 occurs approximately 8.88 kilometers (5.6 miles) northeast of the project site. SBT-6 occurs approximately 8.1 kilometers (5.5) miles south of the project site.

STATE LISTED SPECIES

While one state listed species, the western pond turtle (*Emys marmorata*), may have potential to occur within the project site, these species generally receive no specific protection on land taken into trust by the federal government and are not necessarily afforded protection by FESA. While the nonnative annual grassland in the vicinity of wetland features surrounding the property provides upland habitat for this species and various features on the project site provide marginal habitat (refer to **Appendix E** for habitat requirements), the likelihood of occurrence within the project boundaries is minimal. The nearest recorded occurrence of the western pond turtle is approximately 4 miles southwest of the project site (refer to **Figure 3-6**). While the manmade storage basin within the vineyard provides a ponded water source, the habitat is marginal given the lack of emergent vegetation. In addition, this species was not observed during the September 2011, March 2012, and April 2012 surveys. Considering the western pond turtle is not afforded protection under FESA,

minimal suitable habitat is located within the project site, and that the species was not observed during the biological surveys, impacts associated with the western pond turtle are not further addressed within this EA.

3.5 CULTURAL RESOURCES

The following describes the existing cultural and paleontological resource considerations in the general vicinity of the project site. A Phase 1 and Phase 1.5 Archaeological Investigation of Parcels 1-5 was conducted in June 2011 (Archaeological Investigation) (Archaeology Assessment and Management, 2011). The Archaeological Investigation included a records search and intensive field survey to identify and evaluate any prehistoric and historic-period resources within or adjacent to the project site. The Archaeological Investigation is confidential due to the sensitive nature of historic resources. Therefore, the document is included as a confidential appendix to the EA (**Appendix F**) to ensure sensitive information is protected. The cultural resources study is reviewed by the appropriate State and Federal agencies to ensure compliance with Federal regulations. Following is a summary of applicable, non-sensitive information provided in the Archaeological Investigation.

3.5.1 REGULATORY SETTING

NATIONAL HISTORIC PRESERVATION ACT

Section 106 of the National Historic Preservation Act (NHPA) as amended, and its implementing regulations found in 36 CFR Part 800, require federal agencies to identify cultural resources that may be affected by actions involving federal lands, funds, or permitting. The significance of the resources must be evaluated using established criteria outlined in 36 CFR 60.4, as described below.

If a resource is determined to be a *historic property*, Section 106 of the NHPA requires that effects of the federal undertaking on the resource be determined. A historic property is defined as:

...any prehistoric or historic district, site, building, structure or object included in, or eligible for inclusion in the National Register of Historic Places, including artifacts, records, and material remains related to such a property...(NHPA Sec. 301[5])

Section 106 of the NHPA prescribes specific criteria for determining whether a project would adversely affect a historic property, as defined in 36 CFR 800.5. An impact is considered significant when prehistoric or historic archaeological sites, structures, or objects that are listed, or eligible for listing, in the NRHP are subjected to the following:

- physical destruction of or damage to all or part of the property;
- alteration of a property;
- removal of the property from its historic location;
- change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;

- introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features;
- neglect of a property that causes its deterioration; and
- transfer, lease, or sale of the property out of federal control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

If the historic property will be adversely affected by development, then prudent and feasible measures to avoid or reduce adverse impacts must be taken. The State Historic Preservation Officer (SHPO) must be provided an opportunity to review and comment on these measures prior to project implementation.

NATIONAL REGISTER OF HISTORIC PLACES (NRHP)

The eligibility of a resource for listing in the NRHP is determined by evaluating the resource using criteria defined in 36 CFR 60.4 as follows: *The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, association, and*

- A. That are associated with events that have made a significant contribution to the broad patterns of our history;
- B. That are associated with the lives of persons significant in our past;
- C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. That have yielded, or may be likely to yield, information important to prehistory or history.

Sites younger than 50 years, unless of exceptional importance, are not eligible for listing in the NRHP.

In addition to meeting at least one of the criteria listed above, the property must also retain enough integrity to enable it to convey its historic significance. The NRHP recognizes seven aspects or qualities that, in various combinations, define integrity (NPS, 1990). These seven elements of integrity are: location, design, setting, materials, workmanship, feeling, and association. To retain integrity a property will always possess several, and usually most, of these aspects.

While most historic buildings and many historic archaeological properties are significant because of their association with important events, people, or styles (criteria A, B, and C), the significance of most prehistoric and some historic-period archaeological properties is usually assessed under criterion D. This criterion stresses the importance of the information contained in an archaeological site, rather than its intrinsic value as a surviving example of a type or its historical association with an important person or event. It places importance not on physical appearance but rather on information potential.

NATIONAL ENVIRONMENTAL POLICY ACT

NEPA requires that federal agencies take all practical measures to “preserve important historic, cultural, and natural aspects of our national heritage” (NHPA, Section 800.8(a)). NEPA’s mandate for considering the impacts of a federal project on important historic and cultural resources is similar to that of Section 106 of the NHPA, and the two processes are generally coordinated when applicable. Section 800.8(a) of NHPA’s implementing regulations provides guidance on coordination with NEPA.

ANTIQUITIES ACT

Passed in 1906, the Antiquities Act prohibits the collection, destruction, injury, or excavation of “any historic or prehistoric ruin or monument, or any object of antiquity” that is situated on federal land without permission of the appropriate land management agency. The Antiquities Act also provides for the criminal prosecution, including fines and imprisonment, for individuals who commit one or more of the acts described above.

3.5.2 CULTURAL RESOURCES SETTING

ETHNOGRAPHIC OVERVIEW

During the late prehistoric period and early in historic times, the study area was part of a larger territory inhabited by the Inezeno Chumash (Kroeber 1925, King 1984). This group spoke a language known as Samala. The Chumash, who also included a number of groups other than the Inezeno, were an unusually sophisticated group of hunter-gatherer people who occupied the coastline, interior valleys, and offshore islands from Malibu in the south to the vicinity of Estero Bay in the north, and to the edge of the San Joaquin Valley to the east. This part of California is believed to have been their homeland for 10,000 years or more.

At the time of early Spanish exploration of this area, several Chumash villages were located within a few miles of the project site. The closest one was *kalawasaq'* (translated as "shell of the turtle"), located not far away along the Santa Ynez River (Applegate 1975). The project area may, in fact, have been part of the territory of *kalawasaq'*, as this was the closest Chumash settlement. Other villages were located in the foothills to the north and farther upstream along the river. A number of older, pre-contact villages were also located nearby along the river and in tributary drainages such as Santa Agueda Creek. People from these communities must have visited the project area to hunt, gather plant and mineral resources, or just pass through on trails between settlements. During the Spanish Mission Period and subsequent Mexican Rancho Period, the project area was used for grazing livestock and was likely planted in grain and hay crops, practices that have continued up to the present day. There are some archaeological sites in the vicinity of the project, such as those near the location of Mission Period corrals along Santa Agueda Creek that are related to these types of early agricultural activities (Wilcoxon and Lelevre 1984).

The study area falls within the former boundaries of the College Ranch, also known as Canada de los Pinos. The Mexican Government granted this 35,499-acre ranch to the Catholic Church in 1844 to support a seminary or college at Santa Ines Mission, but the project was not successful (Tompkins 1962: 47). Also, after secularization of the Missions in 1834, two large land grants in the Santa Ynez Valley, Ranchos Zaca

and Alamo Pintado, were made to Chumash individuals in 1838 and 1843, as soon as they met the qualifications of Mexican citizens. In addition, 16 smaller grants, ranging in size from approximately 16 to 144 acres were made to heads of Chumash households. All of these lands were lost under dubious circumstances. The Catholic Church brought the case of the Santa Inés Chumash before the United States Land Commission in 1853 to validate the 1845 grant of farm lots near the mission. The Church's case was rejected for legalistic reasons involving lost paperwork.

The recent acquisition of the Parker Ranch, which is part of the former College Ranch, is important to the Chumash because from the beginnings of California Statehood in 1850, the Catholic Church maintained that many Church lands were jointly owned by the Church and its neophytes (in this case the Chumash). In a quiet title action beginning in 1897, the Catholic Bishop of Monterey began the process to eliminate any neophyte claims to about 11,500 acres of the College Ranch owned by the Church and to transfer title of the Zanja de Cota Riverbed to the Indian Agent of the Mission Tule (Consolidated) Agency in California. In settlement of this quiet title action, and by implementation of the Mission Indian Act of 1891, and an Executive Order from President Harrison, the Zanja de Cota land was turned into the Santa Ynez Indian Reservation (Armenta 2008).

HISTORICAL OVERVIEW

The early Chumash culture history of the Santa Ynez Valley is not well understood because of a general lack of archaeological excavations in the area and a paucity of dated archaeological sites. However, it is assumed to be roughly similar to that of the better-known Santa Barbara Coast to the south and the Lompoc/Vandenberg Air Force Base region to the west (Applied Earthworks 2001). Initial human occupation of the Santa Ynez Valley probably took place sometime in the Early Holocene Epoch after about 11,500 B.P. (before present), or possibly earlier during the late Pleistocene Epoch in what is known as the Paleo Indian Period. Early human occupation dates back before 10,000 B.P. in other parts of Santa Barbara County when nomadic and semi-nomadic hunter-gatherer groups roamed the area. Remains of Late Pleistocene megafauna, the prey of early human hunters, have been found throughout Santa Barbara and San Luis Obispo Counties, with some discoveries in the Santa Ynez Valley. During the Early Holocene, settlement throughout the area becomes progressively more sedentary with subsequent Chumash culture history being subdivided into the Early, Middle and Late Periods, and eventually culminating in the fairly well-known Chumash culture of the Protohistoric and Historic Periods (King 1990, Arnold 2001: 23). This chronology replaced the earlier Santa Barbara coastal sequence of Oak Grove, Hunting People, and Canalino developed by D.B. Rogers (1929).

The outline of local prehistory presented below includes some recent refinements to King's original chronology (op. cit.) There are also some minor differences of opinion among archaeologists on the dates assigned. However, this outline is generally consistent with most of the versions in use today. Much of this chronology was abbreviated and paraphrased from one developed by Hildebrandt in a report on excavations at CA-SBA-3404, a village site in the Los Olivos area of the Santa Ynez Valley (1999).

Late Pleistocene Epoch or Paleo Indian Period (Before 11,500 B.P.)

The people of the Late Pleistocene Epoch, often referred to as Paleo Indians, are the founding human populations of the entire American Continent. Their lifestyle was nomadic with subsistence focused on hunting large game animals associated with the end of last Ice Age. Some opportunistic gathering of plants must also have occurred as they followed the animals from place to place. Numerous archaeological sites from this period have been found throughout the Americas, although few substantial sites have yet been discovered in this region of California. There have been discoveries of a small number of isolated, fluted projectile points, a typical component of their hunting technology and one of the most diagnostic artifacts from this time period (Erlandson et. al. 1987).

Early Holocene or Initial Early Period (11,500 – 5500 B.P.)

The Early Holocene, or Initial Early Period is represented in coastal areas by archaeological sites with shell midden deposits, low frequencies of hunting and fishing-related tools, and numerous hand stones (manos) and millingstones (metates). These are domestic sites that may represent the first known semi-permanent settlements. The sites tend to be concentrated around estuaries, but some have been found in inland areas. Millingstones and hand stones are generally used to grind various types of seeds. Erlandson (1991, 1994) has hypothesized that protein-rich shellfish, in combination with high caloric plant foods such as Chia seed, Pinyon nuts, and seed from other plants produced a balanced diet supporting semi-permanent settlements. Sites in the interior are not as well documented as those along the coast. They seem to be similar in composition, but tend to lack the higher densities of shellfish remains, as might be expected. Other sources of protein, such as small mammals, freshwater fish, or insects, may have been exploited in inland areas.

Terminal Early Period (5500 – 3000 B.P.)

The Terminal Early Period is marked by some major changes in subsistence technology. Mortars and pestles appear for the first time in the local archaeological record, possibly reflecting early use of acorns for food. There is also an increase in hunting-related tools such as large side-notched projectile points. Faunal assemblages on the coast now include some pelagic sea mammals, such as Northern Fur Seal and Dolphins. Some researchers suggest that watercraft of some kind may have been in use at this time to access pelagic resources. There are sites that also show an increase in remains of larger terrestrial animal species. The continued presence of handstones and millingstones indicate that seeds are still important as a food resource.

Middle Period (3000 – 800 B.P.)

There is an acceleration of cultural change once again at the beginning of the Middle Period around 3000 – 2500 B.P. Glassow (1996) notes that residential sites now contain more dense refuse deposits than in the Early Period. He interprets this to mean that communities were occupied for longer periods of time during the annual cycle. Bones of marine mammals and fish occur in higher densities, suggesting increased importance of fishing and sea mammal hunting. Circular shell fishhooks appear about 2500 B.P. with harpoons and plank canoes after about 1700 B.P. These innovations coincide with greater use of the marine environment. King (1990) sees major changes in sociopolitical organization occurring around 3000 B.P. He

proposes that there was a change from egalitarian to non-egalitarian society with high status positions inherited at birth. Glassow (1996) and other researchers have argued that interior settlements became involved in elaborate trade networks that moved important seed resources to the coast in exchange for marine resources. Coastal and island populations appear to have increased due to the expansion of offshore fishing.

Late Period (800 B.P. to Establishment of the Spanish Missions)

During the Late Period there was continued intensification of maritime adaptations along the Santa Barbara Channel. This led to the development of large permanent coastal villages and expansion of the trade network between islands, mainland coast, and interior (see Gamble 1995). The development of a medium of exchange (“money”) in the form of Olivella shell beads on the Channel Islands facilitated the exchange of food, goods, and other commodities. Stratified society in the form of chiefdoms appears with hereditary leaders and elite religious specialists. The bow and arrow is a major technological addition during this period as it facilitates certain types of hunting and also provides an important offensive and defensive weapon.

Protohistoric (Early Contact) and Historic Chumash

While the coastal areas mentioned above saw development of a more maritime-based culture, the ancestral Chumash of the Santa Ynez Valley must have maintained a more stable culture with subsistence based largely on terrestrial plant and animal resources. Despite these differences in adaptation and the related differences in technology, the rest of the material culture of the interior Chumash tends to rather closely resemble that of the coastal areas during protohistoric times. Annual runs of anadromous fish such as Steelhead and other salmonoid species in the Santa Ynez River may also have been an important component of the interior Chumash resource base (Spanne 1975). The Chumash must have also participated, at least peripherally, in the maritime economy as evidenced by frequent remains of shellfish and fish in archaeological deposits in the Santa Ynez Valley. Maritime resources may have been acquired during periodic visits to the coast to visit kin, or by direct exchange with coastal people.

The development of Chumash culture in this region over thousands of years culminated with the appearance of the highly complex culture of the Chumash during the last few hundred years before Spanish contact. This advanced culture, and the people responsible for its creation have been described in many firsthand accounts by the early Spanish explorers, beginning with Cabrillo in 1542, and continuing through the Spanish Mission Period.

3.5.3 RESULTS OF CULTURAL STUDIES

Documentation of potential cultural resources within the project site was achieved through review of pertinent anthropological literature, historic documents and maps, a records search at the Northwest Information Center (NWIC), consultation with the Tribe, and a field examination of the project site by archaeologists who meet the Secretary of the Interior’s professional qualification standards.

RECORDS AND LITERATURE SEARCH

During the preparation of the 2011 Archeological Investigations Report provided as a Confidential Cultural Appendix, bound under a separate cover, a record and literature search conducted for the project area of potential effect (APE) revealed that no archaeological sites had been previously recorded within the project area and only two small archaeological sites were located at a distance of about 0.75 miles. A larger number of sites have been recorded beyond a one-mile radius along the Santa Ynez River and Santa Agueda Creek.

NATIVE AMERICAN CONSULTATION

On April 3, 2012, the State of California Native American Heritage Commission (NAHC) was asked to review the Sacred Lands file for information on Native American cultural resources on the project site (see **Appendix F**). On April 6, 2012, the NAHC responded indicating that it has no knowledge of Native American resources within the project site. However, it did provide a list of individuals and groups to further consult with.

FIELD SURVEYS

During the preparation of the 2011 Archeological Investigations Report, the entire study area of 1,433 acres was surveyed intensively on foot along parallel transects at intervals no greater than 15 meters (approximately 50 feet). When potential cultural materials were encountered, or when a location appeared to be potentially sensitive, the survey interval was reduced to between 2 and 5 meters (approximately 6 to 16 feet). A close examination of the ground surface was accomplished along each of the survey transects. Vegetation-free areas were sought out and carefully observed in order to identify artifacts or other culturally derived materials that might have been present. Steep slopes exceeding 30 percent were generally not surveyed intensively, although they were at times necessarily traversed. Landforms such as benches, knolls, exposures of rock, or any other unusual areas where artifacts might have been present within these areas of steep slope or between transects were also examined. When cultural resources were observed during the survey, they were flagged and preliminarily mapped. Final mapping, photography, and recording were accomplished only after completion of the survey over the entire project area.

The surface visibility generally ranged from locally poor to excellent at the time of the survey. Poor conditions affecting visibility did exist in some pastures that had not been heavily grazed by the livestock. However, the ubiquitous presence of rodent mounds as well as other small patches of exposed soil afforded ample opportunity to inspect the ground surface for cultural materials. Therefore, there were no significant problems encountered that might have substantially affected the results of the investigation.

A total of 16 potential cultural resources were discovered during the intensive field survey. There were no temporally diagnostic artifacts observed during discovery and recording of any of the resources. Consequently, it is not possible to place them within a chronological context. The historic resources did include diagnostic artifacts that allow them to be approximately dated. Record forms, maps, and photographs are compiled in the appendix to the 2011 Archeological Investigation (**Confidential Cultural Appendix**).

SUMMARY OF FINDINGS

The results of the 2011 Archaeological Investigation and Supplemental Study documented the discovery of 16 potential cultural resources. These include 4 archaeological sites, 9 isolated artifacts, and 3 historic stock troughs. None of these resources appear to be accompanied by especially complex archaeological deposits.

3.5.4 PALEONTOLOGICAL SETTING

REGULATORY BACKGROUND

The Antiquities Act of 1906 (PL 59-209; 16 United States Code 9 (U.S.C.) 431 et seq.; 34 Stat. 225) calls for the protection of historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest on federal land. While neither the Antiquities Act nor its implementing regulations [43 Code of Federal Regulations (C.F.R.) 3] explicitly mention fossils or paleontology, the inclusion of “object[s] of antiquity” in the Act has been interpreted to extend to paleontological resources by many federal agencies. As such, projects involving federal lands require permits for paleontological resource evaluation and mitigation efforts that involve excavation, collection, etc. Additional provisions appear in the Archaeological and Historic Data Preservation Act of 1974, as amended, for the survey, recovery, and preservation of significant scientific, prehistoric, historic, archaeological, or paleontological data, in such cases wherein this type of data might be otherwise destroyed or irrecoverably lost as a result of federal projects.

FOSSIL DISCOVERY

According to the University of California Museum of Paleontology (UCMP) online database, positive identification of microfossils have occurred approximately 3.5 miles northwest of project site within the Monterey formation of the Tertiary period, Miocene Epoch. The findings consist of the positive identification of fossilized diatoms (UCMP, 2012).

3.6 SOCIOECONOMIC CONDITIONS / ENVIRONMENTAL JUSTICE

The following describes the existing socioeconomic conditions and environmental justice considerations in the general vicinity of the project site.

3.6.1 SANTA BARBARA COUNTY

DEMOGRAPHICS

The community of Santa Ynez lies roughly 30 miles northwest of the City of Santa Barbara. The County is bounded by the Pacific Ocean to the west and the Pacific Coastal Range to the east. Travel routes through the County are limited due to the mountainous interior. The County had a population of 423,895 people in 2010. The largest city in Santa Barbara County is the City of Santa Maria with a population of 99,553. The City of Santa Barbara has a population of 88,410 (U.S. Census, 2010a).

Census tracts are a small, relatively permanent statistical subdivision of a county delineated by a local committee of census data users for the purpose of presenting data. Census tracts are designed to be relatively homogeneous units with respect to population characteristics, economic status, and living conditions at the time of establishment. Therefore, statistics of census tracts provide a more accurate representation of a community's racial and economic composition. The census tracts that were considered in this analysis were those that contained the project area, the nearby community of Santa Ynez, and the Santa Ynez Reservation: Census Tracts 19.05 and 19.06 and Tribal Census Tract T001. **Table 3.6-1** presents the total population of Santa Barbara County, the community of Santa Ynez, and the identified census tracts.

TABLE 3.6-1
MINORITY POPULATIONS WITHIN PROJECT AREA AND VICINITY

Area/ Census Tract	Total 2010 Population	Total Minority Population	Percent Minority
Santa Barbara County	423,895	220,773	52
Santa Ynez	4,418	965	22
19.05	3,231	685	21
19.06	5,870	1,324	23
T001	271	247	91

Source: U.S. Census Bureau, 2010a.

INCOME

As shown in **Table 3.6-2**, the estimated median household income in Santa Barbara County was \$60,078 in 2010. The 2010 median household income for the community of Santa Ynez was \$98,015, which is approximately 63 percent higher than Santa Barbara County. The median household incomes of Census Tracts 19.05 and 19.06 are approximately 55 and 58 percent higher than Santa Barbara County, respectively. The median household income of Census Tract T001, which encompasses the Santa Ynez Reservation, is approximately 22 percent higher than Santa Barbara County.

TABLE 3.6-2
HOUSEHOLD INCOME WITHIN PROJECT AREA

Area	Median Household Income ¹	Average Household Size ²	Poverty Threshold ^{a, 3}
Santa Barbara County	\$60,078	2.86	\$14,218
Santa Ynez	\$98,015	2.54	\$14,218
Census Tract 19.05	\$92,838	2.42	\$14,218
Census Tract 19.06	\$94,871	2.5	\$14,218
Census Tract T001	\$73,125	2.79	\$14,218

Notes: a: To be conservative, the poverty threshold is the weighted average threshold for two people.
Source: 1: U.S. Census Bureau, 2010b.
2: U.S. Census Bureau, 2010a.
3: U.S. Census Bureau, 2010c.

HOUSING

The 2010 U.S. Census reported that there were roughly 1,886 housing units in the community of Santa Ynez with approximately 1,741 units occupied (U.S. Census Bureau, 2010d). Owner-occupied housing units made up 76 percent (1,327 units) of the housing stock and renter-occupied housing 24 percent (414 units). The vacancy rate for owner-occupied units was 1.3 percent for owner-occupied units and 11.3 percent for renter-occupied units (California Department of Finance, 2011). Visual observation of the project vicinity indicates that existing residences in the area consist of single-family rural residential homes.

3.6.2 SANTA YNEZ BAND OF CHUMASH INDIANS

The Santa Ynez Band has 136 enrolled tribal members. As described in **Section 1.3**, the Santa Ynez Reservation covers approximately 137 acres and housing development has reached the maximum capacity of 97 residential units. As a result, multiple tribal families share homes in order to maintain residency on the Reservation and cultural ties to the Tribe or live off-Reservation in the surrounding communities. No further residential development is feasible on the Reservation due to land constraints and environmental restrictions.

3.6.3 ENVIRONMENTAL JUSTICE COMMUNITIES

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations, as amended, directs federal agencies to develop an Environmental Justice Strategy that identifies and addresses disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations. The CEQ has oversight responsibility of the federal government's compliance with Executive Order 12898 and the NEPA. The CEQ, in consultation with the EPA and other agencies, has developed guidance to assist federal agencies with their NEPA procedures so that environmental justice concerns are effectively identified and addressed.

According to guidance from the CEQ (1997) and EPA (1998), agencies should consider the composition of the affected area, to determine whether minority populations, low-income populations, or Indian tribes are present in the area affected by a proposed action and, if so, whether there may be disproportionately high and adverse environmental effects to those populations. Communities may be considered "minority" under the executive order if one of the following characteristics apply:

- The cumulative percentage of minorities within a Census tract is greater than 50 percent (primary method of analysis).
- The cumulative percentage of minorities within a Census tract is less than 50 percent, but the percentage of minorities is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis (secondary method of analysis).

According to EPA, either the county or the state can be used when considering the scope of the "general population." A definition of "meaningfully greater" is not given by the CEQ or EPA, although the latter has noted that any affected area that has a percentage of minorities that is above the state's percentage is a

potential minority community and any affected area with a minority percentage double that of the state's is a definite minority community under Executive Order 12898.

Communities may be considered “low-income” under the executive order if one of the following characteristics applies:

- The median household income for a Census tract is below the poverty line (primary method of analysis).
- Other indications are present that indicate a low-income community is present within the Census tract (secondary method of analysis).

In most cases, the primary method of analysis will suffice to determine whether a low-income community exists in the affected environment. However, when a Census tract income may be just over the poverty line or where a low-income pocket within the tract appears likely, the secondary method of analysis may be warranted. Other indications of a low-income community under the secondary method of analysis include limited access to health care, overburdened or aged infrastructure, and dependence on subsistence living.

MINORITY COMMUNITIES

Table 3.6-1 displays the minority population of Santa Barbara County, the community of Santa Ynez, and identified census tracts. As shown therein, only the minority population of Census Tract T001, which encompasses the Santa Ynez Reservation, is significantly over 50 percent and is meaningfully greater than the minority population percentage in the general population (Santa Barbara County); therefore, the Santa Ynez Reservation is considered a “minority” community.

LOW-INCOME COMMUNITIES

Table 3.6-2 displays the median household income and poverty income limit for each identified census tract. As shown therein, none of the census tracts have a median house hold income below the poverty threshold nor are any other indications of a low-income community present; therefore, the community encompassing the project area is not considered “low-income.”

3.7 TRANSPORTATION AND CIRCULATION

The following describes the existing transportation and circulation aspects of the roadway network in the general vicinity of the project site. More detailed information is provided in the Traffic Impact Study included as **Appendix I**.

3.7.1 REGULATORY SETTING

The California Department of Transportation (Caltrans) manages interregional transportation, including management and construction of the state highway system. In addition, Caltrans is responsible for permitting and regulation of the use of state roadways. The project area includes two roadways that fall under Caltrans’

jurisdiction, State Route 154 (SR-154) and State Route 246 (SR-246). Caltrans requires that permits be obtained for transportation of oversized loads, transportation of certain materials, and for construction-related traffic disturbances. Caltrans regulations would apply to construction within and immediately adjacent to SR-154 and SR-246.

3.7.2 ENVIRONMENTAL SETTING

The project site is located east of Santa Ynez in south central Santa Barbara County. Neighboring communities include Solvang and Buellton to the east and Los Olivos to the north. Access to the project area is primarily provided by Baseline Avenue and Armour Ranch Road on the existing roadway network.

EXISTING ROADWAY NETWORK

The roadway network in the Santa Ynez Valley consists of two state routes and several local roadways. Roadways in the project area are described below.

U.S. Highway 101 (US-101) is a four-lane north/south oriented freeway. US-101 is the major roadway through Santa Barbara County and is the principal inter-city route along the Pacific Coast. US-101 provides the principal connection between the Santa Ynez Valley, Santa Maria, and San Luis Obispo to the north and the Santa Barbara-Goleta area to the south.

SR-154 is a two-lane north/south oriented state highway under the jurisdiction of Caltrans. SR-154 provides regional access to the Santa Ynez Valley from US-101 to the north of the Los Olivos through the Santa Ynez Valley to the Santa Barbara-Goleta area to the south. SR-154 is divided by a double yellow centerline with passing lanes provided intermittently.

SR- 246 is a two-lane east/west oriented state highway under the jurisdiction of Caltrans. SR-246 provides regional access to the Santa Ynez Valley area between SR-154 to the east and US-101 to the west. SR-246 is used by local drivers as an intra-community route between Santa Ynez, Buellton, and Lompoc.

Edison Street is a two-lane north/south oriented County roadway that extends north from SR-246 to Baseline Avenue across SR-154 and ending approximately one mile north of SR-154. Edison road is the main thoroughfare in Santa Ynez.

Baseline Avenue is a two-lane east/west oriented County roadway that extends east of SR-154 to Happy Canyon Road and west of SR-154 to Alamo Pintado Road. Baseline Avenue is classified by the County as an S-3 roadway (Santa Ynez Valley Community Plan, 2009).

Armour Ranch Road is a two-lane east/west oriented County roadway that extends east of SR-154 at SR-246 and connects with SR-154 approximately two miles south of SR-246 and SR-154 intersection. Armour Ranch Road is classified as an S-3 roadway by the County (Santa Ynez Valley Community Plan, 2009).

ROADWAY OPERATIONS

Methodology

Existing traffic counts were collected using machine traffic counters in March 2012 for roadway segments. Because traffic flow on the study roadway network is most constrained at intersections, turning movements were counted at each study intersections from 7:00 am to 9:00 am and from 4:00 pm to 6:00 pm.

Level of Service

Level of Service (LOS) is a qualitative measure reflecting the traffic operation of the intersection, with LOS A representing best performance, and LOS F the worst. LOS describes the traffic conditions in terms of such factors as speed, travel time, delays, freedom to maneuver, traffic interruptions, comfort, convenience, and safety. **Table 3.7-1** presents the corresponding average total delay per vehicle and a description of vehicular conditions at signalized intersections for each LOS category from A to F. These intersections are evaluated based upon the 2000 Highway Capacity Manual (HCM) methodologies. **Table 3.7-2** provides similar information for unsignalized intersections.

TABLE 3.7-1
LEVEL OF SERVICE FOR SIGNALIZED INTERSECTION

Level of Service	Delay (Sec)	Description
A	<10.0	Free flow. If signalized, conditions are such that no vehicle phase is fully utilized and no vehicle waits through more than one red indication. Very slight or no delay.
B	10.1 to 20.0	Stable flow. If signalized, an occasional approach phase is fully utilized; vehicle platoons are formed. Slight delay.
C	20.1 to 35.0	Stable flow or operation. Drivers occasionally may have to wait through more than one red phase. Acceptable delay.
D	35.1 to 55.0	Approaching unstable flow or operation; queues develop but quickly clear. Tolerable delay.
E	55.1 to 80.0	Unstable flow or operation; the intersection has reached capacity. Congestion and intolerable delay.
F	>80.1	Forced flow or operation. Intersection operates below capacity. Jammed.

Source: **Appendix I** – Associated Traffic Engineers, 2012

TABLE 3.7-2
LEVEL OF SERVICE FOR UNSIGNALIZED INTERSECTIONS

Level of Service	Average Total Delay (seconds/vehicle)	Traffic Condition
A	<10	No Delay
B	>10 – 15	Short Delay
C	>15 – 25	Moderate Delay
D	>25 – 35	Long Delay
E	>35 – 50	Very Long Delay
F	>50	Volume > Capacity

Source: **Appendix I**

Roadway Operations Standards

The following minimum operating criteria have been established by the appropriate jurisdictional agencies for roadways in the project area roadway network:

- Caltrans' has established a LOS D minimal operating standard for state highways and intersections associated with state highways in the project area.
- The County of Santa Barbara has established a LOS B minimal operating standard for County roadways. The County LOS standard is based on the capacity of the roadway.

Existing Intersection Level of Service

Table 3.7-3 presents the study roadway intersections and summarizes the existing AM and PM peak-hour LOS at each study intersection. All of the study intersections currently operate at LOS C or better during both the AM and PM peak hours.

TABLE 3.7-3
EXISTING INTERSECTIONS LEVEL OF SERVICE AND AVERAGE DELAY

Intersection	Traffic Control	AM Peak		PM Peak	
		LOS	Average Delay (sec)	LOS	Average Delay (sec)
SR-154/US-101 SB	Stop Sign	B	11.2	B	10.1
SR-154/US-101 NB	Stop Sign	B	11.7	B	10.3
SR-154/Grand Avenue	Stop Sign	B	14.6	C	16.2
SR-154/Roblar Avenue	Stop Sign	B	15.0	C	17.6
SR-154/Edison Street	Stop Sign	B	11.1	B	13.2
SR-154/Alisal Road	Signal	C	22.1	C	21.6
SR-246/Alamo Pintado Road	Signal	B	19.4	C	22.8
SR-246/Refugio Road	Signal	B	17.3	C	26.8
SR-246/Edison Street	Signal	B	16.7	C	21.4
SR-246/SR-154	Stop Sign	B	10.8	C	14.7

Source: **Appendix I**

Existing Study State Highway Segments Level of Service

Table 3.7-4 presents the study state highway segments and summarizes the existing AM and PM peak-hour LOS at each segment. All of the study area highway segments currently operate at LOS D or better during both the AM and PM peak hours.

TABLE 3.7-4
EXISTING STATE HIGHWAY SEGMENT LEVEL OF SERVICE

Highway Segment	Peak Hour LOS
SR-154 North of Edison Street ¹	LOS D/LOS C
SR-154 South of SR-246-Armour Ranch Road ¹	LOS D/LOS D
SR-246 from SR-154 to Solvang ²	LOS B-C

¹ North and southbound LOS based on travel speeds and ability to pass using P.M. peak hour flows.

² Signalized segments - LOS based on delays at intersections.

Source: **Appendix I**

Existing Study County Roadway Segments Level of Service

Table 3.7-5 presents the study County roadway segments and the existing traffic volumes and acceptable capacity ratings for each study segment. As shown, the County roadway segments carry volumes within their acceptable capacity ratings.

TABLE 3.7-5
EXISTING COUNTY ROADWAYS OPERATIONS

Roadway	Geometry	Existing ADT	Acceptable Capacity ¹
Baseline Avenue e/o Edison Street	2 Lanes	1,600	5,530
Armour Ranch Road e/o SR-154	2 Lanes	700	5,530

ADT = average daily trips.
Per County of Santa Barbara, 70 percent of total roadway capacity equals LOS B.
Source: **Appendix I**

PUBLIC TRANSIT, BICYCLE, AND PEDESTRIAN CIRCULATION

There is currently no public transit system that serves the project site. However, public transit service is located within 1.25 miles west of the project site, with a transit stop at SR-246 and Meadowvale Road. There are no bicycle paths in the vicinity of the project site. According to the Santa Barbara General Plan future class I and II bike facilities are proposed for SR-154 and SR-246. There is currently no pedestrian system that serves the project site.

3.8 LAND USE

The following describes the existing land use and land use planning considerations, including agriculture within the project site and general vicinity.

3.8.1 EXISTING SETTING

The 1,433-acre project site is primarily composed of undeveloped pasture land actively being used for buffalo grazing with a 256-acre vineyard operation, a ranch house and barn, and an operating horse stable. The site is located in unincorporated Santa Barbara County, within the Santa Ynez Valley Planning Area, approximately 1.6 miles northeast of the existing Reservation. Surrounding land uses include low-density rural residential areas to the north, east, and west; and agriculture fields and undeveloped pasture land to the west and south. The Town of Santa Ynez is approximately 0.8 miles west of the project site; the Solvang and Gainey Vineyards are located approximately 0.4 miles southwest of the project site; and the Santa Ynez Valley Airport is located approximately one mile southwest of the project site. The Santa Ynez Airport is an active general aviation airport with over 90 based aircraft and approximately 26,000 annual operations, according to the Federal Aviation Administration (FAA) Airport Master Record for 1997.

NEPA requires an assessment of a federal action's potential affect on locally adopted land use plans as well as plans that have been formally proposed and are being actively pursued by officials of the jurisdiction. Accordingly, adopted and proposed land use and agriculture regulations and plans are discussed below.

TRIBAL LAND CONSOLIDATION AND ACQUISITION PLAN

In June 2013, the BIA approved the Tribe's proposed Land Consolidation and Acquisition Plan. The federal government's land acquisition policy 25 F.R. 151.3 (a)(1) specifically discusses tribal consolidation areas to be affiliated with both Reservation and adjacent lands with respect to acquisition for trust purposes. This plan assists the Tribe in the acquisition of additional land to increase the total tribal land base and provide sufficient acreage for housing, economic development, and government purposes. The approved plan area includes approximately 11,500 acres that were once a part of the Tribe's ancestral territory (Tribal Consolidation Area). Refer to **Section 1.3** for information on the history of this Tribal Consolidation Area. The recovery of additional property within the Tribal Consolidation Area creates an opportunity for the Tribe to return a small portion of its historical territory to the tribal community.

3.8.2 REGIONAL PLANNING DOCUMENTS

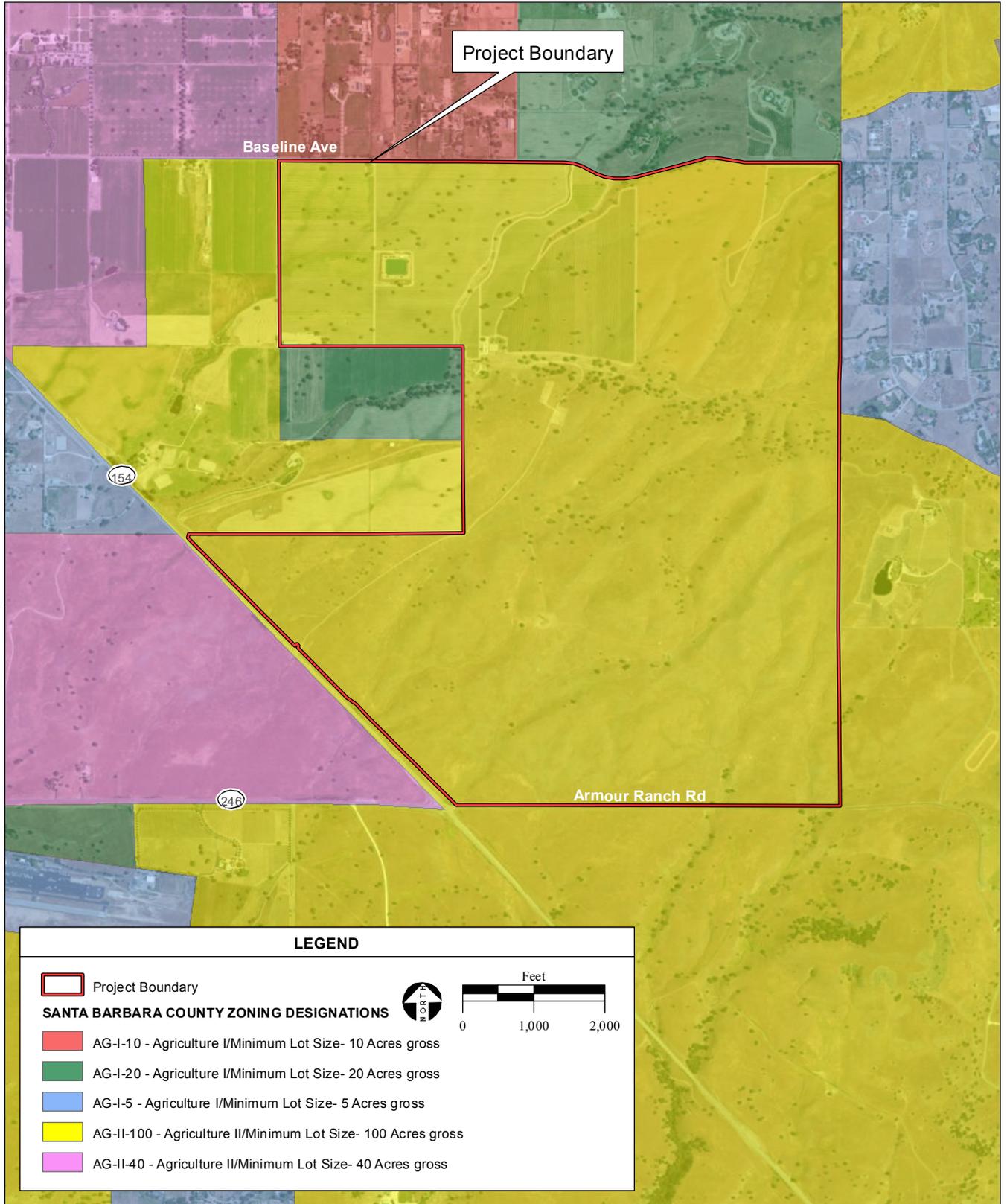
COUNTY OF SANTA BARBARA COMPREHENSIVE PLAN

The Santa Barbara County Comprehensive Plan was adopted in 1991 and republished in May of 2009. According to the Santa Barbara County Comprehensive Plan's Land Use Element, the entire project site is zoned Agricultural II (AG-II-100) (**Figure 3-8**). The AG-II-100 zoning designates areas appropriate for agricultural land uses with a minimum gross lot area of 100 acres on prime and non-prime agricultural lands located within the County's Rural Area, with the intention of preserving land for long-term agricultural use (Santa Barbara County Code 35.21.020). Allowed land uses within AG-II zoned areas that do not require permits include: cultivated agriculture, orchards, vineyards, and grazing (Santa Barbara County Code 35.21.030). Various types of residential land uses such as single-family dwellings, residential accessory uses and structures, and residential agricultural units are considered permitted land uses within AG-II zoned areas (Santa Barbara County Code 35.42.210).

All lands directly adjacent to the project site are zoned for agricultural uses; zoning designations include AG-II-100, AG-II-40, AG-I-20, and AG-I-5. The AG-II-40 designation is similar to AG-II-100, but has a minimum lot size of 40 acres. The Agricultural I (AG-I) zoning designation is applied to land within Urban, Inner Rural, Rural (Coastal Zone only), and Existing Developed Rural Neighborhood areas appropriate for agricultural use, with the intention of establishing standards for supporting agricultural land uses and encouraging agricultural productivity (Santa Barbara County Code 35.21.020). Allowed land uses within AG-I zoned areas are similar to those allowed within AG-II zoned areas as previously discussed.

SANTA YNEZ VALLEY COMMUNITY PLAN

The Final Draft of the Santa Ynez Valley Community Plan was adopted on December 9, 2009. The entire project site is located within the Santa Ynez Valley Community Plan (SYVCP) area. The SYVCP categorizes



SOURCE: Santa Barbara County Planning Dept, 10/20/2010; Santa Ynez Band of Chumash Indians, 2011; NAIP Aerial Photograph, 6/17/2009; AES, 2013

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Figure 3-8
Zoning Designations

the planning area by three distinctive types: Urban Townships, Inner-Rural Area, and the Rural Area. The project site lies in the Rural Area and is surrounded by rural land and areas classified as Existing Developed Rural Neighborhood to the north, east, and immediate west. Existing Developed Rural Neighborhoods are defined as areas that have been historically developed with smaller sized lots than those located within Inner-Rural and Rural areas. Characterized by large parcels, less development, and large-scale agricultural production, rural land within the SYVCP planning area is considered valuable both for agricultural uses and for maintaining the rural character.

The project site is within an area assigned the Agricultural Commercial (AC) land use designation (**Figure 3-9**), which is intended for commercially farmed areas, privately owned land located within Rural, Inner-Rural, Existing Developed Rural Neighborhoods, or Urban Areas subject to or eligible for a Williamson Act Contract.

The AC classification also includes land uses that are necessary for, or compatible with, agricultural operations. Approximately 19,924 acres within the SYVCP area are designated for AC land use, with 58 existing units and 244 build-out units. Land use designations surrounding the project site include AC and varying Agricultural I and Agricultural II lot size classifications.

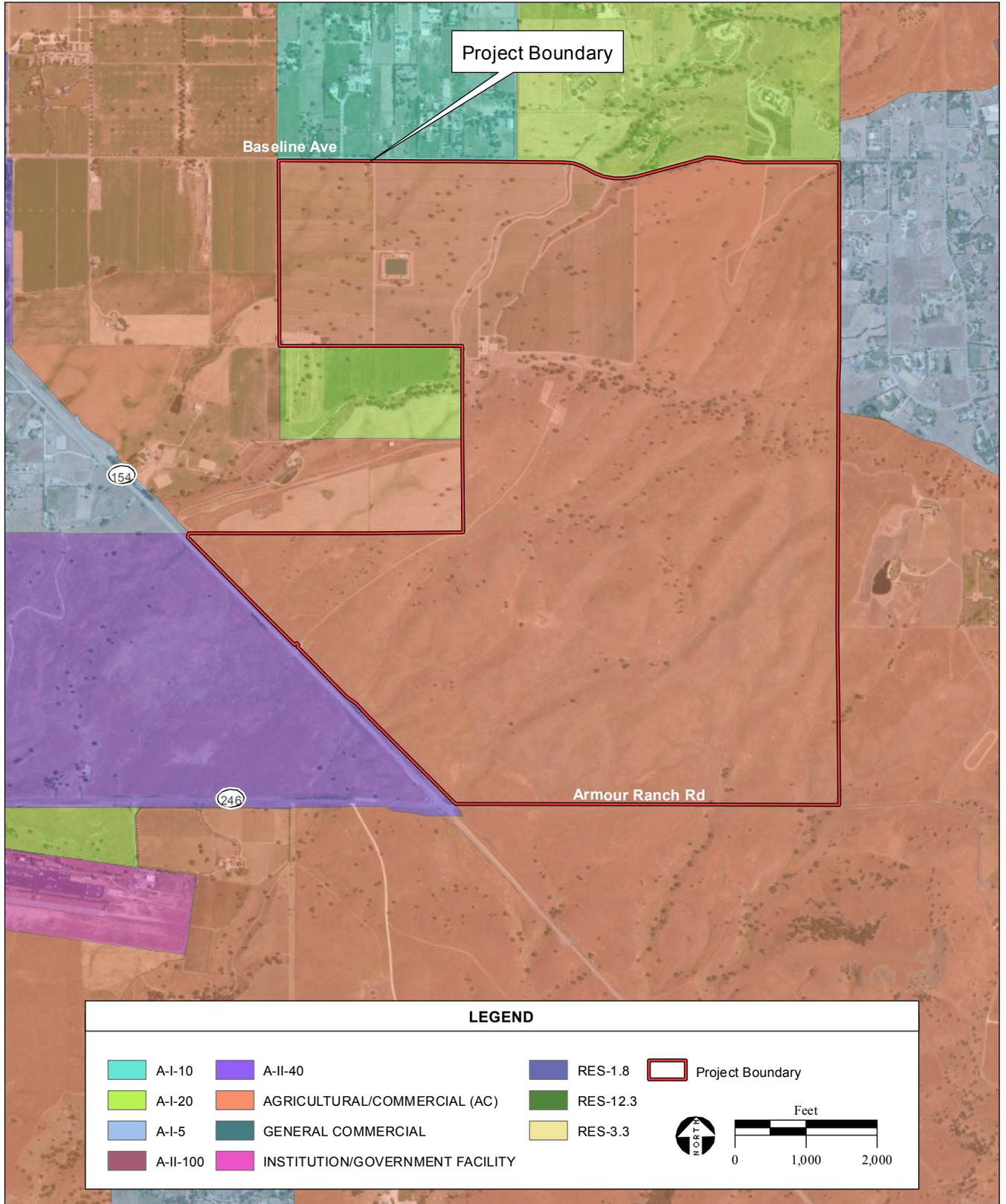
3.8.3 AGRICULTURE

Standards are established within the Santa Barbara County Land Use Code to protect, promote and enhance agricultural land uses by ensuring that residential agricultural units are incidental and supportive of such agricultural land uses (Santa Barbara County Code 35.42.210). Minimum lot sizes for residential agricultural units shall not be less than 100 acres, and shall not exceed one residential dwelling per lot. The total area of the Residential Agricultural Unit is not to exceed 3% of the total parcel size, or two acres, whichever is smaller (Santa Barbara County, 2007). The Santa Barbara County Comprehensive Plan identifies the project site as being primarily composed of lands considered moderately suitable for irrigated crops, orchard, vineyard, or ornamentals; and a small stretch of land considered highly suitable for orchard or vineyard agriculture along the riparian corridor that extends through a portion of the project site.

The SYVCP identifies approximately 43,441 acres within the plan area as being zoned for agricultural uses. Out of the 43,441 acres zoned for agricultural uses, approximately 19,850 acres within the planning area are enrolled in Santa Barbara County's Agricultural Preserve Program (Williamson Act). Agricultural production is considered a prominent feature of the planning area and contributor to the local economy. Vineyards in particular have expanded within the SYVCP area in the last 10 years and account for approximately 2,152 acres of the County's total 21,000 acres used for wine grape cultivation.

FARMLAND PROTECTION POLICY ACT

The Agriculture and Food Act of 1981 (Public Law 97-98) contained the Farmland Protection Policy Act (FPPA) (Subtitle I of Title XV, Section 1539-1549). The purpose of the FPPA is to minimize the impact of federal programs on the unnecessary and irreversible conversion of farmland to nonagricultural uses. The



SOURCE: Santa Barbara County Planning Dept, 10/20/2010; Santa Ynez Band of Chumash Indians, 2011; NAIP Aerial Photograph, 6/17/2009; AES, 2013

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Figure 3-9
Land Use Designations

Farmland Mapping and Monitoring Program (FMMP), within the California Department of Conservation (CDC), maps activity from the U.S. Department of Agriculture (USDA) on a continuing basis. The FMMP produces maps and statistical data used for analyzing impacts on California's agricultural resources (CDC, 2004). The FMMP's Important Farmland Map for Santa Barbara County includes eight categories, the following occur on the project site (CDC, 2011):

Prime Agriculture Land: Soils which have the best combinations of physical and chemical characteristics for the production of crops. The land must have been used for the production of irrigated crops at sometime during the two updated cycles prior to the mapping date (7 U.S.C. 4201(c)(1)(A)).

Unique Farmland: Soils other than prime farmland that are used for the production of specific high value food and fiber crops. These soils have a special combination of physical and chemical characteristics for the production of high quality or high yields of specific crops when treated and managed according to acceptable farming methods (7 U.S.C. 4201(c)(1)(B)).

Farmland of Local Importance: Soils other than prime or unique farmland that is of statewide or local importance for the production of crops. The appropriate State or local government determines the important farmland with concurrence from the State Conservationist. In some localities, farmlands of statewide and local importance may include tracts of land that have been designated for agriculture by state law or local ordinance (7 U.S.C. 4201(c)(1)(C)).

Grazing Land: Defined in Government Code § 65570(b)(3) as: "...land on which the existing vegetation, whether grown naturally or through management, is suitable for grazing or browsing of livestock.

Areas designated as Prime Farmland, Unique Farmland, or Farmland of Local Importance are located in the northern portion of the project site; the remainder of the site is classified as grazing land. Surrounding lands to the north, east and south are also classified as prime farmland, unique farmland, farmland of local importance, and grazing land. Land west of the project site is primarily classified as unique farmland, farmland of local importance, grazing land, and urban and built-up land.

The NRCS, an agency of the USDA, fulfills the directives of the Soil and Water Conservation Act (16 USC § 2001-2009) by identifying significant areas of concern for the protection of our resources. NRCS uses a land evaluation and site assessment (LESA) system to establish a Farmland Conversion Impact Rating (FCIR) score. The FCIR is completed on form AD-1006 (NRCS, 2008b). The FCIR form has two components: land evaluation, which rates soil quality up to 100 points, and the site assessment, which measures other factors that affect the farm's viability up to 160 points.

WILLIAMSON ACT

The California Legislature passed the California Land Conservation Act of 1965, better known as the Williamson Act, to preserve agricultural and open space lands by discouraging premature and unnecessary conversion to urban uses. Under the Williamson Act, private landowners contract with counties and cities to voluntarily restrict their land to agricultural and compatible open-space uses. The vehicle for these agreements is a rolling term 10-year contract (i.e., unless either party files a "notice of nonrenewal," the contract is automatically renewed). In return, restricted parcels are assessed for property tax purposes at a rate consistent with their actual use, rather than potential market value. A majority of the funding for County and local implementation of the Williamson Act provisions is provided by the State. All of the parcels within the project site are under active Williamson Act contracts (Santa Barbara County, 2009).

Nonrenewal Process

A notice of nonrenewal can be filed by either the local government or the private landowner. Once a notice of nonrenewal has been filed, a nine-year nonrenewal period is initiated. During the nonrenewal process, land use restrictions of the contract remain in effect and the annual tax assessment gradually increases. At the end of the nine-year nonrenewal period, the contract is terminated.

Approximately 550,000 acres of land within Santa Barbara County are enrolled within the Williamson Act (Santa Barbara County, 2011b). The acreage under Williamson Act contract within the project site represents approximately 0.003% of the total County acreage under Williamson Act contracts. Many parcels surrounding the project site are also under active Williamson Act contracts.

Termination Process

To terminate a Williamson Act contract prior to the nine-year nonrenewal process, the private landowner can petition to cancel the contract (CDC, 2009). Only the private landowner can petition to cancel a Williamson Act contract. To approve a tentative contract cancellation, the local government must make one of the following findings:

- That the cancellation is consistent with the purpose of the Williamson Act. Cancellation of a contract is considered consistent with the purpose of the Williamson Act if the local government makes all of the following findings:
 - The cancellation is for land on which a notice of nonrenewal has been served;
 - The cancellation is not likely to result in the removal of adjacent lands from agricultural use;
 - The cancellation is for an alternative use which is consistent with the applicable provisions of the general plan;
 - Cancellation will not result in discontinuous patterns of urban development; and

- There is no proximate noncontracted land, which is both available and suitable for the use to which it is proposed the contracted land be put, or, that development of the contracted land would provide more contiguous patterns of urban development than development of proximate noncontracted land.
- That the cancellation is in the public interest. Cancellation of a contract is considered to be in the public interest if the local government makes both of the following findings:
 - That public concerns substantially outweigh the objectives of the Williamson Act; and
 - There is no proximate noncontracted land that is both available and suitable for the use to which it is proposed the contracted land be put, or, that development of the contracted land would provide more contiguous patterns of urban development than development of proximate noncontracted land.

SANTA BARBARA COUNTY RIGHT TO FARM ORDINANCE

The Santa Barbara County Right to Farm Ordinance (Municipal Code Section 3-23, Article V) was adopted to preserve and protect agricultural land and operations within the County of Santa Barbara. The stated purpose and intent of the Right to Farm Ordinance is to “protect agricultural land uses on land designated on the Comprehensive Plan/Coastal Plan, Land Use Maps as A-I or A-II, or on land zoned exclusively for agricultural use from conflicts with nonagricultural land uses that may result in financial hardship to agricultural operators or the termination of their operation.”

The ordinance promotes a good-neighbor policy by requiring that users of property adjacent to or near agricultural operations be notified of the inherent potential problems associated with being located near such operations, including noise, odors, dust, operation of machinery, application of fertilizers, soil amendments, seeds and pesticides and other potential effects. The ordinance requires that the County of Santa Barbara Resource Management Department release a notice informing the public of the ordinance and its provisions so that property owners will better understand the potential consequences of being located near agricultural operations. The ordinance states that attendant conditions from properly conducted agricultural operations shall not be considered a nuisance to adjacent property owners and shall be accepted as being a normal and necessary aspect of being located in a rural area (Santa Barbara County Code 3-23, Article V).

Agriculture is considered one of the most valuable industries in Santa Barbara County. According to the 2012 Santa Barbara County Crop Report, the gross agricultural production value for the County was approximately \$1,291,008,000. The three primary producers of 2012 were: strawberries, valued at \$441,360,224; broccoli, valued at \$130,894,229; and wine grapes, valued at \$91,107,064 (Santa Barbara County, 2012c). Strawberry cultivation covered approximately 6,657 acres of the County in 2012, while broccoli cultivation covered approximately 27,220 acres and wine grape cultivation covered approximately 20,504 acres.

3.9 PUBLIC SERVICES

The following describes the existing water supply; wastewater service; solid waste; electricity, natural gas, and telecommunications; law enforcements; fire protection; emergency medical; schools; and parks and recreation facilities that occur within the project site and general vicinity.

3.9.1 WATER SUPPLY

There is no municipal water system available in the project area. Water in the vicinity of the project site is supplied by private groundwater wells and in the general vicinity service connections to the Santa Ynez River Water Conservation District, Improvement District #1 (ID1). ID1 currently provides coverage of 10,850 acres to approximately 8,300 customers via 2,500 municipal and industrial connections and approximately 118 agricultural connections (ID1, 2012). ID1 water supplies consist of allotments from the State Water Project, allotments from the Central Coast Water Authority, and through 19 groundwater supply wells. The project site is outside the ID1 service area and there are no existing plans for expansion of the service area.

3.9.2 WASTEWATER SERVICE

There is no municipal wastewater system available in the project area. The nearest WWTP is located within the existing Reservation (two miles from the project site) and the nearest municipal wastewater system is the Santa Ynez Community Services District (SYCSD) sewer system. Wastewater in the immediate vicinity of the project site is disposed of via individual septic tanks and leach fields. The project site is outside of the SYCSD service area and there are no existing plans for expansion of the service area.

3.9.3 SOLID WASTE

The management of non-hazardous solid waste in the County is mandated by state law, including Assembly Bill (AB) 939, and is guided by policies at the state and local levels. In accordance with AB 939, the County is required to divert 50 percent of its total waste stream from landfill disposal.

The County Public Works Department Resource Recovery & Waste Management Division (RRWMD) is responsible for planning and implementing waste collection and recycling programs. Waste collection services are provided by private waste haulers through contractual agreements with the RRWMD.

The nearest transfer station to the project site is the Santa Ynez Valley Recycling and Transfer Station located in Los Olivos, California approximately 5.8 miles to the northwest of the project site. The transfer station can process approximately 220 tons of material per day (Santa Barbara County, 2012d). Average daily intake at the Santa Ynez Valley Recycling and Transfer Station is 50 tons per day (Studley, 2012). Non-recyclable solid waste in the vicinity of the project site is disposed of at the Tajiguas Sanitary Landfill; a County owned and operated facility. The Class III landfill is currently permitted to accept up to 1,500 tons of waste per day. Average daily intake at Tajiguas Sanitary Landfill is currently 650 tons per day (RRWMD, 2012). The landfill is estimated to reach its capacity in the year 2032 (Calrecycle, 2012).

3.9.4 ELECTRICITY, NATURAL GAS, AND TELECOMMUNICATIONS

ELECTRICAL AND GAS SERVICES

Pacific Gas and Electric (PG&E) provides electricity and natural gas services in the project site. Overhead electric lines are located along both sides of Baseline Avenue to the north of the project site. PG&E serves the project vicinity out of its Cabrillo Substation and Santa Ynez switching station.

Natural Gas in the vicinity of the project site is provided by the Southern California Gas Company. Some rural areas, including the project site, do not have access to natural gas service due to lacking infrastructure. Natural gas lines do not currently exist along Baseline Avenue (Southern California Gas Company, 2012).

TELECOMMUNICATIONS

Verizon Residential currently provides local telephone service to County residents. A variety of providers, including Verizon, currently offer long distance telephone services. Underground telephone transmission lines are currently located along the east side of Baseline Avenue.

3.9.5 LAW ENFORCEMENT

California is a Public Law 280 state that allows for state criminal law enforcement jurisdiction on Tribal trust lands; however, this jurisdiction does not include regulatory civil law authority. Depending on the crime (pursuant to Public Law 280 and the Major Crimes Act), the U.S. Marshal may also provide support in specified situations. On Tribal trust lands, the Tribe conducts law enforcement activities in accordance with the jurisdictional duties identified under the Tribal Law Order Act of 2010.

SANTA BARBARA COUNTY SHERIFF'S DEPARTMENT

The Santa Barbara County Sheriff's Department (SBCSD), North County Operations Division, provides law enforcement services to the project site. Local SBCSDS stations are located at 140 W. Highway 246 in the City of Buellton and at 1745 Mission Drive in the City of Solvang. These City stations are staffed by the SBCSD deputies through contract with the County. One Deputy from each station patrols each of the cities. Two additional deputies operate out of the Solvang Station and are responsible for patrolling the majority of the unincorporated regions of the Santa Ynez Valley. In addition, a Sergeant or Senior Deputy and a Community Resource Deputy are on duty to provide additional support and work in the Santa Ynez Valley. SBCFD provides search and rescue assistance for incidents in the Santa Ynez Valley. Specialized rescue teams are trained in floods, earthquakes, swift water rescue, vehicle extraction, trench rescue, low angle rescue, and confined space rescue (SBCFD, 2012). Allocation of tribal funds to the Sheriff's Department is included within the Special Distribution Funding provided in the Tribe's existing Tribal-State Gaming Compact with the State of California. In 2012, the Tribe agreed to provide the SBCSD funding of \$117,876 for five deputy sheriff positions.

CALIFORNIA HIGHWAY PATROL

The California Highway Patrol (CHP) is the chief law enforcement agency for traffic-related issues on SR-154, which provides access to the project area. The closest sub-station is located at 166 Industrial Way in Buellton.

3.9.6 FIRE PROTECTION

CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION

The California Department of Forestry and Fire Protection (CAL FIRE) provides wildland fire protection and, under contract with the BIA, responds to wildfires on Indian reservations in California. The project site and a majority of the surrounding land in the Santa Ynez Valley is designated as High Fire Hazard by the State of California (Calfire, 2012). Per contractual agreements, the Santa Barbara County Fire Department (SBCFD) provides service to state responsibility areas (SRAs) in Santa Barbara County.

LOCAL FIRE DEPARTMENTS

Santa Barbara County Fire Department

The SBCFD provides fire suppression, fire prevention, and life safety services to all unincorporated County areas, including the project site. SBCFD operates three fire stations in the vicinity of the project site (Fire Stations 30, 31 and 32). Station 30 is located in the City of Solvang, Station 31 is located in the City of Buellton, and Station 32 is located at 906 Airport Road at the Santa Ynez Airport. Station 32, located 0.75 miles southwest from the project site, is equipped with one fire truck and a staff of four full-time, trained personnel, including paramedics for emergency medical responses. The fire truck operated by the SBCFD can typically handle small structural fires such as residences.

The SBCFD employs the following two standards with respect to the provision of fire protection services (SBCFD, 2008):

1. A firefighter-to-population ratio of one firefighter on duty 24 hours a day for every 2,000 in population is considered “ideal,” although a ratio (including rural areas) of one firefighter per 4,000 population is the maximum population that can be adequately served.
2. The second fire protection standard is a 5-minute response time in urban areas. This incorporates the following NFPA response-time objectives:
 - a. One minute (60 seconds) for turnout time
 - b. Four minutes (240 seconds) or less, for the arrival of the first-arriving engine company

The level of fire service for the Santa Ynez Valley currently provided by Station 32 falls within the requirements for meeting the population to firefighter ratios (Santa Barbara County, 2009). Allocation of tribal funds to the SBCFD is provided within the Special Distribution Funding in the Tribe’s existing 1999 Tribal-State Gaming Compact with the State of California. In 2012, the Tribe agreed to provide SBCFD funding of \$501,000 for firefighter/paramedic positions.

Chumash Wildland Fire Department

The Chumash Wildland Fire Department (CWFD) was founded in 2004 as a basic fire training program and provides non-structural wildland fire prevention, detection, and suppression services throughout southern California, and nationally when needed. The CWFD consists of one battalion chief, one captain, two fire apparatus operators, two firefighters, and one firefighter-dispatcher. The crew and equipments, consisting of Type 3 engine, 500-gallon tank wildland fire engine, Type 6 engine, and a heavy-duty truck with a 250-gallon tank, are housed in a temporary building located on the existing Reservation.

3.9.7 EMERGENCY MEDICAL SERVICES

FIRST RESPONSE

SBCFD additionally provides First Responder Emergency Medical Services in the County. SBCFD firefighters are certified Emergency Medical Technicians (EMTs) and Fire Stations 31 & 32 each have a full time firefighter/paramedic assigned during each shift. Paramedics are extensively trained and are qualified to give shots, start intravenous lifelines, and use advanced airway management devices to support breathing, as compared to EMTs, who are more limited in their capabilities and qualifications. SBCFD firefighters are also trained in swift water rescue, vehicle extraction, trench rescue, low angle rescue, and confined space rescue. SBCFD is fully trained and equipped to respond to a medical emergency until an ambulance or helicopter arrives.

EMERGENCY DISPATCH AND TRANSPORT

The Santa Barbara County Emergency Medical Services Agency (EMSA) is the local 9-1-1 public safety dispatch provider for the project site and the surrounding region. EMSA dispatches eight fire departments, including SBCFD.

In accordance with a contractual agreement with Santa Barbara County, American Medical Response (AMR) is the provider of ground ambulance service. AMR provides 18 ALS ambulances, and stations them at six locations throughout the County.

Emergency air transportation is provided by California Shock Trauma Air Rescue (CALSTAR). CALSTAR 7 is based out of the Santa Maria Airport. Response times to the project area for either air transportation service range from approximately 21 to 39 minutes.

LOCAL MEDICAL FACILITIES

The Santa Ynez Valley Cottage Hospital, located 4.5 miles west of the project site, provides emergency room medical services to the Santa Ynez Valley. This hospital is an acute care facility that can accommodate both medical and trauma emergencies. The nearest major trauma center is the Santa Barbara Cottage Hospital in Santa Barbara, California, approximately 55 miles from the project site.

OFFICE OF EMERGENCY SERVICES

Through recent reorganization and funding, the Santa Barbara County Office of Emergency Services (OES) provides multi-jurisdictional support for emergency planning, coordination, and incident response. OES is designated as the lead response agency for the County in the event of a major emergency. OES is located at 4408 Cathedral Oaks Road in the City of Santa Barbara.

3.9.8 SCHOOLS

PUBLIC SCHOOLS

The project site is located within three school districts: College School District, Los Olivos School District, and Santa Ynez High School District (California Department of Education, 2012). The College School District consists of three schools that serve the communities of Santa Ynez. There were 519 students enrolled in the 2010-2011 school year (California Department of Education, 2012). The Los Olivos School District consists of 2 schools that serve the Los Olivos region and had 689 students enrolled in the 2010-2011 school year (California Department of Education, 2012). The Santa Ynez High School District consists of 2 schools that serve the high school population of area surrounding the project site and had 1,073 students enrolled in the 2010-2011 school year (California Department of Education, 2012).

3.9.9 PARKS AND RECREATION

A number of parks and recreational facilities are located in the vicinity of the project site. The parks and recreation facilities closest to the project site include the following:

1. Santa Ynez Park is a County maintained park within the Santa Ynez Township at 3200 Cuesta Street. This 2-acre facility includes picnic areas.
2. City of Solvang Parks are located to the west of the project site within City of Solvang. Three parks are provided totaling approximately 60-acres.
3. The Golf Course at Alisal is located approximately 5.5 miles west of the project site.

The Los Padres National Forest (Los Padres NF) is located approximately 5 miles south east of the project site. The Los Padres NF offers outdoor activities, including trails for bikers, hikers and equestrian riders, camping facilities. The 1.75 million acre Los Padres NF includes 1,257 miles trails for hiking and horseback riding. The NF has 10 congressionally designated wildernesses comprising approximately 875,000 acres, or about 48% of the forest, including the Ventana, Silver Peak, Santa Lucia, Machesna, Garcia, San Rafael, Dick Smith, Sespe, Matilija and Chumash wildernesses (USDA, 2012).

3.10 NOISE

The following describes the existing environmental noise conditions that occur within the project site and general vicinity.

3.10.1 ACOUSTICAL BACKGROUND AND TERMINOLOGY

Sound is defined as any pressure variation in air that the human ear can detect, and is technically described in terms of loudness (amplitude) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB). The decibel scale uses the hearing threshold (20 micropascals of pressure), as a point of reference, defined as 0 dB. Other sound pressures are then compared to the reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by weighing the frequency response of a sound level meter by means of the standardized A-weighting network. There is a strong correlation between A-weighted sound levels (expressed as dBA) and community response to noise. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels in dB.

Community noise is commonly described in terms of the “ambient” noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (Leq) over a given time period (usually one hour). The Leq is the foundation of the Day-Night Average Level noise descriptor, Ldn, and shows very good correlation with community response to noise.

Table 3.10-1 contains definitions of acoustical terminology used in this section. **Table 3.10-2** shows examples of noise sources, which correspond to various sound levels. The day-night Average Level (Ldn) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were louder than daytime exposures. Because Ldn represents a 24-hour average, it tends to disguise short-term variations in the noise environment. Ldn-based noise standards are commonly used to assess noise effects associated with traffic, railroad, and aircraft noise sources.

EFFECTS OF NOISE ON PEOPLE

The effects of noise on people fall into three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction
- Interference with activities such as speech, sleep, and learning
- Physiological effects such as hearing loss or sudden startling

TABLE 3.10-1
ACOUSTICAL TERMINOLOGY

Terms	Definitions
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronnewtons per square meter)
A-Weighted Sound Level, dBA	Sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network, which de-emphasizes very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level, Leq	The average A-weighted noise level during the measurement period.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after adding 5 decibels to measurements taken in the evening (7 to 10 pm) and 10 decibels to measurements taken between 10 pm and 7am.
Day/Night Noise Level, Ldn	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am.
Lmax, Lmin	The maximum and minimum A-weighted noise level during the measurement period.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.

Source: Caltrans, 2009.

TABLE 3.10-2
TYPICAL A-WEIGHTED SOUND LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common indoor Activities
	110	Rock band
Jet flyover at 1,000 feet		
	100	
Gas lawnmower at 3 feet		
	90	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawnmower at 100 feet	70	vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy Traffic at 300 feet	60	
Rural daytime		Large business office
Quiet urban daytime	50	Dishwasher in next room
Quiet urban nighttime	40	Theater, large conference room (background)

Common Outdoor Activities	Noise Level (dBA)	Common indoor Activities
Quiet suburban nighttime	30	Library
Quiet rural nighttime	20	Bedroom at night, concert hall (background)
	10	Broadcast/recording studio
	0	

Source: Caltrans, 2009.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists, and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Human reaction to a new noise can be estimated through comparison of the new noise to the existing ambient noise level within a given environment. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will likely be judged by the recipients. With regard to increases in A-weighted noise levels, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected
- A 10 dBA change is subjectively heard as approximately a doubling in loudness and can cause adverse response

Generally, most noise is generated by transportation systems, principally motor vehicle noise, but also aircraft noise and rail noise. The level of traffic noise depends on three variables: 1) the volume of the traffic, 2) the speed of the traffic, and 3) the number of trucks in the flow of the traffic. Because noise is measured on a logarithmic scale, 70 dBA plus 70 dBA does not equal 140 dBA. Instead, two sources of equal noise added together have been found to result in an increase of 3 dBA. That is, if a certain volume of traffic results in a noise level of 70 dBA the addition of the same volume of traffic, or doubling, would result in a noise level of 73 dBA (Caltrans, 2009). As stated above, three dBA is just perceivable to humans with normal hearing; therefore, if the project doubles the traffic volume there would be a barely audible increase in the ambient noise level.

Stationary point sources of noise, including stationary mobile sources, such as idling vehicles, attenuate (lessen) at a rate of six to nine dBA per doubling of distance from the source, depending on environmental conditions (i.e., atmospheric conditions and noise barriers, either vegetative or manufactured). Widely distributed noises, such as a large industrial facility or a street with moving vehicles would typically attenuate at a lower rate, approximately four to six dBA per doubling of distance.

3.10.2 REGULATORY ENVIRONMENT

Noise criteria used in this Environmental Assessment (EA) includes the Federal Highway Administration (FHWA) Construction Noise Thresholds for assessment of construction related noise, FHWA Noise Abatement Criteria for the assessment of noise consequences related to stationary sources, and the Federal Interagency Committee on Noise (FICON) for assessment of transportation noise. Environmental consequences due to increased noise levels are evaluated relative to the change in the noise conditions at existing noise-sensitive uses in the project vicinity and on the project site, which would result from the project. These criteria are discussed below.

FEDERAL NOISE

Construction

The FHWA provides construction noise level thresholds in its Construction Noise Handbook, 2006. The FHWA construction noise level thresholds are provided in **Table 3.10-3**.

TABLE 3.10-3
FEDERAL CONSTRUCTION NOISE THRESHOLDS

Noise Receptor Locations and Land-Uses	Daytime (7 am - 6 pm)	Evening (6 pm - 10 pm)	Nighttime (10 pm - 7 am)
Noise-Sensitive Locations: (residences, Institutions, Hotels, etc.)	78 or Baseline + 5 (whichever is louder)	Baseline + 5	Baseline + 5 (if Baseline < 70) or Baseline + 3 (if Baseline > 70)
Commercial Areas: (Businesses, Offices, Stores, etc.)	83 or Baseline + 5	None	None
Industrial Areas: (factories, Plants, etc.)	88 or Baseline + 5	None	None

Notes: ¹ Leq thresholds were empirically determined (FHWA, 2006).
Source: FHWA Construction Noise Handbook, 2006.

Transportation

The transportation noise criteria provided in **Table 3.10-4** are based upon recommendations made in August 1992 by the FICON to provide guidance in the assessment of changes in ambient noise levels resulting from transportation operations. The recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by noise. The FICON recommended criteria have been applied to other

transportation noise sources, which are similarly described in terms of noise exposure metrics such as dBA, Ldn. This metric is generally applied to transportation noise sources, and defines noise exposure in terms of average noise exposure during a 24-hour period with a penalty added to noise that occurs during the nighttime (refer to **Table 3.10-1**).

TABLE 3.10-4
SIGNIFICANCE OF CHANGES IN TRANSPORTATION NOISE EXPOSURE

Ambient Noise Level Without Project, (dBA, L _{dn})	Increase Required for Significant Impact (dBA, L _{dn})
<60 dB	+5.0 or more
60-65 dB	+3.0 or more
>65 dB	+1.5 or more

Source: Federal Interagency Committee on Noise (FICON), 1992.

Stationary

The FHWA establishes Noise Abatement Criteria (NAC) for various land uses which have been categorized based upon land use activity. Land uses are categorized on the basis of their sensitivity to noise, as indicated in **Table 3.10-5**. **Table 3.10-5** provides standards which may be considered applicable to Alternative A. The project site would fall under Activity Category B, because Alternative A would place new residences in the vicinity of existing residences.

TABLE 3.10-5
FEDERAL NOISE ABATEMENT CRITERIA (HOURLY- DBA SOUNDLEVEL)

Activity Category	Activity Criteria ² Leq (h), dBA ³	Evaluation Location	Activity Category Description
A	57	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B ⁴	67	Exterior	Residential
C ⁴	67	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails and trail crossings.
D	52	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.

Activity Category	Activity Criteria ² Leq (h), dBA ³	Evaluation Location	Activity Category Description
E ⁴	72	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.
F	--	--	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, shipyards, utilities (water resources, water treatment, electricity), and warehousing.
G	--	--	Undeveloped lands that are not permitted

Notes: ¹ Either Leq(h) may be used on a project.

² Hourly A-weighted sound level, decibels (dBA).

³ The leq() and l10(h) Activity Criteria values are for impacts determination only, and are not design standards for noise abatement measures.

⁴ Includes undeveloped lands permitted for this activity category.

Source: FHWA, 2010.

SANTA BARBARA COUNTY NOISE STANDARDS

The Santa Barbara County Comprehensive Plan, Noise Element, 2009 provides the following applicable noise standard policies:

1. In the planning of land use, 65 dB, Day-Night Average Sound Level should be regarded as the maximum exterior noise exposure compatible with noise-sensitive uses unless noise mitigation features are included in project designs.
2. Noise-sensitive land uses should be considered to include:
 - a) Residential, including single and multifamily dwellings, mobile home parks, dormitories, and similar uses.
 - b) Transient lodging, including hotels, motels, and similar uses.
 - c) Hospitals, nursing homes, convalescent hospitals, and other facilities for long-term medical care.
 - d) Public or private educational facilities, libraries, churches, and places of public assembly.
3. Noise-sensitive uses proposed in areas where the Day-Night Average Sound Level is 65 dB or more should be designed so that interior noise levels attributable to exterior sources do not exceed 45 dB L_{DN} when doors and windows are closed. An analysis of the noise insulation effectiveness of proposed construction should be required, showing that the building design and construction specifications are adequate to meet the prescribed interior noise standard.
4. Residential uses proposed in areas where the Day-Night Average Sound Level is 65 dB or more should be designed so that noise levels in exterior living spaces will be less than 65 dB LDN. An analysis of proposed projects should be required, indicating the feasibility of noise barriers, site design, building orientation, etc., to meet the prescribed exterior noise standard.

3.10.3 EXISTING NOISE AND VIBRATION LEVELS

Existing noise levels were measured at locations adjacent to sensitive noise receptors and where project-related noise has the potential to raise the ambient noise level (**Figure 3-10**). Measurement equipment consisted of Quest Sound Pro SE/DL sound level meters. An acoustical calibrator was used to calibrate the sound level meter before and after each use. All noise measurement instruments are Type II and were calibrated prior to and after noise measurements were performed. As shown in **Table 3.10-6**, noise measurements at Sites 1, 2, and 3 were conducted over a 24-hour period and show the ambient noise levels at the sensitive noise receptor nearest the project site and traffic noise from vehicles travelling on SR-154. Noise measurements were conducted for 15-minute at sites A, B, and C. Site A shows the existing ambient noise level at the project site and sites B and C show existing noise levels at the southern portion of the project site. Noise measurement output files are provided as **Appendix J**.

TABLE 3.10-6
SUMMARY OF 24-HOUR AND 15-MINUTE NOISE LEVEL MEASUREMENTS

Site	Date	Start Time	End Time	Noise Source	Receptors	Measured Noise Level Leq, dBA
A	4/5/2012	1:06 PM	1:21 PM	Agriculture/Traffic	Existing Residence	59.8
B	4/5/2012	2:14 PM	2:29 PM	Construction/ Traffic	Existing and Future Residences	56.8
C	4/5/2012	3:14 PM	3:29 PM	Traffic/Airport	Existing Resident	55.4
D	4/25/2012	4:09 PM	4:24 PM	Construction/Traffic	Proposed Future Residences	48.9
E	4/25/2012	3:44 PM	3:59 PM	Construction/Traffic	Proposed Future Residences	42.4
F	4/25/2012	4:27 PM	4:42 PM	Construction/Traffic	Proposed Future Residences	41.3

Source: AES, 2012.

AIRPORT NOISE

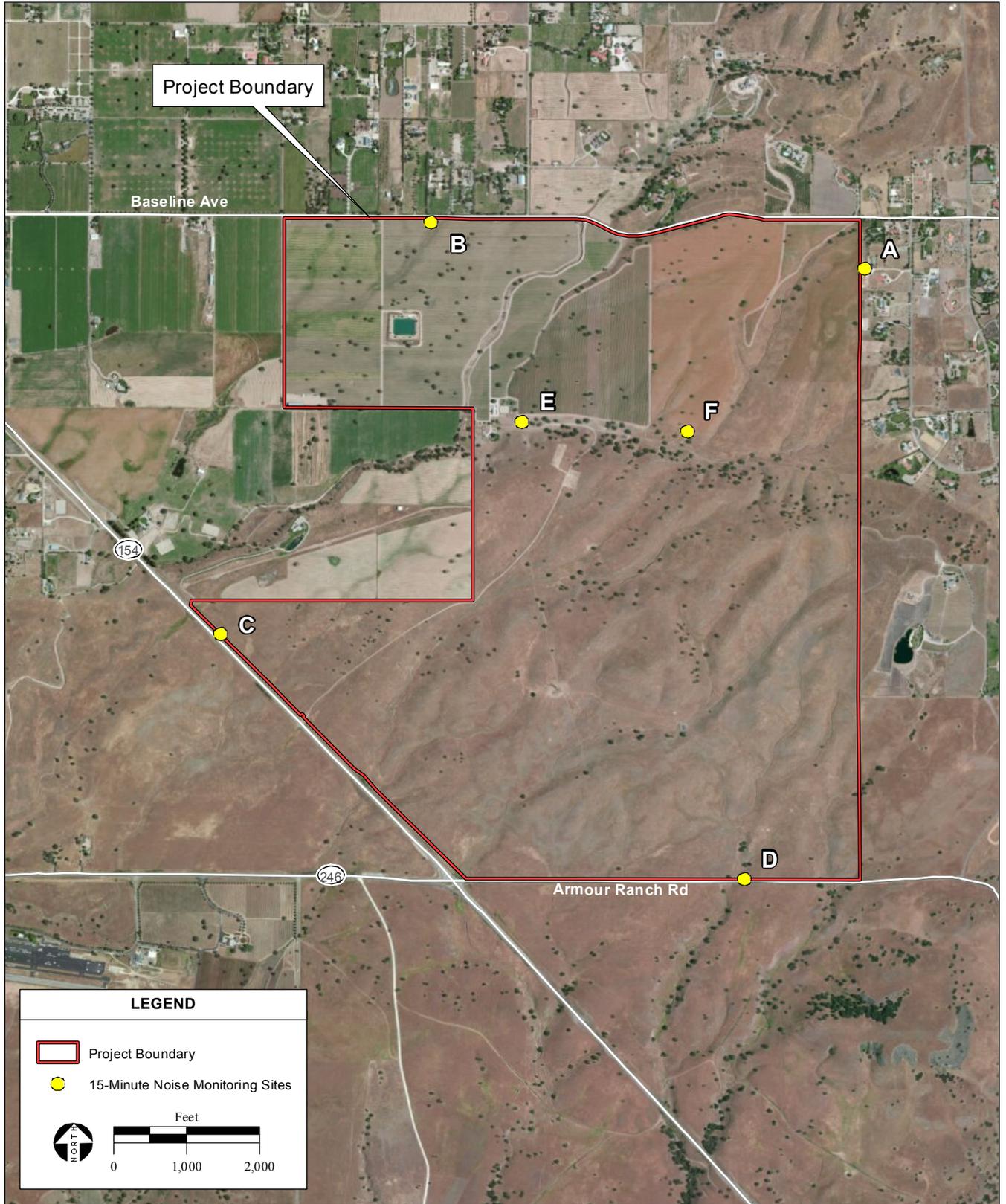
The Santa Ynez Airport is located approximately 0.80 miles from the project site. The project site is located outside the Airport's 60 dBA contour line and the airport traffic pattern area (County, 1993). Vandenberg Air Force Base (VAFB) is located approximately 27 miles northeast of the project site. The project site is not within the sphere of influence of the VAFB (County, 1993).

Sources of Groundborne Vibration

Currently, there are no sources of groundborne vibrations in the vicinity of the project site.

Noise Sensitive Receptors

Noise sensitive land uses are generally defined as land uses with the potential to be adversely affected by the presence of noise. Examples of noise sensitive land uses include residential housing, schools, and health care facilities. Existing noise sensitive receptors in the project area include residential housing.



SOURCE: Santa Barbara County GIS Data, 2012; Santa Ynez Band of Chumash Indians, 2011; NAIP Aerial Photograph, 6/17/2009; AES, 2013

Santa Ynez Camp 4 EA / 201551 ■

Figure 3-10
Noise Monitoring Sites

Land use in the immediate vicinity of the project site consist of agriculture, open space and residences. Residences border the northern and eastern boundary of the project site. The closes noise sensitive residence is approximately 100 feet north of Baseline Road adjacent to the proposed agricultural land use (refer to **Section 2, Figure 2-1**). The nearest sensitive noise receptor to where construction activities would occur are residences located approximately 200 feet east of the eastern property boundary. The nearest school, Valley Lutheran Church Pre-school is located approximately one mile west of the agricultural portion of Alternative A. Santa Ynez Charter School is located approximately one mile west of the southeastern boundary of the project site.

3.11 HAZARDOUS MATERIALS

The following describes the existing hazards and hazardous materials conditions that occur within the project site and general vicinity.

3.11.1 REGULATORY SETTINGS

FEDERAL

At the federal level, the principal agency regulating the generation, transport and disposal of hazardous substances is the EPA, under the authority of Resource Conservation and Recovery Act (RCRA). The USEPA regulates hazardous substance sites under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA). Applicable federal regulations are contained primarily in Titles 29, 40, and 49 Code of Federal Regulations (CFR).

The following represent federal laws and guidelines governing hazardous substances.

- Federal Water Pollution Control Act
- Clean Air Act (CAA)
- Occupational Safety and Health Act (OSHA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)
- Comprehensive Environmental Response Compensation and Liability Act (CERCLA)
- Guidelines for Carcinogens and Biohazards
- Superfund Amendments and Reauthorization Act Title III (SARA)
- Resource Conservation and Recovery Act (RCRA)
- Safe Drinking Water Act
- Toxic Substances Control Act

LOCAL

Santa Barbara County General Plan

The Santa Barbara County General Plan - Seismic Safety and Safety Element addresses wild land fires within unincorporated areas of the County. The County maintains a contract with CAL FIRE to provide wildland

fire protection for state responsibility areas within the County (County of Santa Barbara, 2010). A written guide has been published by CAL FIRE to aid government planners, developers and fire agencies in their fire prevention efforts. The publication (Fire Safe Guides for Residential Development in California) provides guidance in determining the extent of the fire hazard in a particular area based upon three factors, which are; fuel load, weather, and topography. These factors are used to determine a fire hazard severity classification that will then guide local government planners to clarify degrees of fire hazard in wild land areas and specify conditions under which use and development of specific areas can take place. The project site is designated as a High Fire Hazard Severity Zone under state or federal responsibility (CalFire, 2008).

3.11.2 EXISTING CONDITIONS

A Phase I Environmental Site Assessment (Phase I ESA) was conducted in July 2013 for the project site, including APNs 141-121-051, 141-230-023, 141-240-002, and 141-140-010, and is included as **Appendix H** (AES, 2013). This Phase I ESA was prepared to determine if any Recognized Environmental Conditions (RECs) exist on the site. RECs refer to the presence or likely presence of conditions on a property that indicate an existing release, a past release, or a material threat of release of any hazardous substances or petroleum products on the property or into the ground, groundwater, or surface water of the property. This includes hazardous substances and petroleum products. The Phase I ESA was prepared in accordance with the BIA Guidelines (602 DM Chapter 2) and the American Society for Testing and Materials (ASTM) Standard Practice E 1527-05. The ESA included site reconnaissance, review of federal and state regulatory agency records and databases, interviews with property owners and review of historical aerial photographs of the 1,433 acre site. The Phase I ESA revealed no evidence of RECs in connection with the site, and revealed no evidence of RECs associated with nearby properties.

An updated database records search for sites and listings up to 1.0 mile within the project site is included within Appendix D of the Phase I ESA (**Appendix H**) that includes the entire project site. The database searches were conducted for records of known storage tank sites and known sites of hazardous materials generation, storage, or contamination. The database search did not indicate the presence of listed sites within the surrounding area (**Appendix H**). AES performed a reconnaissance inspection of the Subject Property and adjacent properties. The following is a summary of the site reconnaissance conducted on July 16, 2013.

Parcel 1 – A majority of the parcel contains active vineyard agriculture. A vineyard maintenance area is located in the southwestern corner of the parcel. A metal structure covers approximately 15 farm vehicles stored on the site. Three aboveground storage tanks (ASTs) are located within the maintenance area and contain various agricultural supplies and equipment including, but not limited to, ammonia sulfate, sulfur, tools, four-wheel drive vehicles, and gopher bait. Gasoline, diesel, and waste oil tanks are located within secondary containment structures. Groundwater wells and associated infrastructure, including a storage basin is located in the middle of the parcel approximately 1,200 feet northeast of the maintenance area. An AST is located next to the groundwater well system. Large aboveground storage tanks, containing fertilizers and pesticides are located next to the groundwater wells. An operating horse stable, residential structure and barn are located on the southwestern corner of the parcel.

Parcel 2 – The parcel is comprised of vineyard agriculture, with the remainder of the parcel consisting of undeveloped grassland and oak savanna.

Parcel 3 – A ranch house and barn are located in the northernmost portion of Parcel 3, with the remainder of the parcel consisting of undeveloped grassland and oak savanna.

Parcels 4 and 5 are comprised of undeveloped grassland and oak savanna.

3.12 VISUAL RESOURCES

The following describes the existing visual resource conditions that occur within the project site and general vicinity. The assessment of the existing visual resources is based upon the results of a field survey, which was conducted on July 16, 2013.

3.12.1 EXISTING CONDITIONS

The visual characteristics of the project site and surrounding areas are similar to the rest of the inland grazing lands of rural Santa Ynez Valley in Santa Barbara County. The Santa Barbara County Comprehensive Plan (Comprehensive Plan) describes the grazing lands of the Santa Ynez Valley to be recognized by their “beautiful parkland landscape of oak trees and open fields” (Santa Barbara County, 2009). The Santa Ynez Valley Community Plan (SYVCP) designates the project site as rural land intended for agricultural land uses. Approximately half of the land within the SYVCP area is designated as rural land with land uses limited to agriculture and related uses, mineral extraction, low density residential, and public or quasi-public uses (Santa Barbara County, 2009).

The project site is located approximately 0.7 miles east of the Town of Santa Ynez and is visible along its entire length from Baseline Avenue, SR-154, and Armour Ranch Road. The property is also visible from Torrance Avenue. The site is characterized by rolling hills of grazing land, stream terraces, a vineyard, a horse stable, and a ranch house with a barn. The project site is consistent with the generally rural character of the Santa SYVCP. The project site is partially developed with a 256-acre operating vineyard, an associated vineyard maintenance area which is further discussed in **Section 3.11.2**, and a manmade water storage basin (discussed in **Section 3.2.1**) to serve the vineyard. An operating horse stable, and a ranch house with a barn are located in the northern central area of the project site. A portion of the project site is covered by annual grassland, as discussed in **Section 3.4.1**, and is actively being used as grazing land for buffalo. Scenic views of the project site and surrounding areas are included in **Figure 3-11**.

The Comprehensive Plan designation for the project site is Agriculture Zone Two (AG-II-100), which allows all agricultural uses as well as low-density residential housing related to owner- or tenant-operated agricultural uses (Santa Barbara County, 2011c). This designation intends to preserve the rural aesthetic of agricultural areas within the County. Rural roads and highways in this area provide unique views of the surrounding scenery and are valued for visual and aesthetic resources. Specific objectives related to scenic



PHOTO 1: View of onsite vineyard and cattle pasture.



PHOTO 2: View of onsite vineyard and ranch house.



PHOTO 3: View of onsite agricultural production.



PHOTO 4: View of rolling hills topography.



PHOTO 5: View of flat grazing land.



PHOTO 6: View southeast of project site and surrounding residential development.

highways in the Scenic Highways Element of the County of Santa Barbara's Comprehensive Plan call for the retention of the rural, agricultural character of scenic highways by restricting adjacent land uses and roadside advertising, following guidelines for setbacks, landscaping, and building materials, and undergrounding of utilities where possible. All 32 miles of SR-154 are designated as state scenic highway, including the extent that borders the western sides of parcels 3 and 5 of the project site.

Within the SYVCP area, Baseline Avenue and Armour Ranch Road, which border the northern and southern portions of the project site respectively, are also considered scenic rural roads. To protect local aesthetics within the SYVCP area, a Design Control Overlay has been applied to areas valued as scenic and visual resources. The Design Control Overlay is intended to implement well designed and located development to protect scenic features while also protecting property values and rural neighborhood character. Structures that are not visible from public viewing areas and agricultural structures that are less than 1,000 square feet are considered exempt from the Design Control Overlay; all other development under County jurisdiction however, must be reviewed by the County Board of Architectural Review to be determined acceptable within these areas (Santa Barbara County, 2009). Within the project site, parcels 3 and 5 have been assigned the Design Control Overlay. Parcels 1, 2, and 4 contain structures that are not visible from public viewing areas and/or small agricultural maintenance structures.

The area surrounding the project site is dominated by pastoral or rural scenery with views of mountains in the distance and limited views of residential or urban uses. Visual resources surrounding the project site include views of Baseline Avenue, SR-154, Armour Road, neighboring vineyards, and mostly low-density rural residential development.

SECTION 4.0

ENVIRONMENTAL CONSEQUENCES

In this section, environmental consequences are described for Project Alternatives. Resource areas that are analyzed in this section include direct and indirect impacts to land resources, water resources, air quality, biological resources, cultural resources, socioeconomic conditions and environmental justice, transportation and circulation, land use, public services, noise, hazardous materials, and visual resources. Direct impacts are those that are caused by the action and occur at the same time and place, while indirect impacts are caused by the action and occur later in time or further in distance, but are still reasonably foreseeable (Council on Environmental Quality, Regulation 1508.8). Cumulative effects of Alternatives A and B and growth-inducing effects of Alternative A are also assessed in this section for each of these resource areas. Note that, consistent with the CEQ's NEPA Regulations Section 1508.8, the term "effects" is used synonymously with the term "impacts."

4.1 ALTERNATIVE A – FIVE-ACRE ALLOTMENTS

4.1.1 LAND RESOURCES

METHODOLOGY

Alternative A would result in adverse impacts to land resources if construction or operation results in significant alterations to the site topography, significant soil erosion, or limits access to mineral resources of regional significance; or if geological/soil hazards associated with the existing setting would pose limitations to the development of Alternative A.

TOPOGRAPHY

As discussed in **Section 2.2**, no construction activities would occur on Parcel 5, and minimal construction would occur on Parcel 1. The current agricultural and grazing land uses would be maintained on these parcels with the exception of three acres on Parcel 1 which would be developed into a wastewater treatment plant (WWTP). The site for the WWTP is essentially flat; therefore, minimal grading would occur on Parcel 1. As described in **Section 2.2.2**, the area of disturbance on each five-acre plot proposed for Parcels 2, 3, and 4 would be approximately 0.35 acres, which includes disturbance for building pad development, driveway construction, utility installations, and landscaping. Development on each plot would accommodate the topography to preserve the natural aesthetics of the site and limit grading. Various equestrian and passive trails would be designated throughout the 206-acre Open Space/Recreational Zone. These trails would possibly require minor grading along unlevel areas. The remaining Open Space/Recreational Zone, along with the Resource Management Zones, would not require grading; however, earthwork activities would include excavation of the detention basins. As

discussed within the Grading and Drainage Feasibility Analysis (Wallace, 2012), included as **Appendix D**, the most extensive grading would be conducted to meet the required design criteria for the interior road network.

The layout of the internal road network for Alternative A was designed to minimize the amount of grading required, maximize slope stabilization, and maximize road safety using the Policy on Geometric Design of Highways and Streets and the Santa Barbara Private Road and Driveway Standards (Wallace, 2012). Figure 2-1 of **Appendix D** depicts limits of cut and fill for the internal road network for Alternative A. The total amount of cut under Alternative A is 180,000 cubic yards and the total amount of fill is 190,000 cubic yards. This results in the need for approximately 10,000 cubic yards of fill material for Alternative A, which would be sourced from the proposed on-site drainage basins. Some structural grade fill may be imported to meet engineering requirements.

Because of the predominantly well-drained soils, extended distance to the water table, consideration of slope stability within the design of the internal road network, and the erosion control measures listed in **Section 5.1**, the construction of Alternative A would not increase the potential for landslides on the site. Although Alternative A would result in less than significant adverse impacts related to topography, the Tribe may implement the additional grading recommendations included within **Appendix D** to further reduce the amount of grading required for the internal road network.

SEISMICITY

The projected earthquake magnitudes for the region indicate that the project site could potentially be exposed to future seismic shaking at levels that could induce damage in ordinary buildings; however surface rupture hazards have not been identified for the Baseline Fault under California's Alquist-Priolo Act. As described in **Section 2.2.10**, all structures would meet the Tribe's building ordinance, which meets or exceeds International Building Code (IBC) requirements. Use of the IBC design and construction standards would allow ground shaking-related hazards to be managed from a geologic, geotechnical, and structural standpoint such that adverse impacts to the health or safety of workers or members of the public would be minimized.

SOILS

The soil types located on the majority of the project site are characterized by gentle slopes and moderately high permeability rates. All of the soil types in the areas proposed for development have erosion hazard ratings of slight to moderate. No development is proposed on areas of the project site containing soils which have not been rated for erosion hazards (refer to **Table 3.1-2**; **Figure 3-2**). General construction activities associated with grading and excavation reduce the integrity of the soil structure, increasing the likelihood of erosion from wind and/or stormwater runoff. With implementation of protective measures for reducing erosion during construction activities in accordance with obtaining coverage under the EPA's NPDES General Construction Permit, which are listed in **Section 5.1**, implementation of Alternative A would result in no significant adverse impacts related to soil erosion.

The soils on the areas of the project site proposed for development on Parcels 2 through 4 are characterized as being moderately to highly corrosive to steel, and are also characterized as being moderately corrosive to concrete (NRCS, 2011a). In anticipation of these soil limitations, project design (**Section 2.2.10**) has incorporated protective measures to minimize adverse impacts relative to soil corrosivity. These measures require non-corrosive materials and/or protective coatings for buried facilities to be used for construction in corrosive soils.

With the implementation of the protective measures listed in **Section 2.2.10** and the mitigation measures listed in **Section 5.1**, development of Alternative A would result in less than significant adverse impacts to land resources.

MINERAL RESOURCES

As stated in **Section 3.1.6**, there are no mineral resources located on or in the vicinity of the project site (Santa Barbara County, 2011a). Construction of the proposed developments on the project site would not result in limited access to mineral resources of regional resources. No adverse impacts to mineral resources would result from the implementation of Alternative A.

4.1.2 WATER RESOURCES

METHODOLOGY

Alternative A would result in adverse impacts to water resources if construction or operation would result in direct adverse impacts to drainage patterns resulting in off-site flooding, floodplain management, and/or cause an exceedance of applicable water quality criteria. For groundwater resources, Alternative A is analyzed to determine if either construction or operation would result in a significant decline in groundwater levels, a significant decline in groundwater recharge rates, and/or cause an exceedance of applicable groundwater quality criteria.

SURFACE WATER, DRAINAGE, AND FLOODING

Alternative A has been designed to avoid the construction of Tribal residences, roads, the wastewater treatment plant (WWTP), and utilities within riparian corridors and oak woodlands located on the project parcels (**Figure 2-1**). As discussed in **Section 2.2.7**, road crossings would occur over seven potential Waters of the U.S. Crossing of potential Waters of the U.S. would be limited to the extent feasible; however, span bridges, culverts, and crossings would be utilized where necessary to allow drainage to flow from the site. Discussion of impacts to surface water features on the project site is included in the discussion of biological resources in **Section 4.1.4**.

Alternative A would minimally increase impervious areas on Parcels 1, 2, 3 and 4 as a result of the construction of Tribal residences, WWTP, utilities, and improvements to and construction of roads and sidewalks. Parcel 5 is designated for open space and recreation, and no changes would occur. Increased impervious surfaces could result in increased peak stormwater flows and localized flooding. A grading

and feasibility analysis was performed for Alternative A, which quantified the anticipated increase in stormwater runoff to determine the detention required to reduce peak runoff flows from the development to pre-existing conditions (**Appendix D**).

Drainage on the project site would be surface flow. The proposed development on Parcels 1, 2, 3, and 4 represents a three percent increase in impervious surfaces. This change is minimal and the increase in peak flows on the project site varies between less than 1 cubic feet per second (cfs) to a maximum of 9 cfs compared to existing conditions for 2- to 100-year storm event peak flows (**Appendix D**). Drainage would flow through a total of 21 road crossings prior to being discharged from the project site (**Appendix D**). As noted above, several of these road crossings would pass over potential Waters of the U.S.; these may require permits from the U.S. Army Corps of Engineers (USACE). The grading and drainage feasibility analysis for Alternative A recommends the incorporation of seven detention basins within Parcels 2 and 4 into the project design to ensure discharge of stormwater run-off occurs at the same rate as during existing conditions for 2 to 100 year, 24-hour storms (**Appendix D**). These detention basins would be approximately 100 feet by 400 feet, with depths of up to 15 feet. Basins would be shaped and designed to match the project site's terrain.

Other minor drainage improvements include the incorporation of Low Impact Development (LID) features into the project design. These include: designing roads of minimal paved width to lesson the impermeable area of Alternative A; vegetative swales along unpaved shoulders to help further the velocity of the runoff and allow for sediment to drop out of the flow prior to entering the existing channels, and infiltration planters incorporated into open space and recreation areas. In addition, culverts would be constructed to assure that drainage is not impeded at sites were the proposed access road crosses existing drainage courses. Culvert crossings would be sized to allow a 25-year, 24-hour storm event to drain without creating backwater or flooding of existing and proposed roads. Bridge crossing, basins, and crossing designed in sump conditions would be designed for the 100-year, 24-hour storm events (**Appendix D**).

With the implementation of stormwater drainage improvements recommended in **Appendix D** and the protective measures and Best Management Practices (BMPs) discussed in **Sections 2.2.8**, stormwater flows on the project site post-development would equal existing runoff rates. Thus, Alternative A would result in no significant adverse impacts from stormwater runoff generated as a result of the proposed development on Parcels 2, 3, and 4.

Under Alternative A, a WWTP would be constructed on Parcel 1. Drainage control would be installed along the perimeter of the recycled water irrigation areas to prevent comingling with stormwater runoff. Recycled water runoff would be captured and disposed of via discharge to the WWTP. The existing man-made water reservoir located on Parcel 1 would be re-purposed to store recycled water from the WWTP, and enlarged if necessary to ensure adequate storage is available during the winter months. The WWTP would be constructed next to the existing reservoir on Parcel 1. With implementation of stormwater

drainage improvements recommended in **Appendix D**, stormwater flows from the WWTP facility would result in no significant adverse impacts to stormwater drainage on Parcel 1.

Implementation of Alternative A would result in no impact to existing stormwater drainage conditions on project parcels that would remain under agricultural operation (the majority of Parcel 1 and the north western portion of Parcel 2) and those not developed under Alternative A, specifically all of Parcel 5.

Although all Tribal residences, amenities, and the majority of the roads and utilities would be constructed outside the FEMA designated 100-year flood zone, several project components may be located within or adjacent to the Zone A flood hazard area. Currently, the vineyard area is located within the Zone A flood hazard area. However, this land is used for agricultural purposes. The natural permeability of the soil will ensure flooding impacts would be minimal. The proposed WWTP is planned for an area between two forks of the Zone A flood hazard area within Parcel 1. With the implementation of the recommendations identified in **Appendix D** and mitigation measures detailed in **Section 5.2**, adverse impacts to floodplain management due to construction and operation of the WWTP would be reduced through project design and construction timing to a minimal level.

One planned road in the northwestern portion of Parcel 2 is adjacent to the flood area. However, any impacts would be negligible as improvements to access roads would include culverts sized to allow at least 25-year, 24-hour storm events, or bridges, basins, and crossings sized to allow at least 100-year, 24-hour events. These modifications would allow flood water to drain through the project site without generating significant backflow (**Appendix D**). To reduce potential impacts from road construction, mitigation identified in **Section 5.2** would ensure construction activities adjacent to the floodplain are conducted during the dry season. With mitigation, no significant adverse impacts to the floodplain from Tribal roadway improvements would occur.

WATER SUPPLY AND GROUNDWATER

Under the Alternative A, the Tribe would develop an on-site water supply system to meet potable water demands. The three existing wells are reliable for future irrigation use based on their design, location within the project site, and their location within the deepest part of the groundwater basin (**Appendix C**). Although the basin may be in a state of overdraft, altered pumping patterns throughout the County and the importation of supplemental water has resulted in more balanced groundwater conditions; these changes in water use and the rising water table in the project area suggests that the three existing wells can be relied upon for agricultural use (Wallace, 2012). With the use of recycled water for irrigation of the vineyard, agricultural demands for potable water would be reduced.

Potable water supply demands for the residential aspects of Alternative A would be met via connection to two new wells. These two new wells would provide groundwater supply redundancy as well as allow flexible pumping schedules. The net water demand for Alternative A is 335 acre feet per year (afy) (refer to Table 2-4 of **Appendix C**). Peak hour demand for the potable water system is calculated as 655 gpm;

therefore two wells, rated at 750 gpm, would be adequate to supply water for Alternative A. Installation of two new groundwater wells to meet Alternative A water demands could result in significant adverse affects to the groundwater table; however, with the implementation of the mitigation measure identified in **Section 5.2**, the new wells would be developed below the Baseline Fault at a distance that would prevent adverse impacts to neighboring wells. New wells located south of the baseline fault within the central portion of the project site would cause minimal to no off-site impacts as this area constitutes the permeable sands of the relatively unexploited Careaga Formation and there are relatively few wells east and south of the project site.

Water storage for fire, emergencies, and general operations would be required for Alternative A. The location of these storage tanks would be dependent on site topography and the final location of the Tribal residences. These water storage reservoirs would meet current standards for tank design and seismic requirements. The tanks would be sited at locations to allow advantageous gravity flow while ensuring accessibility for maintenance.

Based on the available water from existing wells on the project site, the use of blending groundwater and tertiary treated recycled water from the WWTP to water the existing vineyard and landscaping, the use of storage tanks to ensure adequate water supplies throughout the year, and the balanced groundwater conditions, development of Alternative A with the mitigation measures specified in **Section 5.2** would not result in significant adverse impacts to groundwater resources.

WATER QUALITY

Construction activities and runoff from residential and community facilities could transport debris, oil, sediments, and grease into adjoining surface waters, potentially affecting surface water and groundwater quality. Increased runoff could create scouring and could impact riparian and aquatic habitats and seep into groundwater aquifers. The Tribe is required to adhere to the provisions of the Clean Water Act (CWA). To reduce the effects of increased surface runoff volume and associated pollutants, the Tribe will comply with the terms of the EPA's NPDES Construction General Permit and ensure that BMPs and mitigation measures, including as those listed in **Section 2.2.10** and **Section 5.2**, are used to reduce the risk of soil erosion and polluted discharge. Construction activities could increase the potential for erosion to occur, which could increase silt loads to the ephemeral streams and could also comprise soil integrity increasing the potential for transport of surface contaminants to groundwater resources. The recommended BMPs would significantly reduce erosion and minimize off-site pollutant transport. The Tribe will prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) that will include practices that reduce potential surface water contamination during storm events and minimize groundwater contamination. As discussed in **Sections 5.1** and **5.2**, BMPs would be implemented through the SWPPP to reduce potential construction-related adverse impacts to surface and ground waters to a minimal level. Additionally, roadways will be designed with improvements such as culverts, bridges, basins, and crossings to reduce adverse impacts to minimal levels.

Wastewater Treatment and Disposal

The WWTP would be designed to ensure recycled water meets the same requirements as California Code, Title 22, which are indicative of water quality that is acceptable for irrigation of crops, including edible crops. As shown in **Appendix C**, wastewater would be treated using a conventional tertiary filtration process, followed by disinfection (such as the use of ultraviolet rays or chemical disinfectants), ensuring that the final effluent meets the requirements of effluent for unrestricted use. The solids produced by the WWTP would be dewatered and trucked off-site to be disposed at a licensed landfill (**Appendix C**).

Stormwater generated at the WWTP would be self-contained and treated at the facility. Wastewater would typically be generated at a rate of 41,000 gallons per day (gpd) average dry weather flow (ADWF) and, with treatment, would be used to offset irrigation demands on the proposed trust parcels during the irrigation season. Dilution with other well water resources would further reduce the potential for adverse impacts to water quality. Irrigation with recycled water would be limited to the irrigation season for crops or landscaping and would be applied at rates to prevent runoff. BMPs listed in **Section 2.2.10** and mitigation measures listed into **Section 5.2** would ensure irrigation rates are monitored and are appropriate for the time of year to minimize incidental runoff. During the non-irrigation season, recycled water would be stored in the existing water reservoir that located near the WWTP building on Parcel 1. Adverse impacts to surface water and groundwater quality associated with wastewater treatment and disposal would be minimal and would be in full compliance with EPA standards.

4.1.3 AIR QUALITY

METHODOLOGY

Adverse effects to ambient air quality would result if either construction or operation of Alternative A would result in non-conformance to an applicable State Implementation Plan to meet National Ambient Air Quality Standards (NAAQS) or result in emissions of significant levels of hazardous air pollutants (HAPs). Conformity regulations apply to Federal actions that would cause emissions of criteria air pollutants (CAPs) above certain levels to occur in locations designated as non-attainment or maintenance areas for the emitted pollutants.

Climate change is a global issue that is not being caused by any single development project, but by global increases in atmospheric greenhouse gas (GHG) concentrations. Thus, global warming is most effectively addressed on a global or regional level. The County of Santa Barbara has identified strategies and mitigation measures in its 2010 Climate Action Strategy (CAS), which support the States GHG reduction goals. The EPA has developed a GHG Reporting Program, which provided a GHG reporting threshold of 25,000 metric tons (MT) per year. In the absence of a federal significance threshold the 25,000 MT reporting threshold will be used to determine if project-related GHG emissions would exacerbate climate change effects. For the purposes of this analysis, cumulative contributions to climate change associated with Alternative A would not have an adverse effect, if project emissions are less than 25,000 MT and the project complies with the applicable strategies identified in the CAS.

Construction

Construction emissions for Alternative A were estimated using URBEMIS 9.2.4 (URBEMIS), which is the latest version of the air quality model approved by the EPA. URBEMIS provides default values when site-specific inputs are not available. The default values are provided in **Appendix B**. The following site-specific traffic inputs and assumptions were used for the purposes of air quality modeling:

- Construction will occur over a four year period.
- 143 residences will be built.
- The operational year is assumed to be 2017.
- Construction of on-site roads is included in the URBEMIS air quality model through the addition of three pieces of paving equipment and additional grading area.
- 10,000 cubic yards (cy) of fill would be imported to the project site from 15 miles away.
- Fill and soil haul truck would have a capacity of 13 cy.
- Grading would occur on no more than two acres of land per day.

Operation

Project-related CAP emissions were estimated using URBEMIS. Default values were used for the trip length and fleet percentage. The trip generation rates for residential development are provided in the Traffic Impact Study (**Appendix I**). The trip generation rate was derived from the Institute of Transportation Engineers, Trip Generation, 8th Edition. The proposed WWTP is assumed to be 2,000 square feet and is assumed to generate two daily trips.

Climate Change

Two recent federal court decisions [*Massachusetts v. Environmental Protection Agency*, U.S., 1275 S.Ct. 1438, 1462 (2007) and *Center for Biological Diversity v. National Highway Safety Administration*, 508 F.3d 508 (9th Cir. 2007)], the passage of California Assembly Bill 32 (AB 32), and slowly increasing scientific consensus have resulted in general guidance regarding appropriate GHG analysis during the environmental review of proposed projects and alternatives.

California's global warming policies and legislation (most notably Executive Order S-3-05 and AB 32) are intended to be regional approaches to ensure that statewide emissions are reduced substantially in the future. The County of Santa Barbara Climate Action Study (CAS) focuses on County wide action meant to curb emissions by changes in planning or policies rather than changes to individual development projects. However, some of the strategies may be directly applicable to residential projects. Components of Alternative A, state polices, and project mitigation will be compared with the CAS to determine if Alternative A is in compliance with the CAS. Project-related GHG emissions are quantified using URBEMIS air quality model and federal, California, and local emission factors. Quantified project-related GHG emissions will be compared to the applicable federal reporting threshold of 25,000 MT.

AIR QUALITY IMPACTS**Construction Impacts**

Construction of Alternative A would emit CAPs, as defined in **Section 3.4**, primarily from the use of construction equipment and grading activities. Although construction would be intermittent over a four year period, it is conservatively assumed, for this analysis, to occur 8-hours a day, 5 days a week over the four year period. Alternative A annual construction emissions for each CAP are provided in **Table 4-1**. As discussed in **Section 3.4** the project site is located in the South Central Coast Air Basin (SCCAB), which is classified as attainment or unclassifiable for all NAAQS, therefore a federal general conformity determination analysis is not required for the any of the alternatives. In accordance with 40 CFR 93, construction of Alternative A would not cause an exceedance of NAAQS. Therefore, construction of Alternative A would not result in an adverse effect associated with the local or regional air quality environment.

TABLE 4-1
MITIGATED (UNMITIGATED) CONSTRUCTION EMISSIONS

Construction Year	ROG	NO ₂	CO	SO ₂	PM ₁₀	PM _{2.5}
	tons per year					
2013	1.64 (2.05)	11.46 (11.46)	8.21 (8.21)	0.00 (0.00)	22.45 (54.80)	4.92 (11.89)
2014	2.91 (3.64)	19.17 (19.17)	14.34 (14.34)	0.00 (0.00)	41.05 (100.23)	8.95 (21.66)
2015	2.73 (3.46)	17.62 (17.62)	13.74 (13.74)	0.00 (0.00)	41.01 (100.14)	8.91 (21.59)
2016	1.96 (2.68)	12.33 (12.33)	10.34 (10.34)	0.00 (0.00)	40.73 (99.56)	21.21 (8.72)
2017	0.32 (0.73)	1.61 (1.61)	2.20 (2.20)	0.00 (0.00)	3.43 (8.37)	0.75 (1.81)
Maximum Annual Emissions	2.91 (3.64)	19.17 (19.17)	14.34 (14.34)	0.00 (0.00)	41.05 (100.23)	8.95 (21.66)
De Minimis Level	N/A	N/A	N/A	N/A	N/A	N/A
Adverse Effect?	No	No	No	No	No	No

Source: **Appendix B**

Hazardous air pollutant (HAPs) emissions in the form of diesel particulate matter (DPM) emitted from construction equipment has the potential to increase DPM concentration in the immediate vicinity of the construction site, resulting in an adverse impact if best management practices (BMPs) control measures are not implemented. BMPs provided in **Section 5.3** would reduce DPM emissions from construction equipment by approximately 50 percent, reducing adverse effects to nearby sensitive receptors to minimal levels.

Operational Emissions

Alternative A would result in the generation of CAPs primarily from mobile sources, as well as from stationary sources due to the combustion of natural gas in boilers, stoves, heating units, and other equipment on the project site during operation. Estimated mobile and stationary emissions from

operation of Alternative A are provided in **Table 4-2**. URBEMIS output files are provided in **Appendix B**. The project site is in a region of attainment for all CAPs. Under the federal Clean Air Act 40 CFR Part 93, if a region is in attainment for all CAPs, then the region meets the NAAQS and there are no *de minimis levels* or “thresholds” for a project’s emissions. Operation of Alternative A would result in minimal HAP emissions DPM from delivery vehicles and other limited heavy equipment use that would increase over existing conditions. These emissions would not result in adverse impacts to sensitive receptors. Alternative A would not result in significant adverse effects associated with the regional air quality environment.

TABLE 4-2
UNMITIGATED OPERATIONAL EMISSIONS

Sources	ROG	NO ₂	CO	SO ₂	PM ₁₀	PM _{2.5}
	tons per year					
Area	2.67	0.40	4.34	0.01	0.55	0.53
Mobile	1.33	1.70	14.57	0.02	3.12	0.60
Total Emissions	4.00	2.10	18.91	0.03	3.67	1.13
De Minimis Levels	N/A	N/A	N/A	N/A	N/A	N/A
Adverse Impact?	No	No	No	No	No	No

Source: Appendix B

CLIMATE CHANGE

The Council on Environmental Quality (CEQ) recently provided guidance on integrating analysis of GHGs in NEPA documents. As directed by the CEQ Guidance, this EA considers whether project emissions have individual or cumulative effects on climate change. Given the global nature of climate change impacts, individual project impacts are most appropriately addressed in terms of the incremental contribution to a global cumulative impact (provided in **Section 4.4.3**). This approach is consistent with the view articulated by the *Intergovernmental Panel on Climate (IPCC) Change Fourth Assessment Report* (IPCC, 2007). Therefore, refer to **Section 4.4.3** for a discussion and analysis of cumulative impacts related to climate change.

4.1.4 BIOLOGICAL RESOURCES

Biological resources were evaluated based on a comprehensive examination of the existing project site and the anticipated extent of habitats, wetland features, and potential occurrences of federal listed wildlife that would be affected by Alternative A. Adverse impacts to biological resources would be considered significant if Alternative A would:

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

- Conflict with local policies or ordinances protecting biological resources;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means;
- Have a substantial adverse effect on species with special status under the federal Endangered Species Act (FESA);
- Have a substantial adverse effect on habitat necessary for the future survival of such species, including areas designated as critical habitat by the U.S. Fish and Wildlife Service (USFWS) and areas designated as Essential Fish Habitat (EFH) by the National Marine Fisheries Service (NMFS); or
- Result in take of migratory bird species as defined by the Migratory Bird Treaty Act (MBTA) (16 USC §703-712).

ESTABLISHED NATIVE RESIDENT OR MIGRATORY CORRIDORS

Alternative A was designed to avoid the ephemeral drainage that provides a migratory corridor between the northern and western portion of the project site. The Proposed Actions would have no effect on native resident or migratory fish or impede the use of native wildlife nursery sites because no habitat associated with these species occurs within the project site. No mitigation is required.

OAK TREES

Alternative A would adversely affect oak trees protected under the Tribal Ordinance Regarding Oak Tree Preservation for the Santa Ynez Band of Chumash Indians (Oak Tree Ordinance) (Santa Ynez Band of Chumash Indians, 2000) through removal of approximately 70 oak trees within the project site. The measures listed under **Section 5.4** would mitigate for adverse affects to oak trees as the residential units are planned for construction.

HABITAT TYPES

Table 4-3 summarizes the estimated impacts to habitat types by acreages associated with Alternative A. Impacts to habitat types are discussed in further detail under the *Potential Waters of the U.S.* and *Federally Listed Species* headings below.

POTENTIAL WATERS OF THE U.S.

Alternative A would adversely affect potential jurisdictional waters of the U.S., as defined by Section 404 of the Clean Water Act, through the discharge or fill of approximately 2.28 acres of ephemeral drainages, seasonal wetlands, and seasonal wetland swales located within the project site (refer to **Table 4-3**). Implementation of Alternative A would require obtaining a Section 404 permit from the USACE and a Section 401 Water Quality Certification from the USEPA. Adherence to the conditions of these permits would be required. At minimum, the measures listed under **Section 5.4** would mitigate and compensate for adverse affects to potential jurisdictional waters of the U.S.

TABLE 4-3
 TERRESTRIAL AND AQUATIC IMPACTS ASSOCIATED WITH ALTERNATIVE A

Habitat	Impact (Acreage)
Nonnative Grassland	711.65
Oak Savanna	130.01
Vineyard	6.78
Ruderal/Developed	15.66
Ephemeral Drainage	2.13
Seasonal Wetland	0.05
Seasonal Wetland Swale	0.10
Total	866.38

FEDERALLY LISTED SPECIES

Federally Listed Plants

No potentially occurring federally listed plants occur within the proposed action area. Alternative A would have no impact on these species because they do not occur within the proposed action area. No mitigation is required.

Federally Listed Wildlife

Vernal Pool Fairy Shrimp (*Branchinecta lynchi*; VPFS)

VPFS have the potential to occur and are assumed to be present within the seasonal wetlands. Alternative A may remove approximately 0.10 acres of seasonal wetlands and 0.05 acres of wetland swales within the project site, unless the site design is slightly altered. The 2.13 acres of ephemeral drainages on the project site do not provide adequate habitat for VPFS. No indirect effects would occur to seasonal wetlands since no other seasonal wetlands with hydrological connectivity occur within 250 feet of the seasonal wetlands proposed to be impacted.

A Biological Assessment (**Appendix E**) has been prepared and will be submitted to the USFWS pursuant to Section 7 of the FESA. A Biological Opinion will be obtained from the USFWS prior to impacting seasonal wetlands containing VPFS. Implementation of Alternative A would adversely impact VPFS habitat and mitigation is warranted. With the implementation of the mitigation listed in **Section 5.4**, the potential adverse effects on potential habitat for VPFS would not result in jeopardy and would facilitate their recovery.

California Red-Legged Frog (*Rana aurora draytonii*; CRLF)

The project site does not provide breeding habitat for CRLF. Implementation of Alternative A would have no effect on CRLF breeding habitat because none exists within the proposed action area.

Alternative A provides upland habitat within all land located within 5,249 feet of wetland features occurring outside of the eastern and western boundaries of the proposed action area. Alternative A may

affect CRLF should it be determined that CRLF occupy the wetland features occurring outside of the project site. The avoidance and minimization measures identified in **Section 5.4**, including preconstruction surveys, biological monitors, and environmental awareness training would ensure that Alternative A would not adversely affect CRLF.

CRITICAL HABITAT

Implementation of Alternative A would impact 330.11 acres of designated critical habitat for VPFS. This would adversely affect VPFS and therefore mitigation is specified in **Section 5.4**.

MIGRATORY BIRDS

Potential nesting habitat for migratory bird species and other birds of prey is present within and in the vicinity of the Alternative A site footprint. Construction activities could result in disturbance of nest sites for migratory birds and other birds of prey through temporary increases in ambient noise levels and increased human activity within the proposed action area. Potential disruption of nesting migratory birds and other birds of prey during construction within the proposed action area could result in the abandonment of active nests. Alternative A could result in take to migratory birds and other birds of prey if nests are determined to be active within trees anticipated for removal. With the incorporation of the mitigation measures identified under **Section 5.4** for nesting birds, including preconstruction surveys and removal of trees outside of the nesting season, adverse affects to nesting birds would be reduced to less than significant.

4.1.5 CULTURAL RESOURCES

For cultural resources, an adverse impact would result if implementation of Alternative A resulted in one or more of the following effects to cultural resources/historic properties that are listed, or eligible for listing, on the National Register of Historic Places (NRHP):

- Physical destruction of or damage to all or part of the resource;
- Alteration of a resource;
- Removal of the resource from its historic location; or
- Change of the character of the resource's use or of physical features within the resource's setting that contribute to its historic significance.

The project site contains a total of 16 known cultural resource sites. During the final planning phase of the project, the residential units, associated facilities, and internal roadways would be designed to completely avoid physical destruction, damage, alteration, or removal of the cultural resources. In addition, with the minimal amount of ground disturbance associated with development of each residence (0.35 acres) and the associated driveways and utilities, implementation of Alternative A would not alter the character of each resource's use or physical features that contribute to the resource's historical significance. With the implementation of the mitigation listed in **Section 5.4**, adverse affects to cultural resources would be less than significant.

There is a possibility that significant subsurface cultural resources exist within the project site, as archaeological sites may be buried with no surface manifestation. There is also a possibility that an unanticipated discovery of human remains could occur. Development of Alternative A may adversely affect previously unknown subsurface prehistoric or historic archaeological resources, including human remains. This would be a potentially significant impact.

Mitigation measures are presented in **Section 5.5** for the protection and treatment of unanticipated discoveries of archaeological resources and/or human remains. Implementation of these mitigation measures would reduce adverse impacts to cultural resources to minimal levels.

PALEONTOLOGICAL RESOURCES

An impact to paleontological resources would be considered significant if it would directly or indirectly destroy such resources. As described in **Section 3.5.4**, the project region contains known paleontological resources and the geology of the project site is consistent with those areas of known resources. Although no such resources were observed in the course of site reconnaissance visits in 2011 and 2012 by AES staff, geologic formations that underlie the project site have a moderate to high probability of containing paleontological resources. Therefore, mitigation measures are presented in **Section 5.5** for the protection and preservation of unanticipated discoveries of paleontological resources. Implementation of these mitigation measures would reduce adverse impacts to unknown paleontological resources to a minimal level.

4.1.6 SOCIOECONOMIC CONDITIONS / ENVIRONMENTAL JUSTICE

METHODOLOGY

Alternative A was reviewed to determine if implementation would result in adverse effects to the socioeconomic and environmental justice settings of the region. An adverse affect would occur if the implementation of the project alternatives would result in:

- The substantial alteration of the ability of the local economy to perform at existing levels, from the effects of substantial losses to businesses (for example revenues or employees) or governments (for example tax revenues)
- The displacement of substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere;
- The displacement of substantial numbers of people, necessitating the construction of replacement housing elsewhere; or
- Disproportionate and adverse affects to an identified minority or low-income community, or Indian tribe.

SOCIOECONOMIC CONDITIONS

Alternative A would remove the 1,433-acre project site from the County's property tax rolls, which would result in a loss of tax revenues. For the 2011-2012 tax year, the property taxes for the four County

assessor's parcels (five project parcels) that make up the project site totaled \$78,304.96. Property taxes for individual County assessor's parcels for the 2011-2012 tax year are listed below (Santa Barbara County, 2012a):

- APN 141-121-051: \$38,797.94
- APN 141-140-010: \$38,468.34
- APN 141-230-023: \$556.18
- APN 141-240-002: \$482.50

The County Tax Collector is projected to collect a total of approximately \$625 million in property taxes for the entire county 2011-2012 tax year (Santa Barbara County, 2012b). The tax on the project site was approximately 0.01 percent of the County's total tax revenue. In determining impacts to the County's tax base, the 0.01 percent loss in property taxes is de minimis and would not lead to any adverse physical effects, and therefore would not be significant under NEPA. In recognition that a possible Fee-to-Trust transfer of the 1,433 acres would take such land off the property tax rolls, the Tribe has offered a first draft payment-in-lieu of taxes agreement to the County of Santa Barbara; however, to date the County has not accepted this offer.

Because the purpose of the project is to provide housing for Tribal members without current housing assignments on the Reservation (a majority of whom currently live in the surrounding community) and all current land assignments on the existing Reservation will continue to be maintained unchanged, it is unlikely to change either the population or demographics of the area in a substantial way. The Economic Impact Analysis (EIA) for the project (**Appendix K**) concluded that there are a sufficient number of construction workers available in the area to construct the project and that few people would move into the area as a result of the project. Alternative A would, however, result in a minor, indirect increase in population as people move into the area for construction work or to staff the jobs created indirectly from Alternative A. The project would not significantly affect population or demographics and would not be result in significant adverse impacts.

Alternative A would significantly increase direct employment during the two-year construction period (**Appendix K**). Between 100 and 360 direct construction jobs would be created in the County while the housing units are being constructed. Given the fact that the County lost 3,500 construction jobs between February 2007 and December 2011, "it would be difficult to overstate the importance of construction jobs" in the current economic climate (California Economic Forecast, 2012). Construction employment would end in 2019 shortly after the project is complete. Construction of the project is expected to result in a significant, short-term (four years) beneficial impact to the economy. Alternative A would indirectly generate or induce short-term, employment as project construction workers spend their earnings at local businesses or as a result of construction materials being purchased from local businesses. A total of 13 new retail jobs would be indirectly generated or induced as a result of Alternative A. These indirect jobs would also end after construction is finished and no additional construction dollars enter the economy.

Construction of Alternative A would increase private sector expenditures in the County between \$131 million and \$179 million depending on the final cost to construct the housing units. A portion of this expenditure would go to purchase of construction materials and the rest would go to wages. Construction of the project is expected to increase total personal income between \$82.4 million and \$100.0 million from the commencement of construction activities to 2020. During the peak year of construction (2016), Alternative A would generate between \$30 million and \$37 million in the County economy (California Economic Forecast, 2012). Although the property would be removed from the tax rolls after transfer into federal trust, construction expenditures (including income) would be taxed and generate revenue for local, state, and federal agencies. Construction of Alternative A would generate a short-term (four years) beneficial impact to incomes in the County. Compared with the total income in the area and the County, this would not be more than a moderate beneficial effect.

ENVIRONMENTAL JUSTICE

This environmental justice analysis was prepared using guidance from the Council on Environmental Quality (CEQ) for compliance with Executive Order 12898. The intent of this evaluation is to determine whether the BIA's trust acquisition and associated Tribal development of the proposed residences would impose disproportionately high and adverse human health or environmental effects on minority populations and low-income populations.

As discussed in **Section 3.6**, the project site is located in a rural area with no identified low-income or minority populations, with the exception of the Tribe. Tribal members would not be subjected to disproportionately high or adverse human health or environmental impacts because the project is for their benefit. Alternative A would not create adverse impacts with regard to environmental justice; therefore, no mitigation measures are warranted. Restoration of tribal sovereignty to the project parcels would be a benefit to the Tribe.

4.1.7 TRANSPORTATION AND CIRCULATION

METHODOLOGY

Adverse impacts to the existing transportation network would occur if traffic generated during construction or operation of Alternative A would result in a violation of the significance criteria of the corresponding jurisdictional agency. A Traffic Impact Study (TIS) was developed for Alternative A. This analysis is presented in its entirety within **Appendix I**. Below is a summary of the analysis and results of the Traffic Impact Study including potential impacts to the existing roadway network.

CONSTRUCTION

Traffic impacts resulting from the construction of Alternative A would result from new trips being added to the roadway network from construction worker travel to the site and the delivery of equipment and materials intermittently over the four year development period. These construction-related vehicle trips and associated impacts would be temporary in nature. Construction worker trips are not anticipated to

occur during peak hours (except for a slight overlap during the PM peak hour) and would be fewer in number than the new trips anticipated during operation (**Table 4-4**, discussed below). Construction worker arrival times typically peak between 6:30 AM and 7:30 AM, while departure times would peak between 4:00 PM and 5:00 PM. According to the traffic counts discussed in **Section 3.7**, the area-wide morning commute peak hour occurs from 7:30 AM to 8:30 AM; while the area-wide evening commute peak hour occurs from 4:30 PM to 5:30 PM. Trips associated with the delivery and removal of heavy equipment and materials to the site would occur intermittently during construction, as large vehicles would remain on-site during most phases of construction and materials would be stockpiled to reduce costs associated with transportation. When transport of these vehicles and materials occurs, all trucks would comply with applicable Caltrans load limits to reduce potential road degradation. Therefore, due to the temporary and intermittent nature of construction traffic, the limited number of trips expected, and the timing of these trips, construction trips on study intersections or roadways would result in minimal impacts to traffic.

OPERATION

Methodology

Traffic conditions at the time of operation of Alternative A (Near-Term Conditions) were forecast using a list of approved and pending projects located within the Santa Ynez planning area (included in **Appendix I** and summarized in **Section 4.4, Table 4-17**). Trip generation rates for the approved/pending projects were estimated using trip generation rates published in *Trip Generation* (Institute of Transportation Engineers, 8th Edition, 2008). The approved/pending project trips were added to the existing traffic levels identified in **Section 3.7**.

Trip Generation

The peak-hour trip generation of Alternative A was estimated using the Institute of Transportation Engineers (ITE) land use category 210 for single family homes from *Trip Generation*. **Table 4-4** presents the estimated average daily trips, AM peak hour, and PM peak hour trip generation rates and associated number of trips that would be generated under Alternative A.

TABLE 4-4
ALTERNATIVE A TRIP GENERATION RATES AND ESTIMATED TRIPS

Land Uses	Size	ADT		A.M. Peak Hour		P.M. Peak Hour	
	Units	Rate	Trips	Rate	Trips	Rate	Trips
Single Family Residential	143	9.57	1,369	0.75	107	1.01	144

Source: **Appendix I-** Associated Traffic Engineers, 2012.

Trip Distribution

The distribution of project traffic for Alternative A was determined by assessing existing travel patterns and the nature of the roadway system serving the project site. The trip distribution is presented in **Appendix I**.

Roadway Operations Standards

Refer to **Section 3.7** for the study intersection and roadway operational standards.

Impacts to Study Roadway Intersections

Table 4-5 summarizes the near-term AM and PM peak-hour LOS at each study intersection after introduction of project-generated traffic. All of the study intersections operate at LOS C or better with project traffic during both the AM and PM peak hours with the exception of SR-264 at SR-154. Mitigation measures provided in **Section 5.7** would improve the intersection operating conditions at SR-264 at SR-154 to LOS B in the AM and LOS C in the PM. With the incorporation of mitigation for the intersection of SR-264/SR-154, the implementation of Alternative A would result in minimal adverse impacts to the study roadway intersections.

TABLE 4-5
ALTERNATIVE A INTERSECTIONS LEVEL OF SERVICE AND AVERAGE DELAY

Intersection	Traffic Control	AM Peak		PM Peak	
		LOS	Average Delay (sec)	LOS	Average Delay (sec)
SR-154/US-101 SB	Stop Sign	B	11.6	B	10.5
SR-154/US-101 NB	Stop Sign	B	11.9	B	10.6
SR-154/Grand Avenue	Stop Sign	C	15.4	C	18.4
SR-154/Roblar Avenue	Stop Sign	C	16.1	C	20.2
SR-154/Edison Street	Stop Sign	B	11.7	C	15.1
SR-154/Alisal Road	Signal	C	21.5	C	22.8
SR-246/Alamo Pintado Road	Signal	B	20.0	C	26.6
SR-246/Refugio Road	Signal	B	16.8	C	28.1
SR-246/Edison Street	Signal	B	17.6	C	23.6
SR-246/SR-154	Stop Sign	B	12.7	F	>50.0

Bold indicates unacceptable LOS.

Source: **Appendix I**.

Impacts to Study State Highway Segments

Table 4-6 summarizes the near-term AM and PM peak-hour LOS at each state highway segment within the study area after introduction of project-generated traffic. All of the study area highway segments would operate at LOS D or better during both the am and pm peak hours. The implementation of Alternative A would result in minimal adverse impacts to the study state highway roadway segments.

TABLE 4-6
ALTERNATIVE A STATE HIGHWAY SEGMENT LEVEL OF SERVICE

Highway Segment	Peak Hour LOS
SR 154 North of Edison Street ¹	LOS D/LOS C
SR 154 South of SR 246-Armour Ranch Road ¹	LOS D/LOS D
SR 246 from SR 154 to Solvang ²	LOS B-C

¹ North and southbound LOS based on travel speeds and ability to pass using P.M. peak hour flows.

² Signalized segments - LOS based on delays at intersections.

Source: **Appendix I.**

Impacts to Study County Roadway Segments

Table 4-7 summarizes the near-term AM and PM peak-hour LOS at each County roadway segment within the study area after introduction of project-generated traffic. All of the study County roadway segments would operate at LOS D or better during both the am and pm peak hours. The implementation of Alternative A would result in minimal adverse impacts to the study County roadway segments.

TABLE 4-7
ALTERNATIVE A COUNTY ROADWAYS OPERATIONS

Roadway	Geometry	ADT	Acceptable Capacity ¹
Baseline Avenue e/o Edison Street	2 Lanes	1,845	5,530
Armour Ranch Road e/o SR 154	2 Lanes	1,864	5,530

ADT = average daily trips.

¹ County of Santa Barbara determined that 70 percent of capacity equals LOS B.

Source: **Appendix I.**

Bicycle, Pedestrian, and Transit Networks

The project would not generate pedestrian trips, bicycling activity, or transit riders along Baseline Road, Armour Road, SR-154, SR-246, or the other public roads in the area. Existing non-vehicular networks would not be affected by the predicted LOS levels. Thus, no significant adverse impacts are projected to affect these networks as a result of Alternative A.

4.1.8 LAND USE

METHODOLOGY

Following approval of 25 CFR Part 151 Trust Acquisition, all of the project parcels would be exempt from County land use regulations. The only applicable land use regulations on the trust lands are those of the Tribe. The Tribe relies upon the Tribal Council, the governing body of the Tribe, to enact land use regulations for Tribal lands. However, the Tribal Government desires to work cooperatively with local and State authorities on matters related to land use. Additionally, NEPA requires an assessment of the project effects on and compatibility with adopted land use plans. Adverse impacts to land use would result if an incompatible land use within Alternative A would result in the inability of the County to continue to implement existing land use policies. In addition, adverse impacts to land use would result if

the implementation of Alternative A resulted in the conversion of a significant percentage of County designated prime agricultural lands or other protected agricultural lands.

LOCAL PLANNING AND LAND USE COMPATIBILITY

Alternative A would result in the removal of 1,433± acres from County jurisdiction and placement of the land into federal trust for the benefit of the Tribe. Under Alternative A, residential land use and utilities would cover a total of approximately 796 acres. In addition to residential development, areas have been designated by the Tribe for agricultural uses, open space, and resource management zones.

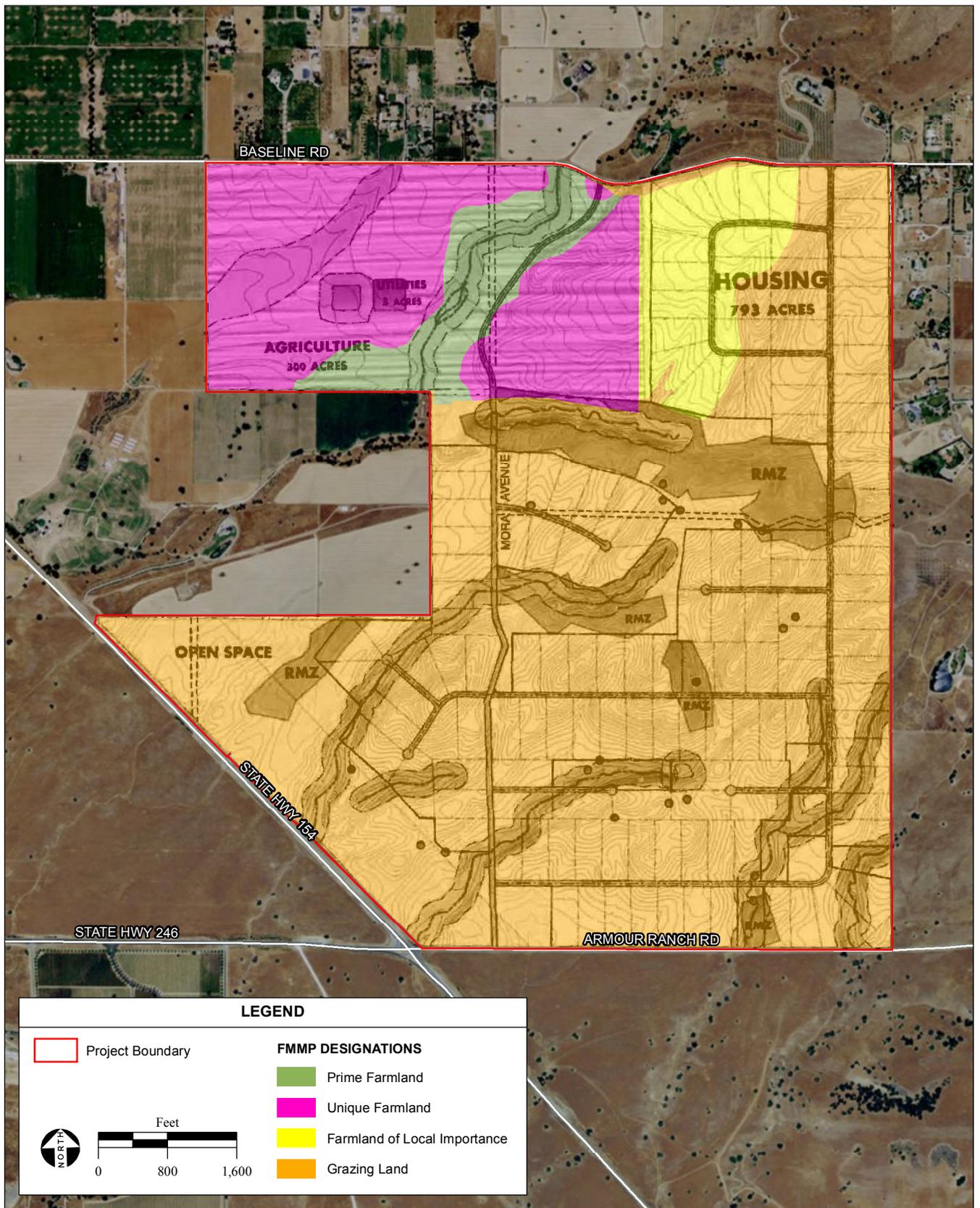
Approximately 300 acres would be preserved as agricultural land within Parcels 1 and 2; 131 acres is designated as non-developable resource management zones for protecting oak woodland and riparian corridors on Parcels 2, 3, and 4; and approximately 206 acres is designated as open space/recreation land within Parcels 2, 3, and 4.

Development of tribal housing on the 1,433-acre property would not be consistent with the allowed land uses under the AG-II-100 zoning and AC land use designation identified by the Santa Barbara Comprehensive Plan if it remained under the jurisdiction of the County; however, it would be compatible with the surrounding low density rural residential developments to the north and moderately dense residential development adjacent to the northeastern border of the project site. The dedicated land uses for the remainder of the site (agriculture, open space, and resource management zone) would account for 44 percent of the total land uses on the project site after taken into trust. These land uses would be consistent with the zoning and land uses north, west, and south of the project site. Therefore, implementation of Alternative A would not conflict with surrounding land uses and would result in minimal adverse impacts to land uses.

AGRICULTURE

With the implementation of Alternative A, land currently being used for agricultural production will continue to operate and will not experience a change in land use. Parcel 1 and a portion of Parcel 2 would continue to be used as an operating vineyard under Alternative A, which would be consistent with the agricultural zoning and land use designations. An additional 60 acres would be designated for agricultural uses on Parcel 2 to allow for expansion of the existing vineyard operation. Parcel 5 and a portion of Parcel 3 would remain open space and would not be developed, which would be consistent with zoning and land use designations.

The project area encompasses land designated as prime farmland, unique farmland, farmland of local importance, and grazing land. Areas designated as prime farmland, unique farmland, and farmland of local importance are all located within Parcels 1 and 2. As shown in **Figure 4-1**, the majority of development under Alternative A would be located within grazing land. Alternative A would impact approximately 704 acres of the total 1,041.1 acres of grazing land and 0.8 of the total 84.4 acres of farmland of local importance; however, project design would minimize impacts to areas designated as prime farmland and unique farmland. The corridor of prime farmland would not be developed and would



SOURCE: Summit Project Management, 2011; California Dept. of Conservation Farmland Mapping & Monitoring Program, 2010; AES, 2012

Santa Ynez Camp 4 EA / 201551 ■

Figure 4-1
FMM Designations for Alternative A Site Plan

continue to operate as a vineyard. Development of the WWTP and supporting infrastructure, as described in **Section 2.0**, would be located in Parcel 1 and would impact 3 acres of the total 230.0 acres of unique farmland. The WWTP and recycled water reservoir would be located near the center of Parcel 1 and would not adversely impact the surrounding agricultural uses on the parcel. The existing water reservoir, used to store water for the vineyard, would be repurposed to store recycled water. Therefore, Alternative A would not have an overall adverse impact on local land use planning and zoning designations.

The Agricultural Element of the County's Comprehensive Plan indicates that there are approximately 105,060 acres of irrigated farmland within the County; including prime farmland, farmland of statewide importance, and unique farmland. Implementation of Alternative A would result in the conversion of a statistically insignificant percentage of harvested agricultural land for the proposed WWTP and supporting pipeline infrastructure on Parcel 1. Approximately 3 acres of the total 300 acres comprising Parcel 1 would be converted for Alternative A; thus, impacts to prime farmland under Alternative A would be minimal.

There are roughly 1,330,280 acres of grazing land in the County (Santa Barbara County, 2011a). Development of tribal residences on Parcels 2, 3, and 4 would remove approximately 0.05 percent (\pm 704 acres) of this grazing land from the jurisdiction of the County. The conversion of grazing lands into residential lots as proposed by Alternative A would result in an alteration of the current landscape found on Parcels 2, 3 and 4. This land is non-prime farmland and is not currently being used for agricultural purposes; therefore, impact to agriculture on these parcels would minimal.

The total Farmland Conversation Impact Rating (FCIR) score is used as an indicator for the project sponsor to consider alternative sites if the potential adverse impacts on the farmland exceed the allowable level. Sites receiving a combined score of less than 160 (out of 260 possible points) do not require further evaluation; alternative project locations should be considered for sites with a combined score greater than 160 points. A FCIR form was completed for the project site (**Appendix G**). Alternative A received a total rating of 141, scoring less than 160 points; therefore, no further evaluation is needed.

Williamson Act

All of the parcels within the project site are under Williamson Act Contracts (Santa Barbara County, 2011a). The parcels within the project site constitute approximately 1,433 acres (0.003 percent) of the 550,000 \pm acres under County Williamson Act Contracts (Santa Barbara County, 2011). The Tribe has submitted a notice of non-renewal for the Williamson Act Contracts (**Appendix L**). In addition, the Tribe passed Resolution 931 dated July 1, 2013 which requires compliance with the provisions of the existing Williamson Act Contracts and associate non-renewal process until the contracts expire. Alternative A contains elements that would be consistent with the intent of the Williamson Act to preserve agriculture resources. As discussed above, implementation of Alternative A would result in the conversion of 3 acres of prime farmland as a result of the construction of the WWTP; however, the remaining prime farmland and a majority of the farmland of local importance (0.8 acres would be impacted) would remain in

agricultural production. Accordingly, by following the non-renewal process and due to the limited acreage of farmland of local importance that would be impacted by Alternative A, a less-than-significant impact would occur and no mitigation is required.

4.1.9 PUBLIC SERVICES

METHODOLOGY

To determine the impact on public services the water supply; wastewater; solid waste; electricity, natural gas, and telecommunications; law enforcement; fire protection and emergency medical services; public schools, and parks and recreation demands for Alternative A are considered. An adverse impact would occur if project-related demands on public services would cause an exceedance of system capacities that result in a need for additional facilities, the construction and operation of which would result in adverse effects to the physical environment.

WATER SUPPLY

The project site is outside of the nearest municipal district service area. Hence no public water supply system connections are on the project site. Individual groundwater wells or water service contracts for surface water are the sources of potable and irrigation water for the region. Adverse impacts to surface water and groundwater resources from the development of Alternative A are addressed under **Section 4.1.2**. Water demand for Alternative A would be provided by the Tribe and supplied by groundwater via on-site wells. As discussed in **Section 4.1.2**, mitigation would require the Tribal groundwater wells to be developed outside zones of potential influence of off-site groundwater supply wells; therefore, the implementation of Alternative A would result in minimal impacts to water supply facilities.

WASTEWATER SERVICE

As discussed above, the project site is outside of the nearest municipal district service area. Hence no public municipal wastewater treatment facilities are on the project site. The existing wastewater needs on the project site and in the immediate vicinity are satisfied by septic systems. Alternative A includes construction of an on-site WWTP, recycled water storage reservoir on Parcel 1, and supporting pipeline infrastructure connecting internal development to the WWTP. All development components of Alternative A would be tied into the new WWTP as part of Alternative A. Overall, eliminating the need for septic systems would be environmentally beneficial and the new WWTP would provide for the use of recycled water to reduce irrigation water demands; therefore, with the lack of connections to municipal wastewater facilities, no impacts to wastewater services would occur.

SOLID WASTE

Potential solid waste from construction of Alternative A would include: paper, wood, glass, aluminum and plastics from packing materials; waste lumber; insulation; empty non-hazardous chemical containers; concrete; metal, including steel from welding/cutting operations; and electrical wiring. These materials would be collected by private waste haulers and, after shipment to the local recycling center, would be

transported to the Santa Ynez Valley Recycling and Transfer Station and the Tajiguas Sanitary Landfill. The Tribe would recycle as much of the construction waste as possible; therefore, the non-recyclable construction waste would be minimal and would not cause adverse impacts to trash collection or disposal facilities.

Assuming a disposal rate of 2.3 pounds/person/day (Calrecycle, 2011) and 143 residences with an average household size of 2.61 persons (U.S. Census, 2010), approximately 860 pounds of solid waste per day (or 157 tons per year) would be disposed of by the residential component of Alternative A.

The Santa Ynez Valley Recycling and Transfer Station can process approximately 220 tons of material per day and has an average daily intake of 50 tons per day. The Tajiguas Sanitary Landfill is permitted to receive approximately 1,500 tons per day (or 547,500 tons per year) of solid waste. Currently, the landfill receives a maximum of 650 tons per day, providing a minimum remaining daily capacity of 850 tons per day (RRWMD, 2012). Alternative A would generate approximately 0.5 tons per day, which represents less than 0.3 and 0.05 percent of the transfer station's and landfill's minimum remaining permitted daily capacity, respectively. No adverse impacts would occur to municipal solid waste facilities.

ELECTRICITY, NATURAL GAS, AND TELECOMMUNICATIONS

Electrical and telephone infrastructure facilities are currently located on and near the project site. The Tribe would coordinate with service providers regarding the extension of services to the project site. No utility service impacts would occur that would result in physical adverse impacts to the environment.

LAW ENFORCEMENT

Under Public Law 280, 18 United States Code [U.S.C.] 1162, the State of California and other local law enforcement agencies have criminal enforcement authority on Tribal lands. The Santa Barbara County Sheriff's Department (SBCSD) would provide law enforcement services to the project site. The SBCSD's station closest to the project site is located in the City of Solvang, approximately 4.8 miles west of the project site.

The proposed Tribal residences would result in a negligible increase in demands on the SBCSD. Calls for service would not be disproportionate to other residential development in the County. In addition, the proposed Tribal residents are expected to relocate from existing housing units in the Santa Ynez Valley and all current land assignments on the existing Reservation shall continue to be maintained unchanged; therefore, no significant adverse impacts to law enforcement would occur that would result in physically adverse impacts to the environment. Under Alternative A, the Tribe will continue to fund the SBCSD; therefore, there will be no change in, or impacts to, these services.

FIRE PROTECTION AND EMERGENCY MEDICAL SERVICES

Construction-related impacts include the potential for fire threat associated with equipment and vehicles coming into contact with wildland areas. Construction vehicles and equipment such as welders, torches,

and grinders may accidentally spark and ignite vegetation or building materials. The increased risk of fire during the construction of the proposed facilities would be similar to that found at other construction sites. Since the project site is in an area classified as a High Fire Hazard Zone (CAL FIRE, 2012), construction activities may result in adverse impacts related to fire and medical responses services. With the implementation of the BMPS described in **Section 2.2.10** and the mitigation measures described in **Section 5.9** construction-related adverse impacts would be minimal.

The construction of Alternative A would be designed to meet existing building codes, established under a Tribal ordinance similar to IBC standards, including adherence to fire safety requirements. Use of the site for residential purposes could create additional demand for fire protection, and could require more frequent responses from local fire-fighting agencies. Alternative A would be primarily served by the Santa Barbara County Fire Department (SBCFD), through an existing service agreement with California Department of Forestry and Fire Protection (CAL FIRE). SBCFD provides service to the project area from Station 32, located approximately 0.7 mile southwest of the project site. Station 32 is fully equipped with at least four on-duty firefighter/paramedics at any given time.

Additionally, the project site is located in a State Responsibility Area, and CAL FIRE is compensated for wildland protection services as specified in the Statewide Annual Operating Plan between the BIA and CAL FIRE, as provided for in the Cooperative Wildland Fire Management and Stafford Act Response Agreement (Cooperative Agreement). The current Cooperative Agreement commenced in December 2007. Under an aid agreement, the SBCFD provides service to CAL FIRE service areas within the County. These service agreements will continue once the subject parcels are taken into trust under Alternative A; therefore, there will be no significant impact to the SBCFD or CAL FIRE pertaining to fire protection services.

Emergency calls to 911 are not anticipated to increase as a result of Alternative A as a majority of proposed residents of the housing development currently live in the Santa Ynez Valley; therefore, any new demands would be minimal. The potential increase in demand for emergency medical services would result in minimal impacts to emergency response dispatch services.

Overall, in terms of law enforcement and fire/emergency services, the Santa Ynez Valley is a net beneficiary from the ongoing fiscal support provided by the Tribe.

PUBLIC SCHOOLS

Impacts to College School District, Los Olivos School District, or Santa Ynez High School District as a result of Alternative A would be negligible because a majority of potential residents of the project site already reside in the Santa Ynez Valley or in nearby areas. Any potential increase in enrollment in local schools would be minimal. The impact of families relocating to the Tribal community after the development is completed would be negligible; therefore, no adverse impacts to local school districts would occur.

PARKS AND RECREATION

Residents of the new housing units would be Tribal members who move from existing residential units within the County, and employees would generally be current County residents. Development of the project would not increase the number of park users enough to impact local parks and recreation; therefore, a minimal impact to local parks or recreational facilities would occur.

4.1.10 NOISE

METHODOLOGY

Alternative A would have an adverse impact to the community noise level if construction noise exceeded 78 dBA, Leq between the hours of 7 am to 6 pm or if construction occurred between 6 pm to 7 am and if vibration from construction activities exceeded 0.5 Peak Particle Velocity (PPV) at structures or 0.1 PPV at sensitive noise receptor locations. Operation of Alternative A would have a significant adverse effect if an increase in traffic caused a 5 dBA, Leq increase in the ambient noise level or stationary noise sources cause the ambient noise level to exceed the Federal Highway Administrations (FHWA) Noise Abatement Criteria of 67 dBA, Leq.

Construction

Construction and operation noise effects were estimated using Caltrans methodology provided in its 2009 Technical Noise Supplement. Construction vibration effects were analyzed using Caltrans methodology provided in its 2004 Transportation and Construction-Induced Vibration Noise. Caltrans provides methods its noise publication to calculate construction and operation stationary source and transportation noise from increases in traffic, distances to receptors, and existing noise levels.

CONSTRUCTION NOISE EFFECTS

Grading and construction associated with the Alternative A would be intermittent over a four year period and temporary in nature. The closest receptors that would be exposed to noise during project construction are residence located approximately 200 feet east of the project site.

Construction noise levels at and near the project site would fluctuate depending on the particular type, number, and duration of uses of various pieces of construction equipment. Construction-related material haul trips have the potential to raise ambient noise levels along haul routes, depending on the number of haul trips made and types of vehicles used. Haul trips for import of fill would be the main source of haul truck trips. During construction worker trips, one one-way fill, and four one-way material hauling trips would occur during the grading phase of construction. Because trucks are louder than passenger cars, passenger car equivalence (PCE) multiplier of 8 cars per truck was used. Therefore, the total passenger one-way car trip equivalence per day would be 90. The existing traffic volume on Armour Ranch Road is 71 trips per day; therefore, construction trip equivalence would more than double the existing traffic volume on Armour Ranch Road, which would result in a 3.6 dBA, Leq increase in the existing ambient noise level. As shown in **Table 3.10-5** average ambient noise level at the property site is 48.9 dBA, Leq. With construction traffic the ambient noise level would increase to 52.5 dBA, Leq, which is less than the

federal construction noise threshold of 78 dBA (**Table 3.10-3**). Also, there is sensitive noise receptors located approximately 100 feet of potential fill, material, and equipment haul routes along SR-246, SR-156, and Baseline Road. The greatest ambient noise level along these roadways is 59.8 dBA, Leq (**Table 3.10-5**). With project-related construction traffic the greatest ambient noise level would be 63.4 dBA, Leq, which is less than the federal construction noise threshold of 78 dBA (**Table 3.10-3**). Therefore, impacts to the ambient noise environment due to construction traffic would be minimal.

Table 4-8 presents typical stationary point source noise levels at 50 feet during different construction stages.

TABLE 4-8
TYPICAL CONSTRUCTION NOISE LEVELS

Construction Phase	Noise Level at 50 feet (dBA)
Ground Clearing	84
Excavation	89
Foundations	78
Erection	85
Finishing	89

Source: Federal Highway Administration, 2006

Stationary point sources of noise attenuate (lessen) at a rate of 0 to 10 dBA per doubling of distance from the source, depending on the environmental characteristics of the site (i.e., topography, type of ground surfaces, noise barriers, etc.) (Caltrans, 2009a). An attenuation factor of 6.0 dBA per doubling of distance is appropriate given the topography and ground cover on and in the vicinity of the Project Site (i.e. trees and grass). The maximum construction noise at the Project Site would be 89 dBA at 50 feet. Using an attenuation factor of 6.0 dBA the noise level at the nearest sensitive noise receptor, a private residence, would be 77.0 dBA. The maximum noise level at the nearest sensitive noise receptor (a residence located 200 feet from Alternative A's eastern property boundary) would be less than the daytime (7 am to 6 pm) federal construction noise threshold of 78 dBA (**Table 3.10-3**). Therefore, with the impacts to the ambient noise environment due to on-site construction noise would be minimal.

Vibration

Construction activities would consist of using earthmoving equipment shown in **Table 4-9**, which can produce detectable or damaging levels of vibration at nearby sensitive land uses, primarily depending on the distance between the source and the nearby sensitive land use. Generally, physical damage is only possible when construction requires the use of equipment with high vibration levels (i.e., compactors, large dozers, pile drivers, etc) and occurs within 25 to 100 feet of an existing structure. **Table 4-9** provides estimated construction vibration levels at this distance. The predicted Peak Particle Velocity (PPV) levels are below the significance threshold of 0.5 PPV for structures and 0.1 PPV for annoyance of people (Caltrans, 2004). This would not be an adverse effect.

TABLE 4-9
REFERENCE AND PREDICTED PPV FROM CONSTRUCTION

Equipment	Reference PPV at 25 feet	PPV at 200 feet
	Inches per Second	
Large bulldozer	0.089	0.005
Excavator	0.089	0.005
Compactor	0.170	0.009
Scaper	0.089	0.005
Loaded trucks	0.076	0.004
Small bulldozer	0.003	0.0002

Note: PPV was predicted using the equation $PPV_{predicted} = PPV_{ref} * (D_{ref}/D_{source})^{1.4}$.
Source: Caltrans, 2004.

OPERATION NOISE EFFECTS

The following identifies potential impacts from project-related noise sources, such as traffic, heating ventilation and air conditioning (HVAC) systems, and the wastewater treatment plant (WWTP).

Traffic

It is not anticipated that speed in the vicinity of the Project Site or the mix of trucks in the traffic would change during the project's operational phase; however, with the implementation of the project the traffic volumes would increase. A discussion of the potential increases in traffic noise levels along affected roadways is provided below:

SR- 154

Sensitive receptors are located on average approximately 50 feet from SR-154. As discussed in the Traffic Impact Study (TIS) included as **Appendix I**, there are approximately 532 vehicles per day on SR-154 adjacent to the southwestern portion of the project site. Alternative A would add an estimated 19 vehicles per peak day to SR-154. The existing ambient noise level 50 feet from the center line of SR-154 was measured to be 55.4 dBA, Leq, resulting in an increase of the ambient noise level of approximately 0.2 dBA Leq. As stated in the existing setting, an increase of less than 1 dBA would not be audible to sensitive receptors.

SR-246

SR-246 is located southwest of the project site and provides regional access to the project site from Solvang, Buellton, and Lompoc. Sensitive noise receptors are located approximately 50 feet from the centerline of SR-246. The existing ambient noise level 50 feet from the center line of SR-246 is approximately 56.0 dBA, Leq. The existing traffic volume on this roadway is approximately 1,155 vehicles per day (Traffic Impact Study, **Appendix I**). Alternative A would add approximately 42

vehicle trips per day to SR-246, resulting in an increase of the ambient noise level of approximately 0.2 dBA, Leq. The anticipated increase in traffic noise levels along SR-246 would not be audible to sensitive receptors.

Baseline Road

Baseline Road is located north of the project site and provides local access to Edison Road and SR-154. Residences are located approximately 50 feet from the centerline of Baseline Road. The existing ambient noise level at 50 feet from the centerline of Baseline Road was measured at 56.8 dBA, Leq. The existing traffic volume on this roadway is approximately 160 vehicles per day (TIA, **Appendix I**). Alternative A would add approximately 9 vehicle trips per day to Baseline Road, resulting in an increase of the ambient noise level of approximately 0.3 dBA, Leq. The anticipated increase in traffic noise levels along Baseline Road would not be audible to sensitive receptors.

Armour Ranch Road

Armour Ranch Road is located south of the project site and provides local access to SR-246 and SR-154. Residences are located approximately 50 feet from the centerline of Armour Ranch Road. The existing ambient noise level at 50 feet from the centerline of Armour Ranch Road was measured at 48.9 dBA, Leq. The existing traffic volume on this roadway is approximately 71 vehicles per day (TIA, **Appendix I**). Alternative A would add approximately 140 vehicle trips per day to Armour Ranch Road. Alternative A traffic would more than double the existing volume of traffic resulting in an increase of the ambient noise level of approximately 4.4 dBA, Leq. The anticipated increase in traffic noise levels along Armour Ranch Road would be less than the federal significant change in transportation noise of five dBA, Leq (refer to **Table 3.10-4**) and the federal noise abatement standard for residential receptors of 67 dBA, Leq.

The addition of traffic attributable to Alternative A would not audibly increase the ambient noise level along potentially affected roadways, including SR-246, SR-154, Baseline, and Armour Ranch Roads. Therefore, effects to sensitive noise receptors from the increase in traffic noise levels resulting from Alternative A would be minimal and no mitigation is required.

Vibration and Other Noise Source

Residential uses would bring the possibility of noise due to operations of roof-mounted air handling units associated with building HVAC equipment, WWTP, and land maintenance equipment.

The noise levels produced by HVAC systems vary with the capacities of the units, as well as with individual unit design. In this case, residential units would be located near the building, which generally produces a noise reduction barrier. Residential units are anticipated to be constructed at a distance of at least 300 feet from the nearest sensitive noise receptor, given this distance noise from residential HVAC equipment would not be audible. Therefore, there would be a less-than-significant effect due to HVAC noise.

WWTPs generate noise from pumps, processes, and on-site vehicles. Noise from pumps and processes are generally shielded within buildings and therefore, have little effect on sensitive noise receptors beyond the WWTP's boundaries. On-site vehicles generally travel at reduced speeds (less than 15 miles per hour), which reduces vehicle noise. Given the above factors and the distance to the nearest sensitive noise receptor (approximately 1,500 feet), noise from the WWTP would be minimal.

Noise from land maintenance equipment would be intermittent and temporary in nature and would be consistent with noise from established land uses. Worst case land maintenance equipment noise would be approximately 76 dBA, Leq at 50 feet. The resulting noise level at the nearest sensitive noise receptor would be 64 dBA, which is less than the Federal Noise Abatement Criteria of 67 dBA (**Table 3.10-5**). Therefore, there would be a minimal impact due land maintenance equipment noise.

Residential uses do not include sources of perceptible vibration. Therefore, impacts of vibration from Alternative A would be less-than-significant.

4.1.11 HAZARDOUS MATERIALS

METHODOLOGY

Impacts associated with hazardous materials include impacts resulting from a release of hazardous materials and impacts from improper hazardous materials management. A project would be considered to have significant hazardous materials impacts if the project site has existing hazardous materials on-site that would require remediation prior to development of a project alternative. Additionally, if a project would result in the use, handling, or generation of a regulated hazardous material, of which the regulated amounts would increase the potential risk of exposure resulting in reduction of quality of life or loss of life, then the project would have a significant adverse impact.

EXISTING SOURCES

No hazardous materials have been identified on the project site or within a distance that would expose people or the environment to hazardous materials at adverse levels.

CONSTRUCTION

During the construction period, it is possible that hazardous materials, such as solvents, paint, and adhesives would be introduced, stored, and used on site. As with any liquid and solid, during handling and transfer from one container to another, the potential for an accidental release exists. Depending on the relative hazard of the material, if a spill were to occur of significant quantity, the accidental release could pose both a hazard to construction employees as well as to the environment. During grading and construction it is possible that hazardous substances such as gasoline, diesel fuel, and hydraulic fluid would be transported to the site. Temporary bulk aboveground storage tanks as well as storage sheds/trailers would likely be used by various contractors for fueling and maintenance purposes. Construction BMPs reduce and often eliminate the impact of such accidental releases. Since contact with

stormwater during construction is the primary means of transporting these contaminants offsite, appropriate BMPs for this impact are included in the construction stormwater BMPs in **Section 5.11**. With the implementation of these BMPs and compliance with federal laws relating to the handling of hazardous materials, no adverse effects associated with the accidental release would occur during construction.

OPERATION

The majority of waste produced by the development of residential units on the project site would be non-hazardous. The small quantities of hazardous materials that would be generated or used would include pesticides, fertilizers, motor oil, hydraulic fluid, solvents, disinfectants, cleaners, lubricants, paint, and paint thinner. These materials would be anticipated to be generated from the homeowner maintenance. The amount and type of hazardous materials that would be generated are common to residential developments and do not pose unusual storage, handling or disposal issues. Based upon the amount and type of hazardous materials that will be stored, used, maintained and generated during operation of Alternative A, effects to the environment or public are considered to be minimal.

Additionally, the proposed WWTP may use hazardous materials such as sodium hypochlorite and citric acid. Although typical management practices reduce and often eliminate the impact accidental releases, the temporary onsite storage of hazardous materials could result in a release. The BMPS presented in **Section 2.2.10** would reduce impacts to minimal levels.

4.1.12 VISUAL RESOURCES

Impacts related to visual resources would be considered significant if Alternative A were to substantially alter or interrupt locally important scenic vistas, introduce visual elements that would conflict with the Santa Ynez Valley's rural atmosphere, or create sources of inappropriate or excessive glare or nighttime illumination.

The proposed Tribal housing development on Parcels 2, 3, and 4 would be similar in nature to existing low density, rural residential development scattered across the landscape of the Santa Ynez Valley. Project design would incorporate understated signage and safety lighting within public areas. Signage for all roads and facilities would be subtly incorporated into the landscape. All lighting at roadway intersections and parking areas for the proposed Tribal residences and WWTP would be downcast and shielded, in accordance with "dark sky" principles. As stated in **Section 2.2.10**, light poles would be no more than 18 feet high and would be required to have cut-off lenses.

The portion of the project site along scenic SR-154 that is located within the SYVCP Design Control Overlay would be preserved as an open space area. The proposed Tribal housing community and passive/equestrian trails would be separated from SR-154 by a 985-ft wide open space zone that would not be developed; therefore, only low-lying areas of the project site would be positioned within the viewshed of SR-154. The proposed WWTP and recycled water reservoir would also be buffered on all

sides by the existing vineyard and would be comparable in architectural design to similar agricultural structures in the area.

Alternative A would be visible from the East Baseline/Rancho Estates subdivision located to the north and east of the project site; however, given the low density of the proposed residential lots, local views would be similar to those already found within the subdivision. As stated above, project design would prevent or minimize any sources of glare or excessive nighttime illumination. Development would be compatible with existing local conditions and visual impacts would be minimal.

4.2 ALTERNATIVE B – REDUCED DEVELOPMENT INTENSITY

4.2.1 LAND RESOURCES

The methodology used to determine project-related adverse impacts to land resources for Alternative B is the same as Alternative A. Impacts related to topography, seismicity, soils, and mineral resources under Alternative B would be similar as those described for Alternative A. For the development of Alternative B, residential lot sizes would be reduced from five acres to one acre and 30 acres would be devoted to the construction of a tribal government zone. Alternative B would increase open space and recreation land uses from 206 acres under Alternative A to 775 acres. The total amount of cut under Alternative B is 75,000 cubic yards and the total amount of fill is 160,000 cubic yards. This results in the need for approximately 75,000 cubic yards of fill material for Alternative B, which would be sourced from the proposed on-site drainage basins. Some structural grade fill may be imported to meet engineering requirements. With the implementation of the protective measures listed in **Section 2.2** and the mitigation measures listed in **Section 5.1**, development of Alternative B would result in minimal impacts to land resources.

4.2.2 WATER RESOURCES

METHODOLOGY

The methodology used to determine project-related adverse impacts to water resources for Alternative B is the same as Alternative A.

SURFACE WATER, DRAINAGE, AND FLOODING

As with Alternative A, Alternative B (**Figure 2-2**) has been designed to avoid the construction of Tribal residences, roads, WWTP, and utilities within riparian corridors and oak woodlands located on project parcels. As discussed in **Section 2.2.7**, road crossings would occur over potential Waters of the U.S. These crossings would be limited to the extent feasible; and, span bridges would be utilized where necessary to allow drainage to flow from the site. Discussion of impacts to surface water features on the project site is included in **Section 4.2.4**.

As with Alternative A, increased impervious surfaces would result in increased peak flows and increased total discharge from the project site during wet weather events, which if not properly conveyed and detained, has the potential to increase stormwater flow to off-site drainage systems. Alternative B would minimally increase impervious surfaces by approximately 4 percent on Parcels 2 and 4. The increase in peak flows would be up to 14 cfs compared to existing conditions for the 100-year, 24 hour peak storm events (**Appendix D**). Stormwater runoff generated on the project site would flow through a total of 13 road crossing, surface swales, and permeable surfaces to one of seven detention basins within Parcel 2 to ensure off-site stormwater peak discharge rates are the same rate as those under existing conditions for the 2- to 100-year storm events. Basins would be shaped and designed to match the project site's terrain. Other drainage recommendations would be the same as for Alternative A. With the implementation of stormwater drainage improvements recommended in **Appendix D** and the BMPs and mitigation measures discussed in **Sections 2.2.10**, stormwater flows on the project site post-development would not exceed existing peak runoff rates. Thus, Alternative B would result in no significant adverse impacts to drainage.

As noted in **Section 4.2.1**, a WWTP would be constructed on Parcel 1. Impacts to water resources under Alternative B with regards to the WWTP would be identical to those under Alternative A. The same mitigation for Alternative A would be required to reduce the impacts associated with Alternative B. Treated effluent would be recycled and applied to land on the parcels to be taken into trust and so impacts to water quality would be less than significant.

Alternative B includes the construction of tribal community facilities and associated parking spaces. This center would have open space incorporated in and around it to accommodate low impact development (LID) stormwater features including biofiltration swales and detention basins. Areas outside this building would be kept as permeable surfaces to the maximum extent practicable, either as vegetation or high infiltration cover. With the implementation of stormwater drainage improvements recommended in **Appendix D** and the protective measures and BMPs discussed in **Section 2.2.10**, impacts due to the tribal community facilities would be minimal.

Implementation of Alternative B would result in no impact to existing stormwater drainage conditions on the project parcels that would remain under agricultural operation (the majority of Parcel 1 and the north western portion of Parcel 2) and those not developed under Alternative B, specifically Parcels 3 and 5.

As noted in **Sections 3.2.1** and **4.1.2**, portions of Parcels 1 and 2 of the project site are mapped as FEMA-designated 100-year Zone A flood area (refer to **Figure 3-2**). All Tribal residences, amenities, and the majority of the roads and utilities would be constructed outside the FEMA designated 100-year, 24-hour flood zone. As noted in **Section 4.1.2**, the vineyard area is located within the Zone A flood hazard area. However, this land is used for agricultural purposes. The natural permeability of the soil will ensure flooding impacts would be minimal. The proposed WWTP is planned for an area between two forks of the Zone A flood hazard area within Parcel 1. With the implementation of the recommendations identified in **Appendix D**, adverse impacts to floodplain management due to construction and operation

of the WWTP would be reduced through project design and construction timing to a minimal level (refer to **Section 5.2**).

As with Alternative A, one planned road in the northwestern portion of Parcel 2 is adjacent to the flood area. However, the modifications and mitigations described in **Section 4.1.2** and **Section 5.2** would allow floodwater to drain through the project site without generating significant backflow and ensure there would be no significant adverse impacts to the floodplain from tribal roadway improvements (**Appendix D**).

WATER SUPPLY AND GROUNDWATER

Similar to Alternative A, under Alternative B the Tribe would develop an on-site water supply system to meet potable water demands. Groundwater wells would be located near the areas designated for Tribal housing and Tribal Government Center (Parcels 2, 3, and 4). The net water demand for potable water for Alternative B is 106 afy (refer to Table 2-5 of **Appendix C**). The tribal community facilities would require an additional 4.3 afy of water within the community center and administrative offices (refer to Table 2-5 of **Appendix C**). The existing vineyard on Parcels 1 and 2 and the open space and recreation area demands would be served by blending groundwater with tertiary treated recycled water from the WWTP located on Parcel 1. Two new wells would be adequate to supply potable water for Alternative B. Although the tribal community facilities increase water demands compared to Alternative A, Alternative B also reduces residential irrigation demand considerably with the smaller lot sizes and an increase in open space and recreation areas. Peak hour demand for the potable water system for Alternative B is calculated as 230 gpm; therefore two new wells, rated at 500 gpm, would be adequate to supply water for Alternative B. With the implementation of the mitigation measure outlined in **Section 5.2**, the new wells would be developed below the Baseline Fault at a distance that would prevent adverse impacts to neighboring wells.

As with Alternative A, water storage for fire, emergencies, and general operations would be required for Alternative B. The location of these storage tanks would be dependent on site topography and the final location the Tribal residences. These water storage reservoirs would meet current standards for tank design and seismic requirements. The tanks would be sited at locations to allow advantageous gravity flow while ensuring accessibility for maintenance and protection of the viewsheds.

The property's current water system, in conjunction with the proposed domestic wells, water from the WWTP, and the fire, emergency, and operational water storage tanks described above would provide adequate water supplies to meet the Alternative B's water demands while not significantly impacting the groundwater aquifer in the region.

WATER QUALITY

Impacts to water quality under Alternative B would be identical to those under Alternative A. The BMPs and mitigation measures listed in **Sections 2.2.10, 5.1 and 5.2** would ensure any impacts to water quality due to Alternative B would be less than significant.

Wastewater Treatment and Disposal

The WWTP for Alternative B would be designed similarly to what is proposed under Alternative A. However, Alternative B would typically produce approximately 44,000 gpd. This number is higher than Alternative A due to the addition of the tribal community facilities which would include food preparation facilities. Similar to Alternative A, treated effluent would be used to offset irrigation demands on the proposed trust parcels during the irrigation season. Well water would be mixed with the recycled water to ensure minimal impacts to water quality. Irrigation with recycled water would be limited to the irrigation seasons for crops or landscaping and would be applied at rates to prevent runoff. Mitigation has been incorporated into **Section 5.2** to ensure irrigation rates are monitored and are appropriate for the time of year to minimize incidental runoff. Similar to Alternative A, recycled effluent would be stored in the existing water reservoir that is located on Parcel 1. Any adverse impacts to surface water and groundwater quality associated with wastewater treatment and disposal would be minimal.

4.2.3 AIR QUALITY

METHODOLOGY

The methodology used to determine project-related pollutant emissions and impacts for Alternative B is the same as Alternative A; except that operation of Alternative B includes the development of the tribal community facilities. The trip generation rates for the tribal community facilities are provided in **Appendix I**. Trip generation rates for the tribal community facilities were derived from the Institute of Transportation Engineers, Trip Generation, 8th Edition.

AIR QUALITY IMPACTS

Construction Impacts

Construction of Alternative B would also emit criteria air pollutants (CAPs), as defined in **Section 3.4**, primarily from the use of construction equipment and grading activities. Although construction would be intermittent over a four year period, it is conservatively assumed, for this analysis, to occur 8-hours a day, 5 days a week over the four year period. Construction is assumed for this analysis to occur 8-hours a day, 5 days a week. Alternative B annual construction emission for each CAP is shown in **Table 4-10**.

Construction would occur on the project site, which is in a region of attainment for all criteria pollutants; therefore, in accordance with 40 CFR 93, construction of Alternative B would not cause an exceedance of NAAQS. Therefore, construction of Alternative B would not result in an adverse effect associated with the local or regional air quality environment.

TABLE 4-10
MITIGATED (UNMITIGATED) CONSTRUCTION EMISSIONS

Construction Year	ROG	NO ₂	CO	SO ₂	PM ₁₀	PM _{2.5}
	tons per year					
2013	1.68 (2.18)	11.66 (11.66)	8.66 (8.66)	0.00 (0.00)	26.81 (65.46)	5.83 (14.12)
2014	3.01 (3.90)	19.49 (19.49)	15.12 (15.12)	0.00 (0.00)	49.06 (119.82)	10.63 (25.76)
2015	2.83 (3.72)	17.91 (17.91)	14.46 (14.46)	0.00 (0.00)	49.02 (119.73)	10.59 (25.69)
2016	2.05 (2.93)	12.57 (12.57)	10.99 (10.99)	0.00 (0.00)	48.74 (119.15)	10.40 (25.30)
2017	0.34 (0.85)	1.64 (1.64)	2.46 (2.46)	0.00 (0.00)	4.14 (10.10)	0.90 (2.17)
Maximum Annual Emissions	3.01 (3.90)	19.49 (19.49)	15.12 (15.12)	0.00 (0.00)	49.06 (119.82)	10.63 (25.76)
De Minimis Level	N/A	N/A	N/A	N/A	N/A	N/A
Adverse Effect?	No	No	No	No	No	No

Source: Appendix B

Hazardous air pollutant (HAPs) emissions in the form of diesel particulate matter (DPM) emitted from construction equipment has the potential to increase DPM concentration in the immediate vicinity of the construction site, resulting in an adverse impact if best management practices (BMPs) control measures are not implemented. BMPs provided in **Section 5.3** would also reduce DPM emissions from construction equipment by approximately 50 percent, reducing adverse effects to nearby sensitive receptors to minimal levels.

Operational Emissions

Alternative B would result in the generation of CAPs primarily from mobile sources, as well as from stationary sources due to the combustion of natural gas in boilers, stoves, heating units, and other equipment on the project site during operation. Estimated mobile and stationary emissions from operation of Alternative B are provided in **Table 4-11**. URBEMIS output files are provided in **Appendix B**.

TABLE 4-11
UNMITIGATED OPERATIONAL EMISSIONS

Sources	ROG	NO ₂	CO	SO ₂	PM ₁₀	PM _{2.5}
	tons per year					
Area	2.78	0.50	4.56	0.01	0.55	0.53
Mobile	2.69	3.52	29.37	0.04	6.39	1.23
Total Emissions	5.47	4.02	33.93	0.05	6.94	1.76
<i>De Minimis Levels</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Adverse Impact?	No	No	No	No	No	No

Source: Appendix B

The project site is in a region of attainment for all CAPs. Under the federal Clean Air Act 40 CFR Part 93, if a region is in attainment for all CAPs, then the region meets the NAAQS and there are no *de minimis levels* or “thresholds” for a project’s emissions. Operation of Alternative B would result in minimal HAP emissions (DPM) from delivery vehicles and other limited heavy equipment use. These emissions would not result in adverse impacts to sensitive receptors. Alternative B would not result in significant adverse effects associated with the regional air quality environment.

CLIMATE CHANGE

Refer to **Section 4.4.3** for a discussion and analysis of cumulative impacts related to climate change.

4.2.4 BIOLOGICAL RESOURCES

As with Alternative A, significant impacts to biological resources would occur if implementation of Alternative B would result in direct or indirect take of any federally listed species, including the destruction or degradation of any identified critical habitat. Biological resources were evaluated based on a comprehensive examination of the existing project site and the anticipated extent of habitats, wetland features, and potential occurrences of federal listed wildlife that would be affected by Alternative B.

ESTABLISHED NATIVE RESIDENT OR MIGRATORY CORRIDORS

Alternative B was designed to avoid the ephemeral drainage that provides a migratory corridor between the northern and western portion of the project site. In addition, the open space associated with Alternative B would allow for overland migration through the project site to the agricultural and annual grassland areas to the southwest, south, and west of the project site. Alternative B would have no effect on native resident or migratory fish or impede the use of native wildlife nursery sites because no habitat associated with these species occurs within the project site. No mitigation is required.

The proposed action area does not contain any native resident or migratory fish or wildlife species. Alternative B would have no impact on native resident or migratory fish or wildlife species because none exist within the proposed action area. No mitigation is required.

OAK TREES

Alternative B would adversely affect oak trees protected under the Tribal Ordinance Regarding Oak Tree Preservation for the Santa Ynez Band of Chumash Indians (Oak Tree Ordinance) (Santa Ynez Band of Chumash Indians, 2000) through removal of approximately 50 oak trees within the project site. The measures listed under **Section 5.4** would mitigate for adverse affects to protected oak trees.

HABITAT TYPES

Table 4-12 summarizes the estimated impacts to habitat types by acreages associated with Alternative B. Impacts to habitat types are discussed in further detail under the *Potential Waters of the U.S.* and *Federally Listed Species* headings below.

TABLE 4-12
 TERRESTRIAL AND AQUATIC IMPACTS ASSOCIATED WITH ALTERNATIVE B

Habitat	Impact (Acreage)
Nonnative Grassland	170.56
Oak Savanna	8.71
Vineyard	5.28
Ruderal/Developed	4.93
Ephemeral Drainage	2.51
Seasonal Wetland	0.01
Total	192.00

Source: AES, 2012

POTENTIAL WATERS OF THE U.S.

Alternative B could adversely affect potential jurisdictional waters of the U.S., as defined by Section 404 of the Clean Water Act, through the discharge or fill of approximately 2.52 acres of ephemeral drainages and seasonal wetlands located within the project site, and impacts associated with development of the detention basins. Implementation of Alternative B may require obtaining a Section 404 permit from the USACE and a Section 401 Water Quality Certification from the USEPA. Adherence to the conditions of these permits would be required. At minimum, the measures listed under **Section 5.4** would mitigation and compensate for adverse affects to potential jurisdictional waters of the U.S.

FEDERALLY LISTED SPECIES

Federally Listed Plants

No potentially occurring federally listed plants occur within the proposed action area. Implementation of Alternative B would have no impact on these species because they do not occur within the proposed action area. No mitigation is required.

Federally Listed Wildlife

Vernal Pool Fairy Shrimp (*Branchinecta lynchi*; VPFS)

VPFS have the potential to occur and are assumed to be present within the seasonal wetlands. Alternative B would remove approximately 0.01 acres of seasonal wetlands within the project site, unless the site plan is slightly modified. No indirect effects would occur to seasonal wetlands since no other seasonal wetlands with hydrological connectivity occur within 250 feet of the seasonal wetlands proposed to be impacted.

A Biological Assessment will be prepared and will be submitted to the USFWS pursuant to Section 7 of the FESA. A Biological Opinion shall be obtained from the USFWS prior to impacting seasonal wetlands containing VPFS. Implementation of Alternative B would adversely impact VPFS habitat and mitigation

is warranted. With the implementation of the mitigation listed in **Section 5.4**, the potential adverse affects on potential habitat for VPFS would not result in jeopardy and would facilitate their recovery.

California Red-Legged Frog (*Rana aurora draytonii*; CRLF)

The project site does not provide breeding habitat for CRLF. Alternative B would have no effect on CRLF breeding habitat because none exists within the proposed action area. The project site provides upland habitat within all land located within 5,249 feet of wetland features occurring outside of the eastern and western boundaries of the proposed action area. Alternative B may affect CRLF should it be determined that CRLF occupy the wetland features occurring outside of the project site. The avoidance and minimization measures identified in **Section 5.4**, including preconstruction surveys, biological monitors, and environmental awareness training would ensure that Alternative B would not adversely affect CRLF.

CRITICAL HABITAT

Alternative B would impact 65.28 acres of critical habitat for VPFS. This would adversely affect VPFS and therefore mitigation is specified in **Section 5.4**.

MIGRATORY BIRDS

Construction activities associated with Alternative B could result in disturbance of nest sites for migratory birds and other birds of prey within the blue oak woodland through temporary increases in ambient noise levels and increased human activity within the proposed action area. Potential disruption of nesting migratory birds and other birds of prey during construction within the proposed action area could result in the abandonment of active nests. Implementation of Alternative B could result in take of migratory birds and other birds of prey if nests are determined to be active within trees anticipated for removal. With the incorporation of the mitigation measures identified under **Section 5.4** for nesting birds, including preconstruction surveys and removal of trees outside of the nesting season, impacts to nesting birds would be reduced to less than significant.

4.2.5 CULTURAL RESOURCES

The implementation of Alternative B would result in similar impacts as those identified under Alternative A. As with Alternative A, during the final planning phase of the project, the residential units, associated facilities, and internal roadways would be designed to completely avoid adverse impacts to the cultural resources. In addition, with the minimal amount of ground disturbance associated with development of each residence (0.25 acres) and the associated driveways and utilities, implementation of Alternative B would not alter the character of each resource's use or physical features that contribute to the resource's historical significance. With the implementation of the mitigation listed in **Section 5.4**, adverse affects to cultural resources would be less than significant.

There is a possibility that significant subsurface cultural resources exist within the project site, as archaeological sites may be buried with no surface manifestation. There is also a possibility that an unanticipated discovery of human remains could occur. Development of Alternative B may adversely affect previously unknown subsurface prehistoric or historic archaeological resources, including human remains. This would be a potentially significant impact.

Mitigation measures are presented in **Section 5.5** for the protection and treatment of unanticipated discoveries of archaeological resources and/or human remains. Implementation of these mitigation measures would reduce adverse impacts to cultural resources to minimal levels.

PALEONTOLOGICAL RESOURCES

As discussed under Alternative A, the geology of the project site is consistent with those areas of known resources. Therefore, mitigation measures are presented in **Section 5.5** for the protection and preservation of unanticipated discoveries of paleontological resources. Implementation of these mitigation measures would reduce adverse impacts to unknown paleontological resources to less-than-significant levels.

4.2.6 SOCIOECONOMIC CONDITIONS / ENVIRONMENTAL JUSTICE

METHODOLOGY

The methodology used to determine project-related adverse impacts to socioeconomic conditions/ environmental justice for Alternative B is the same as Alternative A.

SOCIOECONOMIC CONDITIONS

Alternative B would remove the 1,433-acre project site from the County's property tax rolls, which would result in a loss of tax revenue. As with Alternative A, this loss of revenue would be a small fraction of total County tax revenue (0.01 percent) and would not lead to any significant adverse effects.

Direct impacts to demographics and population, employment and income, and housing from construction of Alternative B would be similar to those described above for Alternative A. Alternative B would result in additional jobs related to the proposed tribal facilities described in **Section 2.3**. Operation of the Tribal facilities would generate up to 75 full-time equivalent positions. Much of the office space would be used for existing Tribal employees and would have little effect on direct employment. This would be a minor, long-term beneficial impact to the economy.

ENVIRONMENTAL JUSTICE

The impacts to low-income and minority populations for Alternative B are the same as for Alternative A. The Tribe is the only identified minority population in the vicinity of the project site. No other low-income or minority populations are present. Tribal members would not be subjected to disproportionately high or adverse human health or environmental impacts because the project is for their benefit.

Alternative B would not result in adverse impacts with regard to environmental justice; therefore, no mitigation measures are warranted.

4.2.7 TRANSPORTATION AND CIRCULATION

METHODOLOGY

The methodology used to determine project-related adverse impacts to transportation and circulation for Alternative B is the same as Alternative A.

CONSTRUCTION

Alternative B would have similar construction impacts as Alternative A, with a minor increase in the number of delivery trips associated with the development of the banquet/exhibition hall, tribal office complex, and tribal community space. Based on the anticipated LOS conditions during operation of Alternative B, the minor increase in trips related to construction would not result in adverse impacts to roadway operations.

OPERATION

Methodology

Near-Term Conditions at the time of operation of Alternative B are the same as those determined under Alternative A in **Section 4.1.7**.

Trip Generation Rate

The trip generation rate for the single family residential units under Alternative B is the same as under Alternative A. For the Tribal development proposed on the 30-acre portion of Parcel 3, the Traffic Impact Study conservatively estimated that all 80,000 square feet of development would add new trips to the study roadway network simultaneously during peak hours. This assessment provides a worst-case impact assessment scenario. The Tribal development trips were estimated using the trip generation rate for land use category 495 Recreational Community Center published in the ITE *Trip Generation Manual* for all 80,000 square feet of development. Utilization of ITE and use category 495 provides a conservative assessment of the entire development (use of office ITE rates for some of the spaces would result in a lower overall trip generation rate). **Table 4-13** presents the estimated average daily trips, AM peak hour, and PM peak hour trip generation rates and associated number of trips that would be generated under Alternative B.

Trip Distribution

The distribution of project-related traffic for Alternative B would be similar to that of Alternative A (**Appendix I**).

TABLE 4-13
ALTERNATIVE B TRIP GENERATION RATES AND ESTIMATED TRIPS

Land Uses	Size	ADT		A.M. Peak Hour		P.M. Peak Hour	
		Rate	Trips	Rate	Trips	Rate	Trips
Single Family Residential	143 units	9.57	1,369	0.75	107	1.01	144
Community Center	80 ksf	22.88	1,830	1.62	130	1.45	116
Total Trips			3,199		237		260

Source: Appendix I

Impacts to Study Roadway Intersections

Table 4-14 summarizes the near-term AM and PM peak-hour LOS at each study intersection after introduction of project-generated traffic. All of the study intersections operate at LOS C or better with project-related traffic during both the AM and PM peak hours with the exception of SR-264 at SR-154. Mitigation measures provided in **Section 5.7** would reduce the intersection at SR-264 at SR-154 to LOS B in the AM and LOS C in the PM. With mitigation, the implementation of Alternative B would result in minimal adverse impacts to the study roadway intersections.

TABLE 4-14
ALTERNATIVE B INTERSECTIONS LEVEL OF SERVICE AND AVERAGE DELAY

Intersection	Traffic Control	AM Peak		PM Peak	
		LOS	Average Delay (sec)	LOS	Average Delay (sec)
SR-154/US-101 SB	Stop Sign	B	11.7	B	10.5
SR-154/US-101 NB	Stop Sign	B	12.0	B	10.7
SR-154/Grand Avenue	Stop Sign	C	15.5	C	18.5
SR-154/Roblar Avenue	Stop Sign	C	16.3	C	20.4
SR-154/Edison Street	Stop Sign	B	11.8	C	15.3
SR-154/Alisal Road	Signal	C	20.8	C	23.3
SR-246/Alamo Pintado Road	Signal	C	20.2	C	27.0
SR-246/Refugio Road	Signal	C	17.7	C	27.3
SR-246/Edison Street	Signal	C	19.0	C	22.2
SR-246/SR-154	Stop Sign	C	14.3	F	>50.0

Bold indicates unacceptable LOS.

Source: Appendix I

Impacts to Study State Highway Roadway Segments

Table 4-15 summarizes the near-term AM and PM peak-hour LOS at each state highway segment after introduction of project-generated traffic. All of the study area highway segments currently operate at LOS D or better during both the AM and PM peak hours. The implementation of Alternative B would result in minimal adverse impacts to the study state highway roadway segments.

TABLE 4-15
ALTERNATIVE B STATE HIGHWAY SEGMENT LEVEL OF SERVICE

Highway Segment	Peak Hour LOS
SR 154 North of Edison Street ¹	LOS D/LOS C
SR 154 South of SR 246-Armour Ranch Road ¹	LOS D/LOS D
SR 246 from SR 154 to Solvang ²	LOS B-C

¹ North and southbound LOS based on travel speeds and ability to pass using P.M. peak hour flows.

² Signalized segments - LOS based on delays at intersections.

Source: **Appendix I**

Impacts to Study County Roadway Segments

Table 4-16 summarizes the near-term AM and PM peak-hour LOS at each County roadway segment after introduction of project-generated traffic. The implementation of Alternative B would result in minimal adverse impacts to the study County roadway segments.

TABLE 4-16
ALTERNATIVE B COUNTY ROADWAYS OPERATIONS

Roadway	Geometry	ADT	Acceptable Capacity ¹
Baseline Avenue e/o Edison Street	2 Lanes	2,051	5,530
Armour Ranch Road e/o SR 154	2 Lanes	3,030	5,530

ADT = average daily trips.

¹ County of Santa Barbara determined that 70 percent of capacity equals LOS B.

Source: **Appendix I**

Bicycle, Pedestrian, and Transit Networks

Alternative B would have the same bicycle, pedestrian, and transit impacts as Alternative A.

4.2.8 LAND USE

METHODOLOGY

The methodology used to determine project-related adverse impacts to land use for Alternative B is the same as Alternative A.

LOCAL PLANNING AND LAND USE COMPATIBILITY

Alternative B would result in the removal of 1,433± acres from County jurisdiction, placing the land into federal trust for the benefit of the Tribe. Alternative B would remove the same amount of acreage from the County's jurisdiction as Alternative A and, therefore, would result in similar impacts to local land use planning and zoning designations. As with Alternative A, Santa Barbara County would no longer retain land use jurisdiction over the project site after it is taken into trust, and the current zoning and land use designations assigned to the project site would no longer apply.

Development proposed under Alternative B is of reduced intensity compared to Alternative A. Rather than developing 143 five-acre lots, Alternative B would involve developing 143 one-acre lots. Total

residential land use and utilities would cover approximately 197 acres compared to the approximately 796 acres proposed under Alternative A. Land preserved for agricultural uses under Alternative B would be the same as Alternative A (300 acres). Because less acreage would be designated for residential purposes under this alternative, even when including the proposed 30 acres of Tribal development, more acreage would be preserved for open space and recreational uses than Alternative A; approximately 775 acres would remain undeveloped and used as open space/recreation areas compared to approximately 206 acres proposed under Alternative A. Implementation of Alternative B would result in minimal impacts to land use.

AGRICULTURE

Similar to Alternative A, all onsite agricultural activities would continue to operate. The WWTP and associated facilities proposed for development under Alternative B are identical to that which is proposed for Alternative A; therefore, the same impacts to prime farmland and unique farmland would occur. As seen in **Figure 4-2**, the reduced intensity residential development under Alternative B would have less of an impact on farmland of local importance than Alternative A. When compared to Alternative A, approximately 569 additional acres of grazing land would remain undeveloped under this reduced intensity alternative. Alternative B received a total FCIR rating of 137, scoring less than 160 points; therefore, no further evaluation is needed. Implementation of Alternative B would result in minimal impacts to agriculture.

Williamson Act

The project site under Alternative B would include the same parcels currently under Williamson Act Contracts as Alternative A and impacts would be similar. By following the non-renewal process as required through Tribal Resolution 913 and due to the limited acreage of farmland of local importance that would be impacted by Alternative B, a less-than-significant impact would occur and no mitigation is required.

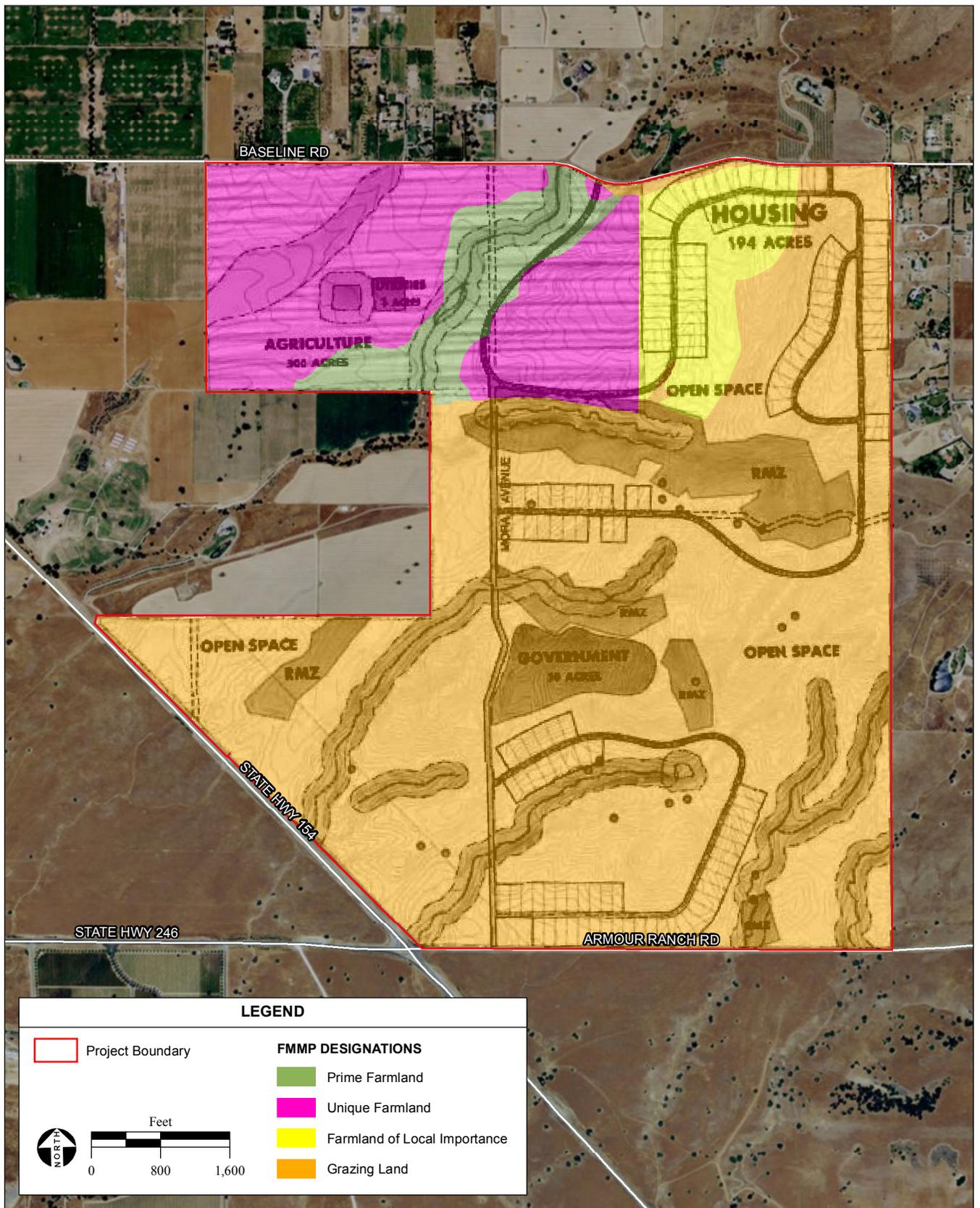
4.2.9 PUBLIC SERVICES

METHODOLOGY

The methodology used to determine project-related adverse impacts to public services for Alternative B is the same as Alternative A.

WATER SUPPLY

Although potable water demand would increase under Alternative B compared to Alternative A, the project site would still obtain water through the development of onsite groundwater sources. Alternative B would have no adverse effects on existing municipal water supplies after mitigation is implemented.



SOURCE: California Dept. of Conservation Farmland Mapping & Monitoring Program, 2010; USDA NAIP Aerial Photograph, 2010; AES, 2012

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Figure 4-2
FMMP Designations for Alternative B Site Plan

WASTEWATER SERVICE

Under Alternative B, wastewater would be treated onsite at the proposed WWTP. The construction and operation of the onsite WWTP would not adversely impact existing municipal treatment facilities.

SOLID WASTE

Construction waste would be generated temporarily and would consist of the same materials described previously under Alternative A. Generation rates would be similar to Alternative A. Because most Tribal members that would be residents and employees already live within the County, the net impact to the existing landfills would not change and no adverse effects would occur. It is estimated that up to 75 full-time equivalent employees could be hired as a result of Alternative B. Public administration facilities typically dispose of 0.4 tons of solid waste per employee per year (CIWMB, 2007). Therefore, the community facilities, housing, and related support facilities under Alternative B are estimated to dispose of no greater than approximately 30 tons of solid waste per year. An additional 30 tons per year would not impact the Santa Ynez Valley Recycling and Transfer Station (which currently has 170 tons per day of unused permitted capacity) or the Tajiguas Sanitary Landfill (which currently has 850 tons per day of unused permitted capacity). Solid waste accumulated during special events at the exhibition hall would be collected at the time of the event through contractors hired by the Tribe and disposed of accordingly. With 170 tons per day and 850 tons per day of remaining capacity at the local transfer station and landfill, these intermittent events would not adversely impact solid waste facilities. Implementation of the BMPs presented in **Sections 2.2.10** and **2.3.1** would further reduce impacts to solid waste facilities.

ELECTRICITY, NATURAL GAS, AND TELECOMMUNICATIONS

Electrical, natural gas, and telephone services are the same as those described for Alternative A. The Tribe will coordinate with local service providers regarding the extension of services to the project site. The increase compared to Alternative A for the Tribal development proposed as part of Alternative B would not adversely impact utility services.

LAW ENFORCEMENT

Under Public Law 280, the State of California and other local law enforcement agencies have criminal enforcement authority on Tribal lands. The SBCSD would provide law enforcement services to the project site. Calls for service would not be disproportionate to other residential or commercial development in the County. During planned special events at the Tribal development, the main access driveways would be utilized. To ensure visitor access to the site does not interfere with roadway operations, mitigation has been included in **Section 5.9**. With mitigation, implementation of Alternative B would result in minimal impacts to law enforcement.

FIRE PROTECTION AND EMERGENCY MEDICAL SERVICES

The increased risk of fire during the construction of Alternative B would be similar to that found at other construction sites. Because the project site is in an area classified as a High Wildland Fire Zone, construction-related impacts would be potentially significant. With the implementation of the BMP

presented in **Section 2.3.1** (installation of an early detection system) and mitigation measures listed in **Section 5.9**, adverse impacts to fire protection and emergency medical services would be reduced to less-than-significant levels. Design standards equivalent to current building and fire codes will be adhered to in relation to fire safety. The additional demand for fire protection and emergency medical services under Alternative B would be similar to that of Alternative A. Due to the existing agreements and availability of emergency medical services, the adverse impact to emergency services would be minimal.

PUBLIC SCHOOLS

The development of Alternative B would result in a negligible net increase in enrollment for local schools because a majority of residents of the project site already live in the Santa Ynez Valley or in nearby areas of County. The impact of families relocating to the Tribal community after the development is completed would be negligible. Therefore, no significant adverse impact to local school districts would occur under Alternative B.

PARKS AND RECREATION

The development of Alternative B would include recreation areas, parks and multi-use trails for use by Tribal members; therefore, no adverse impacts would occur to local parks or recreational facilities.

4.2.10 NOISE

METHODOLOGY

The methodology for Alternative B is the same as the methodology used to determine impacts under Alternative A.

CONSTRUCTION NOISE EFFECTS

Construction noise sources under Alternative B would be similar to those discussed under Alternative A. During construction worker trips, seven one-way fill, and four one-way material hauling trips would occur during the grading and building phases of construction. Because trucks are louder than passenger cars, a passenger car equivalence (PCE) multiplier of 8 cars per truck was used. Therefore, the total passenger one-way car trips per day would be 148. The existing traffic volume on Armour Ranch Road is 71 trips per day; therefore, construction trip equivalence would more than double the existing traffic volume on Armour Ranch Road, which would result in a 4.9 dBA, Leq increase in the existing ambient noise level. As shown in **Table 3.10-5**, the average ambient noise level at the property site is 48.9 dBA, Leq. With construction traffic, the ambient noise level would increase to 53.8 dBA, Leq, which is less than the federal construction noise threshold of 78 dBA (**Table 3.10-3**). In addition, sensitive noise receptors are located approximately 50 feet of potential fill, material, and equipment haul routes along SR-246, SR-156, and Baseline Road. The highest ambient noise level along the haul/delivery route is 59.8 dBA, Leq (**Table 3.10-5**). With project-related construction traffic the greatest ambient noise level would be 64.7 dBA, Leq, which is less than the federal construction noise threshold of 78 dBA (**Table**

3.10-3). Therefore, impacts to the ambient noise environment due to construction traffic would be minimal.

Table 4.10-1 presents typical stationary point source noise levels at 50 feet during various construction stages. Using an attenuation factor of 6.0 dBA, the noise level at the nearest sensitive noise receptor, a private residence, would be 77.0 dBA, which is less than the daytime (7 am to 6 pm) federal construction noise threshold of 78 dBA (**Table 3.10-3**). Therefore, impacts to the ambient noise environment due to on-site construction noise would be minimal.

Vibration

Vibration impact under Alternative B would be the same as under Alternative A.

OPERATION NOISE EFFECTS

The following identifies potential impacts from project-related noise sources, such as traffic, heating ventilation and air conditioning systems, and the wastewater treatment plant (WWTP).

Traffic

A discussion of the potential increases in traffic noise levels along affected roadways is provided below:

SR- 154

As discussed in **Appendix I**, there are approximately 532 vehicles per day on SR-154 adjacent to the southwestern portion of the project site. Alternative B would add an estimated 20 vehicles per peak day to SR-154. The existing ambient noise level 50 feet from the center line of SR-154 was measured to be 55.4 dBA, Leq, resulting in an increase of the ambient noise level of approximately 0.2 dBA Leq. As stated in the existing setting, an increase of less than 1 dBA would not be audible to sensitive receptors.

SR-246

The existing ambient noise level 50 feet from the center line of SR-246 is approximately 56.0 dBA, Leq. The existing traffic volume on this roadway is approximately 1,155 vehicles per day (**Appendix I**) under Alternative B. Alternative B would add approximately 69 vehicle trips per day to SR-246, resulting in an increase of the ambient noise level of approximately 0.3 dBA, Leq. The anticipated increase in traffic noise levels along Lake SR-246 would not be audible to sensitive receptors.

Baseline Road

The existing ambient noise level at 50 feet from the centerline of Baseline Road was measured at 56.8 dBA, Leq under Alternative B. The existing traffic volume on this roadway is approximately 160 vehicles per day (**Appendix I**). Alternative B would add approximately 9 vehicle trips per day to Baseline Road, resulting in an increase of the ambient noise level of approximately 0.3 dBA, Leq.

The anticipated increase in traffic noise levels along Baseline Road would not be audible to sensitive receptors.

Armour Ranch Road

The existing ambient noise level at 50 feet from the centerline of Armour Ranch Road was measured at 48.9 dBA, Leq. The existing traffic volume on this roadway is approximately 71 vehicles per day (**Appendix I**). Alternative B would add approximately 229 vehicle trips per day to Armour Ranch Road. Alternative B traffic would more than double the existing traffic volume resulting in an increase in the ambient noise level of approximately 4.6 dBA, Leq. The anticipated increase in traffic noise levels along Armour Ranch Road would be less than the federal criteria for significant increases in ambient noise from transportation sources of five dBA, Leq (refer to **Table 3.10-4**) and the federal noise abatement standard for residential receptors of 67 dBA, Leq.

The addition of traffic attributable to Alternative B would not audibly increase the ambient noise level along potentially affected roadways, including SR-246, SR-154, and Baseline and Armour Ranch Roads. Therefore, effects to sensitive noise receptors from the increase in traffic noise levels resulting from Alternative B are considered minimal and no mitigation is required.

Vibration and Other Noise Source

Operational vibration and other noise under Alternative B would be the similar to those under Alternative A.

4.2.11 HAZARDOUS MATERIALS

The methodology used to determine project-related adverse impacts relating to hazardous materials for Alternative B is the same as Alternative A.

As discussed in **Section 4.1.11**, no hazardous materials have been identified on site or within a distance that would affect the environment or public health from the implementation of Alternative B. The mitigation measures for hazardous materials during the construction phases of Alternative B are the same as those for Alternative A, listed in **Section 5.11**, and would reduce adverse impacts from the implementation of Alternatives B to a minimal level.

4.2.12 VISUAL RESOURCES

The methodology used to determine project-related adverse impacts to visual resources for Alternative B is the same as Alternative A.

Alternative B would involve the construction of a similar residential development of reduced intensity compared to Alternative A. The visual character of the development would be compatible with the neighboring East Baseline/Rancho Estates. Increased visual buffers of open space would be positioned

between neighboring properties and roadways under this reduced intensity alternative. Alternative B would not result in significant adverse impacts to visual resources.

4.3 ALTERNATIVE C – NO ACTION

4.3.1 LAND RESOURCES

The methodology used to determine project-related adverse impacts to land resources for Alternative C is the same as Alternative A.

Under the No-Action Alternative, the land would not be taken into trust and the proposed development would not occur. The site would remain as agriculture and grazing lands. Land resources would not be adversely impacted.

4.3.2 WATER RESOURCES

The methodology used to determine project-related adverse impacts to water resources for Alternative C is the same as Alternative A.

Under the No-Action Alternative, the proposed residential uses would not be developed. No additional impervious surfaces would be created on the project site. No adverse impacts to water resources would occur under the No-Action Alternative.

4.3.3 AIR QUALITY

The methodology used to determine project-related adverse impacts to air quality for Alternative C is the same as Alternative A.

Under the No-Action Alternative the site would continue to be undeveloped land and none of the construction or operational air quality impacts identified for Alternatives A or B would occur. Based on the land use restrictions, the property would not be developed in the near future and no adverse impacts to air quality would result from Alternative C.

4.3.4 BIOLOGICAL RESOURCES

The methodology used to determine project-related adverse impacts to biological resources for Alternative C is the same as Alternative A.

Under the No-Action Alternative C, no development would occur within the project site. As such, there would be no adverse direct or indirect impacts to the biological resources within or in the vicinity of the project site.

4.3.5 CULTURAL RESOURCES

The methodology used to determine project-related adverse impacts to cultural resources for Alternative C is the same as Alternative A.

Under the No-Action Alternative, the project site would continue to remain in agricultural production and used as grazing land. Because the parcels would remain consistent with existing conditions, there would likely be no adverse impacts to any unknown archaeological or paleontological resources.

4.3.6 SOCIOECONOMIC CONDITIONS/ ENVIRONMENTAL JUSTICE

The methodology used to determine project-related adverse impacts to socioeconomic conditions/ environmental justice for Alternative C is the same as Alternative A.

Under the No-Action Alternative, the project site would not be placed in trust for the benefit of the Tribe and the associated tribal residences and supporting water and wastewater infrastructure would not be constructed. The Tribe would not receive any of the socioeconomic and environmental justice benefits associated with Alternative A. The project site would remain on the County's property tax rolls.

There would be no impacts to population and demographics, employment and income, or housing associated with Alternative C. The property would remain in its current use and would not be developed in the near future due to land use restrictions.

4.3.7 TRANSPORTATION AND CIRCULATION

The methodology used to determine project-related adverse impacts to transportation and circulation for Alternative C is the same as Alternative A.

Under the No-Action Alternative, there would be no increase in vehicular traffic on project area roadways. None of the traffic impacts identified for Alternative A would occur under No-Action Alternative.

4.3.8 LAND USE

METHODOLOGY

The methodology used to determine project-related adverse impacts to land use for Alternative C is the same as Alternative A.

LOCAL PLANNING AND LAND USE COMPATIBILITY

Under Alternative C, the 1,433± acre site would not be placed into trust for the benefit of the Tribe and the property would not be developed. The Tribe would retain ownership of the properties in fee title, and jurisdiction would remain with Santa Barbara County; therefore, no change in land use would occur.

AGRICULTURE

Under Alternative C, the existing vineyard would continue to operate on the project site and no development would occur; therefore, no impacts to agriculture would result under this alternative. Alternative C received a total FCIR rating of 83, scoring less than 160 points; therefore, no further evaluation is needed.

Williamson Act

Under Alternative C, the contracts would expire as the Tribe has already submitted a notice of non-renewal. With land use and zoning restrictions, agriculture lands would remain protected until the County lifts such restrictions through the planning process.

4.3.9 PUBLIC SERVICES

The methodology used to determine project-related adverse impacts to public services for Alternative C is the same as Alternative A.

Under the No-Action Alternative, the project site would not be developed. Therefore, the existing land uses on the project site would remain and demands for public services would not be increased. No new utility extensions would be required.

4.3.10 NOISE

The methodology used to determine project-related adverse impacts relating to noise for Alternative C is the same as Alternative A.

Under the No-Action Alternative, the project site would remain undeveloped and largely open space. Based on land use restrictions, no future development is anticipated in the near future. With regard to noise, the project site would not be a source of transportation and/or non-transportation noise. No noise impacts would occur under the No-Action Alternative.

4.3.11 HAZARDOUS MATERIALS

The methodology used to determine project-related adverse impacts relating to hazardous materials for Alternative C is the same as Alternative A.

No development would occur under this alternative, and the project site would remain in its current state. No hazardous material impacts would occur under the No-Action Alternative.

4.3.12 VISUAL RESOURCES

The methodology used to determine project-related adverse impacts to visual resources for Alternative C is the same as Alternative A.

Under the No-Action Alternative, the 1,433± acre project site would not be placed into trust for the benefit of the Tribe and the property would not be developed as identified under Alternatives A and B. The Tribe would retain ownership of the properties in fee title, and jurisdiction would remain with Santa Barbara County. The existing vineyard would continue to operate on the project site. Therefore, no impacts to visual resources would occur under this alternative.

4.4 CUMULATIVE EFFECTS

Potential cumulative impacts for each environmental issue area under Alternatives A and B are discussed below. Implementation of Alternative C, the No-Action Alternative, would not result in cumulative effects and therefore is not discussed further in this section. Cumulative impacts are defined in 40 Code of Federal Regulations (C.F.R.) 1508.7 as the impacts:

... on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Near-Term cumulative conditions were established by reviewing the cumulative project database maintained by the County for projects within the Santa Ynez Valley. **Table 4-17** presents a summary of the approved and pending near-term cumulative development within the Santa Ynez Valley.

Long-term (2030) Cumulative conditions were established using the 20-year build out forecasts contained in the Santa Ynez Valley Community Plan. The 20-Year forecasts are based on 20-year build out land uses provided by the County for the Santa Ynez Valley area, growth within the adjacent cities of Buellton and Solvang, plus cumulative growth from outside of the Santa Ynez Valley.

TABLE 4-17
NEAR-TERM APPROVED/PENDING
SANTA YNEZ VALLEY PROJECTS

Use Type	Total Development
Residential	55 Units
Agricultural Development (excluding wineries)	1.14 acres
Wineries-Vineyard	0.54 acres
Wineries-Commercial Facilities	35,493 square feet

Source: Santa Barbara, 2012e

4.4.1 LAND RESOURCES

Minimal changes in topography would occur as a result of the implementation of Alternatives A or B, as cut and fill volumes would largely be related to roadway development and cut from the development of the detention basins would be used to balance fill requirements to the extent feasible. Reasonably foreseeable development projects could result in alterations to land resources to accommodate development in urban areas or areas designated under the Santa Ynez Valley Community Plan and Santa Barbara General Plan. Future developments would be required to be in compliance with local and state building codes and ordinances to ensure buildings are constructed to appropriate seismic standards and with local, state, and federal requirements to prevent water quality degradation from soil erosion. Accordingly, potential cumulative impacts to land and mineral resources would be minimal.

4.4.2 WATER RESOURCES

Construction and operation of either Alternatives A or B would create new potential for off-site erosion and/or siltation. It would also create new impervious surfaces, potentially resulting in additional off-site flows. With incorporation of the grading and drainage plan (**Appendix D**) and the BMPs and mitigation measures in **Sections 2.2.10, 2.3.1, and 5.2**, the adverse impacts of either development alternative would be reduced to less than significant. Other projects located offsite could cause drainage, flooding, or water quality impacts that may adversely interact cumulatively with those of the development alternatives. However, these projects would be required by the CWA to file for coverage under an NPDES Construction General Permit. Additionally, these projects would have to meet Santa Barbara County's drainage and flood prevention standards preventing impacts to floodplain management. Therefore, implementation of Alternatives A or B would not lead to cumulatively considerable impacts to regional drainage, flooding, or surface water quality.

Implementation of Alternative A or B would result in increased potable water demand. This increase in potable water demand will not result in potable water impacts on or from any of the other proposed projects (Wallace 2012). Potential off-site projects would be required to comply with County provisions concerning potable water supplies and water conservation. Therefore, with the siting of the new water wells for Alternatives A and B outside of influence zones of off-site wells, impacts to water supplies would not be cumulatively considerable.

4.4.3 AIR QUALITY

ALTERNATIVE A

Past, present and future development projects contribute to a regions air quality conditions on a cumulative basis; therefore by its very nature, air pollution is largely a cumulative impact. If a project's individual emissions contribute toward exceedance of the NAAQS, then the project's impact on air quality would be cumulatively considerable. In developing attainment designations for CAPs, the EPA considers the regions past, present and future emission levels.

Operational Emissions

Alternative A in the cumulative year 2030, would result in the generation of CAPs from mobile sources, as well as from stationary sources due to the combustion of natural gas in boilers, stoves, heating units, and other equipment on the project site during operation. Estimated mobile and stationary emissions from operation of Alternative A are provided in **Table 4-18**. URBEMIS output files are provided in **Appendix B**.

TABLE 4-18
UNMITIGATED OPERATIONAL EMISSIONS

Sources	ROG	NO ₂	CO	SO ₂	PM ₁₀	PM _{2.5}
	tons per year					
Area	2.67	0.40	4.34	0.01	0.55	0.53
Mobile	0.76	0.75	7.41	0.02	3.12	0.60
Total Emissions	3.43	1.15	11.75	0.03	3.67	1.13
De Minimis Levels	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Adverse Impact?	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

Source **Appendix B**

The project site is in a region of attainment for all CAPs. Under the federal Clean Air Act 40 CFR Part 93, if a region is in attainment for all criteria pollutants, then the region meets the NAAQS and there are no *de minimis levels* or "thresholds" for a project's emissions. Mitigation provided in **Section 5.3** would minimize CAP emissions under the cumulative year 2030 from operation of Alternative A. With mitigation measures to minimize emissions of CAPs, Alternative A would not result in adverse cumulative affects to the regional air quality environment.

CLIMATE CHANGE**Strategies and Emission Estimates**

URBEMIS, which is approved by both EPA and CARB, was used to estimate construction and operational GHG emissions, which are provided in **Table 4-19**. Construction emissions were estimated to be 8,264 MT of CO₂e per year (MT/yr). Once construction is completed, Alternative A would emit approximately 3,760MT/yr of CO₂e from mobile, area sources, water and wastewater transport and treatment, electricity use, and solid waste disposal. Total project related GHG emissions during construction and operation (annually) of the project are estimated at 12,024 MT/yr of CO₂e.

TABLE 4-19
ESTIMATED PROJECT-RELATED GHG EMISSIONS

Alternative A	GHGs	CO ₂ e Emissions (ST)	Conversion Factor (ST/MT)	GHG Emissions in CO ₂ e (MT)
Direct				
Construction	CO ₂	9,081	0.91	8,264
Mobile	CO ₂	2,139	0.91	1,946
Area	CO ₂	510	0.91	464
Indirect²				
Electricity Usage ¹	CO ₂ e			1,144
Water and Wastewater ²	CO ₂ e			55
Solid Waste ³	CO ₂ e			151
Project-related GHG Emissions				12,024

ST = short tons; MT = metric tons; CO₂e = carbon dioxide equivalent

¹Based on federal emissions factors and 18 MWh of electricity and gas equivalent per residence.

²Based on 132 million gallons of water and wastewater transport and treatment per year.

³Based on 358 metric tons of solid was and federal emissions factors.

Source: **Appendix B**; federal GHG reporting regulations, 40 CFR Part 98.

Implementation of Santa Barbara's applicable CAS strategies would result in a reduction of project-related GHG emissions to levels below current background levels. The CAS strategies applicable to Alternative A are shown in **Table 4-20**, mitigation measures which show compliance with the CAS strategies, are provided in **Section 5.3**. Other strategies or mitigation measures do not apply because they either apply to state entities, such as CARB; are planning-level measures; apply to particular industries such as the auto repair industry; or are not applicable to the project. With the incorporation of the applicable strategies outlined in the Santa Barbara County CAS as mitigation measures, implementation of Alternative A would not adversely impact California GHG reduction goals.

TABLE 4-20
APPLICABLE CAS REDUCTION STRATEGIES AND PROJECT CONSISTENCY

Strategies	Actions	Consistency
Energy Efficiency	Reduce/promote reduction of energy consumption	Mitigation measure 5.3.1 requires that the Tribe install energy star appliances whenever feasible.
Green Buildings	Adopted Green Building Code and exceed Title 24 standards	Mitigation measure 5.3.1 requires the Tribe to comply with the Green Building Code and exceed Title 24 standards by 25 percent.
Recycling and Waste	Increase diversion from landfills	Mitigation measure 5.3.1
Sustainable Forests	Promote urban forests and make land use decisions that conserve forest lands	Through the design of the project design would 131 acres of oak woodlands would be conserved.
Water	Increase water recycling and reuse runoff	Through the design of the project recycled water from the WWTP would be used for agricultural uses.
Transportation	Transit oriented planning	Mitigation measure 5.3.1 would assist the City of Solvang in expanding the current public transportation system.
Source: County of Santa Barbara, 2011; AES, 2012.		

ALTERNATIVE B

Alternative B would also result in the generation of CAPs primarily from mobile sources and stationary sources. Estimated mobile and stationary emissions from operation of Alternative B are provided in **Table 4-21**. URBEMIS output files are provided in **Appendix B**.

TABLE 4-21
UNMITIGATED OPERATIONAL EMISSIONS

Sources	ROG	NO₂	CO	SO₂	PM₁₀	PM_{2.5}
	tons per year					
Area	2.78	0.50	4.56	0.01	0.55	0.53
Mobile	1.54	1.56	14.93	0.04	6.36	1.23
Total Emissions	4.32	2.06	19.49	0.05	6.94	1.76
De Minimis Levels	N/A	N/A	N/A	N/A	N/A	N/A
Adverse Impact?	No	No	No	No	No	No

Source: **Appendix B**

Mitigation provided in **Section 5.3** would minimize CAP emissions under the cumulative year 2030 from operation of Alternative B. With mitigation measures to minimize emissions of criteria pollutants, Alternative B would not result in an adverse cumulative effect to the regional air quality environment.

CLIMATE CHANGE

Strategies and Emission Estimates

Table 4-22 presents the estimated construction and operational GHG emissions. Construction emissions were estimated to be 8,264 MT CO₂e per year (MT/yr). Once construction is completed, Alternative A would emit approximately 4,937MT/yr of CO₂e from mobile, area sources, water and wastewater transport and treatment, electricity use, and solid waste disposal. Total project related GHG emissions during construction and operation (annually) of the project are estimated at 13,616 MT/yr of CO₂e.

TABLE 4-22
ESTIMATED PROJECT-RELATED GHG EMISSIONS

Alternative A	GHGs	CO ₂ e Emissions (ST)	Conversion Factor (ST/MT)	GHG Emissions in CO ₂ e (MT)
Direct				
Construction	CO ₂	9,537	0.91	8,679
Mobile	CO ₂	3,314	0.91	3,016
Area	CO ₂	627	0.91	571
Indirect²				
Electricity Usage ¹	CO ₂ e			1,144
Water and Wastewater ²	CO ₂ e			55
Solid Waste ³	CO ₂ e			151
Project-related GHG Emissions				13,616

ST = short tons; MT = metric tons; CO₂e = carbon dioxide equivalent

¹Based on federal emissions factors and 18 MWh of electricity and gas equivalent per residence.

²Based on 132 million gallons of water and wastewater transport and treatment per year.

³Based on 358 metric tons of solid waste and federal emissions factors.

Source: **Appendix B**; federal GHG reporting regulations, 40 CFR Part 98.

The CAS strategies applicable to Alternative B are provided in **Table 4-20**, mitigation measures which show compliance with the applicable CAS strategies are provided in **Section 5.3**. With the incorporation of applicable strategies outlined in the Santa Barbara County CAS as mitigation measures, implementation of Alternative A would not adversely impact California GHG reduction goals.

4.4.4 BIOLOGICAL RESOURCES

Potential adverse impacts to biological resources on the project site, including sensitive habitats, potentially jurisdictional waters of the U.S., native trees, riparian habitat, special-status species, and migratory birds will be reduced to minimal levels through measures incorporated into project construction and design (**Section 2.2.10**) and mitigation (**Section 5.4**). Other developments in the vicinity would have the potential to impact similar habitats. Any sensitive habitats with the potential to support populations of local endangered species would be protected through Santa Barbara mitigation requirements. Cumulative impacts to native trees would be mitigated by compliance with the County of Santa Barbara (2003)

Deciduous Oak Tree Protection and Regeneration. Any cumulative developments affecting jurisdictional waters of the U.S. or special-status species would be required to mitigate according to the applicable provisions of the CWA and the FESA, and migratory birds would be protected from take subject to the MBTA. Owing to the requirement to comply with pertinent local, state and federal regulations, cumulative impacts to biological resources would be less than significant.

4.4.5 CULTURAL RESOURCES

With the incorporation of the mitigation in **Section 5.5**, and requirements for surrounding projects to follow state cultural resource protection policies, the implementation of Alternatives A and B would result in a minimal adverse impact to cultural resources. With mitigation incorporated for paleontological resources and requirements for surrounding projects to protect such resources, cumulative impacts to paleontological resources would be minimal.

4.4.6 SOCIOECONOMIC CONDITIONS / ENVIRONMENTAL JUSTICE

Implementation of Alternatives A or B would improve the socioeconomic conditions of the Tribe and would generate significant, short-term (two years) employment benefits to a local construction sector that has been hard hit over the past four years. Since the approved and pending projects that would occur in the immediate area are relatively minor in their extent and potential impact to the Santa Ynez Valley, implementation of Alternatives A or B would not lead to cumulatively considerable impacts to socioeconomic conditions. Other than the Tribe, there are no minority populations in the project area and therefore implementation of Alternatives A or B would not result in cumulatively considerable impacts to environmental justice considerations.

4.4.7 TRANSPORTATION AND CIRCULATION

NEAR-TERM CUMULATIVE IMPACTS

The trip generation rates, trip distribution, operational standards, and project-related impacts in the near-term cumulative condition are the same as those determined for the near-term traffic analyses for Alternatives A and B.

LONG-TERM CUMULATIVE SETTING WITHOUT PROJECT TRAFFIC

Tables 4-23, 4-24, and 4-25 present the AM and PM peak-hour LOS at each study intersection, state highway segment, and County roadway for the long-term cumulative setting using 20-year projections for the Santa Ynez Valley provided by the County.

LONG-TERM CUMULATIVE TRAFFIC IMPACTS

To assess long-term cumulative impacts to the roadway network, the trips generated by the alternatives presented in **Section 4.1.7** for Alternative A and **Section 4.2.7** for Alternative B were added to the traffic volumes of the long-term cumulative setting calculated above.

Alternative A*Impacts to Study Roadway Intersections*

Table 4-26 summarizes the cumulative impacts from the implementation of Alternative A to the AM and PM peak hour LOS at each study intersection.

TABLE 4-23
CUMULATIVE WITHOUT PROJECT TRAFFIC INTERSECTIONS LOS AND AVERAGE DELAY

Intersection	Traffic Control	AM Peak		PM Peak	
		LOS	Average Delay (sec)	LOS	Average Delay (sec)
SR-154/US-101 SB	Stop Sign	B	13.7	B	11.3
SR-154/US-101 NB	Stop Sign	B	13.4	B	11.5
SR-154/Grand Avenue	Stop Sign	C	23.0	F	>50.0
SR-154/Roblar Avenue	Stop Sign	F	>50.0	F	>50.0
SR-154/Edison Street	Stop Sign	E	39.0	F	>50.0
SR-154/Alisal Road	Signal	C	29.7	D	46.6
SR-246/Alamo Pintado Road	Signal	D	46.7	E	74.6
SR-246/Refugio Road	Signal	C	34.2	E	68.4
SR-246/Edison Street	Signal	B	16.6	C	22.1
SR-246/SR-154	Stop Sign	D	28.7	F	>50.0

Bold indicates unacceptable LOS.

Source: **Appendix I**

TABLE 4-24
CUMULATIVE WITHOUT PROJECT STATE HIGHWAY SEGMENT LOS

Highway Segment	Peak Hour LOS
SR 154 North of Edison Street ¹	LOS E/LOS D
SR 154 South of SR 246-Armour Ranch Road ¹	LOS E/LOS C
SR 246 from SR 154 to Solvang ²	LOS B – LOS F

¹ North and southbound LOS based on travel speeds and ability to pass using P.M. peak hour flows.

² Signalized segments - LOS based on delays at intersections.

Source: **Appendix I**

TABLE 4-25
CUMULATIVE WITHOUT PROJECT COUNTY ROADWAYS OPERATIONS

Roadway	Geometry	ADT	Acceptable Capacity ¹
Baseline Avenue e/o Edison Street	2 Lanes	1,800	5,530
Armour Ranch Road e/o SR 154	2 Lanes	900	5,530

ADT = average daily trips.

¹ County of Santa Barbara determined that 70 percent of capacity equals LOS B.

Source: Associated Traffic Engineers, 2012 (**Appendix I**).

TABLE 4-26
CUMULATIVE ALTERNATIVE A INTERSECTIONS LOS AND AVERAGE DELAY

Intersection	Traffic Control	AM Peak		PM Peak	
		LOS	Average Delay (sec)	LOS	Average Delay (sec)
SR-154/US-101 SB	Stop Sign	B	13.8	B	11.5
SR-154/US-101 NB	Stop Sign	B	13.4	B	11.5
SR-154/Grand Avenue	Stop Sign	C	23.7	F	>50.0
SR-154/Roblar Avenue	Stop Sign	F	>50.0	F	>50.0
SR-154/Edison Street	Stop Sign	E	40.8	F	>50.0
SR-154/Alisal Road	Signal	C	30.9	D	49.4
SR-246/Alamo Pintado Road	Signal	D	48.9	E	77.7
SR-246/Refugio Road	Signal	C	33.7	E	66.9
SR-246/Edison Street	Signal	B	16.6	C	22.1
SR-246/SR-154	Stop Sign	F	>50.0	F	>50.0

Bold indicates unacceptable LOS.

Source: **Appendix I**

All of the study intersections operate at LOS C or better with the addition of project traffic during both the AM and PM peak hours with the exception of the following six intersections:

- SR-154/Grand Avenue (pm peak hour)
- SR-154/Roblar Avenue (am and pm peak hour)
- SR-154/Edison Street (am and pm peak hour)
- SR-246/Alamo Pintado Road (pm peak hour)
- SR-246/Refugio Road (pm peak hour)
- SR-246/SR-154 (am and pm peak hour)

Mitigation measures provided in **Section 5.7** would improve operations at the six intersections to acceptable LOSs. With the incorporation of mitigation, implementation of Alternative A, combined with regional growth, would result in minor cumulatively considerable impacts to the study roadway intersections.

Impacts to Study State Highway Roadway Segments

Table 4-27 summarizes the cumulative impacts from the implementation of Alternative A to the AM and PM peak hour LOS along each study state highway roadway segment. All of the study area highway segments would operate at an unacceptable LOS either during the AM or PM peak hour. Mitigation measures provided in **Section 5.7** would improve operations at the six intersections to acceptable LOSs. With the incorporation of mitigation, implementation of Alternative A, combined with regional growth, would result in minor cumulatively considerable impacts to the study state highway roadway segments.

TABLE 4-27
CUMULATIVE ALTERNATIVE A STATE HIGHWAY SEGMENT LOS

Highway Segment	Peak Hour LOS
SR 154 North of Edison Street ¹	LOS E/LOS D
SR 154 South of SR 246-Armour Ranch Road ¹	LOS E/LOS C
SR 246 from SR 154 to Solvang ²	LOS B – LOS F

¹ North and southbound LOS based on travel speeds and ability to pass using P.M. peak hour flows.

² Signalized segments - LOS based on delays at intersections.

Source: **Appendix I**

Impacts to Study County Roadway Segments

Table 4-28 summarizes the cumulative impacts from the implementation of Alternative A to the AM and PM peak hour LOS along each study state highway roadway segment. As shown, the County roadway segments carry volumes within their acceptable capacity ratings. Implementation of Alternative A, combined with regional growth, would result in minor cumulatively considerable impacts to the study County roadway segments.

TABLE 4-28
CUMULATIVE ALTERNATIVE A COUNTY ROADWAYS OPERATIONS

Roadway	Geometry	Cumulative ADT	Acceptable Capacity ¹
Baseline Avenue e/o Edison Street	2 Lanes	2,005	5,530
Armour Ranch Road e/o SR 154	2 Lanes	2,064	5,530

ADT = average daily trips.

¹ County of Santa Barbara determined that 70 percent of capacity equals LOS B.

Source: **Appendix I**

Cumulative Bicycle, Pedestrian, and Transit Networks

A Class 2 bike path is proposed for SR-246 west of SR-154 and a Class 1 bike path is proposed for SR-154 north of SR-246 (Santa Barbara County, 2009). The project would not generate pedestrian trips, bicycling activity, or transit riders along Baseline Road, Armour Road, SR-154, SR-246, or the other public roads in the area. The cumulative non-vehicular networks would not be affected by the predicted LOS. Thus, no adverse impacts are projected to these networks as a result of the implementation of Alternative A.

Alternative B

Impacts to Study Roadway Intersections

Table 4-29 summarizes the cumulative impacts from the implementation of Alternative B to the AM and PM peak hour LOS at each study intersection. All of the study intersections operate at LOS C or better with the addition of project traffic during both the AM and PM peak hours with the exception of the same six intersections as those identified under the Alternative A long-term cumulative analysis. Mitigation measures provided in **Section 5.7** would improve operations at the six intersections to acceptable LOSs.

With the incorporation of mitigation, implementation of Alternative B, combined with regional growth, would result in minor cumulatively considerable impacts to the study roadway intersections.

TABLE 4-29
CUMULATIVE ALTERNATIVE B INTERSECTIONS LOS AND AVERAGE DELAY

Intersection	Traffic Control	AM Peak		PM Peak	
		LOS	Average Delay (sec)	LOS	Average Delay (sec)
SR-154/US-101 SB	Stop Sign	B	13.9	B	11.5
SR-154/US-101 NB	Stop Sign	B	13.5	B	11.6
SR-154/Grand Avenue	Stop Sign	C	24.0	F	>50
SR-154/Roblar Avenue	Stop Sign	F	>50	F	>50
SR-154/Edison Street	Stop Sign	E	43.2	F	>50
SR-154/Alisal Road	Signal	C	32.3	D	51.5
SR-246/Alamo Pintado Road	Signal	D	51.2	E	79.9
SR-246/Refugio Road	Signal	D	35.1	E	72.0
SR-246/Edison Street	Signal	B	18.7	C	23.7
SR-246/SR-154	Stop Sign	F	>50	F	>50

Source: Appendix I

Bold indicates unacceptable LOS.

Impacts to Study State Highway Roadway Segments

Table 4-30 summarizes the cumulative impacts from the implementation of Alternative B to the AM and PM peak hour LOS along each study state highway roadway segment. As identified under Alternative A, all of the study area highway segments would operate at an unacceptable either in the am or pm peak hour. Mitigation measures provided in **Section 5.7** would improve operations at the six intersections to acceptable LOSs. With the incorporation of mitigation, implementation of Alternative B, combined with regional growth, would result in minor cumulatively considerable impacts to the study state highway roadway segments.

TABLE 4-30
CUMULATIVE ALTERNATIVE B STATE HIGHWAY SEGMENT LOS

Highway Segment	Peak Hour LOS
SR 154 North of Edison Street ¹	LOS E/LOS D
SR 154 South of SR 246-Armour Ranch Road ¹	LOS E/LOS C
SR 246 from SR 154 to Solvang ²	LOS B – LOS F

¹ North and southbound LOS based on travel speeds and ability to pass using P.M. peak hour flows.

² Signalized segments - LOS based on delays at intersections.

Source: **Appendix I**

Impacts to Study County Roadway Segments

Table 4-31 summarizes the cumulative impacts from the implementation of Alternative B to the AM and PM peak hour LOS along each study state highway roadway segment. As shown, the County roadway segments carry volumes within their acceptable capacity ratings. Implementation of Alternative B,

combined with regional growth, would result in minor cumulatively considerable impacts to the study County roadway segments.

TABLE 4-31
CUMULATIVE ALTERNATIVE B COUNTY ROADWAYS OPERATIONS

Roadway	Geometry	Existing ADT	Acceptable Capacity ¹
Baseline Avenue e/o Edison Street	2 Lanes	2,211	5,530
Armour Ranch Road e/o SR 154	2 Lanes	3,230	5,530

ADT = average daily trips.
¹ County of Santa Barbara determined that 70 percent of capacity equals LOS B.
 Source: **Appendix I**

Bicycle, Pedestrian, and Transit Networks

Alternative B would have the same cumulative impacts on bicycle, pedestrian, and transit networks as Alternative A.

4.4.8 LAND USE

If taken into federal trust, the project site would not be subject to County jurisdiction regarding land use. Any surrounding cumulative projects off Tribal trust lands; however, would be subject to existing local land use regulations. Alternatives A and B would not result in changes to surrounding land use patterns; therefore, any changes would be attributable to County policies only. The approved and pending projects that would occur in the Santa Ynez Valley include residential, commercial, and agriculture/agriculture-related land uses (vineyards/wineries); therefore, implementation of Alternative A or Alternative B would not lead to cumulatively considerable impacts to land use management in the region.

AGRICULTURE

The proposed development of residential and governmental uses on land that is currently zoned for agriculture would not contribute to the conversion of surrounding agricultural land. Existing agricultural operations in the area would not be converted; therefore, implementation of Alternative A or Alternative B would not contribute to cumulatively considerable impacts to agriculture in the region.

4.4.9 NOISE

This section identifies the noise impacts that would result from the development of Alternative B under the cumulative year 2030. Impacts are measured against the environmental baseline presented in **Section 3.4**.

METHODOLOGY

The methodology for analyzing noise impacts in the cumulative year 2030 is the same as the methodology used to determine impacts in the near-term.

Alternative A Cumulative Operation Noise Effects

The following identifies potential cumulative impacts from project-related noise sources, such as traffic, heating ventilation and air conditioning systems, and the wastewater treatment plant (WWTP).

Alternative A Traffic Noise

A discussion of the potential increases in traffic noise levels along affected roadways is provided below:

SR- 154

As discussed in **Appendix I**, there would be approximately 1,355 vehicles per day on SR-154 adjacent to the southwestern portion of the project site in the cumulative year 2030. Alternative A would add an estimated 19 vehicles per peak day to SR-154 under Alternative A. The existing ambient noise level 50 feet from the center line of SR-154 was calculated to be 60.9 dBA, Leq, resulting in an increase of the ambient noise level of approximately 0.0 dBA Leq. As stated in the existing setting, an increase of less than 1 dBA would not be audible to sensitive receptors.

SR-246

The existing ambient noise level 50 feet from the center line of SR-246 is approximately 60.7 dBA, Leq. The existing traffic volume on this roadway is approximately 3,385 vehicles per day (**Appendix I**) under Alternative A in the cumulative year 2030. Alternative A would add approximately 42 vehicle trips per day to SR-246, resulting in an increase of the ambient noise level of approximately 0.1 dBA, Leq. The anticipated increase in traffic noise levels along SR-246 would not be audible to sensitive receptors.

Baseline Road

The existing ambient noise level at 50 feet from the centerline of Baseline Road was calculated to be 62.9 dBA, Leq under Alternative A in the cumulative year 2030. The traffic volume on this roadway in the cumulative year 2030 is approximately 489 vehicles per day (**Appendix I**). Alternative A would add approximately 9 vehicle trips per day to Baseline Road, resulting in an increase of the ambient noise level of approximately 0.0 dBA, Leq.

Armour Ranch Road

The existing ambient noise level at 50 feet from the centerline of Armour Ranch Road was calculated to be 52.2 dBA, Leq. The existing traffic volume on this roadway is approximately 80 vehicles per day (**Appendix I**) in the cumulative year 2030. Alternative A would add approximately 140 vehicle trips per day to Armour Ranch Road. Alternative A traffic would more than double the existing traffic volume resulting in an increase of the ambient noise level of approximately 4.5 dBA, Leq. The anticipated increase in traffic noise levels along Armour Ranch Road would be less than the federal significance level for increases in the ambient noise environment from transportation sources of five dBA, Leq (refer to **Table 3.10-4**) and the federal noise abatement standard for residential receptors of 67 dBA, Leq.

The addition of traffic attributable to the Alternative A in the cumulative year 2030 would not audibly increase the ambient noise level along potentially affected roadways, including SR-246, SR-154, and Baseline and Armour Ranch Roads. Therefore, effects to sensitive noise receptors from the increase in traffic noise levels resulting from Alternative A combined with regional growth in the cumulative year 2030 are considered less than significant and no mitigation is required.

Vibration and Other Noise Source

Operational vibration and other noise impacts under Alternative A in the cumulative year 2030 would be the same as those under near-term Alternative A; therefore, a less than significant effect would occur to the noise environment.

Alternative B Cumulative Operation Noise Effects

The following identifies potential cumulative impacts from project-related noise sources, such as traffic, heating ventilation and air conditioning systems, and the wastewater treatment plant (WWTP).

Traffic

A discussion of the potential increases in traffic noise levels along affected roadways is provided below:

SR- 154

As discussed in **Appendix I**, there would be approximately 1,355 vehicles per day on SR-154 adjacent to the southwestern portion of the project site in the cumulative year 2030. Alternative B would add an estimated 20 vehicles per peak day to SR-154. The existing ambient noise level 50 feet from the center line of SR-154 was calculated to be 60.9 dBA, Leq, resulting in an increase of the ambient noise level of approximately 0.0 dBA Leq. As stated in the existing setting, an increase of less than 1 dBA is not audible to sensitive receptors.

SR-246

The existing ambient noise level 50 feet from the center line of SR-246 is approximately 60.7 dBA, Leq. The existing traffic volume on this roadway is approximately 3,385 vehicles per day (**Appendix I**) under Alternative B in the cumulative year 2030. Alternative B would add approximately 69 vehicle trips per day to SR-246, resulting in an increase of the ambient noise level of approximately 0.1 dBA, Leq. The anticipated increase in traffic noise levels along SR-246 would not be audible to noise sensitive receptors.

Baseline Road

The existing ambient noise level at 50 feet from the centerline of Baseline Road was calculated to be 62.9 dBA, Leq under Alternative B in the cumulative year 2030. The traffic volume on this roadway in the cumulative year 2030 is approximately 489 vehicles per day (**Appendix I**). Alternative B would add approximately 9 vehicle trips per day to Baseline Road, resulting in an increase of the ambient noise level of approximately 0.0 dBA, Leq.

Armour Ranch Road

The existing ambient noise level at 50 feet from the centerline of Armour Ranch Road was calculated to be 52.2 dBA, Leq. The existing traffic volume on this roadway is approximately 80 vehicles per day (**Appendix I**) in the cumulative year 2030. Alternative B would add approximately 229 vehicle trips per day to Armour Ranch Road. Alternative B traffic would more than double the existing volume of traffic resulting in an increase of the ambient noise level of approximately 4.3 dBA, Leq. The anticipated increase in traffic noise levels along Armour Ranch Road would be less than the federal significance level for increases in the ambient noise environment from transportation sources of five dBA, Leq (refer to **Table 3.10-4**) and the federal noise abatement standard for residential receptors of 67 dBA, Leq.

The addition of traffic attributable to the Alternative B in the cumulative year 2030 would not audibly increase the ambient noise level along potentially affected roadways, including SR-246, SR-154, and Baseline and Armour Ranch Roads. Therefore, effects to sensitive noise receptors from the increase in traffic noise levels resulting from Alternative B combined with regional growth in the cumulative year 2030 are considered less than significant and no mitigation is required.

Vibration and Other Noise Source

Operational vibration and other noise impacts under Alternative B in the cumulative year 2030 would be the same as those under near-term Alternative B; therefore, a less than significant effect would occur to the noise environment.

4.4.10 PUBLIC SERVICES AND UTILITIES

Public services and utilities for Alternatives A or B would be accommodated by existing and planned municipal public services (fire protection, law enforcement, solid waste, electrical utilities), or would be provided by the Tribe's own facilities (water and wastewater service). As development of the Santa Ynez Valley continues, the combined need for public services may create a cumulative impact. However, all approved and pending projects on fee land in the Santa Ynez Valley would be subject to review by local governments and would include provisions for public services. As a result, Alternatives A or B would not result in significant cumulative impacts to public services.

4.4.11 HAZARDOUS MATERIALS

The potential for impacts related to hazardous materials to occur during construction of Alternative A or B would be similar to those of other cumulative projects in the Santa Ynez Valley. Other development projects would require the implementation of mitigation measures similar to those listed in **Section 5.11** pertaining to construction activities and the storage and use of hazardous materials during operation. The approved and pending developments would be required to adhere to State and municipal regulations regarding the delivery, handling, and storage of hazardous materials, thereby reducing the risk of accidental exposure to the public. Therefore, with the implementation of mitigation measures included in

Section 5.11, there would be no significant cumulative impacts associated with hazardous materials under Alternatives A or B.

4.4.12 VISUAL RESOURCES

Surrounding lands are subject to local land use regulations and ordinances regulating lighting and signage. Alternatives A and B would result in minimal impacts to visual resources. The approved and pending projects that would occur in the immediate area would not result in substantial impacts to visual resources or result in significant new sources of light or glare; therefore, implementation of Alternatives A or B would not lead to cumulatively considerable impacts to visual resources.

4.5 INDIRECT AND GROWTH-INDUCING EFFECTS

Under NEPA, indirect and growth-inducing effects of a proposed project must be analyzed [40 Code of Federal Regulations (CFR) 1508.8(b)]. The CEQ Regulations define indirect effects as effects that are caused by the action and are later in time or further removed in distance, but are still reasonably foreseeable. Growth-inducing effects are defined as effects that foster economic or population growth, either directly or indirectly. Direct growth inducement could result, for example, if a project includes the construction of a new residential development. Indirect growth inducement could result if a project establishes substantial new permanent employment opportunities (e.g., new commercial, industrial, or governmental enterprises) or if it removes obstacles to population growth (e.g., expansion of a wastewater treatment plant to increase the service availability). This section focuses on the indirect and growth-inducing effects of Alternatives A and B. Alternative C, the No-Action Alternative, would not result in indirect or growth-inducing effects and is therefore not discussed further.

4.5.1 INDIRECT EFFECTS

Analyses of the adequacy of local infrastructure and services are included in the discussion of environmental consequences for each proposed Alternative. No significant, unmitigatable impacts have been identified that would result from Alternatives A or B. Utility infrastructure would not be significantly improved or expanded to increase service availability to any areas surrounding the project site. Domestic water supply and wastewater service would be developed on-site and therefore, no indirect off-site expansion of utilities is required to implement Alternatives A and B. Other indirect effects are analyzed in previous sections by issue area.

4.5.2 GROWTH-INDUCING EFFECTS

Growth inducement may constitute an adverse impact if the increased growth is not consistent with or accommodated by the land use and growth management plans and policies for the area affected. Local land use plans provide for development patterns and growth policies that allow for orderly development supported by adequate public services and utilities such as water supply, roadway infrastructure, sewer

services, and solid waste disposal services. A project that would induce “disorderly” growth (i.e., would conflict with local land use plans) could indirectly cause adverse environmental or public service impacts.

Alternatives A and B would involve the construction of new housing development for Tribal members. Tribal members generally have homes either on the Tribe’s existing trust property or within the local community, and the new housing development proposed under Alternatives A and B would be capable of relieving current overcrowding on the Tribe’s Reservation and accommodating future growth of the Tribe. Construction-related employment would generate approximately 55 new homes sales over the nine-year period of analysis (California Economic Forecast, 2012). Also, a limited number of long-term, permanent employment opportunities (approximately 75) would be created by the development of the Tribal community and government facilities. Therefore, it is anticipated that the net local population growth directly resulting from Alternatives A and B would be minimal.

Analyses of the adequacy of local infrastructure and services are included in the discussion of environmental consequences for each proposed alternative. No significant, unmitigated impacts have been identified that would result from the implementation of Alternative A or Alternative B. Additionally, the proposed infrastructure improvements would be sized to meet the needs of the proposed development. The WWTP would not provide excess capacity that could lead to growth within the region. No indirect growth impacts are anticipated to occur from the expansion of the Tribal facilities, as few long-term or permanent employment opportunities would be created. Utility infrastructure would not be significantly expanded to increase service availability to surrounding areas. Growth-inducing impacts would be less than significant for all of the proposed alternatives.

SECTION 5.0

MITIGATION MEASURES

The following mitigation measures shall be incorporated into the project design, construction, and operation as applicable to reduce potentially adverse impacts of the Project Alternatives. All mitigation that is necessary to reduce adverse impacts to a minimal level will be binding on the Tribe because it is intrinsic to the project, required by federal law, required by agreements between the Tribe and local agencies, and/or subject to a Tribal resolution.

5.1 LAND RESOURCES

Implementation of the protective measures and Best Management Practices (BMPs) described in **Section 2.0**, along with the mitigation measures below, shall minimize potential impacts related to soils. These measures are recommended for Alternatives A and B.

- The Tribe shall comply with the National Pollutant Discharge Elimination System Permit (NPDES Construction General Permit) from the United States Environmental Protection Agency (EPA) for construction site runoff during the construction phase in compliance with the Clean Water Act (CWA). A Storm Water Pollution Prevention Plan (SWPPP) shall be prepared, implemented, and maintained throughout the construction phase of the development, consistent with Construction General Permit requirements. The SWPPP shall detail the BMPs to be implemented during construction and post-construction operation of the selected project alternative to reduce impacts related to soil erosion and water quality. The BMPs shall include, but are not limited to, the following:
 - Existing vegetation shall be retained where possible. To the extent feasible, grading activities shall be limited to the immediate area required for construction and remediation.
 - Temporary erosion control measures (such as silt fences, fiber rolls, vegetated swales, a velocity dissipation structure, staked straw bales, temporary re-vegetation, rock bag dams, erosion control blankets, and sediment traps) shall be employed for disturbed areas during the wet season.
 - No disturbed surfaces shall be left without erosion control measures in place during the winter and spring months.
 - Construction activities shall be scheduled to minimize land disturbance during peak runoff periods. Soil conservation practices shall be completed during the fall or late winter to reduce erosion during spring runoff.

- Creating construction zones and grading only one area or part of a construction zone at a time shall minimize exposed areas. If possible during the wet season, grading on a particular zone shall be delayed until protective cover is restored on the previously graded zone.
 - Disturbed areas shall be re-vegetated following construction activities.
 - Construction area entrances and exits shall be stabilized with crushed aggregate.
 - Sediment shall be retained on-site by a system of sediment basins, traps, or other appropriate measures.
 - A spill prevention and countermeasure plan shall be developed which identifies proper storage, collection, and disposal measures for potential pollutants (such as fuel, fertilizers, pesticides, etc.) used on-site.
 - Petroleum products shall be stored, handled, used, and disposed of properly in accordance with provisions of the Clean Water Act [33 United States Code (U.S.C.) 1251 to 1387].
 - During the wet season, construction materials, including topsoil and chemicals, shall be stored, covered, and isolated to prevent runoff losses and contamination of surface and groundwater.
 - Fuel and vehicle maintenance areas shall be established away from all drainage courses and designed to control runoff.
 - Sanitary facilities shall be provided for construction workers.
 - Disposal facilities shall be provided for soil wastes, including excess asphalt during construction and demolition.
- All workers shall be trained in the proper handling, use, cleanup, and disposal of all chemical materials used during construction activities and shall provide appropriate facilities to store and isolate contaminants.
 - All contractors involved in the project shall be trained on the potential environmental damages resulting from soil erosion prior to development by conducting a pre-construction conference. Copies of the project's erosion control plan shall be distributed at that time. All construction bid packages, contracts, plans, and specifications shall contain language that requires adherence to the plan.

5.2 WATER RESOURCES

Implementation of the protective measures and BMPs described in **Section 2.0**, along with the recommended mitigation measures below will minimize potential impacts related to Alternatives A or B.

- Development and implementation of a SWPPP under **Section 5.1** will reduce impacts to stormwater quality.
- Through contractual obligations, the Tribe shall ensure that construction of the wastewater

treatment plant and roadways located adjacent to flood areas occur in the dry season.

- Recycled water application areas shall be monitored to ensure off-site runoff does not occur. Provisions included within monitoring requirements to reduce the potential for off-site flow shall include:
 - Recycled water shall be applied to confined areas (such as landscaped areas) only during periods of dry weather. In accordance with the water balance and seasonal storage requirements presented in the Water and Wastewater Feasibility Analysis (**Appendix C**), a minimum of five acre-feet of storage shall be provided to account for storage during wet weather and winter months when irrigation rates are lowest. The Tribe shall not apply recycled water 24 hours prior to a forecasted rain event and shall wait 24 hours after the rain event to apply recycled water.
 - Recycled water shall not be applied during periods of winds exceeding 30 miles per hour (mph).
 - Recycled water shall not be applied within 100 feet of a water of the U.S.
- New groundwater wells shall be located within the central portion of the project site, south of the Baseline fault within the permeable sands of the water-bearing Careaga Formation.

5.3 AIR QUALITY

Implementation of the protective measures and BMPs described in **Section 2.0** would reduce potential adverse impacts to air quality. Implementation of the mitigation measures below will minimize potential air quality impacts related to hazardous air pollutant emissions during the construction of Alternative A or B.

- Through contractual obligations, the Tribe shall ensure construction vehicles, delivery, and commercial vehicles do not idle for more than five minutes.
- Through contractual obligations, the Tribe shall ensure heavy duty construction equipment is equipped with diesel particulate matter filters.
- Through contractual obligations, the Tribe shall, to the extent possible and feasible, require the use of heavy duty construction equipment that meets CARB's most recent certification standards.

5.3.1 CLIMATE CHANGE

Implementation of the protective measures and BMPs described in **Section 2.0**, along with the mitigation measures described below would minimize potential impacts related to climate change:

- The Tribe shall adopt and comply with the California Green Building Code and exceed Title 24 standards by 25 percent.
- The Tribe shall recycle 50 percent of the solid waste generated on-site.

- The Tribe shall work with the Santa Ynez Valley Transit to extend public transportation to the project site and construct public transportation stops on Baseline Road east of SR-154.

5.4 BIOLOGICAL RESOURCES

Implementation of the protective measures and BMPs described in **Section 2.0**, along with the mitigation measures below, will minimize potential impacts to biological resources. These measures are recommended for Alternatives A and B.

5.4.1 OAK TREES

The following mitigation measures are required for Alternatives A and B to identify and avoid and/or reduce impacts to oak trees within the project site:

- Once the construction footprint is finalized, the contractor shall flag any oak trees slated for removal prior to groundbreaking. A qualified arborist shall survey trees anticipated for removal, identify any oak trees within the selected footprint, and prepare an Arborist Report. The Arborist Report shall identify all oak trees anticipated for removal and require a no net loss of oak trees. The Arborist Report shall provide a revegetation plan that includes proposed planting locations within the project site and a five-year monitoring plan to ensure that the revegetation effort is successful.

5.4.2 WATERS OF THE U.S.

The following mitigation measures are required for Alternatives A and B to identify and avoid and/or reduce impacts to waters of the U.S. (including wetlands) within the project site:

- Any proposed construction activities that would occur within the vicinity of potentially jurisdictional waters of the U.S. shall be conducted during the dry season (i.e., April 15 through October 15) to further reduce the quantity of potential sedimentation within the watershed.
- A Section 404 Clean Water Act permit shall be obtained from the U.S. Army Corps of Engineers (USACE) prior to any discharge of dredged or fill material into waters of the U.S. An Individual Permit may be required if the development of the selected alternative exceeds 0.5 acres of impacts to waters of the U.S. The Tribe shall comply with all the terms and conditions of the permit and compensatory mitigation shall be in place prior to any direct effects to waters of the U.S. At minimum, mitigation measures require the creation of waters of the U.S. at a 1:1 ratio for any affected waters of the U.S. The U.S. Environmental Protection Agency (USEPA) shall require a 401 Water Quality Certification permit prior to the USACE issuance of a 404 permit. Mitigation shall be implemented in compliance with any permits.

5.4.3 FEDERALLY LISTED WILDLIFE

The following mitigation measures are required for Alternatives A and B to compensate for adverse affects to vernal pool fairy shrimp (*Branchinecta lynchi*; VPFS). Upon implementation of the mitigation measures identified below, potential impacts to VPFS would be reduced to a less-than-significant level.

- A Biological Opinion shall be obtained from the USFWS prior to construction within designated critical habitat. All mitigation measures in the Biological Assessment (AES, 2012b) and the Biological Opinion issued by USFWS shall be adhered to. These measures may include:
 - Before discharge of fill material, the Tribe shall purchase preservation and creation credits from a USFWS-approved conservation bank. The expansion of permanent habitat at a two-to-one ratio for VPFS via the purchase of preservation credits and the creation of habitat at a one-to-one ratio or alternative option approved by the USFWS through the Section 7 consultation would off-set the temporary loss of micro-habitat within the proposed action area.
 - Temporary high-visibility construction fencing shall be installed along the edge of work areas within 50 feet of mapped seasonal wetlands and channels. Temporary high-visibility construction fencing shall be installed around the channels occurring within 50 feet of construction activities. Fencing shall be installed prior to any construction and remain in place until all construction activities within the action area have been completed.
 - Staging areas shall be located away from the fenced seasonal wetlands. Temporary stockpiling of excavated or imported material shall occur only in approved construction staging areas.
 - A USFWS-approved biologist shall conduct a habitat sensitivity training related to VPFS for project contractors and personnel. Supporting materials containing training information shall be prepared and distributed. Upon completion of training, all construction personnel shall sign a form stating that they have attended the training and understand all the conservation measures. Training shall be conducted in languages other than English, as appropriate. Proof of this instruction will be kept on file with the Tribe. The Tribe will provide the USFWS with a copy of the training materials and copies of the signed forms by project staff indicating that training has been completed within 30 days of the completion of the first training session. Copies of signed forms will be submitted monthly as additional training occurs for new employees. The crew foreman will be responsible for ensuring that construction personnel adhere to the guidelines and restrictions. If new construction personnel are hired following the habitat sensitivity training, the crew foreman will ensure that the personnel receive the mandatory training before starting work.

The following mitigation measures are required for Alternatives A and B to compensate for adverse affects to California red-legged frog (*Rana aurora draytonii*; CRLF). Upon implementation of the mitigation measures identified below, potential impacts to CRLF would be reduced to a less-than-significant level.

- A qualified biologist shall conduct a habitat sensitivity training related to CRLF for project contractors and personnel, as identified under the mitigation measures for VPFSS.
- A qualified biologist shall conduct a preconstruction survey within 14 days prior to the onset of construction activities occurring within 1.6 kilometers of potential breeding habitat.
- A qualified biologist shall monitor construction activities during initial grading activities within the project site. Should a CRLF be detected within the construction footprint, grading activities shall halt and the USFWS shall be consulted. No grading activities shall commence until the biologist determines that the CRLF has vacated the construction footprint on its own accord and the USFWS authorizes the re-initiation of grading activities.

5.4.4 NESTING MIGRATORY BIRDS AND OTHER BIRDS OF PREY

The following mitigation measures are required for Alternatives A and B to avoid and/or reduce impacts to migratory birds and other birds of prey nesting within the project site:

- If any construction activities (e.g., building, grading, ground disturbance, removal of vegetation) are scheduled to occur during the nesting season, pre-construction bird surveys shall be conducted. The nesting season generally extends from March 1 to September 15. Preconstruction surveys for any nesting bird species shall be conducted by a qualified wildlife biologist throughout all areas of suitable habitat that are within 500 feet of any proposed construction activity. The surveys shall occur no more than 14 days prior to the scheduled onset of construction activities. If construction is delayed or halted for more than 14 days, another preconstruction survey for nesting bird species shall be conducted. If no nesting birds are detected during the preconstruction surveys, no additional surveys or mitigation measures are required.
- Any trees proposed for removal shall be removed outside of the nesting season. The nesting season generally extends from March 1 to September 15.
- If nesting bird species are observed within 500 feet of construction areas during the surveys, appropriate avoidance setbacks shall be established. The size and scale of nesting bird avoidance setbacks shall be determined by a qualified wildlife biologist and shall be dependent upon the species observed and the location of the nest. Avoidance setbacks shall be established around all active nest locations via stakes and high visibility fencing. The nesting bird setbacks shall be completely avoided during construction activities and the fencing must remain intact. The qualified wildlife biologist shall also determine an appropriate monitoring plan and decide if construction monitoring is necessary during construction activities. The setback fencing may

be removed when the qualified wildlife biologist confirms that the nest is no longer occupied and all birds have fledged.

- If impacts (i.e., take) to migratory nesting bird species are unavoidable, consultation with the USFWS shall be initiated. Through consultation, an appropriate and acceptable course of action shall be established.

5.5 CULTURAL RESOURCES

The following mitigation measure is required for Alternatives A and B to avoid adverse effects to cultural resources and/or historical properties:

- Prior to the final siting of the residential units, utility corridors, roadways, and any other project component that would result in ground disturbance, a qualified archaeologist shall identify appropriate buffer zones around each cultural resource to assure avoidance during construction.
- Prior to construction within 500 feet of a cultural resource buffer zone, a qualified Tribal Cultural Resource Monitor shall demarcate each buffer zone using appropriate materials such as high visibility construction fencing, which will not be removed until the completion of construction activities within 500 feet of the cultural resource buffer zone.
- A qualified Tribal Cultural Resource Monitor shall monitor construction activities occurring within 500 feet of the buffer zone.

The following mitigation measures are recommended for Alternatives A and B to reduce the potential for significant construction-related impacts to cultural resources, including archaeological sites, human remains, and/or paleontological resources:

- In the event that any prehistoric or historic cultural resources, or paleontological resources, are discovered during ground-disturbing activities, all work within 50 feet of the resources shall be halted and the Tribe and the Bureau of Indian Affairs (BIA) archaeologist shall be consulted to assess the significance of the find. If any find is determined to be significant by the qualified professionals, then appropriate agency and Tribal representatives shall meet to determine the appropriate course of action.
- If human remains are encountered, work shall halt in the vicinity of the find and the Santa Barbara County Coroner shall be notified immediately. Pursuant to 36 Code of Federal Regulations (C.F.R.) Part 800.13 of the National Historic Preservation Act (NHPA): *Post-Review Discoveries*, and 43 C.F.R. § 10.4 (2006) of the Native American Graves Protection and Repatriation Act (NAGPRA): *Inadvertent Discoveries*, the State Historic Preservation Office (SHPO) and the BIA archaeologist will also be contacted immediately. No further ground disturbance shall occur in the vicinity of the find until the County Coroner, SHPO, and BIA archaeologist have examined the find and agreed on an appropriate course of action. If the remains are determined to be of Native American origin, the BIA representative shall notify a

Most Likely Descendant (MLD). The MLD is responsible for recommending the appropriate disposition of the remains and any grave goods.

- Should paleontological resources be unearthed, a paleontological resource impact mitigation plan (PRIMP) shall be prepared prior to further earthmoving in the vicinity of the find. The PRIMP shall detail the procedures for collecting and preserving the discovered fossils. Any fossils discovered during construction shall be accessioned in an accredited scientific institution for future study.

5.6 SOCIOECONOMIC CONDITIONS/ ENVIRONMENTAL JUSTICE

Impacts to socioeconomic conditions and regional environmental justice would be less-than-significant for Alternative A or B, and no mitigation is necessary.

5.7 TRANSPORTATION AND CIRCULATION

The Tribe shall contribute its fair share of the funding for the traffic improvements recommended below proportionate to the level of impact associated with the trips added by Alternatives A and B. Mitigation measures for Alternatives A and B are summarized below.

ALTERNATIVES A AND B – NEAR-TERM

- **SR-246 at SR-154** – The Tribe shall pay a fair share contribution of 23.0 percent for Alternative A or 32.7 percent for Alternative B for the development of one of the two following intersection improvement options provided by Caltrans:
 - A roundabout shall be installed at SR-246 at AR-154; or
 - The intersection of SR-246 at SR-154 shall be signalized.

ALTERNATIVES A AND B – CUMULATIVE

- **SR-154 Corridor** – The Tribe shall pay a fair share contribution, as indicated below, for the development of either roundabouts or signalization of the following intersections as determined by Caltrans:

TABLE 5.7-1
SR-154 CORRIDOR FAIR SHARE CONTRIBUTIONS

Intersection	Fair Share Contribution (%)	
	Alt A	Alt B
SR-154 at Grand Avenue	3.1	4.9
SR-154 at Roblar Avenue	2.5	3.5
SR-154 at Edison Street	3.1	4.4
SR-154 at SR-246 and Armour Ranch Road	23.0	32.7
Source: ATE, 2012 (Appendix I).		

Completion of roundabouts at these intersections would result in a LOS A. Signalization of these intersections would result in a LOS B. Completion of roundabouts or signalization of the above intersections would result in an acceptable level of service on the highway segments SR-154 North of Edison Street and SR-154 South of SR-246-Armour Ranch Road.

- **SR-246 Corridor** – The Tribe shall pay a fair share contribution, as indicated below, for the development of either roundabouts or signalization of the following intersections as determined by Caltrans:

TABLE 5.7-2
SR-246 CORRIDOR FAIR SHARE CONTRIBUTION

Intersection	Fair Share Contribution (%)	
	Alt A	Alt B
SR-246 at Alamo Pintado Road	5.6	8.9
SR-246 at Edison Street	33.0	44.1
SR-246 at Refugio Road	7.1	11.1
SR-246 at Armour Ranch Road and SR-154	23.0	32.7
Source: ATE, 2012 (Appendix I).		

Completion of roundabouts at these intersections would result in a LOS A. Signalization of these intersections would result in a LOS B. Completion of roundabouts or signalization of the above intersections would result in an acceptable level of service on the highway segment SR-246 from SR-154 to Solvang.

5.8 LAND USE

Impacts to land use would be less-than-significant for Alternative A or B, and no mitigation is necessary.

5.9 PUBLIC SERVICES

Implementation of the protective measures and BMPs described in **Section 2.0** along with the mitigation measures below would ensure that the construction and operation of Alternatives A or B would not have significant adverse impacts on fire and emergency services.

- To minimize the risk of fire and the need for fire protection services during construction, any construction equipment that normally includes a spark arrester shall be equipped with a spark arrester in good working order. This includes, but is not limited to, vehicles, heavy equipment, and chainsaws.
- During construction, staging areas, welding areas, and areas slated for development using spark-producing equipment shall be cleared of dried vegetation or other materials that could serve as fire fuel. To the extent feasible, the contractor shall keep these areas clear of

combustible materials in order to maintain a firebreak.

- Fire extinguishers shall be maintained onsite and inspected on a regular basis.
- An evacuation plan shall be developed for the project alternatives in the event of a fire emergency.

Implementation of the following mitigation measure under Alternative B would reduce adverse impacts with respect to law enforcement services.

- The Tribe shall contract with CHP for speed enforcement, lane closures, traffic breaks, and queuing control during special events at the tribal community facilities.

5.10 NOISE

Impacts relating to noise generation during construction and operation would be less-than-significant for Alternative A or B, and no mitigation is necessary.

5.11 HAZARDOUS MATERIALS

Implementation of the protective measures and BMPs described in **Section 2.0**, along with the mitigation measures listed below are recommended to reduce potential impacts associated with construction and operation of Alternatives A and B.

- Potentially hazardous materials, including fuels, shall be stored away from drainages and secondary containment shall be provided for all hazardous materials during construction.
- A spill prevention and countermeasure plan shall be developed which identifies proper storage, collection, and disposal measures for potential pollutants (such as fuel storage tanks) used onsite, as well as the proper procedures for cleaning up and reporting spills.
- Vehicles and equipment used during construction shall be provided proper and timely maintenance to reduce the potential for mechanical breakdowns leading to a spill. Maintenance and fueling shall be conducted in an area that meets the criteria set forth in the spill prevention plan.
- A hazardous materials storage and disposal plan shall be prepared. The plan shall provide a detailed inventory of hazardous materials to be stored and used onsite, provide appropriate procedures for disposal of unused hazardous materials, and detail training requirements for employees that handle hazardous materials as a normal part of their employment. The plan shall also include emergency response procedures in the event of an accidental release of hazardous materials.

5.12 VISUAL RESOURCES

With implementation of the protective measures and BMPs outlined in **Section 2.0**, no further mitigation is necessary for Alternative A or B.

SECTION 6.0

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6.2 TRIBES CONSULTED

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6.3 LOCAL AGENCIES CONSULTED

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SECTION 7.0

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