

2007 Monterey County General Plan

Draft Environmental Impact Report

Volume 1

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Section 1
Executive Summary

1.1 Purpose

This environmental impact report (EIR) (State Clearinghouse No. 2007121001) has been prepared to evaluate and disclose the significant environmental impacts associated with implementation of the proposed 2007 Monterey County General Plan (2007 General Plan). This is an update of the County of Monterey's (County's) existing general plan for the unincorporated, non-coastal portion of the County. Impacts are evaluated on the basis of the 2007 General Plan's 2030 planning horizon, as well as its full buildout in 2092. A copy of the 2007 General Plan is located on the accompanying CD at the end of this EIR.

This EIR has been prepared in accordance with California Environmental Quality Act (CEQA), California Resources Code Section 21000 et seq.; the Guidelines for the California Environmental Quality Act (California Code of Regulations, Title 14, Chapter 3); and the rules, regulations, and procedures for implementing CEQA as adopted by the County of Monterey. Accordingly, it discusses the existing physical and regulatory setting, describes the 2007 General Plan, and examines the project's potential to result in significant effects on resources. In addition to disclosing significant environmental impacts, the EIR also proposes mitigation measures, where feasible, to minimize or otherwise avoid significant environmental impacts and reviews five alternatives to the 2007 General Plan.

The purpose of this EIR is to inform County of Monterey decision-makers, representatives of other affected/responsible agencies, the public, and other interested parties of the potential environmental effects that may be associated with the 2007 General Plan. As authorized under CEQA Guidelines Section 15146, the project's impacts are analyzed on a general scale, in keeping with the broad level of detail found in the 2007 General Plan itself. Accordingly, the reader should not expect to find parcel-specific analyses here.

1.2 Project Summary

The proposed project consists of a comprehensive update of the existing 1982 County General Plan. Monterey County is located on the central California coast and is bounded by the Pacific Ocean (west), Santa Cruz County (north), San Benito, Fresno and Kings Counties (east), and San Luis Obispo County (south); refer to Exhibit 1-1. The proposed 2007 General Plan will serve as a "blueprint"

for growth; that is, it establishes the general pattern of land use and adopts goals and policies to guide the County in future land use decision-making. The goals and policies established by the General Plan address a range of related topics, including, but not limited to, establishing a development pattern centered on cities, Community Areas, and Rural Centers; providing infrastructure to serve new development concurrently with that development; conserving sensitive natural areas; conserving agriculture and the agricultural economy; addressing groundwater overdraft and water supply issues by establishing policies for new wells and restricting development in most areas until a sustainable water supply can be shown to be available; and protecting public health and safety. The Monterey County General Plan was last comprehensively updated in 1982, although it has been amended numerous times over the past 26 years.

The proposed 2007 General Plan is described in Section 3, "Project Description," of this EIR. In brief, the 2007 General Plan would largely maintain existing land use patterns and concepts established by the existing 1982 General Plan, with an emphasis on directing future urbanization to the cities and designated unincorporated Community Areas and Rural Centers. No changes are proposed to the County's adopted and certified Local Coastal Programs. Of course, because this is a County general plan it does not apply to any of the cities in Monterey County.

The following Table 1-1 provides a brief summary of the key components of the proposed 2007 General Plan.

Table 1-1. Key Components of the 2007 General Plan

Issue Area	2007 General Plan
Elements	Land Use, Circulation, Conservation and Open Space, Safety, Public Services, Agricultural, Area and Master Plans, and Economic Development
Area Plans	North County, Greater Salinas, Central Salinas Valley, Greater Monterey Peninsula, Toro, Cachagua, and South County
Master Plans	Carmel Valley and Fort Ord
Special Treatment Areas	Identifies 17 areas within the Area Plans for further planning study
Community Areas	Boronda, Castroville, Chualar, Fort Ord, and Pajaro
Rural Centers	Bradley, Lockwood, Pine Canyon, Pleyto, River Road, San Ardo, and San Lucas
Affordable Housing Overlay	Three areas where development of high-density, affordable housing is promoted: Mid-Carmel Valley; Highway 68/Monterey Peninsula Airport; and Reservation Road/ Highway 68. Community Areas prior to adoption of a Community Plan and Rural Centers prior to the adoption of an Infrastructure and Financing Study are designated as affordable housing overlay districts (AHOs).
Services	Establishes goals and policies requiring the provision of services concurrently with new development in Community Areas, Rural Centers, and for subdivisions
Water Resources	Establishes goals and policies for water conservation, restrains development without a proven sustainable water supply, restricts water well development, and minimizes additional overdraft and seawater intrusion
Routine and Ongoing Agriculture	Exempts a number of "routine and ongoing" agricultural activities from selected policies of the 2007 General Plan Update, not including policies that minimize erosion
Agricultural Wine Corridor Plan	Establishes goals and policies supporting future development of up to 10 full-scale and 40 artisan wineries and related tourist-serving uses along Central/Arroyo Seco/River Road, Metz Road, and Jolon Road
2030 horizon (Unincorporated County only)	135,375 residents 48,670 dwelling units
2092 buildout (Unincorporated County only)	207,424 residents 74,573 dwelling units

1.2.1 2007 General Plan Objectives

The proposed 2007 General Plan has the following objectives:

- Provide direction for growth that supports continued viability of agricultural production and preserves as much of the County's scenic and environmental resources as possible.

- Provide decision-makers, County staff, and the public with an updated General Plan that reflects the existing physical conditions and constraints in the County and provides a range of comprehensive policies to guide future development based upon those conditions and constraints.
- Modify existing land use designations to patterns that accommodate the most recent population growth, housing, and employment projections in an orderly manner that minimizes environmental impacts as feasible while meeting the County's obligations under California Planning Law to provide housing for all income levels.
- Direct new development to Community Areas and Rural Centers to facilitate the efficient provision of infrastructure and services while reducing the impacts of population growth, additional housing, and employment opportunities on agriculture, water supplies, and environmental resources.
- Establish policies that will conserve limited water supplies for current and projected future uses, including urban, rural, and agricultural uses.
- Establish new comprehensive policies and modify existing policies in the 1982 General Plan that reflect the latest legal, statutory, scientific, and technical changes and advances.
- Consider advice, concerns, and suggestions regarding future growth and development from all segments of the County population and, to the extent feasible, address these issues through new or modified goals, policies, or land use concepts.
- Support the continued viability of the agricultural industry by allowing routine and ongoing agricultural uses to proceed subject to standard regulations.
- Establish the Agricultural Winery Corridor Plan (AWCP) to facilitate the development of wineries along a corridor in the central and southern Salinas Valley to achieve a balance between the wine-grape production and wine processing capacity within the County.

1.3 Summary of Environmental Impacts and Mitigation Measures

The implementation of the 2007 General Plan would result in a number of significant impacts on the environment. At the same time, the 2007 General Plan contains many policies that are intended to minimize or mitigate the potential impacts of its implementation. The analysis in this EIR considered the policies contained in the 2007 General Plan when determining whether the project would result in a significant environmental impact. Where the policies were insufficient to avoid an impact, additional mitigation was identified in the EIR. Table 1-2 briefly summarizes the impacts and mitigation measures that have been identified in the EIR.

Table 1-2. Executive Summary Table

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
4.1 LAND USE		
LU-1: Implementation of the 2007 General Plan would potentially result in the physical division of established communities.	No mitigation beyond the 2007 General Plan policies is necessary.	2030—Less than significant Buildout—Less than significant
LU-2: Implementation of the 2007 General Plan would potentially result in conflicts with an adopted land use plan, general plan, specific plan, local coastal program, or zoning ordinance adopted for the purpose of avoiding or mitigating an environmental effect.	No mitigation beyond the 2007 General Plan policies is necessary.	2030—Less than significant Buildout—Less than significant
LU-3: General Plan implementation would potentially conflict with an existing adopted habitat conservation or natural community conservation plan.	No mitigation beyond the 2007 General Plan policies is necessary.	2030—Less than significant Buildout—Less than significant
4.2 AGRICULTURE RESOURCES		
AG-1: Implementation of the 2007 General Plan would result in the conversion of Important Farmland to non-agricultural use.	No feasible mitigation beyond the 2007 General Plan goals and policies is available.	2030—Significant and unavoidable Buildout—Significant and unavoidable
AG-2: Implementation of the 2007 General Plan could result in conflicts with existing zoning for agricultural use or Williamson Act contracts.	No mitigation beyond the 2007 General Plan goals and policies is necessary.	2030—Less than significant Buildout—Less than significant
AG-3: Implementation of the 2007 General Plan would involve other changes in the existing environment which, due to their location or nature, would result in conversion	No feasible mitigation beyond the 2007 General Plan goals and policies is available.	2030—Significant and unavoidable Buildout—Significant and

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
of farmland to non-agricultural use.		unavoidable
CUM-1: Agricultural Resources	No mitigation is feasible.	Cumulatively considerable.
4.3 WATER RESOURCES		
WR-1: Residential, commercial, industrial, and public uses consistent with the 2007 General Plan would introduce additional nonpoint source pollutants to downstream surface waters, substantially degrading water quality.	No mitigation beyond the General Plan and Area Plan goals and policies is necessary.	2030—Less than significant Buildout—Less than significant
WR-2: Land uses and development consistent with the 2007 General Plan would result in increased soil erosion and sedimentation during construction activities, substantially degrading water quality in downstream waterways.	No mitigation beyond the General Plan and Area Plan goals and policies is necessary.	2030—Less than significant Buildout—Less than significant
WR-3: Agricultural and resource development (i.e., limited timber harvesting and mineral resources extraction) land uses consistent with the 2007 General Plan would increase sediment and nutrients in downstream waterways and violate water quality standards.	**BIO-2.1:** Stream Setback Ordinance. (see Section 4.9 Biological Resources, below). No additional mitigation beyond the General Plan and Area Plan goals and policies is necessary.	2030—Less than significant Buildout—Less than significant
WR-4: Land uses and development consistent with the 2007 General Plan would exceed the capacity of existing water supplies and necessitate the acquisition of new supplies to meet expected demands	**2030** **WR-1:** Support a Regional Solution for the Monterey Peninsula In Addition to the Coastal Water Project The County will revise the draft 2007 General Plan to include the following new policy: PS-3.16 The County will participate in the Water for Monterey County Coalition, or similar regional group, for the purpose of identifying and supporting a variety of new water supply projects, water management programs, and multiple agency agreements that will provide additional domestic water supplies for the Monterey Peninsula and Seaside basin, while continuing to protect the Salinas and Pajaro River groundwater	2030—Significant and unavoidable (in some portions of the County) Buildout—Significant and unavoidable (in some portions of the County)

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
	basins from saltwater intrusion. The County's general objective, while recognizing that timeframes will be dependent upon the dynamics of the regional group, will be to complete the cooperative planning of these water supply alternatives within five years of adoption of the General Plan and to implement the selected alternatives within five years after that time. No additional mitigation measure is available. **2092** **WR-1:** Support a Regional Solution for the Monterey Peninsula In Addition to the Coastal Water Project. This measure is described above. **WR-2:** Initiate Planning for Additional Supplies to the Salinas Valley The County will revise the draft 2007 General Plan to include the following new policies: PS-3.17 The County will pursue expansion of the SVWP by initiating investigations of the capacity for the Salinas River water storage and distribution system to be further expanded. This shall also include investigations of expanded conjunctive use, use of recycled water for groundwater recharge and seawater intrusion barrier, and changes in operations of the reservoirs. The County's overall objective is to have an expansion planned and in service by 2030. PS-3.18 The County will convene and coordinate a working group made up of the Salinas Valley cities, the MCWRA, and other affected entities for the purpose of identifying new water supply projects, water management programs, and multiple agency agreements that will provide additional domestic water supplies for the Salinas Valley. These may include, but are not limited to, expanded conjunctive use programs, further improvements to the upriver reservoirs, additional pipelines to provide more efficient distribution, and expanded use of recycled water to reinforce the hydraulic barrier against seawater intrusion. The County's objective will be to complete the cooperative planning of these water supply alternatives by 2020 and have projects on line by 2030. **BIO-2.3:** Add Considerations Regarding Riparian Habitat and Stream Flows to Criteria for Long-Term Water Supply and Well Assessment. (see Section 4.9 Biological Resources, below). No additional mitigation measure is available.	
WR-5: Land uses and development consistent with the 2007 General Plan would increase the	The General Plan and Area Plan goals and policies will apply. Future projects will be subject to CEQA and have specific mitigation measures. As the experience with	2030—Significant and unavoidable

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
demand for water storage, treatment, and conveyance facilities that could have significant secondary impacts on the environment.	existing large-scale water supply projects shows, impacts cannot always be mitigated to a less than significant level.	Buildout—Significant and unavoidable
WR-6: Land uses and development consistent with the 2007 General Plan would increase demand on groundwater supplies in some areas; the associated increased well pumping would result in the continued decline of groundwater levels and accelerated overdraft in portions of the county.	**2030** **WR-1**: Support a Regional Solution In Addition to the Coastal Water Project. This measure is described above. **2092** **WR-1**: Support a Regional Solution In Addition to the Coastal Water Project. This measure is described above. **WR-2**: Initiate Planning for Additional Supplies to the Salinas Valley. This measure is described above.	2030—Significant and unavoidable (in some portions of the County) Buildout—Significant and unavoidable (in some portions of the County).
WR-7: Land uses and development consistent with the 2007 General Plan would increase demand on groundwater supplies in areas currently experiencing or susceptible to saltwater intrusion. Increased groundwater pumping in certain coastal areas would result in increased saltwater intrusion in some areas of the county.	**2030** **WR-1**: Support a Regional Solution In Addition to the Coastal Water Project This measure is described above. **2092** **WR-1**: Support a Regional Solution In Addition to the Coastal Water Project. This measure is described above. **WR-2**: Initiate Planning for Additional Supplies to the Salinas Valley. This measure is described above.	2030—Significant and unavoidable (in some portions of the County) Buildout—Significant and unavoidable (in some portions of the County)
WR-8: Land uses and development consistent with the 2007 General Plan would result in sewer- and septic-related water quality impacts, including those associated with reuse of treated water and migration of septic tank leachfield wastewater effluent to groundwater that would violate water quality standards.	No additional mitigation beyond the General Plan and Area Plan goals and policies is required.	2030—Less than significant Buildout—Less than significant
WR-9: Land uses and development consistent with the 2007 General Plan would result in an increase in the number of private wells in unincorporated areas of the county. Approval	No mitigation beyond the General Plan and Area Plan goals and policies is necessary.	2030—Less than significant Buildout—Less than significant

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
of wells in these areas would result in well interference impacts.		
WR-10: Land use and development consistent with the 2007 General Plan would result in alterations to existing drainage patterns. Such changes would increase erosion, both in overland flow paths and in drainage swales and creeks.	**2030** **BIO-2.1:** Stream Setback Ordinance. (see Section 4.9 Biological Resources, below). No additional mitigation beyond the General Plan and Area Plan goals and policies is necessary.	2030—Less than significant Buildout—Less than significant
WR-11: Land uses and development consistent with the 2007 General Plan would result in increases in storm water runoff and peak discharge. Existing storm drain systems, including urban creeks and rivers, may be incapable of accommodating increased flows, potentially resulting in increased onsite or offsite flooding.	No mitigation beyond the General Plan and Area Plan goals and policies is necessary.	2030—Less than significant Buildout—Less than significant
WR-12: Land uses and development consistent with the 2007 General Plan would allow continued development in 100-year flood hazard areas.	**2030** No mitigation beyond the General Plan and Area Plan goals and policies is necessary. **2092** Extent and locations of future impact are unknown; no mitigation is feasible.	2030—Less than significant Buildout—Significant and unavoidable
WR-13: The placement of land uses and structures within Special Flood Hazard Areas would impede or redirect flood flows, resulting in secondary downstream flood damage, including bank failure.	**2030** No mitigation beyond the General Plan and Area Plan goals and policies is necessary. **2092** Extent and locations of future impact are unknown; no mitigation is feasible.	2030—Less than significant Buildout—Significant and unavoidable
WR-14: Potential failure of levees or dams would expose people and structures to inundation and result in the loss of property, increased risk, injury, or death.	**2030** No mitigation beyond the General Plan and Area Plan goals and policies is necessary. **2092** Extent and locations of future impact are unknown; no mitigation is feasible.	2030—Less than significant Buildout—Significant and unavoidable
CUM-2: Water Resources – Surface water	No mitigation beyond 2007 General Plan policies is necessary.	Less than

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
quality:		cumulatively considerable.
CUM-3: Water Resources – Groundwater Quality:	Mitigation measures WR-1 and WR-2.	Cumulatively considerable.
CUM-4: Water Resources – Indirect impacts of water supply projects.	No mitigation is feasible.	Cumulatively considerable.
4.4 GEOLOGY, SOILS, AND SEISMICITY		
GEO-1: Implementation of the 2007 General Plan could expose persons and property to fault rupture hazards.	No mitigation beyond the 2007 General Plan Area Plan goals and policies is necessary.	2030—Less than significant Buildout—Less than significant
GEO-2: Land uses and development consistent with the 2007 General Plan could expose people or structures to substantial adverse seismic effects, including the risk of loss, injury, or death involving strong seismic ground shaking.	No mitigation beyond the 2007 General Plan Area Plan goals and policies is necessary.	2030—Less than significant Buildout—Less than significant
GEO-3: Land uses and development consistent with the 2007 General Plan could expose property and structures to the damaging effects of ground subsidence hazards. This kind of geologic hazard can be seismically triggered (e.g., liquefaction), caused by seasonal saturation of the soils and rock materials, or related to grading activities.	No mitigation beyond the 2007 General Plan policies is necessary.	2030—Less than significant Buildout—Less than significant
GEO-4: Land uses and development consistent with the 2007 General Plan could expose people and structures to substantial damaging effects of landslides, including the risk of loss, injury, or death from downslope earth movement that may be slow or rapidly occurring. This kind of geologic hazard is	No mitigation beyond the 2007 General Plan policies is necessary.	2030—Less than significant Buildout—Less than significant

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
commonly caused by earthquakes, seasonal saturation of soils and rock, erosion, or grading activities.		
GEO-5: Erosion from activities and land uses consistent with the 2007 General Plan could result in erosion hazards.	**BIO-2.1:** Stream Setback Ordinance. (see Section 4.9 Biological Resources, below). No additional mitigation beyond the General Plan and Area Plan goals and policies is necessary.	2030—Less than significant Buildout—Less than significant
GEO-6: Land uses and development consistent with the 2007 General Plan could expose property improvements to potential adverse effects from expansive soils. Expansive soils can damage improvements, especially structures such as residential buildings, small commercial buildings, and pavements.	No mitigation beyond the 2007 General Plan policies is necessary.	2030—Less than significant Buildout—Less than significant
GEO-7: Construction of septic tanks or alternative wastewater disposal systems on soils incapable of adequately supporting such systems could damage improvements and adversely affect groundwater resources.	No mitigation beyond the 2007 General Plan policies is necessary.	2030—Less than significant Buildout—Less than significant
GEO-8: Land use activities and development consistent with the 2007 General Plan could expose persons and property to tsunami, seiche, or mudflow hazards.	No mitigation beyond the 2007 General Plan policies is necessary.	2030—Less than significant Buildout—Less than significant
4.5 MINERAL RESOURCES		
MIN-1: Implementation of the 2007 General Plan would potentially result in the loss of availability of known mineral resources of value to the region and the residents of the state.	No mitigation beyond the 2007 General Plan policies is necessary.	2030—Less than significant Buildout—Less than significant
MIN-2: Implementation of the 2007 General	No mitigation beyond the 2007 General Plan policies is necessary.	2030—Less than

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
Plan would potentially result in the loss of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.		significant Buildout—Less than significant
4.6 TRANSPORTATION		
TRAN-1A: Development allowed under the 2007 General Plan would cause direct impacts on County roadways which would cause roadways to fall below the acceptable LOS standard D.	Impacts are less than significant, therefore no mitigation is necessary.	2030—Less than significant
TRAN-1B: Development of the land uses allowed under the 2007 General Plan would create traffic increases on County and Regional roadways which would cause the LOS to exceed the LOS standard, or contribute traffic to County and Regional roads that exceed the LOS standard without development.	No mitigation is feasible.	2030—Significant and unavoidable
TRAN 1-C: Growth in land uses allowed under the 2007 General Plan would increase demand for air travel at the County's four airports or increase development within the approach and departure pattern of airports.	Impacts are less than significant, therefore no mitigation is necessary.	2030—Less than significant
TRAN 1-D: Growth in land uses allowed under the 2007 General Plan could result in non-standard or hazardous designs or land uses that are incompatible with public facilities and adjoining land uses.	No additional mitigation measures beyond the 2007 General Plan are necessary.	2030—Less than significant
TRAN 1-E: Growth in land uses allowed under the 2007 General Plan would result in inadequate emergency access.	**TRAN-1E:** Revise Safety Element S-4.27 on increasing roadway connectivity to enhance emergency access. S-4.27 The County shall continue to review the procedure for proposed development, including minor and major subdivisions, and provide for an optional pre-submittal meeting between the project applicant, planning staff, and fire officials. In addition, the	2030—Significant and unavoidable

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
	County shall review Community Area and Rural Center Plans, and new development proposals for roadway connectivity that provides multiple routes for emergency response vehicles. At the time of their update, Community Area and Rural Center Plans shall identify primary and secondary response routes. Secondary response routes shall be required to accommodate through traffic and may be existing roads, or may be new roads required as part of development proposals. The emergency route and connectivity plans shall be coordinated with the appropriate Fire District.	
TRAN 1-F: Development allowed under the 2007 General Plan could potentially conflict with adopted policies, plans, or programs supporting alternative transportation or generate pedestrian, bicycle, or transit travel demand that would not be accommodated by current pedestrian facilities, bicycle development plans, or long-range transit plans.	No additional mitigation beyond 2007 General Plan policies is necessary.	2030—Less than significant
TRAN-2A: Development allowed under the 2007 General Plan cumulatively with other development to the year 2030 would cause direct impacts on County roadways which would cause roadways to fall below the acceptable LOS standard D.	No additional mitigation beyond 2007 General Plan policies is necessary.	2030—Less than cumulatively considerable
TRAN-2B: Development of the land uses allowed under the 2007 General Plan cumulatively with development in incorporated cities and in adjacent counties would create traffic increases on County and Regional roadways which would cause the LOS to exceed the LOS D standard, or contribute traffic to County and Regional roads that exceed the LOS standard without development.	No mitigation is feasible for County and Regional roadways outside of the CVMP. **TRAN-2B:** Revise policies in the Carmel Valley Master Plan as follows: Policy CV-2.10. The following are policies regarding improvements to specific portions of Carmel Valley Road: a) Via Petra to Robinson Canyon Road. Every effort should be made to preserve its rural character by maintaining it as a 2-lane road with paved shoulders, passing lanes and left turn channelizations at intersections where warranted. b) Robinson Canyon Road to Laureles Grade. Every effort should be made to preserve its rural character by maintaining it as a 2-lane road with paved shoulders, passing lanes and left turn channelizations at intersections where warranted. c) Carmel Valley Road/Laureles Grade. A grade separation should be constructed at this location instead of a traffic signal. The grade separation needs to be constructed in a	2030—Cumulatively considerable (most of county)

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
	manner that minimizes impacts to the rural character of the road. An interim improvement of an all-way stop or stop signal is allowable during the period necessary to secure funding for the grade separation. d) Laureles Grade to Ford Road. Shoulder improvements and widening should be undertaken here and extended to Pilot Road, and include left turn channelization at intersections as warranted. e) East of Esquiline Road. Shoulder improvements should be undertaken at the sharper curves. Curves should be examined for spot realignment needs. f) Laureles Grade improvements. Improvements to Laureles Grade should consist of the construction of shoulder widening, spot realignments, passing lanes and/or paved turn-outs. Heavy vehicles should be discouraged from using this route. Policy CV-2.12: To accommodate existing and future traffic, the following road improvements are recommended: a) Add a northbound climbing lane between Rio Road and Carmel Valley Road; b) Laureles Grade—undertake shoulder improvements, widening and spot realignment; c) Carmel Valley Road, Robinson Canyon Road to Ford Road—add left turn channelization at all intersections. Shoulder improvements should be undertaken. Policy CV-2.18: To implement traffic standards to provide adequate streets and highways in Carmel Valley, the County shall conduct and implement the following: a) Twice yearly monitoring by Public Works (in June and October) of peak hour traffic at the following 12 locations: ▪ Carmel Valley Road ▪ East of Holman Road ▪ Holman Road to Esquiline Road ▪ Esquiline Road to Ford Road ▪ Ford Road to Laureles Grade ▪ Laureles Grade to Robinson Canyon Road ▪ Robinson Canyon Road to Schulte Road ▪ Schulte Road to Rancho San Carlos Road ▪ Rancho San Carlos Road to Rio Road ▪ Rio Road to Carmel Rancho Boulevard	

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
	▪ Carmel Rancho Boulevard to SR1 Other Locations: ▪ Carmel Rancho Boulevard between Carmel Valley Road and Rio Road ▪ Rio Road between its eastern terminus and SR1 b) A yearly evaluation report (December) shall be prepared jointly by the Public Works and Planning Departments and shall evaluate the peak-hour level of service (LOS) for these 12 locations to indicate segments approaching a traffic volume which would lower levels of service below the LOS standards established below under CV 2-18(d). c) Public hearings shall be held in January immediately following a December report in (b) above in which only 100 or less peak hour trips remain before an unacceptable level of service (as defined by CV 2-18(d)) would be reached for any of the 12 segments described above. d) The traffic LOS standards (measured for peak hour conditions) for the CVMP Area shall be as follows: ▪ Signalized Intersections—LOS of "C" is the acceptable condition. ▪ Unsignalized Intersections—LOS of "F" or meeting of any traffic signal warrant are defined as unacceptable conditions ▪ Carmel Valley Road Segment Operations: ▫ LOS of "C" for Segments 1, 2, 8, 9, and 10 is an acceptable condition; ▫ LOS of "D" for Segments 3, 4, 5, 6, and 7 is an acceptable condition. During review of development applications which require a discretionary permit, if traffic analysis of the proposed project indicates that the project would result in traffic conditions that would exceed the standards described above in CV 2-18(d) after the analysis takes into consideration the Carmel Valley Traffic Improvement Program to be funded by the Carmel Valley Road Traffic Mitigation Fee, then approval of the project shall be conditioned on the prior (e.g. prior to project-generated traffic) construction of additional roadway improvements OR an Environmental Impact Report shall be prepared for the project. Such additional roadway improvements must be sufficient, when combined with the projects programmed in the Carmel Valley Traffic Improvement Program, to allow County to find that the affected roadway segments or intersections would meet the acceptable standard upon completion of the programmed plus additional improvements. This policy does not apply to the first single-family	

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
	residence on a legal lot of record. Policy CV-2.19 : Carmel Valley Traffic Improvement Program (CVTIP) a) The CVTIP shall include the following projects (unless a subsequent traffic analysis identifies that different projects are necessary to maintain the LOS standards in Policy CV-2.18(d): ▪ Left-turn channelization on Carmel Valley Road west of Ford Road; ▪ Shoulder widening on Carmel Valley Road between Laureles Grade and Ford Road; ▪ Paved turnouts, new signage, shoulder improvements, and spot realignments on Laureles Grade; ▪ Grade separation at Laureles Grade and Carmel Valley Road (an interim improvement of an all-way stop or stop signal is allowable during the period necessary to secure funding for the grade separation); ▪ Sight Distance Improvement at Dorris Road; ▪ Passing lanes in front of the proposed September Ranch development; ▪ Passing lanes opposite Garland Park; ▪ Climbing Lane on Laureles Grade; ▪ Upgrade all new road improvements within Carmel Valley Road Corridor to Class 2 bike lanes; ▪ Passing lane (1/4 mile) between Schulte Road and Robinson Canyon Road; and ▪ Passing lane (1/4 mile) between Rancho San Carlos Rd and Schulte Road. b) The County shall adopt an updated fee program to fund the CVTIP. c) All projects within the CVMP area and within the "Expanded Area" that contribute to traffic within the CVMP area shall contribute fair-share traffic impact fees to fund necessary improvements identified in the CVTIP, as updated at the time of building permit issuance. d) Where conditions are projected to approach unacceptable conditions (as defined by the monitoring and standards described above under CV 2-18(d)), the CVTIP shall be updated to plan for and fund adequate improvements to maintain acceptable conditions.	

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
TRAN-2C: Growth in land uses allowed under the 2007 General Plan, cumulatively with development in incorporated cities and adjacent counties, would increase demand for air travel at the County's four airports or increase development within the approach and departure pattern of airports.	No additional mitigation beyond 2007 General Plan policies is necessary.	2030—Less than cumulatively considerable
TRAN-2D: Growth in land uses allowed under the 2007 General Plan, cumulatively with development in incorporated cities and adjacent counties, could result in non-standard or hazardous designs or land uses that are incompatible with public facilities and adjoining land uses.	No additional mitigation beyond 2007 General Plan policies is necessary.	2030—Less than cumulatively considerable
TRAN-2E: Growth in land uses allowed under the 2007 General Plan, cumulatively with development in incorporated cities and adjacent counties, would result in inadequate emergency access.	No additional mitigation beyond 2007 General Plan policies and Mitigation Measure TRAN-1E (described above) is available.	2030—Cumulatively considerable
TRAN-2F: Development allowed under the 2007 General Plan, cumulatively with development in incorporated cities and adjacent counties, could potentially conflict with adopted policies, plans, or programs supporting alternative transportation or generate pedestrian, bicycle, or transit travel demand that would not be accommodated by current pedestrian facilities, bicycle development plans, or long-range transit plans.	No additional mitigation beyond 2007 General Plan policies is necessary.	2030—Less than cumulatively considerable
TRAN-3A: Buildout of the 2007 General Plan would cause project-specific impacts on County roadways which would cause roadways to fall below the acceptable LOS standard D.	No mitigation is necessary.	Buildout—Less than significant

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
TRAN-3B: Buildout of the 2007 General Plan would increase traffic on County and Regional roadways which would cause the LOS to exceed the LOS D standard, or contribute traffic to County and Regional roads that exceed the LOS standard without development.	No additional mitigation beyond 2007 General Plan policies and Mitigation Measure TRAN-2B (described above) is feasible.	Buildout—Significant and unavoidable
TRAN-3C: Buildout of the 2007 General Plan would increase demand for air travel at the County's four airports or increase development within the approach and departure pattern of airports.	No mitigation is necessary.	Buildout—Less than significant
TRAN-3D: Buildout of the 2007 General Plan would result in non-standard or hazardous designs or land uses that are incompatible with public facilities and adjoining land uses.	No additional mitigation measures beyond the 2007 General Plan are necessary.	Buildout—Less than significant
TRAN-3E: Buildout of the 2007 General Plan would result in inadequate emergency access.	No additional mitigation beyond 2007 General Plan policies and Mitigation Measure TRAN-1E (described above) is available.	Buildout—Significant and unavoidable
TRAN-3F: Buildout of the 2007 General Plan would conflict with adopted policies, plans, or programs supporting alternative transportation or generate pedestrian, bicycle, or transit travel demand that would not be accommodated by current pedestrian facilities, bicycle development plans, or long-range transit plans	No mitigation is necessary.	Buildout—Less than significant
TRAN-4A: Buildout of the 2007 General Plan cumulatively with development in incorporated cities and adjacent counties would cause project-specific impacts on County roadways which would cause roadways to fall below the acceptable LOS standard D.	No mitigation is necessary.	Buildout—Less than significant
TRAN-4B: Buildout of the 2007 General Plan	No additional mitigation beyond 2007 General Plan policies and Mitigation Measure	Buildout—

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
cumulatively with development in incorporated cities and in adjacent counties would create traffic increases on County and Regional roadways which would cause the LOS to exceed the LOS D standard, or contribute traffic to County and Regional roads that exceed the LOS standard without development.	TRAN-2B (described above) is feasible.	Significant and unavoidable
TRAN-4C: Buildout of the 2007 General Plan, cumulatively with development in incorporated cities and adjacent counties, would increase demand for air travel at the County's four airports or increase development within the approach and departure pattern of airports.	No mitigation is necessary.	Buildout—Less than significant
TRAN-4D: Growth in land uses allowed under the 2007 General Plan, cumulatively with development in incorporated cities and adjacent counties, would result in non-standard or hazardous designs or land uses that are incompatible with public facilities and adjoining land uses.	No additional mitigation measures beyond the 2007 General Plan are necessary.	Buildout—Less than significant
TRAN-4E: Buildout of the 2007 General Plan, cumulatively with development in incorporated cities and adjacent counties, would result in inadequate emergency access.	No additional mitigation beyond 2007 General Plan policies and Mitigation Measure TRAN-1E (described above) is available.	Buildout—Significant and unavoidable
TRAN-4F: Buildout of the 2007 General Plan, cumulatively with development in incorporated cities and adjacent counties, would conflict with adopted policies, plans, or programs supporting alternative transportation or generate pedestrian, bicycle, or transit travel demand that would not be accommodated by current pedestrian facilities, bicycle development plans, or long-range transit plans.	No mitigation is necessary.	Buildout—Less than significant

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
TRAN-5A: Growth in land uses allowed under the 2007 General Plan to the year 2030 would create adverse impacts to County roads within the Agricultural and Winery Corridor.	**TRAN-5A:** The roadway segments exceeding LOS standards are two-lane rural roads that provide left turn lanes at some intersections. These segments include County Road G14 between US 101 and San Lucas Road, and Spreckels Boulevard between SR-68 and Harkins Road. Improvement of these segments would be funded through a combination of project-specific mitigation for individual developments, and through a Capital Improvement and Financing Plan fair-share funding mechanism established for the Corridor by the Public Works Department. These improvements would be implemented when: 1) A proposed development's project-specific assessment identifies a direct impact to the facility in terms of either LOS or safety. 2) A proposed development gains access from an intersection within the segment. 3) A corridor-wide nexus study prepared for the required Capital Improvement and Financing Plan identifies the level of development that can occur before triggering the improvements. To maintain the rural character of the area, there are no plans to widen these roadways to four lane facilities. Therefore, the capacity of these segments will be increased by: 1. Providing left turn lanes at intersections without left turn lanes and where the frequency of turning vehicles affects through vehicle movement; and/or 2. Increasing the width of the roadway shoulder at intersections to allow vehicles to pass turning vehicles; and/or 3. Constructing passing lanes as determined in the Capital Improvement and Financing Plan.	2030—Less than significant
TRAN-5B: Buildout of the 2007 General Plan would create adverse impacts to County roads within the Agricultural Winery Corridor.	No additional mitigation beyond 2007 General Plan policies and Mitigation Measure TRAN-5A (described above) is necessary.	Buildout—Less than significant
CUM-6: Transportation	Related mitigation measures are included in Section 4.6.	Cumulatively considerable
4.7 AIR QUALITY		
AQ-1: Buildout of the 2007 General Plan would conflict with applicable Air Quality Management Plans and Standards.	No mitigation beyond the 2007 General Plan policies is necessary.	2030—Less than significant Buildout—Less than

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
		significant
AQ-2: Generation of significant quantities of construction-related emissions would result in greater levels of air pollution.	**2030 and 2092** **AQ-1:** The County of Monterey will update General Plan policy OS-10.5 as follows: OS-10.5. The County of Monterey will require that future construction in accordance with the 2007 implement MBUAPCD PM_{10} control measures. **AQ-2:** Implement MBUAPCD Mitigation Measures for Off-Road Mobile Source and Heavy Duty Equipment Emissions. General Plan Policy OS-10.6 will be revised as follows: The County shall implement MBUAPCD measures to address off-road mobile source and heavy duty equipment emissions as conditions of approval for future development.	2030—Less than significant Buildout—Less than significant
AQ-3: Net Change in Ozone Precursor (ROG and NOx) and Particulate Matter.	**2030 and 2092** **CC-2 and CC-3:** See the description of these measures under Climate Change, below. **AQ-3:** Implement MBUAPCD Mitigation Measures for Commercial, Industrial, and Institutional Land Uses (MBUAPCD 2008). The following measures will be added to General Plan Policy OS-10.10: ▪ Provide preferential carpool/vanpool parking spaces ▪ Implement a parking surcharge for single occupant vehicles ▪ Provide for shuttle/mini bus service ▪ Provide bicycle storage/parking facilities and shower/locker facilities ▪ Provide onsite child care centers ▪ Provide transit design features within the development ▪ Develop park-and-ride lots ▪ Employ a transportation/rideshare coordinator ▪ Implement a rideshare program ▪ Provide incentives to employees to rideshare or take public transportation ▪ Implement compressed work schedules ▪ Implement telecommuting program **AQ-4:** Implement MBUAPCD Mitigation Measures for Residential Land Uses (MBUAPCD 2008).	2030—Significant and unavoidable Buildout—Significant and unavoidable

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
	General Plan Policy OS-10.10 will be revised to include the following measures to address residential land use: ▪ Provide bicycle paths within major subdivisions that link to an external network ▪ Provide pedestrian facilities within major subdivisions **AQ-5:** Implement MBUAPCD Mitigation Measures for Alternative Fuels (MBUAPCD 2008). The following measures will be added to General Plan Policy OS-10.2 to address alternative fuels: ▪ Utilize electric fleet vehicles ▪ Utilize Ultra Low-Emission fleet vehicles ▪ Utilize methanol fleet vehicles ▪ Utilize liquid propane gas fleet vehicles ▪ Utilize compressed natural gas fleet vehicles	
AQ-4: Buildout of the 2007 General Plan would expose sensitive receptors to increased diesel exhaust.	**2030 and 2092** **AQ-6:** The County of Monterey shall require that construction contracts be given to those contractors who show evidence of the use of soot traps, ultra-low sulfur fuels, and other diesel engine emissions upgrades that reduce PM_{10} emissions to less than 50% of the statewide PM_{10} emissions average for comparable equipment. **AQ-7:** The following language should be included in General Plan policy OS-10.10: ▪ Development of new sensitive land uses (schools, hospitals, facilities for the elderly) should not be located any closer than 500 feet of a freeway carrying more than 100,000 vehicles per day.	2030—Less than significant Buildout—Less than significant
AQ-5: Future traffic growth would cause increases in CO levels along County roadways.	No mitigation beyond the 2007 General Plan policies is necessary.	2030—Less than significant Buildout—Less than significant
AQ-6: Buildout of the 2007 General Plan would result in the emission of objectionable	**2030 and 2092** **AQ-8:**	2030—Less than significant

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
odors.	The following measures should be added as General Plan Policy OS-10.12: OS-10.12. Provide for the proper storage and disposal of pomace resulting from winery operations. ▪ To minimize odors resulting from the storage of pomace, all residue shall be removed from the site or spread in the vineyards as a soil amendment by the winery. ▪ To prevent complaints resulting from burning of pomace, burning of pomace as a disposal method shall be prohibited. ▪ All wineries shall incorporate best management practices and technologies to prevent fugitive emissions and odors from escaping the winery during production.	Buildout—Less than significant
CUM 7: Air Quality	No mitigation is feasible.	Cumulatively considerable.
4.8 NOISE		
Impact N-1: Future development activities associated with the 2007 General Plan would result in exposure of noise sensitive land uses (i.e. persons) to traffic noise in excess of County noise standards, or substantial increases in traffic noise.	No mitigation beyond 2007 General Plan policies is necessary.	2030—Less than significant 2092—Less than significant
Impact N-2: Development activities associated with implementation of the 2007 General Plan would result in exposure of persons to excessive ground-borne vibration.	No mitigation beyond 2007 General Plan policies is necessary.	2030—Less than significant 2092—Less than significant
Impact N-3: Implementation of the 2007 General Plan would create temporary, short-term noise impacts during associated construction activities.	No mitigation beyond 2007 General Plan policies is necessary.	2030—Less than significant 2092—Less than significant
Impact N-4: Implementation of the 2007 General Plan would potentially expose people residing or working near an airport to excessive noise levels.	No mitigation beyond 2007 General Plan policies is necessary.	2030—Less than significant 2092—Less than significant

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
Impact N-5: Implementation of the 2007 General Plan would expose people residing or working near industrial/agricultural land uses and recreational venues to excessive noise levels.	No mitigation beyond 2007 General Plan policies is necessary.	2030—Less than significant 2092—Less than significant
CUM-8: Noise	No mitigation beyond 2007 General Plan policies is necessary.	Less than cumulatively considerable.
4.9 BIOLOGICAL RESOURCES		
BIO-1: Potential Adverse Impact on Special-Status Species	**2030** *All Special Status Species—Program Level* **BIO-1.1:** Baseline Inventory of Landcover, Special Status Species Habitat, Sensitive Natural Communities, Riparian Habitat, and Wetlands in Monterey County The County shall expand the inventory of listed species suitable and critical habitat required by Policy OS 5.1 and OS-5.2 to include an updated vegetation land cover map, identification of suitable habitat for special status species (as defined in this document), sensitive natural communities, and riparian habitat in Monterey County. The inventory shall include wetlands inventory as feasible based on existing data sources and aerial interpretation. This inventory should be updated at a minimum of ten-year intervals. The inventory can exclude areas that are not under the control of Monterey County (e.g. cities, state and federal lands). **BIO-1.2:** Salinas Valley Conservation Plan to preserve habitat for the San Joaquin kit fox in the Salinas Valley The County shall, in concert with the USFWS, CDFG, cities in the Salinas Valley, and stakeholders develop a conservation plan for the Salinas Valley to provide for the preservation of adequate habitat to sustain the San Joaquin kit fox population. The general focus area of the plan shall be the Salinas Valley south of the community of Chualar. The Conservation Plan, at a minimum, shall be adopted by Monterey County and shall be applied to all discretionary approvals (and their associated CEQA documents) with potential to affect the San Joaquin kit fox within the conservation plan area. The County shall complete the conservation plan within 4 years of General Plan adoption. The conservation plan funding program shall be developed and shall include a mitigation fee program for which development projects will be assessed a fee based on a	2030—Less than significant 2092—Significant and unavoidable

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
	proportional basis of impact to the San Joaquin kit fox. The compensation plan shall be developed and implemented in coordination with the appropriate state or federal agency and may provide mechanisms to mitigate impacts of an individual project through one or more of the following means: identifying an agency-approved mitigation bank or other compensation site (on- or off-site); and/or preserving habitat; monitoring the compensation site; and funding the management of the compensation site. *All Special Status Species—Project Level* **BIO-1.3:** Project Level Biological Survey and Avoidance, Minimization, and Compensation for Impacts to Non-Listed Special-Status Species and Sensitive Natural Communities. The County shall require that any development project that could potentially impact a non-listed special status species or sensitive natural community shall be required to conduct a biological survey of the site. If non-listed special-status species or sensitive natural communities are found on the site, the project biologist shall recommend measures necessary to avoid, minimize, and/or compensate for identified impacts to non-listed special status species and sensitive natural communities. An ordinance establishing minimum standards for a biological report shall be enacted. This policy shall only apply to the following: (a) Development in Focused Growth Areas (Community Areas, Rural Centers and Housing Overlays (b) Development requiring a discretionary permit (c) Large scale wineries in the AWCP. **2092** **BIO-1.1 through BIO-1.3** as described above. **BIO-1.4:** By 2030, prepare an Update to the General Plan to identify expansion of existing focused growth areas and/or to identify new focused growth areas to reduce loss of natural habitat in Monterey County. The County shall update the County General Plan by no later than January 1, 2030 and shall consider the potential to expand focused growth areas established by the 2007 General Plan and/or the designation of new focused growth areas. The purpose of such expanded/new focused growth areas would be to reduce the loss of special status species (both listed and non-listed) and their habitat due to continued urban growth after 2030. The new/expanded growth areas shall be designed to accommodate at least 80% of the	

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
	projected residential and commercial growth in the unincorporated County from 2030 to buildout. This update will also address expansion of agricultural operations and potential impacts to special status species. **BIO-1.5:** By 2030, prepare a Comprehensive County Natural Communities Conservation Plan The County shall complete the preparation of a NCCP for all incorporated areas in Monterey County by no later than January 1, 2030 to address all state and federal listed species and all special-status species with potential to be listed up to buildout of the County. The County shall invite the participation of the incorporated cities, the federal land agencies, Caltrans and other stakeholders. The NCCP shall also cover preservation of sensitive natural communities, riparian habitat, and wetlands, and wildlife movement corridors and include mechanisms including on and off-site mitigation ratios and fee programs for mitigating impacts.	
BIO-2: Potential Adverse Effects on Sensitive Riparian Habitat, Other Sensitive Natural Communities and on Federal and State Jurisdictional Waters and Wetlands	**2030** *Program Level Mitigation Measures* **BIO-1.1 (**as described above under Impacts to Special Status Species) **BIO-2.1: Stream Setback Ordinance** The county shall develop and adopt a county-wide Stream Setback Ordinance to establish minimum standards for the avoidance and setbacks for new development relative to streams. The ordinance shall identify standardized inventory methodologies and mapping requirements. A stream classification system shall be identified to distinguish between different stream types (based on hydrology, vegetation, and slope, etc.) and thus allow application of standard setbacks to different stream types. The ordinance shall identify specific setbacks relative to the following rivers and creeks so they can be implemented in the Area Plans: Salinas, Carmel River, Arroyo Seco, Pajaro River, Nacimiento, San Antonio, Gabilan Creek, and Toro Creek. The ordinance may identify specific setbacks for other creeks or may apply generic setbacks based on the stream classification developed for the ordinance. The purpose of the ordinance will be to preserve riparian habitat and reduce sediment and other water quality impacts of new development. The Stream Setback Ordinance shall apply to all discretionary development within the County and to conversion of previously uncultivated agricultural land (as defined in the General Policy Glossary) on normal soil slopes over 15% or on highly erodible soils on	2030—Less than significant 2092—Significant and unavoidable.

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
	slopes over 10%. **BIO-2.2—Oak Woodlands Mitigation Program.** The County shall prepare, adopt and implement a program that allows project to mitigate the loss of oak woodlands. The program would include ratios for replacement, payment of fees to mitigate the loss or direct replacement for the loss of oak woodlands and monitoring for compliance. The program would identify criteria for suitable donor sites. Mitigation for the loss of oak tree woodlands may be either on-site or off-site. The program would allow payment to either a local fund established by the County. Until such time as the County program is implemented, payment of a fee may be made to the State Oak Woodlands Conservation Program. Replacement of oak woodlands shall be on a minimum 1:1 ratio. **BIO-2.3:** Add Considerations Regarding Riparian Habitat and Stream Flows to Criteria for Long-Term Water Supply and Well Assessment. Public Services Policies PS-3.3 and PS-3.4 establish the criteria for proof of a long-term water supply and for evaluation and approval of new wells. The following criteria shall be added to these policies: Policy PS-3.3.i—Effects on instream flows necessary to support riparian vegetation, wetlands, fish, and other aquatic life including migration potential for steelhead. Policy PS-3.4.g—Effects on instream flows necessary to support riparian vegetation, wetlands, fish, and other aquatic life including migration potential for steelhead. *Project Level* Mitigation *Measure* **BIO-1.3** as described above under Impacts to Special Status Species. **2092** **BIO-1.1, 1.2, 1.3, 1.4, and 1.5** as described above under Impacts to Special Status Species. **BIO-2.1, 2.2 and 2.3** as described above.	
BIO-3.1: Potential Disturbance and Loss of Native Fish and Wildlife Species Movement Corridors	**2030** **BIO-1.2** described under Impacts to Special Status Species. **BIO-2.1** described under Impacts to Sensitive Natural Communities. **BIO-3.1:** Project-Level Wildlife Movement Considerations**.** The County shall require discretionary projects to retain movement corridors of adequate	2030—Less than significant 2092—Less than significant

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
	size and habitat quality to allow for continued wildlife use based on the needs of the species occupying the habitat. The County shall consider the need for wildlife movement in designing and expanding major roadways and public infrastructure projects to provide movement opportunities for terrestrial wildlife and to ensure that existing stream channels and riparian corridors continue to provide for wildlife movement and access. **2092** **BIO-1.2** described under Impacts to Special Status Species. **BIO-1.3** described under Impacts to Special Status Species. **BIO-1.4** described under Impacts to Special Status Species. **BIO-1.5** discussed under Impacts to Special Status Species. **BIO-2.1** discussed under Impacts to Sensitive Natural Communities. **BIO-3.1** discussed above.	
BIO-3.2: Potential Loss or Disturbance of Nesting Migratory Birds and Raptors	**2030** **BIO-3.2**: Remove Vegetation During the Nonbreeding Season and Avoid Disturbance of Nesting Migratory Birds, Including Raptors, as Appropriate (generally September 16 to January 31). Vegetation removed in the course of development will be removed only during the nonbreeding season (generally September 16 to January 31). Occupied nests of migratory birds, including raptors, will be avoided during this period. The county shall consult, or require the developer to consult, with a qualified biologist prior to any site preparation or construction work in order to (1) determine whether work is proposed during nesting season for migratory birds, (2) determine whether site vegetation is suitable to nesting migratory birds, (3) identify any regulatory requirements for setbacks or other avoidance measures for migratory birds which could nest on the site, and (4) establish project-specific requirements for setbacks, lock-out periods, or other methods of avoidance of nesting birds. The county shall require the development to follow the recommendations of the biologist. **2092** **BIO-3.2** discussed above.	2030—Less than significant 2092—Less than significant
BIO-4: Potential Loss of Protected Trees	No mitigation beyond the 2007 General Plan policies is necessary.	2030—Less than significant 2092—Less than

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
		significant
BIO-5.1: Potential Inconsistency with Adopted Conservation Plan	No mitigation beyond the 2007 General Plan policies is necessary.	2030—Less than significant 2092—Less than significant
CUM-9: Biological Resources	Mitigation measures BIO-1.1 to 1.5, BIO-2.1 to 2.3, BIO-3.1 to 3.2.	Cumulatively considerable.
4.10 CULTURAL RESOURCES		
CUL-1: Development under the 2007 General Plan could potentially damage or destroy historic resources.	**CUL-1:** Policy CSV-1.1 of the Central Salinas Valley Area Plan will be revised to read: CSV-1.1 Special Treatment Area: Paraiso Hot Springs—The Paraiso Hot Springs properties shall be designated a Special Treatment Area. Recreation and visitor serving land uses for the Paraiso Hot Springs Special Treatment Area may be permitted in accordance with a general development plan and other discretionary approvals such as subdivision maps, use permits, and design approvals. The Special Treatment Area may include such uses as a lodge, individual cottages, a visitor center, recreational vehicle accommodations, restaurant, shops, stables, tennis courts, aquaculture, mineral water bottling, hiking trails, vineyards, and orchards. The plan shall address cultural resources protection, fire safety, access, sewage treatment, water quality, water quantity, drainage, and soil stability issues (APN: 418-361-004, 418-361-009, 418-361-021, 418-361-022).	2030—Less than significant 2092—Less than significant
CUL-2: Development under the 2007 General Plan could potentially damage or destroy archaeological resources.	**CUL-1** discussed under impacts to historic resources.	2030—Less than significant 2092—Less than significant
CUL-3: Development under the 2007 General Plan could result in damage or destruction of paleontological resources.	No mitigation beyond the 2007 General Plan policies is necessary.	2030—Less than significant 2092—Less than significant
CUL-4: Buildout of the 2007 General Plan could damage or destroy burial sites.	No mitigation beyond the 2007 General Plan policies is necessary.	2030—Less than significant

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
		2092—Less than significant
4.11 PUBLIC SERVICES AND UTILITIES		
PSU-1: Development and land use activities contemplated in the 2007 General Plan may result in the need for new or expanded fire facilities.	No mitigation beyond the 2007 General Plan policies is necessary.	2030—Less than significant Buildout—Less than significant
PSU-2: Development and land use activities contemplated in the 2007 General Plan may result in the need for new or expanded Sheriff's facilities.	No mitigation beyond the 2007 General Plan policies is necessary.	2030—Less than significant Buildout—Less than significant
PSU-3: Development and land use activities contemplated in the 2007 General Plan may result in the need for new or expanded school facilities. Future schools may affect adjoining land uses.	**2030** No mitigation beyond the 2007 General Plan policies is necessary. **2092** Specific mitigation of school operational impacts is not feasible because specific future school characteristics are unknown.	2030—Less than significant Buildout—Significant and unavoidable
PSU-4: Development and land use activities contemplated in the 2007 General Plan may result in the need for new or expanded library facilities.	No mitigation beyond the 2007 General Plan policies is necessary.	2030—Less than significant Buildout—Less than significant
PSU-5: Development and land use activities contemplated in the 2007 General Plan may result in the need for new or expanded public health facilities.	No mitigation beyond the 2007 General Plan policies is necessary.	2030—Less than significant Buildout—Less than significant
PSU-6: Development and land use activities contemplated in the 2007 General Plan may create additional demands for wastewater collection and treatment, resulting in a need for new or expanded wastewater treatment facilities.	No mitigation beyond the 2007 General Plan policies and existing regulatory standards is necessary.	2030—Less than significant Buildout—Less than significant

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
PSU-7: Development and land use activities contemplated in the 2007 General Plan may result in the need for new or expanded stormwater drainage facilities.	**PS-1:** The County will add the following policy to the 2007 General Plan: Policy S-3.9: require all future developments to implement the most feasible number of Low Impact Development (LID) techniques into their stormwater management plan. The LID techniques may include, but are not limited to, grassy swales, rain gardens, bioretention cells, tree box filters, and preserve as much native vegetation as feasible possible on the project site.	2030—Less than significant Buildout—Less than significant
PSU-8: Development and land use activities contemplated in the 2007 General Plan may result in a need for new solid waste facilities or non-compliance with waste diversion requirements. Future solid waste facilities would have a significant effect on the environment.	**2030** No mitigation beyond the 2007 General Plan policies is necessary. **2092** **PS-2:** The County will add the following policy to the 2007 General Plan: Policy PS-5.5 The County will review its Solid Waste Management Plan on a 5-year basis and institute policies and programs as necessary to exceed the wastestream reduction requirements of the California Integrated Waste Management Act. The County will adopt requirements for wineries to undertake individual or joint composting programs to reduce the volume of their wastestream. Specific mitigation measures to reduce the impacts of future solid waste facilities are infeasible because the characteristics of those future facilities are unknown.	2030—Less than significant Buildout—Significant and unavoidable
CUM-10: Public Services and Utilities – Solid Waste	No mitigation is feasible.	Cumulatively considerable.
4.12 PARKS AND RECREATION		
PAR-1: Implementation of the 2007 General Plan would result in the need for new or expanded parks and recreational facilities, which were not contemplated in the general plan.	No mitigation beyond the 2007 General Plan policies is necessary.	Less than significant
PAR-2: Population growth associated with implementation of the 2007 General Plan would potentially create additional demands on existing parks and recreational facilities, thereby resulting in the physical deterioration of such facilities.	No mitigation beyond the 2007 General Plan policies is necessary.	Less than significant

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
4.13 HAZARDS AND HAZARDOUS MATERIALS		
HAZ-1: New development in accordance with the 2007 General Plan would expose persons to hazardous materials from routine use, transport, or disposal of hazardous materials or the release of hazardous materials.	No mitigation beyond the 2007 General Plan policies is necessary.	Less than significant
HAZ-2: The 2007 General Plan would establish new land uses that would potentially create aviation safety hazards.	No mitigation beyond the 2007 General Plan policies is necessary.	Less than significant
HAZ-3: New development in accordance with the 2007 General Plan would increase exposure to wildland fires.	No mitigation beyond the 2007 General Plan policies is necessary.	Less than significant
HAZ-4: Development under the 2007 General Plan would establish new land uses that would interfere with the implementation of an emergency response or evacuation plan.	No mitigation beyond the 2007 General Plan policies is necessary.	Less than significant
CUM-11: Hazards – Wildfire	No mitigation is feasible.	Cumulatively considerable.
4.14 AESTHETICS, LIGHT, AND GLARE		
AES-1: Implementation of the 2007 General Plan would result in a substantial adverse effects on scenic vistas.	No mitigation beyond the 2007 General Plan policies is available.	2030—Significant and unavoidable Buildout—Significant and unavoidable
AES-2: Implementation of the 2007 General Plan could result in the degradation of scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	No mitigation beyond the 2007 General Plan policies is available.	2030—Significant and unavoidable Buildout—Significant and unavoidable
AES-3: Implementation of the 2007 General	No mitigation beyond the 2007 General Plan policies is available.	2030—Significant

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
Plan would substantially degrade the existing visual character or quality of Monterey County.		and unavoidable Buildout—Significant and unavoidable
AES-4: Implementation of the 2007 General Plan could create substantial new sources of light and glare that would adversely affect day or nighttime views in the area.	No mitigation beyond the 2007 General Plan policies is available.	Significant and unavoidable
CUM-12: Aesthetics, Light and Glare	No mitigation is feasible.	Cumulatively considerable.
4.15 POPULATION AND HOUSING		
POP-1: Implementation of the 2007 General Plan would induce population growth in unincorporated Monterey County.	No feasible mitigation beyond the 2007 General Plan goals and policies is available.	2030—Significant and unavoidable Buildout—Significant and unavoidable
POP-2: Buildout of the 2007 General Plan would result in the displacement of existing housing units, necessitating the construction of new housing elsewhere.	No mitigation beyond the 2007 General Plan policies is necessary.	2030—Less than significant Buildout—Less than significant
POP-3: Buildout of the 2007 General Plan would result in the displacement of persons, necessitating the construction of new housing elsewhere.	No mitigation beyond the 2007 General Plan policies is necessary.	2030—Less than significant Buildout—Less than significant
CUM-13: Population and Housing	No mitigation is feasible.	Cumulatively considerable.
4.16 CLIMATE CHANGE		
CC-1: Development of the 2007 General Plan would contribute considerably to cumulative GHG emissions and global climate change as	**2030 Horizon** **CC-1a**: Modify Policy OS-10.11 regarding the Greenhouse Gas Reduction Plan	2030—Less than cumulatively considerable

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
the County in 2020 would have GHG emissions greater than 72% of business as usual conditions.	Revise Policy OS-10.11 as follows: OS-10.11 Within 24 months of the adoption of the General Plan, Monterey County will develop a Greenhouse Gas Reduction Plan with a target to reduce emissions by 2020 by 28% relative to estimated "business as usual" 2020 emissions. At a minimum, the Plan shall: a. establish an inventory of current (2006) GHG emissions in the County of Monterey including but not limited to residential, commercial, industrial and agricultural emissions; b. forecast GHG emissions for 2020 for County operations; c. forecast GHG emissions for areas within the jurisdictional control of the County for "business as usual" conditions; d. identify methods to reduce GHG emissions; e. quantify the reductions in GHG emissions from the identified methods; f. requirements for monitoring and reporting of GHG emissions; g. establish a schedule of actions for implementation; h. identify funding sources for implementation; and i. identify a reduction goal for the 2030 Planning Horizon. During preparation of the Greenhouse Gas Reduction Plan, the County shall also evaluate potential options for changes in County policies regarding land use and circulation as necessary to further achieve the 2020 and 2030 reduction goals and measures to promote urban forestry and public awareness concerning climate change. **CC-2:** Add Policy OS-10.12: Adoption of a Green Building Ordinance OS-10.12 Within 24 months of the adoption of the General Plan, the County shall adopt a Green Building Ordinance to require green building practices and materials for new civic buildings and new private residential, commercial, and industrial buildings that will include, but are not limited to, the following: ▪ All new County government projects and major renovations shall meet, at a minimum, LEED-Silver standards or an equivalent rating system ▪ All new commercial buildings shall be certified under the LEED rating system for commercial buildings or an equivalent rating system. ▪ All new residential projects of 6 units or more shall meet the GreenPoint Rating	Buildout—Cumulatively considerable

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
	System for residential buildings, or an equivalent alternate rating system. ▪ The County shall require consideration of solar building orientation, solar roofs, cool pavements, and planting of shade trees in development review of new commercial and industrial projects and new residential projects of 6 units or more. ▪ Prioritized parking within new commercial and retail areas for electric vehicles, hybrid vehicles, and alternative fuel vehicles shall be provided for new commercial and institutional developments. ▪ New commercial and industrial projects greater than 25,000 square feet shall be required to provide on-site renewable energy generation as part of their development proposal. This requirement can be met through a solar roof or other means. **CC-3:** New Policy OS-10.13—Promote Alternative Energy Development OS-10.13: The County shall use Geographic Information Systems (GIS) to map and assess local renewable resources, the electric and gas transmission and distribution system, community growth areas anticipated to require new energy services, and other data useful to deployment of renewable technologies. The County shall adopt an Alternative Energy Promotion ordinance that will: ▪ identify possible sites for production of energy using local renewable resources such as solar, wind, small hydro, and, biogas; ▪ consider the potential need for exemption from other General Plan policies concerning visual resources, ridgeline protection, biological resources; ▪ evaluate potential land use, environmental, economic, and other constraints affecting renewable energy development; and ▪ adopt measures to protect both renewable energy resources, such as utility easement, right-of-way, and land set-asides as well as visual and biological resources. The County shall also complete the following: ▪ Evaluate the feasibility of Community Choice Aggregation (CCA) for the County. CCA allows cities and counties, or groups of them, to aggregate the electric loads of customers within their jurisdictions for purposes of procuring electrical services. CCA allows the community to choose what resources will serve their loads and can significantly increase renewable energy. ▪ If CCA is ultimately not pursued, the County shall evaluate the feasibility of purchasing renewable energy certificates to reduce the County's contribution to	

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
	GHG emissions related to County electricity use. ▪ The County shall develop a ministerial permit process for approval of small-scale wind and solar energy systems for on-site home, small commercial, and farm use. **CC-4:** New Policy PS-5.5—Promote Recycling and Waste Reduction PS-5.5: The County shall promote waste diversion and recycling and waste energy recovery as follows: ▪ The County shall adopt a 75% waste diversion goal. ▪ The County shall support the extension of the types of recycling services offered (e.g., to include food and green waste recycling). ▪ The County shall support waste conversion and methane recovery in local landfills to generate electricity. ▪ The County shall support and require the installation of anaerobic digesters for winery facilities and wastewater treatment facilities under County jurisdiction. **CC-5:** Adopt GHG Reduction Plan for County Operations Within 12 months of adoption of the General Plan, the County shall quantify the current and projected (2020) GHG emissions associated with County operations and adopt a GHG Reduction Plan for County Operations. The goal of the plan shall be to reduce GHG emissions associated with County Operations by at least 28% relative to BAU 2020 conditions. Potential elements of the County Operations GHG Reduction Plan shall include, but are not limited to, the following measures: an energy tracking and management system; energy-efficient lighting; lights-out-at-night policy; occupancy sensors; heating, cooling and ventilation system retrofits; ENERGY STAR appliances; green or reflective roofing; improved water pumping energy efficiency; central irrigation control system; energy-efficient vending machines; preference for recycled materials in purchasing; use of low or zero-emission vehicles and equipment and recycling of construction materials in new county construction; conversion of fleets (as feasible) to electric and hybrid vehicles; and solar roofs. **2092** **CC-11 (Same as BIO-1.9):** By 2030, prepare an Update to the General Plan to identify expansion of existing focused growth areas and/or to identify new focused growth areas to reduce loss of natural habitat in Monterey County and vehicle miles traveled	

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
	The County shall update the County General Plan by no later than January 1, 2030 and shall consider the potential to expand focused growth areas established by the 2007 General Plan and/or the designation of new focused growth areas. The purpose of such expanded/new focused growth areas would be to reduce the loss of natural habitat due to continued urban growth after 2030. The new/expanded growth areas shall be designed to accommodate at least 80% of the projected residential and commercial growth in the unincorporated County from 2030 to buildout. **CC-12**: Greenhouse Gas Reduction Plan Requirements Beyond 2030 In parallel with the development and adoption **of** the 2030 General Plan, Monterey County will develop and adopt a Greenhouse Gas Reduction Plan with a target to reduce 2050 GHG emissions by 80% relative to 1990 emissions. At a minimum, the Plan shall establish an inventory of current (2030) GHG emissions in the County of Monterey; forecast GHG emissions for 2050 for County operations and areas within the jurisdictional control of the County; identify methods to reduce GHG emissions; quantify the reductions in GHG emissions from the identified methods; identify requirements for monitoring and reporting of GHG emissions; establish a schedule of actions for implementation; and identify funding sources for implementation.	
CC-2: Development Allowed by the 2007 General Plan May Subject Property and Persons to Otherwise Avoidable Physical Harm in Light of Inevitable Climate Change.	CC-13: Develop and Integrate Climate Change Preparedness Planning for Monterey County Monterey County shall prepare and implement a Climate Change Preparedness Plan to prepare proactively for the impacts of climate change to the County's economy and natural ecosystems and to promote a climate resilient community. A useful guide to climate resiliency planning is *Preparing for Climate Change: A Guidebook for Local, Regional, and State Governments.* (The Climate Impacts Group, King County, Washington, and ICLEI—Local Governments for Sustainability 2007), which outlines the following steps: ▪ Scope the climate change impacts to major County sectors and building and maintain support among stakeholders to prepare for climate change. ▪ Establish a climate change preparedness team. ▪ Identify planning areas relevant to climate change impacts. ▪ Conduct a vulnerability assessment based on climate change projections for the region, the sensitivity of planning areas to climate change impacts, and the ability of	2030 and Buildout—Less than cumulatively considerable

Issues/Impacts	Mitigation Measures	Level of Significance after Mitigation
	communities to adapt to climate change impacts ▪ Conduct a risk assessment based on the consequences, magnitude, and probability of climate change impacts, as well as on an evaluation of risk tolerance and community values. ▪ Establish a vision and guiding principles for climate resilient communities and set preparedness goals in priority planning areas based on these guiding principles. ▪ Develop, select, and prioritize possible preparedness actions. ▪ Identify a list of important implementation tools ▪ Develop an understanding of how to manage risk and uncertainty in the planning effort. ▪ Develop measures of resilience, and use these to track the results of actions over time ▪ Review assumptions and other essential information to ensure that planning remains relevant to the most salient climate change impacts. ▪ Update plans regularly. Potential areas of emphasis for preparedness planning may include risk of wildfires, agricultural impacts, flooding and sea level rise, salt water intrusion; and health effects of increased heat and ozone, through appropriate policies and programs. Potential implementation steps could include adopting land use designations that restrict or prohibit development in areas that may be more severely impacted by climate change, e.g., areas that are at high risk of wildfire, sea level rise, or flooding; adoption of programs for the purchase or transfer of development rights in high risk areas to receiving areas of equal or greater value; and support for agricultural research on locally changing climate conditions. To be effective, preparedness planning needs to be an ongoing commitment of the County. The first plan shall be completed no later than 5 years after the adoption of the General Plan and shall be updated at least every 5 years thereafter.	
CUM-12: Climate Change	See Mitigation Measures as described in Section 4.16, *Climate Change*.	Cumulatively considerable.

1.4 Significant and Unavoidable Impacts

The EIR has identified the following areas where, after the implementation of feasible mitigation measures, the proposed project may nonetheless result in impacts that cannot be fully mitigated to a level of insignificance.

1.4.1 Agriculture Resources

Development and land use activities contemplated by the 2007 General Plan Update would result in the conversion of productive farmland to non-agricultural use. More than 5,500 acres of Important Farmland (as designated by the California Department of Conservation) and more than 7,000 acres of Williamson Act farmland would be converted to non-agricultural use. Note that there is overlap between Important Farmland and Williamson Act Farmland.

1.4.2 Water Resources

Future growth anticipated by the 2007 General Plan would result in significant impacts to groundwater resources in the Pajaro basin and Monterey Peninsula up to the 2030 planning horizon. A number of initiatives now underway would reduce the groundwater impacts in these areas, but not sufficiently to avoid a significant effect. The Salinas Valley Water Project avoids this impact in the Salinas Valley. Increased demands for potable water associated with future urban development may result in the exacerbation of existing groundwater overdraft and seawater intrusion problems in all parts of the county by 2092. Future initiatives are not well enough known to determine that they would avoid this impact.

1.4.3 Transportation

Future growth anticipated by the 2007 General Plan will result in greater traffic volumes on local and regional roadways (i.e., highways). The cumulative traffic generated by both cities and the County will cause some County roadways to operate at LOS E or F. Mitigation is proposed that would require future development projects to pay a Traffic Impact Fee; however, it would not fully reduce this potentially significant impact to a level of less than significant.

1.4.4 Aesthetics, Light, and Glare

Development contemplated by the 2007 General Plan would result in new development on agricultural and undeveloped lands. This new development would irreversibly change the localized visual character of these areas and introduce new sources of light and glare, which may adversely impact the quality of daytime and night time views.

1.4.5 Global Climate Change

Development authorized under the 2007 General Plan would increase the emissions of the "greenhouse" gases that are a major cause of global climate change. California law requires the California Air Resources Board and other state agencies to enact regulations that will reduce the state's emissions to 1990 levels by 2020. Improved local land use plans and regulations will need to play a part in this reduction. As part of its commitment to reduce greenhouse gas emissions, the county will adopt a climate action plan within two years of passage of the 2007 General Plan. A number of mitigations are also recommended. This will not reduce the impact below a level of significance.

1.5 Summary of Alternatives

CEQA requires the lead agency to consider a reasonable range of feasible alternatives to the proposed project that: (1) meet most or all of the project's objectives; (2) substantially reduce one or more of its significant effects; and (3) are potentially feasible. The County has examined 5 alternatives to the 2007 General Plan. Because a general plan is a large and complex set of policies that are intended to interact with one another to result in a desired future pattern of land use, development, and resource conservation, the county has chosen to consider several alternative general plans. With one exception, these are fully developed plans that at one time or another have been prepared for the purpose of becoming the general plan for the county. The exception is the Transit Oriented Development alternative. It is based largely on the 2007 General Plan, with specific emphasis on reducing vehicle miles travelled through improved transit and land use restrictions.

Below are very brief summaries of each of the alternatives to the 2007 General Plan that are examined in Section 5 of this EIR. See Section 5 for a more complete description of each of the alternatives and a qualitative comparison of their potential impacts. As authorized under Section 15126.6 of the State CEQA Guidelines, the alternatives are examined at a lesser level of detail than the 2007 General Plan. As required under CEQA, the range of alternatives includes the no-project alternative. The alternatives are qualitatively compared to the 2007 General Plan and each other in Table 1-3.

1.5.1 No Project—Existing 1982 General Plan Alternative

Under the No Project—Existing 1982 General Plan Alternative, the current General Plan (1982 General Plan) would remain in effect and future development would occur in accordance with the land use map and policies of this plan.

1.5.2 21st Century Monterey County General Plan Alternative

The 21st Century Monterey County General Plan (GPU3) Alternative would adopt the previously proposed General Plan update considered, and ultimately rejected, by the Monterey County Board of Supervisors in 2004. This alternative provides for the most extensive growth of the alternatives being considered: eight Community Areas and 17 Rural Centers.

1.5.3 General Plan Initiative Alternative

The General Plan Initiative (GPI) Alternative would adopt the version of the General Plan that was drafted by a community group and that was considered and defeated by voters on the June 2007 ballot. This alternative would establish five Community Areas and no Rural Centers. It is designed to strongly encourage future development to locate in the cities, rather than the unincorporated areas. Under this alternative, expanding areas designated for residential development would require a countywide vote.

1.5.4 General Plan 4 Alternative

The General Plan 4 Alternative is the General Plan that was adopted by the County Board of Supervisors in January 2007. It is similar to the 2007 General Plan in many respects. However, it does not have as strict a requirement for development evaluations prior to project approval to ensure that sufficient services will be available, nor does it limit development to the first residence on existing lots of record in the northern part of the county as the 2007 General Plan does. The slope development policies are also less stringent than proposed in the 2007 General Plan. It proposes more extensive development than the 2007 General Plan, with six Community Areas and nine Rural Centers identified as the primary areas for growth.

1.5.5 Transit Oriented Development Alternative

The Transit Oriented Development (TOD) Alternative would focus new development along existing and future transportation corridors. These corridors would be served by high-capacity and high-frequency public transportation. Public transportation in this alternative includes fixed-route bus service, rail, express bus service and Bus Rapid Transit (BRT). Development in these corridors would be concentrated at "nodes" adjoining public transportation stations. Estimated new residential development under the TOD alternative is the same as for the 2007 General Plan. Areas subject to subdivision restrictions would be designated as "sending" sites under a Transfer of Development Rights (TDR) program, with cities, Community Areas, Rural Centers, and affordable housing overlay districts (AHOs) identified as "receiving" areas.

In rendering a decision on a project, the decision makers are not obligated to select the environmentally superior alternative. Decision-makers may approve a project with significant effects. At the same time, the decision-makers cannot approve a project that would have significant, unavoidable effects unless there are no feasible mitigation measures or alternatives that would avoid those effects. The decision-makers are obligated to make specific findings describing why there are no feasible mitigations or alternatives.

Table 1-3. Summary of 2007 General Plan Alternatives

Topical Area	2007 General Plan	No Project	GPU3	GPI	GPU4	TOD
Land Use	Significant	Greater	Greater	Less	Same	Greater
Agriculture Resources	Significant	Greater	Greater	Greater	Greater	Less
Water Resources	Significant	Greater	Same	Greater	Same	Less
Geology, Soils, and Seismicity	Less Than Significant	Greater	Greater	Less	Greater	Same
Mineral Resources	Less Than Significant	Same	Same	Same	Same	Same
Transportation	Significant	Greater	Greater	Less	Greater	Less
Air Quality	Significant	Greater	Greater	Less	Greater	Less
Noise	Significant	Greater	Greater	Same	Greater	Greater
Biological Resources	Significant	Greater	Same	Greater	Greater	Less
Cultural Resources	Less Than Significant	Greater	Same	Greater	Same	Less
Public Services and Utilities	Less Than Significant	Greater	Same	Same	Greater	Less
Parks and Recreation	Significant	Greater	Same	Less	Greater	Same
Hazards and Hazardous Materials	Less Than Significant	Greater	Greater	Greater	Same	Less
Aesthetics, Light, and Glare	Significant	Greater	Greater	Less	Greater	Same
Population and Housing	Significant	Same	Greater	Same	Greater	Same

Notes:

GPU3 = 21st Century Monterey County General Plan, dated January 2004.

GPI = General Plan Initiative.

GPU4 = 2006 General Plan and adopted General Plan 2006.

TOD = Transit Oriented Development Alternative.

1.6 Areas of Controversy and Issues to be Resolved

Pursuant to Section 15123 of the CEQA Guidelines, a summary section must identify areas of controversy known to the Lead Agency, including issues raised by agencies and the public. In addition, the summary section also identifies issues to be resolved. Each of these issues is discussed below.

A Notice of Preparation (NOP) for the 2007 General Plan was distributed to the State Clearinghouse, responsible agencies, and other interested parties for a 30-day public review period from December 2, 2007 through January 3, 2008. In

addition, a public scoping meeting was held in January 2008. The NOP identified the following topics as being potentially significant impacts:

- Aesthetics, Light, and Glare
- Agriculture Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology, Soils, and Seismicity
- Hazards and Hazardous Materials
- Land Use
- Mineral Resources
- Noise
- Parks and Recreation
- Population and Housing
- Public Services and Utilities
- Transportation
- Water Resources

A number of agencies, organizations, and individuals provided comments on the NOP. These comments suggested areas of study and identified concerns over the direction of the County general plan and its potential environmental impacts.

1.6.1 Areas of Controversy

Below are summaries of controversial issues that are anticipated to be debated during the public review and hearing process of this project.

1.6.1.1 Population Growth

Development contemplated by the 2007 General Plan would increase the population of the unincorporated areas of the County from 106,279 (estimated 2006 population) to approximately 135,375 persons by the 2030 planning horizon (a 27% increase). Full buildout in 2092 would see an estimated population of 207,424 (a 95% increase over 2006). Population growth has historically been a concern in Monterey County and the potential for additional growth outside of the cities on existing lots of record in the northern portion of the county is expected to be scrutinized closely.

1.6.1.2 Water Supply

Monterey County has significant existing water constraints. The three major watersheds in the County (Salinas, Carmel, and Pajaro Rivers) are all in a state of overdraft. Although initiatives are either underway or in the planning stages, except in the Salinas Valley, the initiatives will not be sufficient to provide water to support projected growth and will not stop groundwater decline within the 2030 planning horizon. Longer term, there may not be sufficient water in any of the watersheds. Sea water intrusion into underground aquifers is occurring in the upper Salinas Valley and in North County, including the Pajaro Valley. Planned or active initiatives are halting this intrusion, but will that will be difficult to continue with increased demand from new growth. Given these constraints, future development and land use activities would further exacerbate these water-related problems without careful planning.

1.6.1.3 Traffic Congestion

Future growth anticipated by the 2007 General Plan, as well as city growth during the 2030 planning horizon and beyond, would result in additional vehicle trips on local and regional roadways. These additional vehicle trips may result in some roadways operating at levels that exceed the County's preferred standard of traffic flow, causing increased traffic congestion in the County.

1.6.1.4 Loss of Farmland

Development and land use activities contemplated by the 2007 General Plan could potentially result in the loss of more than 5,400 acres of Important Farmland and 6,700 acres of Williamson Act land (much of it overlapping). The 2007 General Plan encourages development to occur first in the cities, Community Areas, and Rural Centers. The latter would require the conversion of relatively little agricultural land. However, development would also be allowed on existing lots outside of these areas (restricted to a single residence on lots of record within the North County, Greater Salinas, and Toro Area Plans). There are 4,629 existing lots of record of varying sizes, in the unincorporated county,

1.6.1.5 Biological Resources

Development contemplated by the 2007 General Plan, as well as continued expansion of agricultural lands, would occur in areas that contain sensitive plant and animal species, riparian areas, and wetlands. The conversion of these areas to other uses could potentially result in the significant loss or degradation of biological resources.

1.6.1.6 Aesthetics, Light, and Glare

Future growth in lesser developed or undeveloped areas would result in permanent localized impacts associated with aesthetics, light, and glare. New development may result in the conversion of natural areas or agricultural fields to urban uses, irreversibly changing the visual character of these areas. In addition, new development may also result in the introduction of substantial sources of light and glare, thereby altering daytime and nighttime views.

1.6.1.7 Global Climate Change

Emission of carbon dioxide and other greenhouse gases from routine human activities is inducing global climate change by trapping heat within the atmosphere. California is leading the way among the states in addressing climate change by reducing our greenhouse gas emissions. Local governments, such as Monterey County, are being looked upon to establish land use patterns and regulations that will reduce emissions by conserving energy, reducing vehicle miles travelled, and other actions.

1.6.2 Disagreement among Experts

This EIR contains substantial evidence to support the conclusions presented herein. However, there is the possibility that there will be disagreement among various parties regarding these conclusions. Both the State CEQA Guidelines and case law provide the standards for treating disagreement among experts. Where evidence and opinions conflict on an issue concerning the environment, and the lead agency knows of these controversies in advance, the EIR must acknowledge the controversies, summarize the conflicting opinions of the experts, and include sufficient information to allow the public and decision-makers to make an informed judgment about the environmental consequences of the proposed project.

Evidence presented during the public and agency review of the Draft EIR will be incorporated into the Final EIR for this project. In their proceedings, the decision-makers will consider comments received concerning the adequacy to the Draft EIR and address any objections raised in these comments. Decision-makers reviewing the Final EIR will have the ability to consider this material during the public hearing process.

1.7 Public Review of the Draft EIR

The Draft EIR will be available for public review for the statutory 45 day public review period, beginning September 5, 2008. During that time, agency

representatives and members of public will have the ability to submit written comments on the Draft EIR to the address provided below.

Carl Holm, Assistant Director
County of Monterey Resource Management Agency
Planning Department
168 W. Alisal Street, 2nd Floor
Salinas, CA 93901
Phone: 831.755.5025 Fax: 831.757.9516
E-mail: HolmCP@co.monterey.ca.us

Submittal of electronic comments in MS Word format is encouraged. After the end of the public review period, the County will prepare written responses to all environmental issues raised as part of preparing the Final EIR. The Final EIR will consist of the Draft EIR, comments received, written responses to comments, and list of commenter's. It may also contain additional information necessary to respond to the comments. All public agencies that submitted comments will be sent a copy of the County's response at least 10 days prior to the public hearing at which the Final EIR will be considered for approval by Board of Supervisors.

The Board of Supervisors will certify the Final EIR prior to taking action on the proposed 2007 General Plan. At that time, they will adopt findings regarding the disposition of each significant effect identified in the Final EIR, as well as a statement of overriding considerations describing the specific benefits that outweigh the projects significant and unavoidable impacts.

1.8 Future Use of this EIR

After certification by the County Board of Supervisors, this EIR may be used by the County and other agencies as a "first tier" document for later projects, as authorized by Section 15183 (projects consistent with a community plan or zoning) of the State CEQA Guidelines (Title 14, California Code of Regulations, Section 15000, et seq.). As a first tier document, the EIR would be the basis for later CEQA reviews. Reviews of later proposals under this provision of CEQA would be required to consider any project-specific impacts that were not addressed in the 2007 General Plan EIR.

These later projects are not known at this time. However, they may include County actions such as:

- Rezoning undertaken to make zoning consistent with the 2007 General Plan
- Adoption of plans for Community Areas and Rural Centers, to the extent that such plans are consistent with the 2007 General Plan and recognizing that there will be site-specific impacts needing additional CEQA analysis.
- Adoption of the Capital Infrastructure Financing Plans and similar infrastructure-related plans set out under the 2007 General Plan, with the

understanding that site-specific impacts will require additional CEQA analysis.

- Actions to implement the Agricultural Wineries Corridor Plan component of the 2007 General Plan, again recognizing that site-specific impacts will require further CEQA review.

Other agencies may also utilize this EIR for their decisions. The extent to which the EIR is relied upon will depend upon whether the actions are consistent with the 2007 General Plan, there are new project-specific impacts requiring additional CEQA review, and whether the other agency chooses to use the EIR. There are no such proposed actions by other agencies currently known. However, other actions may include:

- Consideration of annexation requests by the Local Agency Formation Commission of Monterey County.

Section 2
Introduction

2.1 California Environmental Quality Act

This environmental impact report (EIR) (State Clearinghouse No. 2007121001) has been prepared according to California Environmental Quality Act (CEQA) California Resources Code Section 21000 et seq.; the Guidelines for the California Environmental Quality Act (California Code of Regulations, Title 14, Chapter 3); and the rules, regulations, and procedures for implementing CEQA as adopted by the County of Monterey (County). It evaluates the potential environmental impacts associated with the implementation of the proposed 2007 Monterey County General Plan update (2007 General Plan) for the unincorporated non-coastal portion of the County. A copy of the 2007 General Plan is located on the accompanying CD at the end of this EIR.

2.1.1 Purpose of the Environmental Impact Report

The purpose of this EIR is to inform County decision-makers, representatives of other affected/responsible agencies, the public, and other interested parties of the potential environmental effects that may be associated with the 2007 General Plan, mitigation measures to reduce those effects, and a range of alternatives to the project.

According to Section 15002 of the CEQA Guidelines, the basic purposes of CEQA are to:

- Inform government decision-makers and the public about the potential significant environmental effects of proposed activities;
- Identify ways that environmental damage can be avoided or significantly reduced;
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governing agency finds the changes to be feasible; and
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

The process of preparing an EIR involves the following discrete steps:

- Issuance of a Notice of Preparation (NOP) soliciting the comments of public agencies and interested organizations and individuals regarding the scope and content of the EIR. The NOP is available for comment for at least 30 days. An NOP was distributed for this EIR on December 2, 2007. The comments to the NOP received from agencies and the public are included in Appendix A of this EIR.
- A scoping meeting to offer an additional opportunity for input prior to preparation of the Draft EIR. A scoping meeting was held at the Planning Department office in Salinas in January 2007.
- Preparation and release for public review and comment of the Draft EIR. The Draft EIR will be available for at least 45 days for public agencies and interested organizations and individuals to review. The county will respond to all pertinent comments in the Final EIR.
- Preparation of the Final EIR. This will contain the Draft EIR, the comments received (and a list of commenters), written responses to comments, and any revisions that are made to the Draft EIR in response to the comments. The County Board of Supervisors will consider the Final EIR prior to taking action on the 2007 General Plan.
- Adoption of findings and a statement of overriding considerations. The Board of Supervisors will adopt a set of "findings" that describe how each significant effect is being addressed. Because the 2007 General Plan will result in significant and unavoidable impacts, the County will also adopt a statement of overriding considerations that explains the specific benefits of adopting the General Plan.

An EIR is an informational document. Each of the following sections of the EIR addresses potential significant adverse environmental impacts associated with development pursuant to the 2007 General Plan. Impacts are disclosed separately for development to the 2030 planning horizon and up to full buildout, which is expected to occur in 2092. The EIR examines the potential effects of the 2007 General Plan in the context of the proposed plan policies. Where the 2007 General Plan policies would not be sufficient to reduce impacts to a less than significant level and there is feasible mitigation that would do so, the EIR identifies that mitigation.

The EIR neither approves nor denies a project. The Monterey County Planning Commission and Board of Supervisors will use to EIR to inform themselves of the impacts of the 2007 General Plan before taking action on the plan. They will also consider other information and testimony that will arise during deliberations on the proposed plan. After weighing this information, they will then make their decision.

Environmental impacts cannot always be mitigated to a level that is considered less than significant. In accordance with Section 15093(b) of the CEQA Guidelines, if a Lead Agency approves a project that has significant impacts that cannot be mitigated (i.e., significant unavoidable impacts), the agency cannot

approve the project without specifying in writing the project benefits that justify its approval. Because a general plan involves land uses for an entire county, most general plan EIRs identify significant and unavoidable impacts. This EIR is no exception. As mentioned above, prior to approving the 2007 General Plan in its final form, the County will adopt a "statement of overriding considerations" that describes the specific benefits that outweigh the significant and unavoidable impacts of the plan.

2.1.2 Level of Detail

This EIR considers the potential environmental effects of implementing the 2007 General Plan. The CEQA Guidelines provides that "[t]he degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity which is described in the EIR" (CEQA Guidelines 15146). The 2007 General Plan is a broad statement of policies. Accordingly, this EIR "need not be as detailed as an EIR on … specific construction projects" (CEQA Guidelines Section 15146). Further actions or procedures necessary to implementing the 2007 General Plan will include the processing of zoning plans, specific plans, tentative tract maps, site design plans, building permits, and/or grading permits.

To keep the analysis of impacts in this Program EIR in perspective, the County of Monterey contains an area of 3,771 square miles. It includes well-established urban, suburban, and rural communities of varying sizes and development intensity. The County has an extensive array of agricultural lands, lands devoted to mineral extraction, and recreational areas. There are rugged mountains, flat valley areas, and expansive natural open space areas. In addition, the County contains large expanses of Federal and State lands and 12 incorporated cities that are not under the land use authority of the County. The analysis in an EIR for a county this size is not intended to be site-specific, but is a more broad analysis. For instance, the traffic analysis determines on a gross level whether development under the 2007 General Plan will result in traffic congestion and where that would occur. It cannot, however, determine the specific street improvements that individual future projects might need in order to avoid their site-specific impacts on the traffic system.

2.1.3 Prior General Plan EIR

A Final EIR was previously prepared and certified by Monterey County for its 2006 General Plan (GPU4) in early 2007. This draft EIR for the 2007 General Plan is a new, stand alone analysis of the potential significant effects of the proposed 2007 General Plan. To the extent applicable, information from the Final EIR, certified for GPU 4, has been utilized.

2.2 Intended Use of the Environmental Impact Report

This EIR is prepared for the purpose of analyzing, at a broad scale, the proposed 2007 General Plan for the County of Monterey. The EIR will be the foundation for the County's deliberations on and approval of the 2007 General Plan. The CEQA Guidelines provide that "the degree of specificity in an EIR will correspond to the degree of specificity in the underlying activity that is described in the EIR" (Section 15146). Here, the underlying activity is adoption of a general plan for Monterey County—defined by state law as "a statement of development policies [that] shall include a diagram or diagrams and text setting forth objectives, principles, standards, and plan proposals" (Government Code Section 65302). With some exceptions, as explained below, the general plan will apply countywide. Accordingly, this EIR does not take a parcel-specific view or provide a parcel-specific analysis of potential impacts resulting from the proposed 2007 General Plan.

The following discretionary actions are anticipated to be taken by Monterey County based on this EIR:

- Adoption of the Monterey County 2007 General Plan.

2.2.1 General Plan Adoption

Adoption of the 2007 General Plan is an action that is the responsibility of the Monterey County Board of Supervisors. The proposed 2007 General Plan will first be considered by the County Planning Commission, which will offer its recommendations to the Board. The Board will take final action on the General Plan. Public hearings will be part of both the Planning Commission and Board deliberations. No other action or permit is necessary in order to approve the general plan.

Prior to considering the 2007 General Plan, the County has contacted Native American tribes to solicit their opinions, as provided by SB 18. The County has also consulted with state and local agencies through the CEQA process. A list of the extensive contacts made during the consultation period is available upon request to the Monterey County Planning Department.

2.2.2 Future Use of this EIR

After certification by the County Board of Supervisors, this EIR may be used by the County and other agencies as a "first tier" document for later projects, as authorized by Section 15183 (projects consistent with a community plan or zoning) of the State CEQA Guidelines (Title 14, California Code of Regulations, Section 15000, et seq.). As a first tier document, the EIR would be the basis for

later CEQA reviews. Reviews of later proposals under this provision of CEQA would be required to consider any project-specific impacts that were not addressed in the 2007 General Plan EIR.

These later projects are not known at this time. However, they may include County actions such as:

- Rezoning undertaken to make zoning consistent with the 2007 General Plan
- Adoption of plans for Community Areas and Rural Centers, to the extent that such plans are consistent with the 2007 General Plan and recognizing that there will be site-specific impacts needing additional CEQA analysis.
- Adoption of the Capital Infrastructure Financing Plans and similar infrastructure-related plans set out under the 2007 General Plan, with the understanding that site-specific impacts will require additional CEQA analysis.
- Actions to implement the Agricultural Wineries Corridor Plan component of the 2007 General Plan, again recognizing that site-specific impacts will require further CEQA review.

Other agencies may also utilize this EIR for their decisions. The extent to which the EIR is relied upon will depend upon whether the actions are consistent with the 2007 General Plan, there are new project-specific impacts requiring additional CEQA review, and whether the other agency chooses to use the EIR. There are no such proposed actions by other agencies currently known. However, other actions may include:

- Consideration of annexation requests by the Local Agency Formation Commission of Monterey County.

2.3 Environmental Impact Report Focus

Due to the comprehensive nature of the 2007 General Plan, the following topics are addressed in this EIR:

- Land Use
- Agricultural Resources
- Water Resources
- Geology, Soils, and Seismicity
- Mineral Resources
- Transportation
- Air Quality
- Noise
- Biological Resources

- Cultural Resources
- Public Services and Utilities
- Parks and Recreation
- Hazardous Materials
- Aesthetics, Light, and Glare
- Population and Housing
- Climate Change

2.4 Document Format

To assist the reader's review of the document, the following describes the format of this Program EIR.

Section 1.0 is an executive summary of the contents and findings contained in this document. It also contains a brief description of the proposed project, areas of controversy, public review procedures, and a summary table listing all project impacts, mitigation measures that have been recommended to reduce any significant impacts of the 2007 General Plan, and the level of significance of each impact following mitigation. This section also briefly describes the alternatives.

Section 2.0 describes this EIR's purpose and legal requirements, as well as its intended use. It contains an outline of the document and a list of the environmental issues that are discussed in this EIR.

Section 3.0 details the description for the 2007 General Plan, including history, setting (land uses), and proposed objectives.

Section 4.0 contains the environmental analysis of the 2007 General Plan, by environmental topic. Discussion of existing setting, thresholds of significance impacts, and mitigation measures by environmental topic (e.g., aesthetics, air quality, and noise) is organized according to the following framework:

- Methodology
- Thresholds of Significance
- Impact Analysis
  - Environmental Topic
    - Impact
    - 2030 Planning Horizon
      - Impact of Development with Policies
        - 2007 General Plan Policies

        - Area Plan Policies
    - Significance Determination
    - Mitigation Measures
    - Significance Conclusion
- Buildout
    - Impact of Development with Policies
        - 2007 General Plan Policies
        - Area Plan Policies
    - Significance Determination
    - Mitigation Measures
    - Significance Conclusion

Section 5.0 contains discussion of alternatives to development of the 2007 General Plan. As allowed by CEQA, most of the impacts of these alternatives are evaluated at a more general level than the analyses contained in Section 4.0.

Section 6.0 contains discussions of additional topics required by CEQA, including unavoidable effects of the 2007 General Plan, significant irreversible environmental changes, growth inducing impacts, cumulative impacts, and consistency with regional plans.

Sections 7.0 through 11.0 contain listings of organizations and persons consulted in preparation of the, the EIR preparers, references, glossary, and acronyms.

The Appendices contain copies of the NOP and comment letters, and technical reports.

2.5 Approach to the Impact Analysis

The County has relied primarily on growth projections in the Association of Monterey Bay Area Governments (AMBAG) 2004 Regional Forecast as the basis for determining potential impacts to resources that would result from implementation of the 2007 General Plan. Where appropriate, data regarding trends have also been incorporated into the analysis. The AMBAG 2004 Regional Forecast was utilized by AMBAG in an iterative process with local, regional and state agencies as the basis for its certified traffic model. That model projects traffic to the year 2030.

In December 2007, AMBAG received a revised forecast from the California Department of Finance (DOF) which, based upon updated population data and employment statistics, projected a considerable decline in population and

employment growth for the region. Consistent with the data provided by DOF, the AMBAG Board adopted a revised forecast in April 2008. This revised forecast will provide the basis for a future update of the regional traffic model; however, revising the model will require a lengthy iterative process and therefore is not available for use by the County in preparation of this Draft EIR for the 2007 General Plan.

The 2004 forecast projected a 35,123 person increase in population from 2000 to 2030 and 28,198 new jobs. The 2008 forecast projects a 13,204 person increase in population from 2000 to 2030 and 17,909 new jobs. The projected growth in population for AMBAG 2008 (13,204) is 62% less than AMBAG 2004 projections (35,123). The projected growth in employment for AMBAG 2008 is 36% less than AMBAG 2004 projections (28,198 versus 17,909).

The County considered modifying its EIR analysis to reflect the revised forecast. However, for the purposes of this EIR, the County will utilize the AMBAG 2004 population projections. There are three reasons for doing so. First, AMBAG 2004 projections form the basis for the regionally approved traffic model. Using these projections provides consistency between population and traffic assumptions. Second, the adopted Housing Element of the Monterey County General Plan is based on the 2004 population projections. Using the same projections retains internal consistency between the elements of the General Plan. Third, the 2004 AMBAG projections are somewhat higher than those of both the California Department of Finance and AMBAGs 2008 projections. Using the higher projections for purpose of CEQA analysis leads to more conservative results.

Since changes to the traffic model require a lengthy iterative process among all of the jurisdictions and transportation agencies, it was not feasible for the County to unilaterally adjust the regional traffic model to fit with the revised 2008 projections. Rather than proceed with two different sets of data, which might have resulted in some internal inconsistencies for the EIR analysis, the County decided to utilize the 2004 forecast for its impact analysis. This will result in an assessment of potential impacts between today (baseline) and 2030 that exceeds likely impacts and therefore is a more conservative approach. For example, traffic volumes in the 2004 model are greater than would likely occur based upon the reduced growth projections of the 2008 forecast.

The State encourages jurisdictions to revise their general plans periodically. Typically in California, General Plans are comprehensively updated every 20 year and the typical planning horizon for most general plans is a twenty-year timeframe. Housing Elements are required to be updated at least every 5 years. A general plan theoretically allows more growth in a jurisdiction than is likely to occur in any 20-year timeframe. Full buildout, or development that could occur to the maximum density allowed on every residential parcel, is a concept that requires making assumption about the rate of growth, socio-economic changes, international competition and personal preferences of the residents of an area. It also must factor in a number of resource constraints, e.g., availability of water, and other infrastructure constraints.

The analysis for the EIR also distinguishes between reasonably foreseeable growth from 2006 to the horizon year for the General Plan of 2030 (end date for the certified traffic model) and growth beyond 2030 (full buildout). Growth to 2030 is again calculated in accordance with the AMBAG 2004 forecast. In order to determine the theoretical year in which full buildout would occur, the County has utilized the same rate of growth assumed in the 2004 AMBAG forecast from 2006 up to 2030 and projected that out to the future beyond 2030. Using the AMBAG growth estimates and assumption that there are 2.78 persons per house, there would be 417 new units per year in the unincorporated County between 2006 and 2030. There is no official Department of Finance projection for growth at the end of the century in Monterey County. However, it was necessary to comply with the requirement to evaluate the impacts of the General Plan at full buildout. Using the same assumptions as the 2006–2030 timeframe, buildout (74,573 residential units) would occur in 62 years or in 2092.

For purposes of this analysis, the EIR did not factor in the economic, social, technological and political factors that could change the rate of growth in either direction. With respect to impacts between 2030 and 2092, the discussion in each section reflects that assumptions about changes in projections that would occur in the future, and the variety of factors acting on the policy landscape, including potential technological advances, are speculative. Nevertheless, the analysis has examined impacts based upon what the County believes is the "worst case" scenario for growth into the future (e.g., growth will proceed at the same rate as the AMBAG 2004 forecast without taking into consideration availability of water, job availability, global economic factors or other potential infrastructure constraints).

Section 3
Project Description

3.1 Introduction to the 2007 Monterey County General Plan Update

The General Plan is the blueprint for land use in Monterey County through 2030 (see attached CD for the complete 2007 General Plan). Full buildout is projected to occur in 2092. Monterey County is located on California's central coast and is bounded by the Pacific Ocean to the west, Santa Cruz County to the north, San Benito, Fresno, and Kings Counties to the east, and San Luis Obispo County to the south. (See Exhibit 1.1.) The 2007 General Plan provides a framework for future land use patterns in the unincorporated areas of the County in the form of goals and policies that are designed to facilitate planned, orderly growth.

California Planning Law requires all counties and cities in the State to prepare and maintain a general plan for the long-term growth, development, and management of the community. The general plan acts as a "constitution" for development, and is the County's lead legal document in relation to growth, development, and resource management issues. Development regulations (e.g., zoning and subdivision standards), community plans, and specific plans are required by law to be consistent with the General Plan. Every general plan must contain the following seven mandatory elements:

- **Land Use** designates the general distribution, density, and intensity of residential, commercial, industrial, agricultural, open space, and other categories of public and private land uses.
- **Circulation** is correlated with the land use element and identifies the general locations and extent of existing and proposed major thoroughfares, transportation routes, and infrastructure.
- **Housing** policies provide a detailed program to ensure adequate housing opportunities for all economic segments of the community, including provisions for the County to accept its "fair share" of regional housing needs of low- and moderate-income households.
- **Open Space** establishes policies for use of open space in the preservation of natural resources, outdoor recreation, public health and safety, support of the missions of military installations, and protection of Native American sacred lands.

- **Conservation** establishes policies for the conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. This includes flood management and water conservation.
- **Safety** establishes policies encompassing public health and safety in relation to such environmental hazards as earthquakes and associated seismically induced hazards, flooding, wildland fire, and soil erosion.
- **Noise** establishes policies to identify and appraise noise problems in the community. This element includes implementation measures and possible solutions that address existing and foreseeable noise problems.

A city or county may organize its general plan as it sees fit, including combining and renaming the mandatory elements. It may also—as Monterey County has done—adopt optional elements that apply to its circumstances, but are not otherwise required by California Planning Law.

The 2007 General Plan covers all unincorporated portions of the County. Lands within unincorporated areas that are owned by the federal government (e.g., Camp Roberts [northern part], Fort Hunter Liggett Military Reservation, Los Padres National Forest, Pinnacles National Monument, etc.) and lands owned by State government (e.g., Andrew Molera State Park, Salinas Valley State Prison, California State University Monterey Bay, California Department of Transportation properties, etc.) are not subject to County jurisdiction. However, state lands in the coastal zone are subject to the County's Local Coastal Program (LCP) provisions.

The 2007 General Plan describes anticipated future growth over the long term, based on a planning horizon of 2030, and is the subject of this EIR. Buildout under the 2007 General Plan is not anticipated to occur until approximately the year 2092. The 2007 General Plan is meant to express the community's goals with respect to the human-made and natural environments and to set forth the policies and implementation measures needed to achieve those goals for the welfare of those who live, work, and do business in Monterey County.

3.1.1 History of the Monterey County General Plan

Planning activities in Monterey County date back to the 1930s, with the creation of the County Planning Commission. In the 1950s, the Planning Department was established. The first comprehensive General Plan was adopted in 1968, and later updated in 1982. The original 1968 plan contained nine elements: land use, circulation, population, conservation, open space, economics, public facilities, historical resources, and ocean resources. Between 1968 and the mid-1970s, additional elements were added to the 1968 General Plan in accordance with new requirements in State General Plan law. The 1982 update reorganized the

General Plan, combining its elements into four components: Natural Resources, Environmental Constraints, Human Resources, and County Development.

Since 1982, various amendments have been made to the General Plan. Amendments have included Area Plans, Master Plans, Land Use Plans, element updates, and changes to the General Plan land use map.

3.1.2 General Plan Update

Community roundtable meetings in November and December 1999 initiated a new general plan update process with a draft General Plan Update released in January of 2002 (GPU1). A Notice of Preparation (NOP) for preparing an EIR on GPU1 was issued on June 8, 2001. Hearings on the first draft were conducted throughout 2002 and a revised draft was completed in February of 2003 (GPU2). The Board of Supervisors held a series of public hearings between May and October 2003, and gave direction to staff on changes. The Public Review Draft of the 21st Century Monterey County General Plan, dated January 2004 (GPU3), represented a significant update to the 1982 General Plan, Area Plans, and Coastal Land Use Plans. GPU3 had been prepared to provide a framework for managing growth over the next 20 years. Multiple hearings on GPU3 were held between March and May 2004.

In March 2004, the Board of Supervisors rejected the draft GPU3 (dated January 2004), and EIR (dated February 2004), and directed staff to prepare a General Plan Update that would largely maintain the land use designations of the 1982 General Plan, but incorporate some of the policies with respect to focusing growth in community areas and rural centers that had been a key feature of three prior draft updates. On January 3, 2007, the Monterey County Board of Supervisors certified an EIR on the 2006 General Plan and adopted General Plan 2006 (GPU4). Subsequently, due to opposition to GPU 4, the Board placed a referendum measure on the June 2007 ballot asking the voters whether they wanted to rescind the resolutions adopting the General Plan. There were two additional, competing measures on the June ballot asking the voters whether they wanted to adopt the General Plan, or adopt a community general plan initiative. Voters were split on what road to take. The results of the June 2007 election showed that the majority of voters did not want to repeal the Board-approved GPU4, but also did not want to adopt either the GPU4 or the competing Community General Plan initiative.

In the aftermath of the uncertainty resulting from the election, the Board of Supervisors directed staff to develop amendments to GPU4. The Board requested that the Planning Commission appoint a subcommittee to develop proposals for changes that would take into account some of the diverse opinions in the community. The Commission took the matter into consideration and provided specific recommendations to the Board of Supervisors.

Based on the Planning Commission recommendations and as a result of several public hearings before the Board of Supervisors, the Board of Supervisors has

given direction for changes to GPU4, resulting in a fifth version of the General Plan update ("2007 General Plan" also known as "GPU5"). This environmental review pertains to the 2007 General Plan.

3.2 General Plan Objectives and Organization

The primary goal of the 2007 General Plan is to provide residents of the County with a blueprint for public and private development, and act as the foundation upon which County leaders will make decisions related to growth and land use. This 2007 General Plan expresses Monterey County's goals with respect to human-made and natural environments and sets forth the policies and implementation measures to achieve them. These goals and policies are set forth by topic throughout this document.

3.2.1 Project Objectives

Per Section 15124 of the CEQA Guidelines, an EIR must provide a statement of objectives sought by the 2007 General Plan. This statement of objectives is intended to guide the environmental impact analysis and be used as the basis of evaluating alternatives to the 2007 General Plan (Section 5, Alternatives to the 2007 General Plan).

Monterey County's process of updating its General Plan has been ongoing for nearly a decade. The 2007 General Plan update is the fifth proposed general plan update version. The 2007 General Plan update has been developed to reconcile, to the extent practical, the community's differing points of view of what should be addressed in the General Plan and how it should be addressed. As provided in California Planning Law (Government Code Section 65100 et seq.), the 2007 General Plan will establish the County's long-term goals and policies for development (including transportation and housing concerns), conservation of resources, and safety. The complexity of the general plan, with its interacting goals and policies, requires that it meet all of the following objectives in order to be effective.

- Provide direction for growth that supports continued viability of agricultural production and preserves as much of the County's scenic and environmental resources as possible.
- Provide decision makers, County staff, and the public with an updated General Plan that reflects the existing physical conditions and constraints in the County and provides a range of comprehensive policies to guide future development based upon those conditions and constraints.
- Modify existing land use designations to patterns that accommodate the most recent population growth, housing, and employment projections in an orderly manner that minimizes environmental impacts as feasible while meeting the

County's obligations under California Planning Law to provide housing for all income levels.

- Direct new development to Community Areas and Rural Centers to facilitate the efficient provision of infrastructure and services while reducing the impacts of population growth, additional housing, and employment opportunities on agriculture, water supplies, and environmental resources.
- Establish policies that will conserve limited water supplies for current and projected future uses, including urban, rural, and agricultural uses.
- Establish new comprehensive policies and modify existing policies in the 1982 General Plan that reflect the latest legal, statutory, scientific, and technical changes and advances.
- Consider advice, concerns, and suggestions regarding future growth and development from all segments of the County population and, to the extent feasible, address these issues through new or modified goals, policies, or land use concepts.
- Support the continued viability of the agricultural industry by allowing routine and ongoing agricultural uses to proceed subject to standard regulations.
- Establish the Agricultural Winery Corridor Plan (AWCP) to facilitate the development of wineries along a corridor in the central and southern Salinas Valley to achieve a balance between the wine-grape production and wine processing capacity within the County.

3.2.2 Plan Organization

Monterey County has adopted all of the state-mandated general plan elements, as well as several optional elements. Since the County has a certified Housing Element for the 2003–2007 planning cycle, this element will not be updated until the next housing planning cycle. The 2007 General Plan is consistent with the policies in the current Housing Element. The other elements contained in the 2007 General Plan are listed below. Specific goals and policies contained in each element are analyzed in the applicable topical section in this EIR.

- **Land Use**. This element describes policies for the appropriate type and intensity of land use within unincorporated Monterey County including lands for housing, business, agriculture, industry, public facilities, open space, recreation, and other uses. The primary focus is to encourage city-centered growth within the 12 cities in Monterey County. However, given forecasted population growth for Monterey County (Table 3-1), as well as the desire to retain prime agricultural lands, scenic hillsides, and provide affordable housing in close proximity to employment centers, the 2007 General Plan identifies 12 locations within the unincorporated area of the County where population centers have been established and can accommodate additional growth. Five Community Areas are identified as areas where, with a more detailed plan for that area (Community Plan), additional growth would occur.

In addition, a second tier called Rural Centers identifies seven smaller population areas that, if provided with adequate facilities after adoption of a Capital Improvement and Financing Plan, would accommodate growth if Community Areas would not fulfill the need. The element also identifies three AHOs where landowners would be encouraged to build affordable housing at high density. Other provisions of the land use element include encouragement of clustering and the use of transfer of development rights to conserve land, and establishment of a "pass-fail" Development Evaluation System to judge the suitability of a given site for development projects of 5 units or more.

- **Circulation**. The element describes polices to support a multi-modal transportation system, including intensive improvements to the existing roadway and highway system, and to facilitate mobility of people and goods throughout unincorporated Monterey County. The element also supports regional cooperation on meeting transportation and transit needs, including a regional traffic impact fee. The circulation element would establish a Level of Service (LOS) standard of D for most county roads. A Capital Improvement and Financing Plan is to be adopted in order to achieve that LOS standard county-wide by 2027. Discretionary development projects would be required to meet the LOS D standard concurrently with development.

- **Conservation and Open Space**. This element combines two of the mandatory elements, describing polices to protect open space and other environmental resources. These portions of the 2007 General Plan aim at preserving lands needed for the managed production of resources (e.g., agricultural lands), protection of public health and safety (e.g., floodplains), outdoor recreation (e.g., parks), and protection of environmental resources (e.g., sensitive natural habitat areas). Additional policies provide for management of key environmental resources such as scenic vistas, wildlife habitats, water resources, historic resources, and air quality. Air quality policies include a commitment to develop and adopt a Greenhouse Gas Reduction Plan to reduce emissions of greenhouse gases to 1990 levels by 2020. The plan would be developed within 24 months of adoption of this general plan. This element also establishes a general prohibition on developing slopes in excess of 30%, and requires that the county establish permitting processes for development on slopes between 25–30% and for agriculture that would convert previously uncultivated lands on slopes exceeding 25%. A ministerial permit process would be established for agriculture that would convert previously uncultivated lands on slopes from 15–24 % and 10–15%.

- **Safety.** This element combines the mandatory Safety and Noise Elements. Its policies encompass public health and safety in relation to such environmental hazards as earthquakes and associated seismically induced hazards, flooding, wildland fire, and soil erosion. Noise policies identify noise-related hazards and include standards to achieve and maintain noise-compatible land use relationships. Among its features, the element calls for development of a "Geologic Constraints and Hazards Database" to allow the county to keep track of seismic, slope, and erosion hazards. Seismic and

geotechnical reports would be required before development could be approved in areas of known hazards. A number of policies address the issue of wildland fire protection, including provisions for adequate fire-fighting water supply, emergency access, project design, and fuel modification zones.

- **Public Services** (optional element). This element sets out standards for public service and utility systems through a set of "Adequate Public Facilities and Services" requirements, including water, wastewater, solid waste, schools, emergency response, road LOS, parks and schools, and storm water drainage. A "Hydrologic Resources Constraints and Hazards Database" would be development and maintained by the County to make information about these resources easily available. Key policies require concurrency between new development and the installation of infrastructure to serve the development; link development to a long-term sustainable water supply; encourage water supply inventories, protection of groundwater supplies, and water supply planning through a variety of initiatives including a "Capital Implementation and Financing Plan;" work to identify and reduce groundwater overdraft; improve wastewater disposal, including "Onsite Wastewater Management Plans" for areas with high concentrations of development that are currently using septic tanks; enhance the park system; and protect cultural resources.
- **Agricultural** (optional element). This element's policies identify the ways in which agricultural uses are addressed and include measures designed to protect agriculture operations to help strengthen the agricultural industry. This includes policies encouraging the establishment of well-defined buffer areas between agriculture and incompatible uses; creation of a program, in consultation with the cities, requiring projects that would convert important farmland to mitigate the loss of that acreage, with highest mitigation for the areas of the highest agricultural value; and allowances for "Routine and Ongoing Agricultural Activities," exempting them from some general plan policies while protecting the environment. The element also establishes an AWCP with polices for enhancing the agriculture and wine industries within three planning areas along Central/Arroyo Seco/River Road, Metz Road, and Jolon Road. The AWCP is discussed in greater detail later in this chapter.
- **Economic Development** (optional element). This element addresses commerce-related matters, such as job creation, workforce training, and business development. It establishes policies that are designed to create jobs and business opportunities to help maintain the existing workforce and improve the business climate in Monterey County.
- **Area and Master Plans** provide more specific, supplemental policies to the 2007 General Plan that addresses unique conditions within a planning area that are not applicable to other areas of the County. Key area and master plan policies in the 2007 General Plan include limiting new development within the Greater Salinas, North County, and Toro Area Plans to a single family residence and accessory building on each lot of record; and limiting residential subdivision in the Carmel Valley Master Plan to creation of 266 new lots with preference to projects including at least 50% affordable housing units.

3.3 Monterey County Growth under the 2007 General Plan

3.3.1 Analysis Assumptions and Methodology

This EIR will analyze impacts at the 2030 planning horizon and at full buildout in the year 2092. The adopted 1982 General Plan land use map serves as the basis for the following projections. Once adopted, the 2007 General Plan will serve as the basis for population growth projections in unincorporated Monterey County. Given the historic county growth rate and the limitations set out in the 2007 General Plan policies, it would be highly unlikely and next to impossible for every parcel in the County to develop to its maximum potential within the 2030 planning horizon. Therefore, a second analysis is provided of longer-term, full buildout as well.

3.3.1.1 2030 Planning Horizon

The year 2030 is used as the "planning horizon," reflecting the planning period of the 2007 General Plan. Consistent with the recommendations of the State General Plan Guidelines[1], Monterey County has chosen a general plan horizon of approximately 20 years. The first analysis will examine impacts between 2006 and 2030.

Growth assumptions contained in this 2007 General Plan for the 2030 planning horizon are derived from population growth forecasts prepared by AMBAG, which is the designated Metropolitan Planning Agency for Monterey, Santa Cruz, and San Benito counties. AMBAG projects growth for the cities and the unincorporated area within each county for purposes of transportation planning and the allocation of regional housing needs. AMBAG's 2004 projections for population growth in Monterey County through 2030 are summarized in Table 3-1. The projections for 2006 have been adjusted to correct for traffic analysis zones (TAZs) that will be annexed into the cities.

AMBAG's projections considered growth trends and the availability of water, among other things, and allocated its growth projections accordingly. Thus, the Monterey Peninsula, which has significant water constraints, is projected to accommodate much lower levels of growth than the Salinas Valley, which is not as constrained in terms of water supply. Between 2000 and 2030, AMBAG projects that Monterey County (including the incorporated cities) will grow to a population of approximately 602,731. This translates to an average annual growth rate of about 1.36%. As shown on Table 3-1, AMBAG anticipates that the unincorporated area of the county will lose population between 2005 and 2010 due to city annexations of county territory.

[1] Office of Planning and Research, 2003 General Plan Guidelines at pp. 13–14.

This EIR considers AMBAG's growth projections in relation to physical constraints such as potable water supply available (Section 4.11, Public Services and Utilities) and roadway capacity (Section 4.6, Transportation). In order for a future development proposal to be found consistent with the 2007 General Plan, it would need to demonstrate that adequate resources and facilities are available or can be provided. Where projects are found to be consistent with the development density established by the 2007 General Plan and within the scope of the EIR certified for that Plan, additional environmental review will not be necessary unless there are significant effects peculiar to the project, including offsite and cumulative effects, that were not analyzed as significant effects in a previous EIR. (14 Cal. Code Reg. §15183(a)–(d).) An additional requirement for this exemption is that all previously identified feasible mitigation for previously identified significant effects must be implemented or required by the agencies with authority to impose the identified mitigation. Where there are new or more severe impacts peculiar to the project, the impacts must be considered potentially significant and a separate mitigated negative declaration or EIR will be prepared.

Table 3-1. AMBAG Growth Projections

Year	Monterey County Population	Change From Previous (%)	Unincorporated County Population	Change From Previous (%)
2000	401,312	–	100,252	–
2005	432,600	7.8	110,083	9.8
2010	464,847	7.5	105,485	–4.2
2015	495,961	6.7	114,776	8.8
2020	527,069	6.3	124,067	8.1
2025	564,903	7.2	129,721	4.6
2030	602,731	6.7	135,375	4.4

Source: Association of Monterey Bay Area Governments 2004.

The California Department of Finance also produces population projections for counties. DOF projections for population growth in Monterey County through 2030 are summarized in Table 3-2. DOF anticipates that the County will grow to a total population (including cities) of 529,145 by 2030 (County Department of Finance 2007d). This is 73,586 fewer persons than projected by AMBAG in its 2004 Growth Projections. To be conservative in the evaluation of impacts from implementing the 2007 General Plan, the higher AMBAG projections are being used as the basis for the 2030 growth assumptions used in this EIR's analyses.

Table 3-2. Department of Finance Population Growth Projections

Year	Monterey County Population	Change From Previous (%)	Annual Average (%)
2005	421,211	–	–
2010	433,283	7	0.7
2020	476,642	10	1.0
2030	529,145	11	1.1

Source: State of California Department of Finance 2007d.

3.3.1.2 Full Buildout

In order to provide a longer-term view, this EIR will also examine impacts that may occur at "full buildout" of the County; that is, changes from 2006 to 2092. Full buildout is the state in which all existing, undeveloped residential lots of record (total = 4,629) have been built on up to the maximum density allowed by zoning. This includes existing lots of record. At Monterey County's 2006 through 2030 projected rate of growth (about 417 building permits for residents per year), full buildout is projected to occur in 2092. Impact analyses for 2092 will be qualitative, not quantitative, for the most part because of the uncertainty over what life might be like over 84 years into the future. Residential growth rate was chosen as the indicator of full buildout because it is relatively constant and is easier to extrapolate than other factors. Commercial and industrial parcels were assumed to be fully developed at the same time that housing buildout is reached.

The reader should understand that there is no officially sanctioned population estimate for 2092. The DOF's most recent long-range population projection goes no farther than 2050. In this July 2007 Report 06 P-1, the DOF projects that by 2050 the total population of Monterey County and its cities will be 646,878 (California Department of Finance 2007). This represents an increase in population of approximately 9.9% per decade for the period from 2000–2050. Assuming that this rate continues further into the future, the total county population in 2092 would be 943,763.

This EIR uses a different method to estimate 2092 population based on using the projected housing unit growth and a fixed persons/housing unit ratio from the AMBAG 2004 projections for 2030. This results in a 2092 population estimate for the County of 937,322 (and 207,424 for the unincorporated County). Interestingly, this amount is roughly consistent with a projection based on the DOF estimated 2050 population.

3.3.2 Existing Land Use and Projected Growth

The AMBAG forecasts that Monterey County (including its cities) will add approximately 201,419 residents between 2000 and 2030 (Association of Monterey Bay Area Governments 2004). The population of the unincorporated County (not including the cities) is projected to account for about 40,381 of these new residents. Table 3-3 summarizes the projected increases in population and the historic and projected split of population between cities and the Monterey County. As shown in the table, the percentage of total county residents living in the cities is steadily increasing relative to the number living in unincorporated areas. In 1980, approximately 71% of the total residents lived in cities and 29% in the unincorporated area. By 2006, the ratio of city residents to unincorporated county residents had increased to 76/24. By 2030, the ratio is projected to be 78/22.

Table 3-3. Overview of Monterey County Population Growth (including percentage of population)

Area	1980 Population	Estimated 2006 Population(1)	Projected 2030 Population	Projected Buildout Population
Cities	205,947 (71%)	332,699 (76%)	467,356 (78%)	729,898 (78%)
Unincorporated	84,497 (29%)	106,279 (24%)	135,375 (22%)	207,424 (22%)
Total County	**290,444 (100%)**	**438,979 (100%)**	**602,731 (100%)**	**932,322 (100%)**

(1): 2006 Population for cities and unincorporated adjusted to include areas of future annexations within the City total and to exclude such areas from the unincorporated areas; this allow for accurate estimation of changes in population by jurisdiction for 2030.

Source: Association of Monterey Bay Area Governments 2004. Buildout population prepared by Monterey County as part of the EIR (unincorporated county based on 2007 GP; city growth based on static percentage split continued to assumed buildout year of 2092).

Between 1980 and 2006, Monterey County and its cities added more than 148,500 residents, representing a population increase of about 51%. Monterey County's total population in 2030 is projected to be 602,731, an increase of 37% over its estimated 2006 population. As illustrated in Table 3-4, as the overall population increased by 51%, the population within the cities grew by about 62% and the population within the unincorporated county by 26%.The County's overall population is projected to increase by 37% by 2030. As that occurs, the population of the cities is expected to increase by 40%, while the population within the unincorporated County grows by 27%.

This table illustrates a trend for the population to shift toward cities between 1980 and 2005, and this trend is consistent with the 1982 General Plan policies for city-centered growth. Growth projections from AMBAG through 2030 reflect a continuation of this trend.

Table 3-4. Percentage Increase in Monterey County Population between 1980–2005 and 2005–2030

Area	1980–2006	2006–2030
Cities	62%	40%
Unincorporated	26%	27%
Total County	**51%**	**37%**

The 2006 population estimate was based on AMBAG 2004 estimate, corrected for annexation of Traffic Analysis Zones (TAZs).

Source: Association of Monterey Bay Area Governments 2004.

The following tables summarize existing land uses and the land use changes projected to occur over the 2030 planning horizon and eventual buildout of the county in 2092. Table 3-5 reflects the Monterey County estimates for population and housing and employment projected in the 2030 planning horizon and buildout in the year 2092. Table 3-6 reflects the approximate extent of existing land uses, by planning area. Table 3-7 reflects existing land use by community area and rural center. Table 3-8 reflects new growth anticipated within the planning areas, community areas, and rural centers. Table 3-9 reflects the type of new growth anticipated.

Table 3-5. Monterey County 2030 and Buildout-Estimated Population and Housing

Inland	2000[a]	2005[a]	2006 Adjusted[b]	AMBAG 2030[a]	GP Buildout[c]	2006–2030	2006 to Buildout	2030 to Buildout
Housing Units								
Unincorporated County	37,047	40,006	38,655	48,670	74,573	10,015	35,918	25,903
Incorporated Cities[d]	92,531	98,374	101,520	138,331	216,040	36,811	114,520	77,709
Total	129,578	138,380	140,175	187,001	290,613	46,826	150,438	103,612
Population								
Unincorporated County[e]	100,252	110,083	106,279	135,375	207,424	29,096	101,145	72,049
Incorporated Cities[f]	301,060	322,517	332,699	467,356	729,898	134,657	397,199	262,542
Total	401,312	432,600	438,979	602,731	937,322	163,752	498,344	334,591
Employment								
Unincorporated County[g]	68,915	73,389	70,384	97,113	148,798	26,729	78,414	55,333
Incorporated Cities[f]	153,526	165,583	172,100	238,268	372,118	66,168	200,018	130,202
Total	222,441	238,972	242,484	335,381	520,916	92,897	278,432	185,535

Sources:

[a] Association of Monterey Bay Area Governments 2004.

[b] Scaled on 00–05 and adjusted to place TAZs for future annexations in City totals..

[c] Buildout amount for unincorporated County determined based on 2007 GP. Buildout year determined by applying unit rate of growth (417/year) in unincorporated County after 2030. Buildout year calculated as 2092.

[d] Cities—AMBAG 2004 projection used for 2030; For buildout used 3 times County units based on AMBAG 2008 estimated City (75%)/County (25%) split.

[e] Unincorporated County—Population based on AMBAG 2030 estimate of 2.78 persons/unit for 2030 and buildout population estimates.

[f] Cities—Used AMBAG 2030 estimated 3.38 persons/unit for 2030 and buildout population estimates.

[g] County—Used AMBAG 2030 estimated 0.72 persons/job for 2030 and buildout employee estimates.

Table 3-6. Existing Land Use by Planning Area in Monterey County (2006—Based on Parcel Data)

	Total Area (Acres)	Residential Acres	Commercial Acres	Industrial Acres	Agricultural Acres	Resource Conservation	Public/ Quasi-Public	Other
PLANNING AREA								
Cachagua	135,269	4,119	171	40	58,518	1,719	58,891	11,811
Carmel Valley	27,798	7,048	928	10	797	3,226	2,613	13,176
Central Salinas Valley	533,580	5,115	1,001	2,821	429,538	2,660	80,605	11,840
Fort Ord	0	–	–	–	0	–	–	–
Greater Monterey Peninsula	79,125	4,225	2,334	40	–	20,754	34,175	17,597
Greater Salinas	92,220	2,184	274	1,407	82,749	657	1,033	3,916
North County	30,731	9,709	200	251	16,043	168	798	3,562
South County	815,645	11,230	71	103	571,211	628	205,296	27,106
Toro	48,302	6,937	114	108	26,945	2,150	5,051	6,997
Inland Subtotals	1,762,670	50,567	5,093	4,780	1,185,801	31,962	388,462	96,005
Coastal/Non-Coastal Areas	109,311	1	84	–	17	78	108,070	1,061
Total Inland County	**1,871,981**	**50,568**	**5,177**	**4,780**	**1,185,818**	**32,040**	**496,532**	**97,066**
Coastal Areas	**197,343**							
Cities	**41,055**							
Total County	**2,110,379**							

Table 3-7. Existing Land Use by Community Area and Rural Center in Monterey County (2006—Based on Parcel Data)

	Total Area (Acres)	Residential Acres	Commercial Acres	Industrial Acres	Agricultural Acres	Resource Conservation	Public/ Quasi-Public	Other
COMMUNITY AREA								
Boronda	342	131	13	28	89	–	21	60
Castroville	868	177	35	150	330	–	34	142
Chualar	315	22	4	5	215	–	12	57
Fort Ord	18,730	4	–	–	1	–	18,724	1
Pajaro	218	42	34	42	18	–	15	67
Total	**20,472**	**375**	**86**	**225**	**653**	**0**	**18,806**	**327**
RURAL CENTER								
San Lucas	128	22	1	7	55	–	7	37
Bradley	51	21	1	–	16	–	4	9
Lockwood	353	64	1	–	141	–	8	139
Pine Canyon	774	267	5	–	24	–	12	466
Pleyto	295	147	53	–	–	–	–	96
River Road	2,866	641	9	–	110	–	29	2,077
San Ardo	73	25	4	1	4	–	11	29
Total	**4,411**	**1,165**	**72**	**1**	**294**	**0**	**64**	**2,815**

Table 3-8. New Growth by Planning Area, Community Area and Rural Center, 2006–2030 and 2092 Buildout

Inland Areas	Total Area (Acres)	Vacant Residential Lots	Potential New Buildout Units	Potential New 2030 Units	New Buildout Commercial (Acres)	New Commercial by 2030 (Acres)	New Buildout Industrial (Acres)	New Industrial by 2030 (Acres)	Notes
CACHAGUA									
Cachagua	136,580	263	132	18	22	5	0	0	
Subtotal	136,580	263	132	18	22	5	0	0	
CARMEL VALLEY									
Carmel Valley	26,736	492	758	101	239	52	0	0	Not including housing overlay area. Policy CV-1.6 allows 266 new subdivided lots.
Carmel Mid-Valley AHO	40	0	390	149	0	0	0	0	Assume approximately 13 acres of land likely for development with max 30 du/ac density.
Subtotal	26,736	492	1,148	251	239	52	0	0	
CENTRAL SALINAS VALLEY									
Central Salinas Valley	545,022	357	456	61	323	70	140	21	Not including cities, community areas, rural centers.
Chualar CA	350	20	1,500	574	4	2	27	65	Boundary TBD. Estimates based on expanding existing town by 350 acres (200 acres residential, 50 acres commercial, 25 acres industrial).
Pine Canyon RC	766	35	1,704	652	5	2	0	0	
San Lucas RC	155	71	169	65	2	1	32	77	
Subtotal	545,022	483	3,829	1,352	334	75	199	163	

Inland Areas	Total Area (Acres)	Vacant Residential Lots	Potential New Buildout Units	Potential New 2030 Units	New Buildout Commercial (Acres)	New Commercial by 2030 (Acres)	New Buildout Industrial (Acres)	New Industrial by 2030 (Acres)	Notes
FORT ORD									
Fort Ord	19,138	0	8,610	3,295	226	88	0	0	
Subtotal	19,138	0	8,610	3,295	226	88	0	0	
GREATER MONTEREY PENINSULA									
Greater Monterey Peninsula	57,056	642	3,995	534	62	13	0	0	Acreage for entire area. 2030/Buildout numbers do not including cities or housing overlay area.
Hwy 68/Airport AHO	130	1	2,550	976	0	0	0	0	Assume approximately 85 acres of land likely for development with max 30 du/ac density.
Subtotal	57,056	643	6,545	1,510	62	13	0	0	
GREATER SALINAS									
Greater Salinas	105,242	406	1,395	187	160	35	1,528	226	Acreage for planning area. 2030/Buildout numbers do not including cities and community areas. Includes Butterfly Village.
Boronda CA	353	116	726	278	69	27	96	231	
Subtotal	105,242	522	2,121	464	229	62	1,624	457	Policy GS-1.13 limits development in area north of Salinas.
NORTH COUNTY									
North County	30,910	577	3,260	436	238	50	40	6	Acreage for planning Area. 2030/Buildout numbers do not including community areas.
Pajaro CA	256	64	676	259	38	15	122	293	
Castroville CA	1,058	234	1,632	625	0	0	344	827	

Inland Areas	Total Area (Acres)	Vacant Residential Lots	Potential New Buildout Units	Potential New 2030 Units	New Buildout Commercial (Acres)	New Commercial by 2030 (Acres)	New Buildout Industrial (Acres)	New Industrial by 2030 (Acres)	Notes
Subtotal	30,910	875	5,568	1,319	266	65	506	1,126	Policy NC-1.5 limits development in all North County.
SOUTH COUNTY									
South County	820,628	746	939	126	77	17	8,713	1,290	Acreage for planning area. 2030/Buildout numbers do not include rural centers.
Bradley RC	65	30	800	306	3	1	0	0	
Lockwood RC	353	10	221	85	131	51	0	0	
Pleyto RC	441	16	160	61	152	59	0	0	
San Ardo RC	119	47	480	184	13	5	26	62	
Subtotal	820,628	849	2,600	761	376	133	8,739	1,352	
TORO									
Toro	47,263	251	4,046	541	41	9	90	13	Acreage for planning area. 2030/buildout numbers do not include rural center or housing overlay area.
River Road RC	630	251	389	149	0	0	0	0	
Hwy 68/Reservation AHO	31		930	356	0	0	0	0	Assume all 31 acres of land likely for development with max 30 du/ac density.
Subtotal	47,263 0	502	5,365	1,046	41	9	90	13	Policy T-1.7 limits development in Highway 68 corridor.
TOTAL INLAND AREAS	**1,788,575**	**4,629**	**35,918**	**10,015**	**1,795**	**500**	**11,158**	**3,111**	**Not including cities**

Table 3-9. New Growth by Type, 2006–2030 and Buildout

Inland Area	Total Area (Acres)	Vacant Residential Lots	Potential Buildout Units	Potential 2030 Units	New Buildout Commercial (Acres)	New Commercial by 2030	New Buildout Industrial (Acres)	New Industrial by 2030	Notes
COMMUNITY AREAS									
Chualar CA	350	20	1,500	574	4	2	27	65	Boundary TBD. Estimates based on expanding existing town by 350 acres (200 acres residential, 50 acres commercial, 25 acres industrial).
Fort Ord CA	19,138	0	8,610	3,295	226	88	0	0	Fort Ord Reuse Plan = Master Plan = CA
Boronda CA	353	116	726	278	69	27	96	231	
Pajaro CA	256	64	676	259	38	15	122	293	
Castroville CA	1,058	234	1,632	625	0	0	344	827	
Subtotal	21,155	434	13,144	5,030	337	131	589	1,416	
RURAL CENTERS									
Pine Canyon RC	766	35	1,704	652	5	2	0	0	
San Lucas RC	155	71	169	65	2	1	32	77	
Bradley RC	65	30	800	306	3	1	0	0	
Lockwood RC	353	10	221	85	131	51	0	0	
Pleyto RC	441	16	160	61	152	59	26	62	
San Ardo RC	119	47	480	184	13	5	6	1	
River Road RC	630	251	389	149	0	0	0	0	
Subtotal	2,529	460	3,923	1,501	306	119	58	139	

Inland Area	Total Area (Acres)	Vacant Residential Lots	Potential Buildout Units	Potential 2030 Units	New Buildout Commercial (Acres)	New Commercial by 2030	New Buildout Industrial (Acres)	New Industrial by 2030	Notes
AHOs									
Carmel Mid-Valley AHO	40	0	390	149	0	0	0	0	Assume approximately 13 acres of land likely for development with max 30 du/ac density.
Hwy 68/Airport AHO	130	1	2,550	976	0	0	0	0	Assume approximately 85 acres of land likely for development with max 30 du/ac density.
Hwy 68/Reservation AHO	31	0	930	356	0	0	0	0	Assume all 31 acres of land likely for development with max 30 du/ac density.
Subtotal	201	1	3,870	1,481	3	1	0	0	
Total of CA, RA, AHOs	23,885	895	20,937	8,012	643	250	647	1,556	
UNINCORPORATED OUTSIDE OF CA, RA, AHOS									
Cachagua	136,580	263	132	18	22	5	0	0	
Carmel Valley	26,736	492	758	101	239	52	0	0	
Central Salinas Valley	545,022	357	456	61	323	70	140	21	
Greater Monterey Peninsula	57,056	642	3,995	534	62	13	0	0	
Greater Salinas	105,242	406	1,395	187	160	35	1,528	226	
North County	30,910	577	3,260	436	228	50	40	6	
South County	820,628	746	939	126	77	17	8,713	1,290	
Toro	47,263	251	4,046	541	41	9	9	13	

Inland Area	Total Area (Acres)	Vacant Residential Lots	Potential Buildout Units	Potential 2030 Units	New Buildout Commercial (Acres)	New Commercial by 2030	New Buildout Industrial (Acres)	New Industrial by 2030	Notes
Subtotal	1,769,437	3,734	14,981	2,003	1,152	250	10,511	1,556	
INLAND AREA TOTAL	**1,793,322**	**4,629**	**35,918**	**10,015**	**1,795**	**500**	**11,158**	**3,111**	

2030 new growth assumed in CA/RC/AHO	80%	8,012	50%	250	50%	1,556	
2030 new growth assumed not in CA/RC/AHO	20%	2,003	50%	250	50%	1,556	
Percent of new growth by 2030	28%	10,015	28%	500	28%	3,111	

3.4 General Plan Characteristics

This EIR addresses the environmental effects associated with implementation of the 2007 General Plan. The 2007 General Plan's policies provide a balanced pattern of growth that accommodates the demand for housing, employment opportunities, and public facilities and services while minimizing the adverse impacts of increased urban development. The 2007 General Plan contains general goals and policies to guide future growth in the unincorporated areas and ensure that new and existing development is served with adequate public services and facilities.

3.4.1 Summary of General Plan Components

As depicted on Exhibit 3.1, Monterey County is divided into eight inland and four coastal planning areas designed to reflect geographical areas where there are common physical conditions.

Table 3-10 provides a summary of the planning areas within the Coastal and Inland areas of the County.

Table 3-10. Summary of General Plan Components

Plan	Acreage
North County Area Plan	30,910
Greater Salinas Area Plan	105,242
Central Salinas Valley Area Plan	545,022
Greater Monterey Peninsula Area Plan (Including Carmel Valley)	83,792
Toro Area Plan	47,263
Cachagua Area Plan	136,580
South County Area Plan	820,628
Coastal/Non-Coastal Areas*	109,311
Inland Subtotal	**1,878,748**
North County Land Use Plan	145,837
Del Monte Land Use Plan	8,473
Carmel Land Use Plan	4,172
Big Sur Coastal Land Use Plan	38,861
Coastal Subtotal	**197,343**
County Total	**2,076,091**

* The term "Coastal/Non-Coastal Areas" refers to lands within the Los Padres National Forest.

Source: Monterey County.

Planning activities that occur in the inland, unincorporated portions of the County are solely under the jurisdiction of the County of Monterey. Planning activities within the unincorporated Coastal Zone are under the jurisdiction of the County of Monterey, subject to its certified LCP, with appeal to the California Coastal Commission in certain circumstances. The 2007 General Plan Update does not apply to coastal areas.

3.4.2 Land Use Groups

The land use designations of the 2007 General Plan fall within six land use categories. These land use categories are summarized in Table 3-11. Exhibits 3.2, 3.2a, 3.2b, and 3.2c illustrate the generalized land uses proposed by the 2007 General Plan.

Table 3-11. Land Use Categories

Category	Types of Uses
Residential	Includes Rural, Low-, Medium-, and High-Density Residential.
Commercial	Includes General Commercial, Light Commercial, Heavy Commercial, Neighborhood Commercial, Planned Commercial, and Visitor Accommodations/Professional Office Space.
Industrial	Includes Agricultural Industrial, Light Industrial, and Mineral Extraction.
Agricultural	Includes Farmland, Permanent Grazing, and Rural Grazing.
Resource Conservation	Includes Resource Conservation, Open Space, Rivers, and Water Bodies.
Public/Quasi-Public	Includes Federal, State, and locally owned lands such as National Forests, State Parks, and Regional Parks, and publicly or privately owned uses such as schools, public works facilities, and hospitals that serve the public at large.

Source: Monterey County General Plan Land Use Element 2007.

3.4.3 Overlays

In addition to the land use groups, the 2007 General Plan also includes overlays. These overlays include Master Plan, Community Plan, Agricultural Winery Corridor Plan, Special Treatment Area, and Urban Reserve. A brief description of each overlay designation is provided below. Exhibit 3.3 illustrates the Community Areas, Rural Centers, Affordable Housing Overlay Districts, and Agricultural Winery Corridor.

- **Community Area:** This overlay identifies the boundaries of existing unincorporated communities and preferred locations for additional development to support a mix of land use types at an urban level. Policies of the 2007 General Plan identify the Community Areas as the primary locations for future development within the unincorporated area, concurrent

with infrastructure improvements. While the 2007 General Plan includes general policies for development within the Community Areas, a specific development plan will eventually be adopted for each area that establishes distinctive development policies. Specific Plans for East Garrison (part of Fort Ord Community Area) and Castroville, adopted October 4, 2005, and in 2007, respectively, would serve as Community Plans for those areas upon adoption of the 2007 General Plan. More information about Community Plans follows.

- **Rural Center:** A Rural Center overlay identifies the boundaries of an existing concentration of development that has the potential to develop into a future Community Area. The Rural Centers are existing locations that are already developed with higher-intensity land uses than are typical for rural areas. The 2007 General Plan policies identify the Rural Centers as secondary points for future development within the County, concurrent with infrastructure improvements. More information about Rural Centers follows.
- **Special Treatment/Study Area:** The Special Treatment overlay is intended to provide specific direction for future development in an area based on site-specific considerations or constraints. Study Areas are designated for areas where the County desires to look further at the constraints of an area to determine if a Special Treatment Area should be established and to what extent. More information about Special Treatment Areas follows.
- **Urban Reserve:** The Urban Reserve overlay identifies unincorporated islands that are within incorporated cities.
- **Master Plan:** Master Plans are used to identify unique policies for delineated geographic areas within the County. This is applies to the Carmel Valley and Fort Ord Master Plan areas.
- **Agricultural Winery Corridor Plan:** The AWCP overlay identifies lands along three travel corridors within which wineries and related business and tourist-serving facilities would be encouraged to locate. More information about the AWCP follows.
- **Affordable Housing Overlay Districts:** The AHO identifies areas that are suitable for the development of affordable and workforce housing projects. A property owner within an AHO may voluntarily propose an affordable housing project rather than a use otherwise allowed by the underlying land use designation. Three AHOs have been identified in the 2007 General Plan: Mid-Carmel Valley; Highway 68/Monterey Peninsula Airport; and Reservation Road/Highway 68. In addition, Community Areas prior to adoption of a Community Plan and Rural Centers prior to the adoption of an Infrastructure and Financing Study are designated as AHOs.

3.4.4 Countywide Land Use

Land use in unincorporated Monterey County is primarily agricultural, with large areas of public and quasi-public lands. Urban land uses represent approximately 3% of the total unincorporated area. Table 3-12 summarizes the existing land

cover in unincorporated Monterey County as of 2006, as well as the land use groups of the 2007 General Plans.

Table 3-12. Countywide General Plan Land Use Designations

Land Use	Acres	Percent of Total
Residential	47,887	3%
Commercial	1,606	0%
Industrial	8,049	0%
Agricultural	1,176,386	63%
Resource Conservation	390,984	21%
Public/Quasi-Public	212,882	11%
Other	15,531	1%
Total	**1,853,326**	**100%**

Note: These totals do not match the parcel data described above for existing land uses due to differences in how the parcel data categorizes use and how the acreage is determined.

Table 3-13 summarizes the existing population, dwelling units, and employment within the entire General Plan planning area (as of 2006), as well as the development potential for the 2007 General Plan.

Table 3-13. General Plan Planning Area Population, Housing, and Employment

Land Use	2006 Estimate	2007 General Plan Land (2030)
Population	106,279 persons	135,375 persons
Housing	38,665 dwelling units	48,670 dwelling units
Employment	70,384 jobs	97,113 jobs

Note: 2006 estimate based on the 2004 AMBAG estimate, with growth extrapolated an additional year and adjusted for future annexations. This does not include areas within the incorporated cities.

As of January 2006, there were 4,629 undeveloped residential parcels in the inland portion of unincorporated Monterey County, including many large agricultural land holdings. Given the limitations on development in the North County, Greater Salinas, and Toro Area Plans and the cap on new units in the Carmel Valley Master Plan, the County estimates that up to 10,015 new residential units would be built within the unincorporated area between 2006 and the end of the 2030 planning horizon. Up to 35,918 residential units would be built in the unincorporated areas by 2092 (full buildout) if sufficient water supply and other services are available.

3.4.5 Area Plans

The 2007 General Plan contains eight Area Plans for the inland portion of the County, which are described below in further detail and depicted in Exhibit 3.1. Each Area Plan contains supplemental policies that guide, or conversely, limit growth within its boundaries. The Greater Monterey Peninsula Area Plan contains the Carmel Valley Master Plan within its boundaries.

The following discussion provides a description of each Area Plan. The Coastal/Non-Coastal area noted in Table 3-10 has no Area Plan and is the only portion of the County that does not have an Area Plan with supplemental policies.

The existing land uses for each area were presented in Tables 3-6 and 3-7 above. The estimated new growth in each area under the proposed 2007 General Plan is shown in Tables 3-8 and 3-9 above.

3.4.5.1 North County Area Plan

Description

The North County Area Plan comprises approximately 49 square miles. The northern and eastern boundaries are the Santa Cruz and San Benito County lines, respectively (Exhibit 3.4). The northern County line follows the Pajaro River. Monterey Bay borders the area to the west. The Salinas River and the communities of Castroville and Prunedale are located adjacent to the southern boundary of this area. Unincorporated communities in this Area Plan include Aromas, Castroville, Pajaro, and Prunedale. The Greater Salinas Area Plan and the Greater Monterey Peninsula Area Plan border the North County Area Plan to the south.

Significant geographic features in this area include: the Gabilan Mountain Range, to the east, which reaches a peak elevation of 3,171 feet; steep ravines and slopes, which exceed 75% in places; the Pajaro Valley, and the Pajaro and Salinas Rivers.

Cities

None.

Community Areas

Pajaro and Castroville.

Rural Centers

None.

Special Treatment Areas

None.

Land Use

The 2007 General Plan provides that development on properties with residential land use designations located within the North County Area Plan will be limited to the first single family dwelling on a legal lot of record. This restriction does not apply to development within the adopted Community Areas.

3.4.5.2 Greater Salinas Area Plan

Description

The Greater Salinas Area Plan comprises approximately 143 square miles. This Area Plan is bordered by the Greater Monterey Peninsula Area Plan (west); the inland portion of the North County Area Plan (north); San Benito County (east); and the Central Salinas Valley and Toro Area Plans (south); (Exhibit 3.5). The City of Salinas (population 148,350) occupies approximately 18 square miles of this Area Plan and is the largest city in Monterey County. Unincorporated communities include Boronda, the historic community of Spreckels, and the migrant farming community of San Jerardo.

Significant geographic features in this area include Fremont Peak, located to the east and at an elevation of approximately 3,171 feet above mean sea level, and Mount Toro to the west and at an elevation of approximately 3,560 feet. The Salinas River traverses this area plan southeast to northwest.

Cities

Salinas.

Community Areas

Boronda.

Rural Centers

None.

Special Treatment Areas

Butterfly Village

Approximately 671 acres located north of San Juan Grade Road and east of Harrison Road. It authorizes a planned development including:

- Public park including trails.
- Public parking lot for public facilities.
- Open space to preserve sensitive habitat areas.
- Community health and wellness center that offers a variety of health, fitness and nutrition uses.
- Public facilities, including fire/sheriff substation, library, maintenance yard, wastewater treatment facility, and a school site.
- Neighborhood Commercial, including mixed use development, to help provide a jobs-housing balance within the project.
- Up to 1,147 residential units for various income levels with at least 32% at affordable/workforce levels including but not limited to senior living facilities.

Spence/Potter/Encinal Road

This Special Treatment Area (STA) is intended to permit on-site, soil-dependent agricultural operations such as greenhouses. Subdivisions would be limited to 10 acres minimum parcel size, with residential uses allowed only on parcels of 40 acres or more. Residential development rights created by subdivision are to be dedicated to the County or a qualified non-profit conservation organization.

Highway 68/Foster Road Area

This site is intended to be used as a visitor farm. It would be subject to restrictions on the sale of produce at the on-site produce stand.

Natividad/Rogge Road

This STA is intended to permit on-site, soil-dependent agricultural operations such as greenhouses. Subdivisions would be restricted.

Jefferson

Residential development will be permitted at the maximum equivalent density of 2.5 acres per unit on 40 acres in order to contribute to meeting the affordable housing goals on the peninsula. Development would be required to meet minimum setback requirements and provide adequate buffers from the Marina landfill, meet all requirements of the Marina Airport Comprehensive Land Use

Plan, and a minimum of 50% of the units developed on this site shall meet Affordable/Workforce Housing criteria.

Land Use

The 2007 General Plan provides that development on properties with residential land use designations located within the Greater Salinas Area Plan north of the City of Salinas generally between Williams Road and Highway 101 will be limited to the first single family home on a legal lot of record. This restriction does not apply to development within the adopted Community Area.

3.4.5.3 Central Salinas Valley Area Plan

Description

The Central Salinas Valley Area Plan comprises approximately 840 square miles. This Area Plan includes the incorporated cities of Gonzales (population 8,455), Soledad (population 28,075), Greenfield (population 15,335), and King City (population 11,333) (Exhibit 3.6). Smaller communities in the unincorporated area include Chualar, Arroyo Seco, Pine Canyon (King City), and San Lucas. The Central Salinas Valley Area Plan contains roughly all land between Chualar in the north to San Lucas in the south. The San Benito County line forms the eastern boundary, while the Hunter Liggett Military Reservation and Los Padres National Forest border the Area Plan to the west. The Salinas River bisects this geographic area, and the Arroyo Seco River joins the Salinas River about midway through this Area Plan. Adjacent Area Plans consist of the Cachagua and Toro Area Plans (west); the Greater Salinas Area Plan (north); the South County Area Plan (west and south).

The most prominent feature in this area is the floor of the Salinas Valley, which is 4 miles wide in King City and expands to 9 miles in width in Greenfield. Junipero Serra Peak's elevation is 5,862 feet and it is the highest point in this Area Plan.

Cities

Gonzales, Greenfield, King City, Soledad.

Community Areas

Chualar.

Rural Centers

Pine Canyon (King City), San Lucas.

Special Treatment Areas

Spence/Potter/Encinal Road

See the discussion under the Greater Salinas Area Plan.

Paraiso Hot Springs

Recreation and visitor serving land uses for the Paraiso Hot Springs Special Treatment Area may be permitted in accordance with a general development plan and other discretionary approvals such as subdivision maps, use permits and design approvals. The Special Treatment Area may include such uses as a lodge, individual cottages, a visitor center, recreational vehicle accommodations, restaurant, shops, stables, tennis courts, aquaculture, mineral water bottling, hiking trails, vineyards, and orchards. The general development plan will address fire safety, access, sewage treatment, water quality, water quantity, drainage, and soil stability issues.

Old Mission Union School

The Old Mission Union School STA would conditionally allow winery-related facilities including a food service, gift shop, and a reception hall. The facilities will be subject to the review and requirements of the Monterey County Public Works Department, Director of Environmental Health, Flood Control and Water Conservation District, and Director of Planning.

Lohr

The Lohr property is designated as an STA to enable two adjoining 20-acre parcels to be reconfigured into a 39-acre parcel and a one (1) acre parcel to enhance the agricultural capabilities of the land. The Lohr property will be rezoned to prohibit further subdivision. Deed restrictions will also be implemented to prohibit further subdivision in the special treatment area.

Millers Lodge

This STA is adopted to recognize historical day use, camping, recreation, and residential uses that have been present on the parcel since the 1940s. Special Treatment will allow the owners to apply for a use permit and general development plan. This policy shall not permit expansion or intensification of the Miller's Lodge property beyond what is currently developed (adoption of the 2007 General Plan), nor allow any new uses not already occurring on the site.

3.4.5.4 Greater Monterey Peninsula Area Plan

Description

The Greater Monterey Peninsula Area Plan comprises approximately 115 square miles. The Greater Monterey Peninsula Area Plan is bordered by the North County and Greater Salinas Area Plans to the north, the Toro and Cachagua Area Plans on the east, and the Del Monte Forest, Carmel, and Big Sur Coast Land Use Plan areas to the west and south (Exhibit 3.7). The former Fort Ord military reservation and a portion of the Los Padres National Forest are located in this Area Plan. Approximately 17% of the Area Plan is within the cities of Carmel-by-the-Sea (population 4,038), Del Rey Oaks (population 1,622), Marina (population 18,824), Monterey (population 30,161), Pacific Grove (population 15,305), Sand City (population 300), and Seaside (population 34,454). The remaining 73,480 acres are located in the unincorporated portion of the County. Distinct geographic areas in the unincorporated area include the former Fort Ord, Laguna Seca, Bay Ridge, Hidden Hills, Aguajito, the Monterey Peninsula Country Club (non-coastal area of Pebble Beach), lower and mid-Carmel Valley, and Carmel Valley Village.

The topography in this Area Plan varies, ranging from level land at the mouth of Carmel Valley to extremely steep slopes, which form the south wall of upper Carmel Valley. The highest point in this Area Plan is Mt. Carmel, with an elevation of 4,417 feet and located in the southern portion of this area.

Cities

Carmel-by-the-Sea, Del Rey Oaks, Marina, Monterey, Pacific Grove, Sand City, and Seaside.

Community Areas

Fort Ord (within Fort Ord Master Plan).

Rural Centers

None.

Special Treatment Areas

Rancho San Carlos

Residential development is permitted on the portions of the Santa Lucia Preserve (formerly Rancho San Carlos) within the Greater Monterey Peninsula Planning Area, and will follow densities and policies as specified in Board of Supervisor

Resolution No. 93-115, "Comprehensive Planned Use" Overlay for Rancho San Carlos and the Comprehensive Development Plan for the Santa Lucia Preserve."

White Rock Club
Development will be subject to the policies of the Rural Grazing land use designation. The existing recreational facilities, consisting of 100 cabin sites and one gatehouse, can be maintained and remodeled. No additional cabin sites will be allowed, nor will than more than eight of the 100 cabin sites be occupied year round for the maintenance and operations.

San Clemente Ranch
The existing recreational facilities, consisting of 101 cabin sites, 5 permanent residents, tennis courts, swimming pool and fishing ponds are allowed uses. No additional cabin sites shall be allowed. Reconstruction, remodeling or rebuilding of approved cabins or development of new cabins on approved cabin sites will be allowed, with appropriate Planning and Building Inspection Department and Health Department permits.

Jefferson
See the discussion under the Greater Salinas Area Plan.

3.4.5.5 Carmel Valley Master Plan

The Carmel Valley Master Plan area is within the Greater Monterey Peninsula Area Plan. The Master Plan area is approximately 41 square miles, extends west from Highway 1 to Carmel Valley Village in the east, and includes the valley floor as well as the upland areas that face the valley (Exhibit 3.8).

At the time of this writing, a request to incorporate the proposed Town of Carmel Valley is pending before the Monterey County Local Agency Formation Commission. The proposed boundaries of the Town are co-terminus with the boundaries of the Carmel Valley Master Plan, with the inclusion of the Sleepy Hollow subdivision, which is currently in the Cachagua Area Plan discussed below. Incorporation of the town would be contingent upon approval of the community's voters. Should a simple majority of the electorate approve the incorporation proposal, the new Town would assume authority over land use decisions within its boundaries.

Cities

None.

Community Areas

None.

Rural Centers

None.

Special Treatment Areas

Carmel Valley Ranch

This encompasses the Amended Carmel Valley Ranch Specific Plan, dated November 3, 1976. However, attainment of densities authorized by the Specific Plan is dependent upon conditions existing at the time each future increment of development is sought and is further dependent upon conformity with the Specific Plan Amended Conditions of Approval as well as the goals and policies of this General Plan, whichever is most restrictive. Any amendment of the Specific Plan must be consistent with the policies and provisions of this General Plan.

Condon/Chugach Property

In recognition of the unique circumstances of the property, including the past gift conveyances of several hundred acres to Garland Park, the Condon/Chugach property will be allowed to be subdivided into four parcels consistent with the 2004 Subdivision Ordinance.

Rancho San Carlos

See the discussion under the Greater Monterey Peninsula Area Plan.

Rancho Canada Village

This area consists of about 40 acres located generally between Val Verde Drive and the Rancho Canada Golf Course clubhouse, from the Carmel River to Carmel Valley Road, excluding portions of properties in floodplain. Residential development may be allowed with a density of up to 10 units/acre and will provide a minimum of 50% Affordable/Workforce Housing. Prior to beginning new residential development (excluding the first unit on an existing lot of record), projects must address environmental resource constraints (e.g., water, traffic, flooding).

Land Use

Under the 2007 General Plan, new residential subdivision in Carmel Valley will be limited to creation of 266 new lots with preference to projects including at least 50% affordable housing units. The County will develop a tracking system and present an annual report before the Planning Commission to enable them to enforce this limit.

3.4.5.6 Fort Ord Community Area

The Fort Ord Master Plan area (Exhibit 3.9) encompasses the former Fort Ord military installation near the City of Marina and the City of Seaside. The Fort Ord Reuse Authority has previously prepared a reuse plan for the former base which also serves as the Fort Ord Master Plan.

Cities

None.

Community Areas

Fort Ord.

Rural Centers

None.

East Garrison Specific Plan

The East Garrison Specific Plan, which was adopted by the Monterey County Board of Supervisors in October 2005, would serve as the Community Plan to establish policies and guidelines for future growth in a portion of the Fort Ord Community Area. This plan includes 1,470 dwelling units, 75,000 square feet of commercial uses, and 49 acres of parks, open space, and natural areas. The land uses contemplated in East Garrison are summarized in Table 3-14.

Table 3-14. East Garrison Specific Plan Land Uses

Land Use	Acreage	Notes
Residential	98.3	A maximum of 1,470 dwelling units is allowed.
Town Center	7.9	Includes 75,000 square feet of commercial uses.
Public Use/Cultural	10.1	Contains 11,000 square feet of public use and 100,000 square feet of art/cultural/educational uses.
Parks and Open Space	49.5	Contains 12.7 acres of improved parks, 23.9 acres of open space, and 12.9 acres of natural areas.
Roadways	78.6	Includes streets, lanes, and Reservation Road.
Total	**244.4**	

Source: County of Monterey, East Garrison Specific Plan, adopted October 4, 2005.

3.4.5.7 Toro Area Plan

The Toro Area Plan (Exhibit 3.10) comprises approximately 74 square miles and is located in the north-central area of Monterey County. Toro includes the communities of Toro Park, Las Palmas, River Road (Indian Springs Ranch, Berry Drive, Heritage Ranch, etc.), Pine Canyon (Salinas), and San Benancio/Corral de Tierra. The Fort Ord Master Plan abuts the planning area on the northwest side and the Salinas River forms the northeast boundary with the Greater Salinas Area Plan. A ridgeline defines the south and southwest boundary adjacent to the Greater Monterey Peninsula Area Plan, Carmel Valley Master Plan, and Cachagua Area Plan. Mt. Toro is the highest peak in this geographic area with an elevation of 3,560 feet. Adopted in 1983, the Toro Area Plan is the oldest of all the area/land use plans. There are no incorporated cities located in this Area Plan.

Most of the Toro area is dominated by the mountains and rolling hills of the Sierra de Salinas Range. Relatively flat areas are located along the Salinas River and El Toro Creek. Topography in this area includes steep ravines with slopes exceeding 75%, tapering to hillsides and ridgelines with slopes greater than 30%, as well as canyon floors and the flat floodplains adjacent to the Salinas River.

Cities

None.

Community Areas

None.

Rural Centers

River Road-Las Palmas.

Special Treatment Area

Greco

Use of the property for the removal of sand and gravel ceased in the year 2000, use of the property for a contractor's yard, shop, and residence may continue pursuant to County permit, as approved August 29, 2001, or as that permit may be amended or extended.

Land Use

The 2007 General Plan provides that development on properties with residential land use designations located within the Toro Area Plan along the Highway 68 corridor will be limited to the first single family home on a legal lot of record. The County will conduct a comprehensive review of infrastructure constraints regarding circulation, wastewater, and water supply. This restriction does not apply to development within the adopted Rural Center.

3.4.5.8 Cachagua Area Plan

Description

The Cachagua Area Plan comprises approximately 212 square miles and is located in the center of Monterey County (Exhibit 3.11). This area plan includes the communities of Prince's Camp, Jensen's Camp, Jamesburg, and Tassajara. Tassajara consists primarily of the historically designated Zen Center. The Big Sur Coast Land Use Plan and Greater Monterey Peninsula planning areas border the site to the west. The northern boundary of the Cachagua Area Plan is adjacent to the Carmel Valley Master Plan and the Toro Area Plan. The southern boundary is the Arroyo Seco River and adjacent to the Coastal/Non-Coastal Zone area. To the east is the Central Salinas Valley Area Plan. The eastern boundary is essentially parallel to the community of Chualar, south to the City of Greenfield. Public land ownership comprises almost half of the land in Cachagua, which primarily consists of the Los Padres National Forest. Chews Ridge is the highest point in this Area Plan with an elevation of 5,045 feet. The San Clemente and Los Padres Reservoirs are also located in this Area Plan.

Prominent geographic features in Cachagua include the Carmel River, which runs year-round, and the Arroyo Seco River. A significant amount of this Area Plan comprises very steep slopes, which limit the type of land use and development in this area. Numerous canyons, valleys, and streams are scattered throughout Cachagua.

Cities

None.

Community Areas

None.

Rural Centers

None.

Special Treatment Area

Syndicate Camp

The existing recreational facilities consist of 24 cabin sites. Of the 24 sites, 13 were vacant as of June 1, 1994. No additional cabin sites will be allowed. The construction, remodeling or rebuilding of approved cabins or development of cabins on approved cabin sites will be allowed. Permanent residency is allowed.

3.4.5.9 South County Area Plan

Description

The South County Area Plan comprises approximately 1,281 square miles. This Area Plan includes the communities of Bradley, Jolon, Lockwood, Parkfield, and San Ardo (Exhibit 3.12). The northern boundary of the South County Area Plan is adjacent to the Central Salinas Area Plan and generally follows Highway 198, San Lucas and Jolon Roads, as well as the boundaries of the Hunter Liggett Military Reservation and Los Padres National Forest. The eastern boundary follows the San Benito, Fresno, and Kings County lines. To the west is the Big Sur Coast Land Use Plan defined by Fort Hunter Liggett and Los Padres National Forest. The ridgeline of the Santa Lucia Mountain Range also defines the western limit of the South Coast area. The San Luis Obispo County line borders this area to the south.

Prominent geographic features in this area include portions of the Diablo and Santa Lucia Mountain Ranges and the benchlands of the upper Salinas Valley. Rivers in South County are the Salinas, San Antonio, and the Nacimiento. The San Antonio Reservoir is also located in this Area Plan. Numerous canyons, valleys, and creeks are scattered throughout South County.

Cities

None.

Community Areas

None.

Rural Centers

Bradley, Lockwood, Pleyto, and San Ardo.

3.4.5.10 Coastal/Non-Coastal Zone Areas

Description

"Coastal/Non-Coastal Zone" is the term used to identify two portions of the rugged Los Padres National Forest totaling 170 square miles. These lands are not subject to any of the County Coastal Land Use Plans and are under federal jurisdiction. The area includes the Ventana and Silver Creek Wilderness areas. The Coastal/Non-Coastal areas are bounded by the Big Sur Coast Land Use Plan (west); the Cachagua Area Plan (north); the South County Area Plan (east and south); and the San Luis Obispo County line (south). These areas are not within any designated planning area boundaries of the 2007 General Plan. Because Federal authority supersedes State or local authority, land use activities within the Los Padres National Forest are not required to follow local policy or regulation.

This area is characterized as rugged forested terrain. No communities exist in the Coastal/Non-Coastal areas. Major geographical features include the Santa Lucia Mountains and the Los Padres National Forest (including the Ventana Wilderness area).

Cities

None.

Community Areas

None.

Rural Centers

None.

Land Use

In addition to cattle grazing, various commercial recreational uses currently exist within the National Forest under permit from the U.S. Forest Service. Future development and expansion of existing uses will be regulated by the Forest

Service under the adopted Los Padres Forest Management Plan. Because much of this land is remote, rugged, and ecologically sensitive, the Forest Service limits substantial new development (U.S. Department of Agriculture 2005).

3.4.6 Agricultural Winery Corridor Plan

The AWCP is intended to facilitate the development of wineries along a corridor in the central and southern Salinas Valley. The corridor consists of three road segments (Central/Arroyo Seco/River Road, Metz Road, and Jolon Road) that overlap with portions of the Central Salinas Valley, Toro, and South County Area Plans (depicted on Exhibit 3.13). The AWCP is a component of the 2007 General Plan.

The objectives of the AWCP are as follows:

- Achieve a balance between the wine grape production and wine processing capacity within Monterey County;
- Enhance the wine industry's marketing of Monterey County appellation that includes connection between Monterey County's agricultural and tourism industries; and
- Encourage planned growth of the wine industry in Monterey County.

To accomplish these objectives, the AWCP would establish a permit process for development of as many as 50 wineries and 10 off-site tasting rooms along the corridor. Of these 50 wineries, as many as 40 would be "artisan" wineries (i.e., 58,000 square feet of surface area with 35,000 square feet of building coverage) and as many as 10 would be full-scale wineries (i.e., 2 million cases annually; 410,000 square feet of surface area; 300,000 square feet of building coverage). Wineries may include on-site tasting rooms. In addition, the AWCP allows development of an additional 10 offsite tasting rooms that would be associated either with wineries within the corridor or other wineries not located within the corridor. Each winery would be allowed a single-family residence, a guesthouse, and as many as three employee housing units.

A total of three new restaurants would be allowed, with no more than one per road segment. As many as five new delicatessens would be allowed on the same site as a winery, with no more than three delicatessens along the River Road segment and no more than one on each of the other segments. As many as eight new inns would be permitted, with five on the River Road segment, one on the Metz Road segment, and two on the Jolon Road segment. A "business cluster" providing a location for wine-industry-related businesses would be allowed near an urban area. Visitor centers providing information about the Corridor would be allowed within the vicinity of Highway 101/Arroyo Seco and near Highway 68.

Table 3-15 summarizes the winery development potential for the AWCP by segment:

Table 3-15. Agricultural Winery Corridor Development Potential

Development Type	River Road Segment	Metz Road Segment	Jolon Road Segment	Total
Artisan Winery	24	4	12	**40**
Full-Scale Winery	5	2	3	**10**
Winery Tasting Rooms	5	2	3	**10**
Restaurant	1	1	1	**3**
Delicatessen (at winery)	3	1	1	**5**
Inns	5	1	2	**8**

Source: Monterey County Planning and Building Inspection Department, Agricultural Winery Corridor Plan, March 6, 2007.

In conjunction with adoption of the AWCP, the County will amend the zoning map to include a Zoning District Overlay designation for properties located within the AWCP boundaries. Once rezoned, projects deemed consistent within the criteria and conditions of the AWCP and Zoning District Overlay would require no additional zoning review. Permits would be required prior to development as illustrated in Table 3-16. Activities allowed by right or subject to a ministerial permit would be exempt from environmental review under the California Environmental Quality Act (CEQA). However, zoning regulations, as well as County and Uniform Building Code requirements would apply. More intensive uses or uses not otherwise consistent with the AWCP provisions would require the issuance of some type of discretionary permit. Discretionary permits would be subject to later CEQA review. Where the proposals are consistent with the AWCP and zoning, the later CEQA review may be limited to site-specific issues pursuant to Public Resources Code Section 21083.3 and 14 California Code of Regulations Section 15183.

Wineries and related facilities located outside of the corridor would be subject to discretionary permits, depending upon the zoning of the specific site. Those projects would be subject to full CEQA review.

Table 3-16. Agricultural Winery Corridor Permitting Requirements

Activity	Allowable by Right	Ministerial Permit	Administrative Permit
Artisan winery		X	
Full-Scale winery (including tasting facility and catering kitchen)			X
Tasting room (including catering kitchen)		X	
Winery-related food service facility		X	
Winery event (as many as 150 attendees)	X		
Private winery event	X		
Winery event (151 to 500 attendees)		X	
Restaurant			X
Delicatessen (at winery)			X
Inn			X
Ag- or winery-related visitor serving use		X	
Business Cluster			X
Winery residence, guest house, or employee residences		X	

3.4.7 Local Coastal Planning

The California Coastal Act was approved by the voters in 1972 to preserve public access to California's coastline. Based on the parameters of this Act, the State legislature established regulations and a Coastal Commission to implement these regulations. The Coastal Act gave the Coastal Commission land use authority until a local jurisdiction prepares a LCP to govern land use along the coast. A LCP consists of a Land Use Plan which provides coastal development policy and a Coastal Implementation Plan which provides coastal regulation and zoning.

Development within the coastal zone is subject to a coastal development permit issued by a local government pursuant to a certified LCP. Coastal zone boundaries are determined by geographic, hydrographic, and biological features that influence California's coastline. Any change to the LCP requires certification by the Coastal Commission. Although certification of the LCP by the Coastal Commission transfers land use control to the local authority, the Coastal Commission retains appeal authority for many types of projects. In addition, the Coastal Commission may retain certain areas of original jurisdiction where they serve to review all land use issues.

Monterey County's LCP was completed in 1987. It consists of four plans for the County's designated coastal areas: the North County Land Use Plan, the Del Monte Forest Land Use Plan, the Carmel Land Use Plan, and the Big Sur Coast

Land Use Plan. The Community Plan for Moss Landing within the North County Coastal Land Use Plan is not the same as the Community Plans described in the 2007 General Plan, but is instead a component of the Coastal Land Use Plan.

The 2007 General Plan does not propose any changes to the LCP. Accordingly, these plans and land use patterns will not be analyzed in this EIR, except where impacts from 2007 General Plan buildout would affect these areas (e.g., cumulative air quality emissions). Any changes or updates made to these plans once the 2007 General Plan is adopted would require environmental review independent of this EIR.

3.4.8 Community Areas

As part of the 2007 General Plan process, areas have been identified within the unincorporated County that can accommodate future growth. These five areas, designated as Community Areas, are listed below. Aerial views and the boundary of each Community Area are shown on Exhibit 3.14 through Exhibit 3.18.

- Boronda,
- Castroville,
- Chualar,
- Ford Ord, and
- Pajaro.

Each Community Area (except Chualar) will have a specific boundary that can only be changed by a General Plan amendment. The precise boundary of the Chualar Community Area has yet to be formally established; however, it may not exceed 350 acres over the life of this plan. This EIR evaluates potential buildout impacts based on the size restriction and limitations of surrounding lands under Williamson Act contracts. Establishing a formal boundary and/or Community Plan will require a subsequent planning and environmental review process.

The 2007 General Plan and Area Plan goals and policies are designed to accommodate growth in Community Areas while ensuring that new development provides adequate public facilities and services to future residents. Community Plans have been completed or are underway for some areas:

- East Garrison portion of the Fort Ord Community Area—Specific Plan adopted and EIR certified.
- Castroville Community Area—Community Plan approved on April 10, 2007 and EIR certified. Separately from the 2007 General Plan, the Castroville Community Plan adopted by the County in April 2007 is currently before the Coastal Commission for ratification and related amendment of the County's LCP. As of July 2008, the Commission had not set a date to hear this Plan.

- Pajaro Community Area—There is an adopted Redevelopment Plan, but development of a Community Plan will require future community involvement and Board Approval.
- Boronda Community Area—A Draft Community Plan will require future Board action.

Community Plans will further guide growth in each Community Area in accordance with 2007 General Plan and Area Plan policies. The boundaries of the Community Areas, as well as land use designations, may change during the Community Plan process, but would be subject to future general plan amendments. As such, each Community Plan will be required to undergo its own separate environmental review.

The initial phase of Community Area growth would be concentrated in these five areas. Contemplated growth in Boronda, Castroville, Fort Ord, and Pajaro would be facilitated by redevelopment activities. Subsequent phases of development in Fort Ord are likely to occur at a later date than development of the other Community Areas. The initial phase of planning for the future Community Area of Chualar will not occur until after adoption of the 2007 General Plan.

Table 3-7 summarizes the existing land uses within each Community Area and Table 3-8 summarizes the additional development that would occur in each Community Area under the 2007 General Plan.

3.4.9 Rural Centers

Rural Centers are existing rural and semi-rural communities where planning for future growth would occur. The 2007 General Plan states that development of Rural Centers is a secondary planning priority after the development of the Community Plans for the Community Areas.

The seven Rural Centers are listed below. An aerial view and the boundary of each Rural Center are shown on Exhibit 3.19 through Exhibit 3.25.

- Bradley,
- River Road,
- Lockwood,
- San Ardo,
- Pine Canyon (King City),
- Pleyto, and
- San Lucas

Rural Centers are intended to support low- to medium-density residential uses with a mix of small-scale retail and commercial service uses primarily serving

local residents. The 2007 General Plan allows for Rural Center growth at a density of 1 to 6 units per acre, so long as adequate potable water and wastewater facilities are provided concurrently with development. Densities from 10–15 units per acre would be allowed if development is processed as part of an Affordable/Workforce Housing incentive program.

The 2007 General Plan stipulates that a Capital Improvement and Financing Study must be prepared prior to any new development in a Rural Center. Exceptions would be made for residential development in accordance with the Development Evaluation System (a pass-fail system of evaluating developments of five or more lots or units or development of an equivalent intensity) and small-scale, neighborhood-serving commercial uses.

Table 3-7 summarizes the existing land uses within each Rural Center and Table 3-8 summarizes the maximum development that would occur in each Rural Center under the 2007 General Plan.

3.4.10 Special Treatment Areas

The 2007 General Plan establishes STAs at designated locations in the County to promote specific types of development that are compatible with site constraints and surrounding land uses. The 17 STAs are listed below, with the associated Area Plan in parenthesis. Twelve of the STAs were designated in the 1982 General Plan; several of these have already been developed consistent with the General Plan designation. The land use maps (listed in parenthesis and next to each STA below) identify the outlines of STAs. The STAs have been discussed under the pertinent Area Plans above.

- Highway 68/Foster Road (Greater Salinas);
- Natividad/Rogge Road (Greater Salinas);
- Butterfly Village (Greater Salinas);
- Spence/Potter/Encinal Roads (Greater Salinas/Central Salinas Valley);
- Paraiso Hot Springs (Central Salinas Valley);
- Old Mission Union School (Central Salinas Valley);
- Lohr Property (Central Salinas Valley);
- Miller's Lodge (Central Salinas Valley);
- White Rock Club (Greater Monterey Peninsula);
- San Clemente Ranch (Greater Monterey Peninsula);
- Jefferson (Greater Monterey Peninsula);
- Carmel Valley Ranch (Greater Monterey Peninsula; Carmel Valley Master Plan);

- Rancho San Carlos (Greater Monterey Peninsula, Carmel Valley Master Plan);
- Rancho Canada Village (Carmel Valley Master Plan);
- Condon/Cugach Property (Greater Monterey Peninsula; Carmel Valley Master Plan);
- Greco (Toro); and
- Syndicate Camp (Cachagua).

In addition, the 2007 General Plan would establish three Study Areas that would be analyzed to determine if they could support a STA designation. These three Study Areas are listed below with the associated Area Plan in parenthesis:

- Spence/Potter Road (Central Salinas Valley, Greater Salinas);
- Espinosa Road (Greater Salinas); and
- Gardiner/Tennis Club (Carmel Valley Master Plan).

3.4.11 Affordable Housing Overlays

In order to encourage the production of affordable housing, the County would designate the following three areas as AHO districts. Within an AHO district, the minimum residential density would be 6 units per acre, up to a maximum of 30 units per acre. An average density of 10 units per acre or higher would be required within each AHO. The maximum lot size for detached single-family affordable units would be 5,000 square feet. Landowners would have the option of this higher density of development, if their projects meet the affordability criteria listed below. In addition, the AHO provisions would apply to Community Areas prior to the adoption of a Community Plan and Rural Centers prior to the adoption of an Infrastructure and Financing Study.

- Mid-Carmel Valley (Exhibit 3.26). Approximately 13 acres located east and west of existing mid-valley development, excluding portions of properties located within the floodplain.
- Highway 68/Monterey Peninsula Airport (Exhibit 3.26). Approximately 85 acres located east of Highway 68, excluding areas with native Monterey pine forest.
- Reservation Road/Highway 68 (Exhibit 3.26). A 31-acre parcel located on the south side of Reservation Road shall be developed with a mix of neighborhood commercial uses and residential units that serve a range of income levels.

An AHO has a number of qualifying criteria that would have to be met by the developer in order to build at AHO densities.

- Development within an AHO would be approved on a project-by-project basis and achieve the following levels of affordability (plus or minus 1%):

10% very low income; 15% low income; 15% moderate income; 20% Workforce I; and 40% Workforce II.

- Individual projects may increase the percentage of Very Low, Low and Moderate income categories by reducing the percentage of Workforce I or Workforce II income levels. Up to 25% of the Work Force II housing may be market-rate if necessary to achieve the higher levels of affordability of the development or to accommodate at least 15% farmworker housing. This exception shall be based on one or more of the following criteria: the specific project characteristics and location relative to housing needs in the local area; and special economic factors, such as land cost or infrastructure upgrades, affecting the cost of development within the local area.
- CEQA analysis for the project does not disclose any significant unavoidable adverse impacts for which findings of overriding considerations cannot be made.
- Mixed Use development that combines residential with commercial uses would be encouraged to tie in with surrounding commercial and residential land uses. A mix of housing types shall be provided on sites in excess of 5 acres, i.e., at least two product types, such as for rent apartments, for rent townhomes, ownership townhomes, ownership single family homes. On sites of less than 5 acres, a single housing type may be allowed. The mix of housing types and designs shall be sensitive to neighboring uses.

To encourage voluntary participation in the AHO process, the County would provide incentives for qualifying projects such as:

- Density bonuses;
- Streamlined permitting process, including assigning experienced staff to such projects, hiring outside contract planners, plan checkers and building inspectors (at the cost of the developer);
- Waiver or deferral of planning and building permit fees (but not fees for the purpose of financing infrastructure);
- Priority allocation of resource capacity such as water and sewer over other projects not yet approved;
- Development standards and grant funding assistance.

Where applicable, the County would also use redevelopment powers to assist AHO development.

3.4.12 Routine and Ongoing Agriculture

In order to retain viable agricultural production in the face of increasing regulation and competition, Monterey County's 2007 General Plan proposes activities that are may be considered "routine and ongoing" (Policy AG-3.3 of the Agriculture Element). The County will, after consultation with the

Agricultural Commissioner and with appropriate review by the Agricultural Advisory Committee, establish by ordinance a list of "Routine and Ongoing Agricultural Activities" that will be allowed without discretionary permits. These may include, but are not limited to:

- Pasture and rangeland management;
- Conversion of agricultural land to other agricultural uses;
- Preparation of product for market, and delivery of product to market;
- Planting, harvesting, cultivation, tillage, selection, rotation, irrigation, fallowing, and all soil preparation activities;
- Raising of livestock, poultry, fur-bearing animals, dairying, or fish;
- Maintenance of sediment basins, stock ponds, irrigation and tail water return systems, stream bank and grade stabilization, water retention and pumping facilities, erosion control and surface drainage activities;
- Maintenance of farm access roads, trails, and parking facilities;
- Fencing, corrals, animal handling facilities;
- Greenhouses, sheds, storage and outbuildings; and
- Emergency activities that protect the health and safety of the general public.

"Routine and Ongoing Agricultural Activities" are exempt from the following General Plan policies to the extent specified by those policies, except for activities that would create significant soil erosion impacts or violate adopted water quality standards:

- *C-5.3*—develop guidelines to assure that development and land use in the Scenic Highway Corridors are compatible with the surrounding area.
- *C-5.4*—apply land use controls to protect the Scenic Highway Corridor and to encourage sensitive selection of sites and open space preservation within such areas.
- *OS-1.9*—encourage development that protects and enhances the County's scenic qualities.
- *OS-1.12*—establish viewshed requirements along scenic routes. This would apply to large-scale agricultural processing facilities or facilities governed by the AWCP that would otherwise qualify as routine and ongoing.
- *OS-3.5*—regulate development on steep slopes. This would apply to routine and ongoing conversion of previously uncultivated lands.
- *OS-3.6*—develop slope density requirements and standards for clustering development.
- *OS-5.4*—avoid impacts to State and federally listed plant and animal species and designated critical habitat for federally listed species.

- *OS-6.3*—require new development proposed within moderate or high sensitivity zones, or within 150 feet of a known recorded archaeological and/or cultural site to complete a Phase I survey.
- *OS-7.3*—require a paleontological field inspection prior to approval of development proposed within high and moderate sensitivity zones and known fossil-bearing formations.
- *OS-8.3*—impose requirements for the protection of burial sites. Routine and ongoing activities would be subject to these requirements only to the extent that State law requires.
- *OS-10.8*—protect the public from naturally occurring asbestos by requiring mitigation measures to control dust and emissions during construction, grading, quarrying, or surface mining operations. This policy would apply to routine and ongoing agricultural activities only to the extent required by State and federal law.
- *S-2.3*—require all new development, including filling, grading, and construction, within designated 100-year floodplain areas to conform to the guidelines of FEMA and the National Flood Insurance Program and ordinances established by the County Board of Supervisors. With the exception of the construction of structures, routine and ongoing agricultural activities would be exempt from this policy.

Section 4
Environmental Impacts

This chapter presents the analyses of the environmental setting, environmental impacts of the proposed project, and mitigation measures. Short- and long-term beneficial and adverse impacts on the physical (natural and built) environment are discussed. This chapter is divided into the sections listed below.

- Section 4.1, Land Use
- Section 4.2, Agricultural Resources
- Section 4.3, Water Resources
- Section 4.4, Geology, Soils, and Seismicity
- Section 4.5, Mineral Resources
- Section 4.6, Transportation
- Section 4.7, Air Quality
- Section 4.8, Noise
- Section 4.9, Biological Resources
- Section 4.10, Cultural Resources
- Section 4.11, Public Services and Utilities
- Section 4.12, Parks and Recreation
- Section 4.13, Hazardous Materials
- Section 4.14, Aesthetics, Light, and Glare
- Section 4.15, Population and Housing
- Section 4.16, Climate Change

4.1 Land Use

4.1.1 Abstract

Agriculture is the largest land use in Monterey County, and represents about 56% of the total land area in the county. The second largest land use, about 23.5% of the total land area, consists of public and quasi-public land uses such as parks, military facilities, recreational and community facilities. Approximately 4.8% of Monterey County (including the incorporated cities) is developed with residential, commercial, and industrial land uses. The remaining 16% is in resource conservation or other land uses. Most of the urban development is concentrated in the northern one-third of the county, near several incorporated cities including Salinas, Marina and Monterrey. Likewise, most of the county's population is concentrated in the incorporated cities located in the northern one-third of the county. A quarter of the county residents live in unincorporated areas. The largest unincorporated communities are Prunedale, Castroville, Carmel Valley, Del Monte Forest, and Pajaro.

Most population growth has occurred within the cities. As described in Section 4.15, Population and Housing, cities currently account for approximately 75% of the total county population. In 1980, cities accommodated about 71% of the total population. Proposed county policies would encourage this trend and limit urbanization within the county to Community Areas and Rural Communities, with density enhancements available within defined Affordable Housing Overlay areas. Additional proposed policies would support continued agricultural use.

All potential land use impacts from development and land use activities proposed by the 2007 General Plan would be less than significant and would not require mitigation.

4.1.2 Environmental Setting

4.1.2.1 Existing Land Use

Monterey County contains a broad array of land use types, as summarized in Section 3, Project Description, Table 3-4, "Countywide General Plan Land Uses." The largest land group in the County is agricultural land, followed by public and quasi-public lands (consisting mostly of federal and state lands). Urban development is primarily located along Monterey Bay and in the Salinas Valley. Rural and semi-rural development is scattered throughout the county.

4.1.2.2 1982 General Plan

Monterey County's most recent General Plan was adopted by the Board of Supervisors in September 1982. The existing 1982 General Plan has been amended numerous times over the past 26 years to include the seven Area Plans, the Carmel Valley and Fort Ord Master Plans, the Local Coastal Plans, several specific plans, and various property owner requests for land use re-designations. The acreage of each land use category in the existing 1982 General Plan, as amended, is summarized in Section 3, "Project Description," in Table 3-4, "Countywide General Plan Land Uses."

The Land Use Element of the 2007 General Plan establishes policies to designate the general distribution and intensity of residential, commercial, industrial, agricultural, public facilities, and open space uses of the land in the county. The main vision of the Land Use Element is to create a general framework that encourages growth within or near developed/developing areas in order to reduce impacts to agricultural production, natural resources, or public services. Areas where development would be encouraged include incorporated cities and designated community areas where existing services are available. These areas would be subject to additional levels of planning consisting of the general plans adopted by cities, and community plans or specific plans to be adopted by the Board of Supervisors for the community areas. In addition, the 2007 General Plan designates rural centers where development has already occurred and that would be allowed to develop in a semi-rural character (Monterey County 2007).

The 2007 General Plan consists of policies that apply countywide and policies unique to a specific region. Countywide policies are applicable to the entire unincorporated area and are included in the Land Use Element. More focused policies that address specific regional or local issues are found in Area Plans (Monterey County 2007).

The Conservation and Open Space Element of the 2007 General Plan guides the county in the long-term conservation and preservation of open space lands and natural resources while protecting private property rights. The County's intent is not to alter existing regional, State or Federal laws or regulations, but rather to enable greater cooperation among public agencies and the public to share management responsibilities in accomplishing a shared goal of conserving and protecting the resources of the region (Monterey County 2007). Among the more prominent features within Monterey County are the Santa Lucia and Gabilan Mountain Ranges, the Salinas and Carmel Valleys, and about 100 miles of coastline. Of special note are such features as the Elkhorn Slough (North County), sandy beaches of Monterey and Carmel Bays, and the rocky shores/cliffs of the Monterey Peninsula and the Big Sur coast.

Area Plans and Master Plans

Following the adoption of the existing General Plan in 1982, the County prepared and adopted area plans for seven sub-areas: North County, Greater Salinas,

Central Salinas Valley, Greater Monterey Peninsula, Toro, Cachagua, and South County. Each Area Plan contains supplemental policies intended to more specifically guide future land use activities in accordance with the local characteristics of each area. The locations of the Area Plans are depicted in Section 3, Project Description, Exhibit 3-2, and are further detailed in Exhibits 3-3 through 3-10. The existing 1982 General Plan land use designations within each Area Plan are also summarized in Section 3.

In addition to the Area Plans, the County prepared and adopted two master plans within the *Greater Monterey Peninsula Area Plan* to further guide land use activities in two unique areas of the County. The *Carmel Valley Master Plan* was adopted in 1986, and the *Fort Ord Master Plan* was adopted in 2001. The *Carmel Valley Master Plan* establishes detailed land use policies designed to preserve the semi-rural character and natural features of Carmel Valley. Land use policies in the *Fort Ord Master Plan* are designed to facilitate redevelopment of the former U.S. Army installation to civilian uses.

Local Coastal Program

The proposed 2007 General Plan is not proposing any changes to the County's Local Coastal Program. The following is presented as general background on state regulations within the coastal area. Any future proposals to amend any of the Local Coastal Programs would be separate from the proposed 2007 General Plan.

Pursuant to the California Coastal Act, Monterey County amended its General Plan in the 1980s to adopt a Local Coastal Program (LCP) made up of land use plans (policy) and coastal implementation plans (regulatory) that govern land use within the coastal zone. Monterey County's LCP consists of four planning areas: North County—Coastal, Del Monte Forest, Carmel Area, and Big Sur Coast. Policies for development within these areas are established in land use plans that have been certified by the California Coastal Commission (CCC). In addition, the *North County Land Use Plan* includes the *Moss Landing Community Plan* (a component of the *Coastal Land Use Plan*), which serves as a master plan for that community.

As stipulated in the Coastal Act, the CCC has authority to certify land use policy in the coastal zone. CCC retains land use authority in areas of original jurisdiction and for all work below the mean high tide level. In addition, CCC has limited appeal authority over the following coastal permit applications (Chapter 20.88 Capital Improvement Program [CIP]):

- Approved projects between the sea and the first through public road paralleling the sea or within 300 feet of the inland extent of any beach or of the mean high tide line of the sea where there is no beach, whichever is the greater distance.

- Approved projects in county jurisdiction located on tidelands, submerged lands, public trust lands, within 100 feet of any wetland, estuary, or stream or within 300 feet of the top of the seaward face of any coastal bluff.
- Any approved project involving development that is permitted in the underlying zone as a conditional use. Uses listed as principal uses are not appealable to the CCC unless they fall within the above categories by location.
- Any project involving development that constitutes a major public works project or a major energy facility.

Section 30241 of the California Coastal Act also serves as a regulatory framework for agricultural uses in the coastal zone. That section states:

> The maximum amount of prime agricultural land shall be maintained in agricultural production to assure the protection of the area's agricultural economy, and conflicts shall be minimized between agricultural and urban land uses through all of the following:
>
> (a) By establishing stable boundaries separating urban and rural areas, including, where necessary, clearly defined buffer areas to minimize conflicts between agricultural and urban land uses.
>
> (b) By limiting conversions of agricultural lands around the periphery of urban areas to the lands where the viability of existing agricultural use is already severely limited by conflicts with urban uses or where the conversion of the lands would compete a logical and viable neighborhood and contribute to the establishment of a stable limit to urban development.
>
> (c) By permitting the conversion of agricultural land surrounded by urban uses where the conversion of the land would be consistent with Section 30250.
>
> (d) By developing available lands not suited for agriculture prior to the conversion of agricultural lands.
>
> (e) By assuring the public service and facility expansions and nonagricultural development do not impact agricultural viability, either through increased assessment costs degraded air and water quality.
>
> (f) By assuring that all divisions of prime agricultural lands, except those conversions approved pursuant to subdivision (b), and all development adjacent to prime agricultural lands shall not diminish the productivity of such prime agricultural lands. (Amended by: Ch. 1066, Stats. 1981; Ch. 43, Stats. 1982.)

4.1.3 Regulatory Framework

4.1.3.1 Federal and State

Habitat Conservation Plans

The U.S. and California Endangered Species Acts prohibit unauthorized take of species listed as endangered or threatened. The meaning of "take" includes deliberate harm, such as trapping or shooting, but also unintentional harm that occurs incidental to an otherwise lawful activity, such as residential or commercial development. A Habitat Conservation Plan (HCP), under section 10(a)(2)(A) of the Endangered Species Act, is a planning document that is a mandatory component of an Incidental Take Permit application. Both the California Endangered Species Act (CESA) and the federal Endangered Species Act (ESA) contain requirements and restrictions for incidental take, but only the federal ESA specifically requires an HCP. An approved HCP allows the property owner to harm a listed species or its habitat in order to carry out an approved land use, providing that other habitat is protected to benefit the listed species. An HCP must ensure that the effects of the authorized incidental take will be adequately minimized and mitigated to the maximum extent practicable. An Incidental Take Permit allows a project to have a negative impact on endangered species as long as mitigation identified in the HCP is provided. An HCP contains the following components: an assessment of impacts likely to result from the proposed taking of one or more Federally listed or unlisted species; measures the applicant will undertake to monitor, mitigate and minimize the impact on wildlife; funding sources that will be available to implement the plan; procedures to deal with unforeseen circumstances; and alternative actions that the applicant analyzed and the reasons why the applicant did not adopt such alternatives. HCPs vary in size from several acres to several hundred-thousand acres. There are several HCPs in Monterey County, including the Post Ranch Inn HCP in Big Sur (approved 2006), the Sarment Property HCP in Carmel Highlands (approved 2007), and the Wildcat Line LP HCP in Carmel Highlands (approved 2001). A Habitat Management Plan has been adopted for Fort Ord, but that is not an HCP.

Natural Community Conservation Plans

In 1991, California's Natural Community Conservation Planning Act (NCCPA) was enacted to implement broad-based planning that balances appropriate development and growth with conservation of wildlife and habitat (California Fish and Game Code, Section 2800 *et seq*.). Pursuant to the NCCPA, local, state, and federal agencies are encouraged to prepare Natural Community Conservation Plans (NCCPs) to provide comprehensive management and conservation of multiple species and their habitats under a single plan, rather than through preparation of numerous individual plans on a project-by-project basis. The primary objective of the NCCP program is to conserve natural communities at the ecosystem scale while accommodating compatible land use. An approved

NCCP provides for take of species whose conservation and management are provided for in the Plan (California Fish and Game Code Section 2835). To be approved by the California Department of Fish and Game (DFG), an NCCP must provide for the conservation of species and protect natural communities within the plan area in perpetuity. While HCPs are required for compliance with the federal ESA, participation in NCCPs is voluntary. There are no proposed or approved NCCPs in Monterey County.

4.1.3.2 California Housing Element Law

Housing Element Law (Government Code Section 65580, et seq.) requires the County to adopt a housing element as part of its general plan. In brief, the housing element must identify the housing needs of all economic segments of the community and designate sufficient land with compatible zoning to meet that need. Because meeting the housing need depends upon the private sector, and the economics of housing tends to favor the production of market-rate housing, the most challenging portion of overall housing need to meet is affordable housing (i.e., housing for very low-income, low-income, and moderate income market segments). Housing Element Law establishes the process by which the County is assigned a portion of the regional housing need, as projected by the State Housing and Community Development Department (HCD) and AMBAG. The housing element is subject to review by HCD to determine its consistency with Housing Element Law.

4.1.3.3 Local

Local Agency Formation Commission of Monterey County

A Local Agency Formation Commission (LAFCO) is a regulatory agency with county-wide jurisdiction established by state law to discourage urban sprawl and to encourage orderly and efficient provision of public services, such as water, sewer and fire protection. In California, LAFCO actions are governed by the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000. LAFCOs are responsible for reviewing and approving proposed jurisdictional boundary changes, including the annexation and detachment of territory to or from cities and most special districts, formations of new special districts, and consolidations of existing districts. In addition, LAFCOs must determine and approve spheres of influence for each city and district within a county.

The broad mission of the Monterey County LAFCO is to provide for an orderly pattern of growth that reconciles the varied needs of the multiple jurisdictions within the County. One of the fundamental principles of the Monterey County LAFCO is to ensure the establishment of an appropriate and logical municipal government structure for the distribution of efficient and appropriate public services. Monterey County LAFCO land use objectives include the following:

- Discouraging urban sprawl;

- Preserving of the physical and economic integrity of agricultural lands;
- Preserving open space within urban development patterns;
- Promoting the orderly formation and development of agencies by shaping local agency boundaries;
- Minimizing the number of agencies providing services to a given area; and
- Utilizing Spheres of Influence to guide future development of agency boundaries.

4.1.3.4 Growth Management Policy

The 2007 General Plan has its basis in the following Growth Management Policy adopted by the Board of Supervisors in October 1979:

> Managed growth must be incorporated into the General Plan of the County. In so doing, the General Plan must be written to include appropriate growth areas within the County. These areas must recognize the diversity among the lands of the County and provide for the planning of each area in a way that utilizes its unique characteristics. The policies for each planning areas to be defined within the General Plan must countenance differences between the planning areas in terms of natural resources, physical and environmental attributes, economic development, and sociocultural development. Furthermore, growth areas shall be designated only where there is provision for an adequate level of services and facilities such as water, sewer, fire protection, and drainage, and be coordinated with school authorities.

The Growth Management Policy establishes a land use policy within the county to preserve vast areas of agricultural lands and natural open space and to establish areas of suburban developments and a number of more urban unincorporated communities.

The Growth Management Policy states that growth must be managed in the County and identifies appropriate growth areas. Growth areas are to be designated where provision for an adequate coordination with school authorities can be achieved. The Growth Management Policy also states that urban development should be discouraged in areas lying outside the boundaries of urban service areas and limits premature and unnecessary conversion of open space outside the urban service areas. New areas of development concentration are to be encouraged if they can be shown to achieve other aspects of growth management, such as preservation of prime agricultural lands or the protection of other natural resources. New areas of development concentration are to provide urban services such as water, sewage treatment, roads, commercial facilities, schools, and fire protection. The Community Area designation in the 2007 Plan is the successor to this concept. The area of development concentration designation will not longer be included in the General Plan.

4.1.3.5 2007 General Plan Goals and Policies

The 2007 General Plan Land Use Element establishes goals and corresponding policies to address land use impacts.

4.1.4 Project Impacts

This section describes the CEQA impact analysis relating to land use and plan consistency for the proposed project. It describes the methods used to determine the proposed project's impacts and lists the thresholds used to conclude whether an impact would be significant. If applicable, measures to mitigate (avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

4.1.4.1 Methodology

The analysis assesses potential conflicts that could arise from proposed land use policies and designations associated with the implementation of the 2007 Monterey County General Plan. The thresholds of significance listed below are used to determine whether the proposed project would result in significant environmental impacts.

4.1.4.2 Thresholds of Significance

Criteria for determining the significance of impacts related to land use and planning are based on criteria set forth in Appendix G of the State CEQA Guidelines (14 Cal. Code Regs. §15000 et seq.). Implementation of the 2007 General Plan would cause a significant impact on land use if it would result in any of the conditions listed below.

- Physically divide an established community;
- Conflict with any applicable land use plans or policies adopted by agencies with jurisdiction over the Project area (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect;
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

4.1.4.3 Impact Analysis

Implementation of the 2007 General Plan to the 2030 planning horizon and buildout in the year 2092 would designate growth and increased densities in

specific areas, such as in the Community Areas, Rural Centers, Affordable Housing Overlay Areas. However, growth areas would be designated only where an adequate level of services and facilities such as water, sewerage, fire and police protection, transportation, and school exists or be assured.

Division of an Established Community

Impact LU-1: Implementation of the 2007 General Plan would potentially result in the physical division of established communities. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Implementation of the 2007 General Plan to the 2030 planning horizon would result in changes to land use designations in several areas of the County. The areas that could be affected include the Community Areas, Rural Centers, and AHOs because the anticipated intensification of land uses in these areas would potentially result in the division of established communities. Examples of such intensification include new urban development and new infrastructure that could create physical barriers between existing community elements, such as residential areas and parks.

However, the 2007 General Plan land use patterns and policies are designed to ensure that there would be no division of an established community. Some areas where population has started to establish under prior plans are identified as Community Areas or Rural Centers. The following policy discussion describes the applicable policies and how this impact would be avoided.

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized below set forth comprehensive measures to avoid and minimize adverse impacts of the physical division of an established community.

Land Use Element

A number of the Land Use Element Policies between LU-1.1 and LU-1.20 (city-centered growth) discourage the division of established communities and the introduction of incompatible land uses. Policy LU-1.2 (scattered development) discourages premature and scattered development. Policy LU-1.4 (adequate services) designates growth areas only when an adequate level of services and public facilities exist. Policy LU-1.5 (land use compatibility) stipulates that land uses be designated to achieve compatibility with adjacent uses. Policy LU-1.7 (clustering) encourages clustering of residential development to those

portions of the property which are most suitable for development. Policy LU-1.9 (infill) promotes infill of vacant non-agricultural lands in existing developed areas, and requires infill development to be compatible with surrounding land use and development. Policy LU-1.19 (overlay districts) designates Community Areas, Rural Centers and Affordable Housing Overlay districts as the top priority for development in the incorporated areas of the county. Outside of those areas, a Development Evaluation System (DES) shall be established to provide systematic, consistent, predictable, and quantitative methods for decision-makers to evaluate developments. Policies LU-2.15 through LU-2.18 (city-centered growth policies) encourage new urbanization to occur within the incorporated cities, rather than in the surrounding county area. Policies LU-2.21 through LU-2.29 (community area policies) stipulate that urbanization within the county will be limited to the Community Areas (first priority) and Rural Centers (second priority). The AHO policies will encourage higher density development in selected areas near existing development. Policies LU-2.27 through LU-2.33 (rural center policies) stipulate maintaining a village character while allowing greater intensity development in some areas.

Implementation of the 2007 General Plan policies listed above would expressly avoid the division of an established community, and would promote managed growth in specific locations in coordination with sound planning principles.

Area Plan Policies

The 2007 General Plan includes seven existing Area Plans and two existing Master Plans that establish detailed policies for development in specific geographical areas within the county. The 2007 General Plan provides additional supplemental policies specific to these areas to ensure that new development is compatible with existing developments, neighborhoods, and land uses.

North County Area Plan

North County Area Plan Policy NC-2.1 identifies rerouting Hwy 101 around the community of Prunedale. Therefore, this same policy would also address the physical division of the community of Prunedale by Hwy 101. The development criteria outlined in the North County Area Plan would not promote the physical division of Prunedale, or any other existing community within the North County Area Plan. In fact, the North County Area Plan outlines policies to re-route Hwy 101 around the community of Prunedale, which would in turn remove a physical barrier (Highway 101) within the community.

Greater Salinas Area Plan

Greater Salinas Area Plan Policies GS-1.1 through GS-1.12 identify multiple Special Treatment Areas (STAs) and Study Areas (SAs), including Butterfly Village, Spence/Potter/Encinal Road and Highway 68/Foster Road among others. These STAs and SAs establish specific standards to guide development at those locations. For example, GS 1.4 stipulates that development in the town of Spreckels would be allowed only under specific conditions, including the requirement that development would only occur within the land use boundary shown in the Area Plan. The development criteria outlined in the Greater Salinas Area Plan establishes specific standards to guide orderly development, and would not promote the physical division of an existing community within Greater Salinas.

Central Salinas Valley Area Plan

Central Salinas Valley Plan Policies CSV-1.3 through CSV-1.6 identify several STAs and SAs, including Spence/Potter/Encinal Roads and Old Mission Union School. These STAs and SAs establish specific standards to guide development at these locations. For example, CSV 1.4 stipulates that the minimum parcel size in the Spence/Potter/Encinal Roads SA shall be 10 acres so that the area remains in agricultural operations. In addition, prior to new development within the Spence/Potter/Encinal Roads SA, a cumulative impact analysis of the industrial build-out of the study area would be required. The development criteria outlined in the Central Salinas Valley Area Plan Policies establishes specific standards to guide orderly development, and would not promote the physical division of an existing community within the Central Salinas Valley.

Greater Monterey Peninsula Area Plan

Greater Monterey Peninsula Area Plan Policies GMP-1.6 through GMP-1.9 identify several STAs, including Rancho San Carlos and the San Clemente Ranch. These STAs establish specific standards to guide orderly development at thses locations. For example, residential development within portions of the Santa Lucia Preserve (formerly Rancho San Carlos) must follow specific densities and policies. The development criteria outlined in the Greater Monterey Peninsula Area Plan establishes specific standards to guide orderly development, and would not promote the physical division of an existing community within the Greater Monterrey Peninsula.

Carmel Valley Master Plan

Carmel Valley Master Plan Policies CV-1.22 through CV-1.26 identify STAs and set forth specific standards to guide orderly

development at those locations. STAs in the Carmel Valley Master Plan include the Carmel Valley Ranch, the Condon/Chugach Property, portions of the Santa Lucia Preserve Rancho San Carlos (formerly Rancho San Carlos) and the Gardiner/Tennis Club area. In addition, Policy CV-1.3 states that open spaces shall be located between the development areas in order to clearly define them and maintain a distinction between the more rural and more suburban areas of the valley. Policy CV-1.8 promotes cluster development and the preservation of open space. The development criteria outlined in the Carmel Valley Master Plan establishes specific standards to guide orderly development, and would not promote the physical division of an existing community within Carmel Valley.

Toro Area Plan

Toro Area Plan Policy C-1.4 identifies the Greco STA and sets forth specific standards to guide orderly development at this location. Toro Area Plan policy T-1.2 prohibits industrial land uses (other than utilities) in the Toro Area. Therefore, the development criteria outlined in the Toro Area Plan establishes specific standards to guide orderly development, and would not promote the physical division of an existing community within the Toro area.

Cachagua Area Plan

Cachagua Area Plan Policy CACH-1.5 identifies Syndicate Camp as a STA and sets forth standards to guide future development on that site. Cachagua Area Plan policy CACH-1.1 requires that new service centers located in Cachagua have low visibility, have safe and unobtrusive access and conform to all Area Plan requirements. Cachagua Area Plan policy CACH-1.3 prohibits industrial land uses (other than those that are agriculturally related) in the Cachagua Area. The development criteria outlined in the Cachagua Area Plan establishes specific standards to guide orderly development, and would not promote the physical division of an existing community within the Cachagua area.

South County Area Plan

South County Area Plan Policy SC-1.1 allows only low residential densities on lands adjacent to Fort Hunter Liggett in order to prevent residential encroachment. South County Area Policy SC-1.2 encourages clustered development in all areas where development is permitted in order to make the most efficient use of land and to preserve agricultural land and open space. The development criteria outlined in the South County Area Plan establishes specific standards to guide orderly development, and would not promote the physical division of an existing community within the South County area.

Agricultural Winery Corridor Plan

The 2007 General Plan includes an Agricultural Winery Corridor Plan (AWCP) that is designed to promote the orderly development of an integrated wine industry in Monterrey County. The AWCP designates three winery (roadway) corridors in the Salinas Valley, including the River Road Segment, the Metz Road Segment and the Jolon Road Segment. The AWCP serves as a type of Area Plan that provides a greater level of detail about how to address viticulture related uses within portions of three existing Planning Areas (Toro, Central Salinas Valley, and South County). The AWCP specifically outlines the planned and orderly development of wineries in specific areas of the Salinas Valley. In so doing, the AWCP specifically discourages the division of an established community by winery development within the Salinas development. Although the AWCP includes portions of the *Toro*, *Central Salinas Valley*, and *South County Area Plans*, the AWCP would not facilitate the division of an established community within the defined corridor.

Community Area Policies

Fort Ord Master Plan

The purpose of the Fort Ord Master Plan is to designate land uses and incorporate objectives, programs and policies to be consistent with the Fort Ord Reuse Plan (Reuse Plan) adopted by the Fort Ord Reuse Authority (FORA) in 1997. The plan incorporates all applicable policies and programs contained in the adopted Reuse Plan as they pertain to the Fort Ord military base. In addition, the Fort Ord Master Plan contains additional Design Objectives and land use description clarification to further the Design Principles contained in the adopted Reuse Plan. The area subject to the Fort Ord Master Plan are generally located within the central portion of the former Fort Ord military base. The city limits of the City of Marina are located to the north, the city limits of the City of Seaside are located to the west, and the City limits of the Cities of Monterrey and Del Rey Oaks are located to the south. The primary goal of the Land Use Element of the Fort Ord Master Plan is to promote the orderly, well-planned, and balanced development to ensure educational, housing and economic opportunities as well as environmental protection. Therefore, the development policies outlined in the Fort Ord Master Plan would not promote the physical division of the former Fort Ord military base, or any surrounding community.

Significance Determination

Implementation of the 2007 General Plan would result in the development of new urban areas and new infrastructure in the Community Areas, Rural

Centers, and AHOs. Additional development would occur on individual lots, but on a more limited basis due to the Development Evaluation System (LU-1.17), proof of long-term water supply (PS-3.1 through PS-3.3), infrastructure concurrency (PS-1.6), and other policies of the 2007 General Plan. There are about 4,629 lots of record within the unincorporated county, of varying sizes and development potential. Implementation of the 2007 General Plan and Area Plan policies would ensure that potential division of established communities is avoided or minimized through land use guidelines that emphasize orderly development and compatibility with surrounding land uses.

There are no planned infrastructure projects included in the 2007 General Plan that would divide established communities. The Transportation Agency of Monterey County (TAMC) fee program projects and county capacity enhancement projects listed in Section 4.6, Transportation, would result in changes to specific existing roads and highways by widening or adding turn lanes to selected roads, replacing at-grade road crossings with interchanges, modifying existing interchanges, and installing traffic signals. In accordance with standard practice, pedestrian crossings would be provided at all intersections. Because these are limited to existing roads, they will not physically divide any communities to a substantially greater extent than they are already divided by the road.

Accordingly, implementation of the 2007 General Plan would not result in significant community division impacts and therefore associated impacts would be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

Implementation of the 2007 General Plan would not result in significant community division impacts and therefore associated impacts would be less than significant.

Buildout

Impact of Development

Buildout of the 2007 General Plan in the year 2092 would result in new urban development in urban areas beyond 2030 levels. By 2092, all of the existing lots of record will presumably be developed with at least a single-family residence. Because individual development does not create physical barriers, it would not physically divide any community.

In addition, implementation of the 2007 General Plan to the year 2092 would result in changes to land use designations in several areas of the county. The land uses within the Community Areas and Rural Centers would be more

dense (i.e., higher residential density, more intensive commercial use in some cases) than existing conditions. Policies of the 2007 General Plan, including LU-1.5, would discourage placing incompatible uses next to one another. This would avoid physical division of established communities.

2007 General Plan Policies

Implementation of the 2007 General Plan policies listed above under the 2030 Planning Horizon would expressly avoid the division of an established community, and would promote managed growth in specific locations in the County through buildout in 2092.

Significance Determination

Buildout by 2092 would potentially result in the physical division of an established community within Monterey County. . The 2007 General Plan employs land use concepts such as city-centered growth and preservation of natural areas that would discourage the physical division of an existing community. Despite the 2007 General Plan and associated Area Plan policies, additional infrastructure improvements could result in community division if they include major new roads or rail lines that do not provide connections such as pedestrian crossings. However, whether such infrastructure would be built, as well as the types, locations, and mitigating design features of such future infrastructure are not known at this time. As a result, concluding that this might occur would be speculative. Accordingly, implementation of the 2007 General Plan up to the year 2092 would not result in the physical division of established communities. Therefore associated land use impacts would be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

Implementation of the 2007 General Plan up to buildout in the year 2092 would not result in significant community division impacts. Therefore any associated community division impacts would be less than significant, and no mitigation is necessary.

Conflict with Adopted Land Use Plans

Impact LU-2: Implementation of the 2007 General Plan would potentially conflict with an adopted land use plan, general plan, specific plan, local coastal program or zoning ordinance adopted for the purpose of avoiding or mitigating an environmental effect. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

A General Plan is by definition a comprehensive long-range planning document that serves as the blueprint for future growth in a particular jurisdiction. General Plans establish land use patterns for urban and rural development, agriculture, resource preservation, and public uses. Monterey County's 2007 General Plan has been drafted to be consistent with adopted local land use plans, LCPs, and zoning ordinances within the County.

Each incorporated city within the County has an adopted land use plan for its specific jurisdictional area. These plans include each city's vision for growth that may include expansion of the city's boundaries. To address this, the 2007 General Plan has considered desired growth within each city's general plan relative to the County's policies.

The County has offered consultation with cities as part of the process to prepare the 2007 General Plan. This consultation process is designed to identify potential land use conflicts and to develop strategies to address these potential conflicts. Below is a discussion of the various policies contained in the 2007 General Plan that address adopted land use plans within the County.

The County has adopted four Local Coastal Programs that, under the Coastal Act, contain policies and other measures to protect the environmental integrity of the California coast. The Local Coastal Programs for Big Sur Coast, Carmel Area, Del Monte Forest/Greater Monterey, and North County have been certified by the California Coastal Commission.

HCPs and NCCPs are also plans intended to avoid environmental impacts. However, they differ from the other land use plans discussed above because they are adopted pursuant to Federal and State law, and are unaffected by County policies. HCPs are required for projects under federal jurisdiction, whether they are federal projects or projects requiring federal permits, that would otherwise result in the "take" of one or more federally listed species. NCCPs are prepared where affected jurisdictions and property owners wish to comprehensively plan for the avoidance of take that might otherwise occur as a result of future development. Neither of these programs is dependent on County policies for its implementation.

2007 General Plan Policies

The 2007 General Plan Land Use Element establishes numerous policies that are intended to ensure consistency with adopted local land use plans and reduce inconsistencies with such plans.

Land Use Element

Land Use Element Policy LU-2.15 (City-centered growth) promotes cooperation with the AMBAG and other cities to direct the majority of urban growth, including higher density housing development, into cities and their spheres of influence. This policy would in turn promote consistency between the 2007 General Plan and each city's sphere of influence policy.

Land Use Element Policy 2.16 (Urban reserve) applies an Urban Reserve Overlay where an incorporated city may expand (annex) or provide new infrastructure to a proposed project. Growth limits identified in an incorporated city's adopted general plan, and determined to be consistent with the County's 2007 General Plan, may be included as part of the Urban Reserve area. Development in an Urban Reserve area shall be determined by the County's underlying land use designation. The County would consult with the pertinent city regarding projects located within their Urban Reserve. Hence, this policy would promote consistency between the 2007 General Plan and the Urban Reserve policies.

Land Use Element Policy LU-2.17 (housing near employment centers) states that the County will coordinate with cities to maintain sufficient land areas designated for new housing close to employment centers. In addition, land use conflicts, competition and consumptive land use patterns are to be minimized. This policy would promote consistency between the 2007 General Plan and employee housing policies.

Land Use Element Policy LU-2.18 (LAFCO) states that the County, in coordination with cities and LAFCO, will designate spheres of influence to represent the probable 20-year growth area around each city. This 20-year growth area shall also be designated as an Urban Reserve overlay within the 2007 General Plan. In addition, any annexation request or request for a change in a city's boundaries or sphere of influence may be supported if is found to be consistent with the 2007 General Plan policies, including the following requirements: 1) directing city growth away from the highest quality farmlands, 2) providing adequate buffers along developing agricultural-urban interfaces, and 3) mitigating impacts to county infrastructure. This policy would reduce land use conflicts between the 2007 General Plan and each city's sphere of influence policy.

Land Use Element Policy LU-2.19 (County review) states that the County shall critically review development proposals and general plan amendments within cities to assure that the impacts of growth to the County's infrastructure are adequately quantified and fully mitigated. This policy would in turn reduce conflicts between the 2007 General Plan and the infrastructure needs of local cities.

Land Use Element Policy LU-2.20 (City review) states that the County shall refer amendments to the 2007 General Plan and zoning changes that would result in the creation of new residential, industrial, or commercial areas to the nearest cities for review and comment. This policy would reduce land use conflicts created by any future amendments to the 2007 General Plan, and would give each city the ability to influence the 2007 General Plan amendment process.

Land Use Element Policy LU-9.1 (General plan consistency with zoning) states that within three months after adoption of the updated General Plan, the Director of Planning shall bring to the Board of Supervisors for their approval a work program to update the County's land use regulations to ensure consistency with the General Plan. The work program would identify the regulations to be updated, the timeframe for the update and identify the resources needed to implement the work program. This policy would specifically promote consistency between the 2007 General Plan and the County's zoning ordinance once the 2007 General Plan is adopted.

In summary, the 2007 General Plan policies discussed above promote land use concepts that emphasize city-centered growth and discourage conflicts with existing land use policies and plans. Collectively, these land use consistency policies promote close coordination between the cities, LAFCO, AMBAG and the County regarding land use policies and designations within each city's sphere of influence. These policies would specifically reduce conflicts between the 2007 General Plan and locally-adopted land use plans.

Open Space Element

Open Space Policies OS-5.1 and OS-5.3 promote the conservation of threatened and endangered plants and special status wildlife species. Policy OS-5.4 provides for consultation with the U.S. Fish and Wildlife Service (USFWS) over federally protected species and mitigation of impacts (an HCP is mitigation of "take"). Policy OS-5.17 would allow County participation in the development of an NCCP, when pertinent to mitigating loss of critical habitat.

Area Plan Policies

The 2007 General Plan includes Area Plans that establish policies for development that address conditions that are unique to specific geographical locations within the County. Each of the Area Plans described in this EIR is a component of the 2007 General Plan and is therefore consistent with all of its applicable goals and policies. Several of the Area Plans provide supplemental policies to ensure consistency with locally-adopted land use plans, thereby reducing inevitable inconsistencies with such plans. As an intrinsic component of the 2007 General Plan, the Area Plans would not conflict with an adopted land use plan or policy.

Agricultural Winery Corridor Plan

The AWCP is a component of the 2007 General Plan and is consistent with all of its applicable goals and policies. The AWCP serves as a type of Area Plan that provides a greater level of detail of how to address viticulture related uses within portions of three Planning Areas (Toro, Central Salinas Valley, and South County). The AWCP is consistent with the goals and policies for each of the three affected Planning Areas, in addition to the 2007 General Plan as a whole. The AWCP policies provide a greater level of detail than either the 2007 General Plan or the affected Area Plans regarding how these uses will be handled. Included in the AWCP are general regulations, allowed uses, permitted uses, development standards, and design criteria that are intended to guide the development of wine-related facilities.

Local Coastal Program

Monterey County prepared an LCP pursuant to the California Coastal Act that has been certified as consistent with the Coastal Act by the CCC. The LCP is implemented through four local coastal land use plans. The four local coastal land use plans in unincorporated Monterey County (*North County Land Use Plan,* the *Del Monte Forest Land Use Plan,* the *Carmel Land Use Plan,* and the *Big Sur Coast Land Use Plan*) contain separate goals and policies to address coastal development.

The four adopted local coastal land use plans contained in the existing 1982 Monterey County General Plan will not be amended as part of the 2007 General Plan. The 2007 General Plan's goals and policies have been developed with the LCPs in mind and do not contain any provisions that would conflict with the four adopted local coastal plans. The current distribution of planning roles between the general plan (effective in the unincorporated areas) and the LCPs (effective in the unincorporated coastal areas) will not be

changed by the 2007 General Plan. Therefore, no conflicts with the LCP would occur from implementation of the 2007 General Plan.

LAFCO Policies

In some instances, development projects within the 2007 General Plan would be required to comply with applicable Monterey County LAFCO requirements. LAFCO requirements apply to land development activities that involve annexations, changes in district boundaries, and other governmental reorganizations. These may result in the conversion of agricultural lands to urban uses, extension of utilities and service systems into previously unserved areas, and activities that alter existing agency boundaries—all of which are subject to LAFCO policies and additional CEQA review. LAFCO would review projects subject to its approval and would have the ability to approve or deny applications based on whether its criteria were met. Accordingly, no conflicts with LAFCO policies would occur from implementation of the 2007 General Plan because future development considered within the 2007 General Plan would be required to comply with all applicable Monterey County LAFCO requirements.

Growth Management Policy

The Growth Management Policy adopted by the Board of Supervisors in 1979 forms the underlying foundation of the entire 2007 General Plan. The 2007 General Plan incorporates the stated goals of the Growth Management Policy in its land use map, elemental policies, and Area Plan supplemental policies. The Growth Management Policy states that managed growth must be incorporated into the General Plan. In so doing, the General Plan must be written to include appropriate growth areas within the County. These areas must recognize the diversity among the lands of the County and provide for the planning of each area in a way that utilizes its unique characteristics. Growth areas shall be designated only where there is provision for an adequate level of services and facilities. The 2007 General Plan designates Community Areas and Rural Centers as the primary areas for future growth. This is consistent with the growth management policy. Accordingly, implementation of the 2007 General Plan would not conflict with the Growth Management Policy because the 2007 General Plan incorporates the stated goals of the policy throughout the entire General Plan.

Significance Determination

The 2007 General Plan is a comprehensive update to the existing 1982 General Plan. As a comprehensive planning document, it establishes land use concepts, and sets forth goals and policies to guide future development

and preserve natural and agricultural areas from urban encroachment. Inherently, the goals and policies of the 2007 General Plan must be internally consistent with each other as well as with the supplemental policies of each Area Plan.

As discussed above, the goals and policies of the 2007 General Plan Land Use Element and those of the Area Plans are internally consistent. Therefore, no internal conflicts would occur. The 2007 General Plan Land Use Element and Area Plans would form the basis for preparing the plans for the Community Areas and Rural Centers. As a result, one can reasonably assume that those future land use plans will be consistent with one another and with the General Plan. In addition, the 2007 General Plan is written to be consistent with local land use plans, the County LCP, LAFCO policies, and the County Growth Management Policy.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

Implementation of the 2007 General Plan policies would avoid impacts related to consistency with adopted land use plans, LCPs, LAFCO policies and the Growth Management Policy and no mitigation is necessary.

Buildout

Impact of Development with Policies

Monterey County's 2007 General Plan is drafted to be consistent with adopted local land use plans, the LCPs, and zoning ordinances within the county through 2092. Buildout of the 2007 General Plan to 2092 would result in new development in many areas of the County beyond 2030 levels. In addition, implementation of the 2007 General Plan in the buildout year 2092 would result in changes to land use designations in several areas of the County.

The Community Areas and Rural Centers are expected to absorb most of the future development within the unincorporated county up to the 2030 planning horizon. After that time, the Community Areas and Rural Centers will be largely built out and development will shift to individual lots.

Each incorporated city within the County has an adopted land use plan for its area. These plans include each city's vision for growth that may include expansion of the city's boundaries to the 2092 buildout year. To address this, the 2007 General Plan has considered ultimate buildout within each city's general plan relative to the County's policies.

2007 General Plan Policies

Implementation of the 2007 General Plan policies listed above under the 2030 Planning Horizon would ensure consistency with adopted local land use plans and reduce inevitable inconsistencies with such plans through 2092.

Significance Determination

The 2007 General Plan includes comprehensive measures to avoid conflicts with adopted land use plans, County LCP, LAFCO policies and zoning ordinances through buildout in the year 2092. As discussed above, the goals and policies of the 2007 General Plan Land Use Element and those of the Area Plans are internally consistent.

The County is relying upon the Community Areas and Rural Centers to provide a substantial portion of the future affordable housing that will be required in order to meet its housing needs allocation. In general, development on individual lots tends not to be affordable to very low-income, low-income, and moderate-income market segments. The Community Areas and Rural Centers will provide higher density that would lend itself to affordable housing production. As time passes and development fills the current Community Areas and Rural Centers, Housing Element Law will require the County to provide new places where affordable housing can be built. It is reasonable to assume that in order to meet future housing need allocations the County will amend the general plan to either expand the current Community Areas and Rural Centers or establish new Community Areas and Rural Centers. This would allow the County to remain consistent with its policy of city-centered development.

Impacts related to inconsistency of the 2007 General Plan Land Use Element with Area Plans would be less than significant. Any impacts related to inconsistency of the 2007 General Plan with the LCP, LAFCO policies or the Growth Management Policy would be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

Implementation of the 2007 General Plan policies at buildout in the year 2092 would reduce impacts related to consistency with adopted land use plans to a less than significant level and no mitigation is necessary. In addition, any impacts related to inconsistency of the 2007 General Plan with the LCP, LAFCO policies or the Growth Management Policy would be less than significant.

Conflict with an Adopted Habitat Conservation Plan

Impact LU-3: General Plan implementation would potentially conflict with an existing adopted habitat conservation or a natural community conservation plan. (Less-than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

HCPs and NCCPs are increasingly being used by resource agencies in California as a tool to conserve species and natural communities. The USFWS indicates that there are several HCPs approved in Monterey County for individual projects (U.S. Fish and Wildlife Service 2008). These include the Post Ranch Inn HCP in Big Sur (approved 2006), the Sarment Property HCP in Carmel Highlands (approved 2007), and the Wildcat Line LP HCP in Carmel Highlands (approved 2001). All of these are located in the coastal zone and would not be affected by the 2007 General Plan. Further, the Fort Ord Habitat Management Plan (HMP) has been adopted to coordinate protections of special status species. The HMP is discussed below.

Fort Ord Base Closure Plan HMP

The former Fort Ord military installation spans nearly 28,000 acres near the cities of Seaside, Sand City, Monterey, Del Rey Oaks and Marina in Monterey County, California. Fort Ord was established in 1917 as a training for infantry troops. It was expanded for use as a maneuver and training ground for field artillery and cavalry troops stationed at the Presidio of Monterey.

In 1991, the federal Defense Base Realignment and Closure Commission recommended that Fort Ord be closed, and the base was closed in September 1994. Closure, disposal and reuse of Fort Ord required consultation between the U.S. Army and the USFWS under Section 7 of the ESA. The U.S. Army's actions potentially affected several species listed as threatened or endangered or proposed for listing under the ESA. Hence, the Army developed a HMP to minimize incidental take of listed species and their habitat, and to mitigate impacts to vegetation and wildlife resources within Fort Ord. The Army developed the HMP with input from Federal, State, and local agencies and organizations concerned with the natural resources and reuse of Fort Ord. The USFWS, the Bureau of Land Management (BLM), DFG, the California Department of Parks and Recreation (State Parks), the University of California (UC), the FORA and other members of the local Monterey Bay area community were active participants in the development of the HMP. The HMP describes a cooperative Federal, State, and local conservation program for plant and animal species and habitats of concern known to occur at Fort Ord. The HMP's conservation program establishes land use categories and habitat management requirements for

all lands on the former base. Developable lands and habitats reserve areas are defined along with habitat corridors and restricted development areas. Resources conservation and management requirements are described and responsible parties for each designated habitat area on the former base are identified. (69 Federal Register [FR] 58181.) This is not, however, a formal HCP.

An installation-wide Multispecies HCP is under development for the former Fort Ord. About 3,968 acres of the former base were originally developed for military facilities with approximately 23,718 acres left as relatively natural habitat used for military training and other purposes. The multispecies HCP is being developed to provide the framework for ensuring conservation, enhancement and recovery of 19 special status plant and wildlife species and the natural communities that support them on former Fort Ord.

There are no NCCPs in Monterey County.

2007 General Plan Policies

The 2007 General Plan Land Use Element and Open Space and Conservation Element establish numerous policies that are intended to ensure consistency with adopted or proposed HCP/NCCPs.

Land Use Element

The 2007 General Plan Land Use Element does not address the detailed requirements of a specific HCP or NCCP. However, the County's intent is not to alter existing regional, State or Federal laws or regulations, but rather to enable greater cooperation among public agencies and the public to share management responsibilities in accomplishing a shared goal of conserving and protecting the resources of the region (Monterey County 2007). The 2007 General Plan would not interfere with establishment of new HCPs, nor with implementation of the existing adopted HCPs.

Open Space and Conservation Element

The Conservation and Open Space Element of the 2007 General Plan guides the County in the long-term conservation and preservation of open space lands and natural resources while protecting private property rights.

Open Space and Conservation Element Policy OS-1.7 (transfer of development rights) establishes a voluntary, transfer of development rights (TDR) program to direct development away from areas with unique visual or natural features, critical habitat, or prime agricultural soils. This 2007 General Plan policy would not conflict with an existing or proposed HCP/NCCP within the County.

Open Space and Conservation Element Policy OS-1.8 (clustering) calls for programs to encourage clustering development in rural and agricultural areas to reduce impacts to critical habitat areas, and would assist with implementation of the requirements of an existing or proposed HCP/NCCP within the County.

Open Space and Conservation Element Policy OS-4.1 (species protection) states that Federal and State designated native marine and fresh water species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant shall be protected. Species designated in Area Plans shall also be protected. This policy would not conflict with an existing or proposed HCP/NCCP within the County.

Open Space and Conservation Element Policy OS-5.1 and 5.2 (species inventory) states that the extent and acreages of the designated critical habitat of Federal and State listed threatened or endangered plants or wildlife species shall be inventoried to the extent feasible and mapped in GIS. Conservation of these threatened and endangered plants shall be promoted. In addition, the extent and acreages of the potentially suitable habitat for special status plant and wildlife species shall be inventoried to the extent feasible and mapped in GIS. Conservation of special status species shall be promoted as provided in the Area Plans. This policy would in turn assist with implementation of the requirements of an existing or proposed HCP/NCCP within the County.

Open Space and Conservation Element Policy OS-5.3 (conservation/maintenance) states that development shall be carefully planned to provide for the conservation and maintenance of designated critical habitat of plant and animal species listed by federal agencies as threatened or endangered. This policy would assist with implementation of the requirements of an existing or proposed HCP/NCCP within the County.

Open Space and Conservation Element Policy OS-5.12 (DFG Consultation) states that the CDFG shall be consulted and appropriate measures shall be taken to protect Areas of Special Biological Significance (ASBS) for State and federally listed species. This policy would assist with implementation of the requirements of an existing or proposed HCP/NCCP within the County.

Open Space and Conservation Element Policy OS-5.13 (preservation) states that efforts to obtain and preserve natural areas of particular biologic, scientific, or educational interest and restrict incompatible uses from encroaching upon them shall be encouraged. This policy is compatible with implementation an existing or proposed HCP/NCCP within the County.

Open Space and Conservation Element Policy OS-5.16 (biological surveys) requires any development project that could potentially disturb a special status species or its critical habitat identified by the County requiring analysis, or identified for protection under an adopted Area Plan shall be required to conduct a biological survey of the site. Based on the findings of this report, additional focused surveys for certain species may be required. This biological survey report, and any mitigation measures recommended in the report, shall be used as a basis for CEQA documentation for the project except if the County, in the exercise of its independent judgment, requires additional analysis. If sensitive biological resources are found on the site, the project biologist shall recommend measures necessary to reduce impacts to a less than significant level. All feasible measures shall be incorporated as conditions of approval in any permit issued. An ordinance establishing minimum standards for a biological report shall be enacted. This policy would not conflict with implementation of the requirements of an existing or proposed HCP/NCCP within the County.

Open Space and Conservation Element Policy OS-5.17 (mitigation program) requires the county to prepare, adopt, and implement a program that allows projects to mitigate the loss of critical habitat. The program may include ratios, payment of fees, or some other mechanisms in consultation with responsible state and/or federal regulatory agencies. Until such time as the program has been established, projects shall mitigate the loss of critical habitat on an individual basis in consultation with responsible state and/or federal regulatory agencies. This policy would assist with implementation of the requirements of an existing or proposed HCP/NCCP within the County.

Open Space and Conservation Element Policy OS-5.18 (permitting requirements) requires that all applicable federal and state permitting requirements shall be met, including all mitigation measures for development of jurisdictional areas and associated riparian habitats, prior to disturbing any federal or state jurisdictional areas. Therefore, this policy would assist with implementation of the requirements of an existing or proposed HCP/NCCP within the County.

Area Plan Policies

North County Area Plan

North County Area Plan Policy NC-3.3 requires the conservation of North County's native vegetation. Conservation of North County's native vegetation shall be given high priority to retain the viability of threatened or limited vegetative communities and animal habitats. In addition, the area's natural scenic qualities shall be promoted, and

rare, endangered and endemic plants shall be preserved for scientific study. Property owners shall be encouraged to cooperate with the County in establishing conservation easements over areas of native vegetation. This policy would in turn assist with implementation of the requirements of an existing or proposed HCP/NCCP within the North County area.

North County Area Plan Policy NC-3.5 states that critical habitat areas should be preserved as open space. In turn, when an entire parcel cannot be developed due to this policy, a low intensity, clustered development may be approved. However, the development should be located on those portions of the land least biologically significant so that the development will not upset the natural function of the surrounding ecosystem. This policy would assist with implementation of the requirements of an existing or proposed HCP/NCCP within the North County area.

Greater Salinas Area Plan

There are no additional policies within the Greater Salinas Area Plan that specifically pertain to HCPs or NCCPs. However, there are no adopted HCPs or NCCPs within the Greater Salinas area at this time.

Central Salinas Valley Area Plan

There are no additional policies within the Central Salinas Valley Area Plan that specifically pertain to HCPs or NCCPs. However, there are no adopted HCPs or NCCPs within the Central Salinas Valley area at this time.

Greater Monterey Peninsula Area Plan

Greater Monterey Peninsula Area Plan policy GMP-3.5 states that development in the Greater Monterey Peninsula area shall be designed to prevent, to the maximum extent feasible, the destruction of native oak, pine, and redwood forest habitat and wetlands in the Greater Monterey Peninsula Area Plan area.

Greater Monterey Peninsula Area Plan Policy GMP-3.8 and GMP-3.9 (open space) calls for open space areas to include a diversity of habitats with special protection given to ecologically important zones such as areas where one habitat grades into another, or areas used by wildlife for access routes to water or feeding grounds. In addition, critical habitat areas should be preserved as open space. Development should be located on those portions of the land least biologically significant so that the development will not upset the natural function of the surrounding ecosystem. These policies would in turn assist with implementation of the requirements

of an existing or proposed HCP/NCCP within the Greater Monterey Peninsula area.

Carmel Valley Master Plan

Carmel Valley Master Plan Policy CV-3.7 (open space preservation) calls for areas of biological significance to be identified and preserved as open space. These areas include, but are not limited to the redwood community of Robinson Canyon, the riparian community and redwood community of Garzas Creek, all wetlands, including marshes, seeps and springs. In addition, native bunchgrass stands and natural meadows shall be identified and preserved, as well as ridgelines and wildlife migration routes.

Carmel Valley Master Plan Policy CV-3.12 (habitat diversity) necessitates that open space areas include a diversity of habitats with special protection given to areas where one habitat grades into another and areas used by wildlife for access routes.

Carmel Valley Master Plan Policy CV-3.15 (development rights/easements) supports alliances between public and private agencies such as the Big Sur Land Trust, the Monterey Regional Park District and others to acquire development rights and/or accept easements and dedications for significant areas of biological, agricultural or other open space land. Combined, these policies would in turn assist with implementation of the requirements of an existing or proposed HCP/NCCP within the Carmel Valley area.

Toro Area Plan

There are no policies within the Toro Area Plan that specifically pertain to HCPs or NCCPs. In addition, there are no adopted HCPs or NCCPs within the Toro area at this time.

South County Area Plan

There are no policies within the South County Area Plan that specifically pertain to HCPs or NCCPs. In addition, there are no known adopted HCPs or NCCPs within the South County area at this time.

Community Area Policies

Fort Ord Master Plan

The 1997 Fort Ord Installation-wide Multi-species Habitat Management Plan (Fort Ord HMP) outlines management requirements for lands on the former Fort Ord. The HMP identifies four general categories of parcel-specific land uses: habitat reserve,

habitat corridor, development with reserve areas and restrictions, and development with no restrictions. These four land uses are thoroughly incorporated into the Fort Ord Master Plan. For example, one of the Fort Ord Master Plan Design Objectives establishes site planning and design criteria that provide buffers and addresses compatibility with adjacent open space areas in conformance with the adopted Fort Ord HMP. Program B-2.5 stipulates that buffers are required as a condition of approval adjacent to Habitat Management areas, and that buffers shall be designed in a matter consistent with those guidelines set out in the Fort Ord HMP. Since the requirements of the Fort Ord HMP are thoroughly integrated into the Fort Ord Master Plan, it is not anticipated that implementation of the Fort Ord Master Plan would significantly conflict with the implementation of the Fort Ord HMP.

Agricultural Winery Corridor Plan

No adopted HCP or NCCP exists within the AWCP boundaries. This condition precludes the possibility of the AWCP conflicting with an adopted conservation plan; therefore, no impact would occur.

Significance Determination

Implementation of the 2007 General Plan would not introduce any new policies that would conflict with an existing adopted HCP or NCCP within the County. None of the planned Community Areas, Rural Centers, or AHOs would overlap with HCPs. Development on lots of record would be required to comply with any applicable future HCPs in order to meet federal law. In addition, implementation of the 2007 General Plan would not conflict with existing land use designations or policies within the Fort Ord HMP boundaries. The prospective multi-species HCP will set out parameters for development and conservation. As a signatory to the HCP, the County would amend any portion of the Fort Ord Master Plan that might conflict with the HCP. Accordingly, implementation of the 2007 General Plan would not result in significant conflicts with an existing HCP or NCCP and associated impacts would be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

Implementation of the 2007 General Plan policies would not conflict with an adopted HCP in the County. The impact would be less than significant.

Buildout

Impact of Development with Policies

Buildout of the 2007 General Plan in the year 2092 would result in new development in many areas of the County beyond 2030 levels. In addition, implementation of the 2007 General Plan in the year 2092 would inevitably result in changes to land use designations in several areas of the County, including Community Areas and Rural Centers in order to meet future housing needs pursuant to Housing Element Law, as discussed above.

2007 General Plan Policies

Implementation of the 2007 General Plan policies listed above would ensure consistency with adopted HCPs and NCCPs and would reduce inconsistencies with such plans through the year2092.

Significance Determination

Implementation of the 2007 General Plan would be consistent with adopted HCPs and NCCPs in the County through the year 2092. Prospective HCPs and NCCPs developed and adopted after the adoption of the 2007 General Plan would take into account current and future development patterns in the County. Further, they would be adopted under federal and state law, outside of County land use regulations. Therefore, while nothing is known about prospective HCPs and NCCPs (other than Fort Ord), the potential for a significant effect on prospective HCPs or NCCPs at ultimate buildout is low for these reasons. Therefore, implementation of the 2007 General Plan would have a less than significant impact on existing and future HCPs or NCCPs through 2092, and no mitigation is required.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

Implementation of the 2007 General Plan would have a less than significant impact on future HCPs or NCCPs through buildout in the year2092, and no mitigation is required.

4.1.5 Level of Significance after Mitigation

All impacts related to land use would be less than significant with implementation of the measures in the 2007 General Plan, and no additional mitigation would be required.

4.2 Agriculture Resources

4.2.1 Abstract

Monterey County contains some of the most productive farmland in the United States. The county's agricultural economy ($3.49 billion in 2006) is the third largest in California. As of 2006, there were more than 1.3 million acres of agricultural lands in the county, representing more than 60% of the total land area: 236,142 acres are identified as Important Farmland (See Exhibit 4.2.1) and 1,065,577 acres are identified as grazing land by the California Department of Conservation (Department of Conservation 2006). As of 2007, approximately 763,396 acres of Monterey County farmlands are protected under Williamson Act, Farmland Security Zone, or other enforceable restrictions. During the past two decades, the total acreage of land in agricultural use in Monterey County has remained relatively constant with only nominal change.

Development and land use activities contemplated by the 2007 General Plan would result in the following significant impacts on agriculture resources:

- **Loss of Important Farmland—**Implementation of the 2007 General Plan would result in the conversion of approximately 2,571 acres of Important Farmland to non-agricultural use. No mitigation is available to reduce this impact to a less-than-significant level. It should be noted that from 1984 to 2006, while there was conversion of important farmland to urban use, there was a net increase in important farmland due to the conversion of grazing land or natural land to important farmland; a similar phenomena is expected to occur in the future.
- **Conversion of Agricultural Land to Non-Agricultural Uses—**Because it provides for additional residential development as required under State Planning Law, implementation of the 2007 General Plan would create development pressures that would result in the conversion of agricultural lands to non-agricultural uses. Such pressures also primarily stem from future growth within the Salinas Valley's incorporated cities. No mitigation is available to reduce this impact to a less-than-significant level. As noted above, it is expected that new farmland will be created over the lifetime of the General Plan similar to past trends.

4.2.2 Introduction

This section identifies and evaluates issues related to agricultural resources in the General Plan action area.

The "Environmental Setting" discussion below describes the current setting of the action area. The purpose of this information is to establish the existing

environmental context against which the reader can then understand the environmental changes caused by the action. The environmental setting information is intended to be directly or indirectly relevant to the subsequent discussion of impacts.

The environmental changes associated with the action are discussed under "Impact Analysis." This section identifies impacts, describes how they would occur, and prescribes mitigation measures to reduce significant impacts, if necessary.

4.2.3 Environmental Setting

4.2.3.1 Overview and History

Monterey County contains some of the most productive farmland in the United States. The Salinas Valley accounts for nearly all of the agricultural production in Monterey County and is known as the "Salad Bowl of the World" because of its voluminous production of vegetable crops.

The Salinas Valley is 10 to 20 miles wide by (150 miles long). The Salinas River, the third longest in the state, winds through the valley, and its aquifer is the main source of water for agriculture. The Salinas Valley is framed by mountain ranges on the east and west and runs the length of the county. Salinas, the largest city in the County, is located in the Salinas Valley, as are the smaller cities of Gonzales, Greenfield, King City, and Soledad. The north end of the Salinas Valley opens to the Pacific Ocean, which is the source of the marine influence that cools the valley, creating ideal conditions for a wide range of crops. The unique geography of the Salinas Valley allows for the production of cool-season vegetable crops due to the marine influence that produces abundant summer fog. The marine influence diminishes with distance from the ocean, producing a gradient of climate that allows the production of a wide range of crops.

Monterey County agriculture is notable for its diversity of crops, many of which are grown year-round. Approximately 45 commodities in the county have a gross value of more than $1 million each. The highest percentage of farmland acreage is devoted to cool-season vegetables, including lettuce, broccoli, spinach, cauliflower, artichokes, and celery. In the southern half of the county, farmers grow warm-season vegetables, including carrots, peppers, potatoes, and tomatoes. The cool-season crops listed above are also grown at certain times in the south part of the county. Monterey County is also home to a sizable wine grape industry and produces more than a quarter of the state's annual strawberry yield.

4.2.3.2 Agricultural Economy

The *California Agricultural Resource Directory 2007* indicates that Monterey County's agricultural economy of $3.49 billion is the third largest in the state (California Department of Food and Agriculture 2007). Agriculture accounts for more than 25% of countywide employment during peak seasons. The agriculture sector and related food processing activities together constitute important export activities that bring money into Monterey County. Table 4.2-1 summarizes the overall contribution of the Monterey County agricultural economy between 1994 and 2007.

Table 4.2-1. Monterey County Agricultural Economy (1994–2007)

Year	Agricultural Economy (billions of dollars)	Rank in State
2006	$3.49	3
2004	$3.39	3
2003	$3.29	3
2002	$2.83	3
2001	$2.75	3
2000	$2.92	3
1999	$2.37	3
1998	$2.30	3
1997	$2.27	3
1996	$1.93	4
1995	$2.01	3
1994	$1.93	4

Sources: United States Department of Agriculture. *Summary of County Agricultural Commissioner's Reports 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003,* and *2004*.

California Department of Food and Agriculture. *California Agricultural Resource Directory 2007*. Sacramento, CA. 2007.

Table 4.2-2 summarizes the top 10 agricultural commodities produced in Monterey County by dollar value in 2006. As the table illustrates, the growth of diversity in crops in Monterey County over the years has ensured that agriculture remains the leading economic activity for the region.

In terms of dollar value, Monterey County is the state's leading producer of lettuce, broccoli, miscellaneous salad greens, spinach, cauliflower, mushrooms, cabbage, and artichokes. Table 4.2-3 summarizes Monterey County's statewide ranking for the production of top agricultural commodities in 2006. In addition, Table 4.2-3 illustrates the importance of Monterey County's agri-business to California, with 15 of its crops in the state's top three in terms of production.

Table 4.2-2. Leading Monterey County Agricultural Commodities (2006)

Rank	Commodity	Dollar Value (millions of dollars)
1	Lettuce, leaf	$630
2	Lettuce, head	$444
3	Strawberries	$440
4	Nursery	$339
5	Broccoli	$234
6	Grapes	$218
7	Spring Mix	$170
8	Salad Products	$122
9	Miscellaneous Vegetables	$116
10	Spinach	$109

Source: Monterey County Agricultural Commissioner. *Monterey County Crop Report 2006*. Salinas, CA. 2007.

Table 4.2-3. Selected Monterey County Agricultural Crop Production (2006)

Crop	Monterey County Rank in State	Percent of State Production (%)
Artichokes	1	83.3
Spinach	1	59.6
Lettuce	1	65.6
Cauliflower	1	54.9
Cabbage	1	36.1
Broccoli	1	43.0
Mushrooms	1	44.1
Strawberries	1	32.8
Misc Salad Greens	1	92.2
Celery	2	33.6
Asparagus	2	20.4
Nursery products	2	8.7
Carrots	2	3.2

Source: California Department of Food and Agriculture. *California Agricultural Resource Directory 2007*. Sacramento, CA. 2007

Table 4.2-4 illustrates the changes in the county's most popular crops. Although some select agricultural crops have decreased in production numbers, overall agricultural production has increased substantially in the region over the past 20 years. Changes in production of a given crop generally reflect market forces, as farmers seek to maximize profits, but do not indicate whether particular land is

no longer being devoted to agriculture. Farmers change the type of crop grown on a particular piece of agricultural land from year to year and season to season, depending upon their anticipation of production costs, market demands, and prices. The 2006 data is assumed to represent existing conditions for purposes of this EIR.

Table 4.2-4. Agricultural Commodity Trends

	Acreage			
Crop	1985	1995	2005	2006
Artichokes	9,189	6,344	6,081	7,242
Broccoli	54,805	61,447	38,863	38,215
Cauliflower	22,415	23,569	16,380	15,195
Celery	5,410	7,445	10,138	8,491
Grapes	28,647	30,483	38,179	38,165
Lettuce	133,017	105,592	149,615	169,263
Nursery products	967	1,575	1,123	1,220
Spinach	3,046	8,700	16,937	7,638
Strawberries	3,500	7,022	8,820	9,295

Sources: Monterey County Agricultural Commissioner's Office. *Monterey County 2005 Crop Report.* 2006.

Monterey County Agricultural Commissioner. *Monterey County Crop Report 2006*. 2007.

4.2.3.3 Agricultural Land Use

The conservation of quality agricultural lands has sustained the economic feasibility of agriculture in Monterey County. Table 4.2-5 summarizes the various types of farmland in Monterey County, as inventoried by the California Department of Conservation's Farmland Mapping and Monitoring Program (refer to Section 4.2.2, Regulatory Framework, for further category definitions and discussion of this program). "Important Farmland" consists of "Prime Farmland," "Farmland of Statewide Importance," and "Unique Farmland."

Table 4.2-5. Agricultural Land Use Summary

Land Use Category	Acres 1984	Acres 1994	Acres 2006	Percent Change 1984–2006 (%)
Prime Farmland	176,779	174,681	167,636	-5.2
Farmland of Statewide Importance	37,762	37,961	43,402	+14.9
Unique Farmland	10,875	13,074	25,104	+131.0
Important Farmland subtotal	**225,416**	**225,716**	**236,142**	**+4.6**
Grazing Land	1,081,510	1,080,452	1,065,577	-1.5
Agricultural Land subtotal	**1,306,926**	**1,306,168**	**1,301,719**	**-0.04**
Urban Land	42,374	47,112	55,951	+32.0
Other	765,284	761,302	757,210	-1.1
Water	6,544	6,545	6,246	-4.6
Total Land	**2,121,128**	**2,121,128**	**2,121,128**	

Sources: California Department of Conservation. Farmland Mapping and Monitoring Program. *Monterey County Historic Land Use Conversion. 1982 to Present*. Accessed: http://redirect.conservation.ca.gov/DLRP/fmmp/pubs/1984-Present/mnt_1984-Present.xls.

California Department of Conservation. Farmland Mapping and Monitoring Program. *Monterey County Important Farmland Data Availability. Land Use Conversion Table 2004–2006.* This table is available online through the Farmland Mapping and Monitoring Program: http://redirect.conservation.ca.gov/DLRP/fmmp/county_info_results.asp.

As a percentage of total land in Monterey County, agricultural uses have held constant at more than 61% for the past 20 years. While several thousand acres of agricultural land were converted to urban uses during that period, land continues to be brought into production, and, as of 2006, urban uses represent less than 3% of total land use in Monterey County. Table 4.2-6 summarizes land use as a percentage of the total area of Monterey County.

Table 4.2-6. Land Use as a Percentage of Monterey County Area

Land Use	1984	1994	2006
Important Farmland	10.6	10.6	11.1
Grazing Land	51.0	50.9	50.2
Agricultural Land total	**61.6**	**61.5**	**61.3**
Urban Land	2.0	2.2	2.6

Source: California Department of Conservation. Farmland Mapping and Monitoring Program. *Monterey County Important Farmland Data Availability. 1984-2006 Land Use Summary.* Accessed: http://redirect.conservation.ca.gov/DLRP/fmmp/pubs/1984-Present/mnt_1984-Present.xls.

Loss of Important Farmland

An issue of concern in Monterey County is the conversion of agricultural land to urban uses. Table 4.2-7 summarizes the acreage of agricultural land that has been converted to urban uses between 1992 and 2006. However, as was noted earlier, the percent of land in Monterey County in agricultural use has remained constant, at approximately 61% over the past 20 years because other lands have been brought into agricultural use, even as others have been converted to urban uses.

Table 4.2-7. Agricultural Land Converted to Urban Uses (1992–2006)

	Acres Converted to Urban Uses							
Agricultural Land Use	1992–1994	1994–1996	1996–1998	1998–2000	2000–2002	2002–2004	2004–2006	Total
Prime Farmland	255	948	1,176	737	335	123	211	3,785
Farmland of Statewide Importance	26	261	126	47	36	11	26	533
Unique Farmland	2	30	48	12	20	21	18	151
Important Farmland subtotal	**283**	**1,239**	**1,350**	**790**	**391**	**155**	**151**	**4,463**
Grazing Land	63	162	519	919	213	0	277	2,153
Agricultural Land total	**346**	**1,401**	**1,869**	**1,709**	**604**	**155**	**412**	**6,616**

Source: California Department of Conservation. Farmland Mapping and Monitoring Program. *Monterey County Important Farmland Data Availability*. *Land Use Conversion Tables: 1992–1994, 1994–1996, 1996–1998, 1998–2000, 2000–2002,* and *2002–2004, 2004-2006*. These seven tables are available online through the Farmland Mapping and Monitoring Program: http://redirect.conservation.ca.gov/DLRP/fmmp/county_info_results.asp.

A net total of 6,616 acres of agricultural land was converted to urban uses between 1992 and 2006. Of this figure, 4,463 acres (67.5%) was classified as Important Farmland. This equates to an average loss of approximately 319 acres of Important Farmland per year. The percent of lands in agricultural use, as shown in Table 4.2-6, has remained constant at more than 61%.

4.2.4 Regulatory Framework

4.2.4.1 Federal and State

Farmland Mapping and Monitoring Program

The Farmland Mapping and Monitoring Program (FMMP) was established in 1982 to track changes in agricultural land uses over time. It continues the farmland mapping efforts initiated in 1975 by the Soil Conservation Service

(since renamed Natural Resources Conservation Service [NRCS]) of the U.S. Department of Agriculture. The Important Farmland Maps produced under the FMMP identify five farmland categories: Prime Farmland, Unique Farmland, Farmland of Statewide Importance, Farmland of Local Importance, and Grazing Land. Each of these categories is summarized below, as excerpted from *A Guide to the Farmland Mapping and Monitoring Program* (1994), prepared by the California Department of Conservation.

- **Prime Farmland—**Land with the best combination of physical and chemical features able to sustain the long-term production of agricultural crops. These lands have the soil quality, growing season, and moisture supply needed to produce sustained high yields.
- **Unique Farmland—**Land of less quality soils used for the production of the State's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards, as found in some climactic zones in California.
- **Farmland of Statewide Importance—**Land similar to Prime Farmland, but with minor shortcomings, such as greater slopes or less ability to hold and store moisture.
- **Farmland of Local Importance—**Land of importance in the local agricultural economy, as determined by each county's Board of Supervisors and a local advisory committee. Monterey County does not have any land designated as Farmland of Local Importance.
- **Grazing Land—**Areas covered by vegetation, both natural and cultivated, that are suited to the grazing of livestock.

Williamson Act

The California Land Conservation Act, also known as the Williamson Act, was adopted in 1965. This voluntary tax incentive program allows the owners of land within established agricultural preserves who agree to maintain their land in agricultural use to have their property assessed based on its agricultural production, rather than the current market value. The property owner is thus relieved of having to pay higher property taxes as long as the land remains in agricultural production. The purpose of the Williamson Act is to encourage participating property owners to continue to farm their land, and to prevent the premature conversion of farmland to urban uses.

The Williamson Act applies to both prime and non-prime agricultural lands. As a result, agricultural uses on contracted lands range from intensive agriculture to grazing. Lands under contract may also support uses that are "compatible with the agricultural, recreational, or open-space use of the land" subject to the contract (Government Code Section 51201[e]). Monterey has identified the following "compatible uses":

- Drying, packing, or other processing of an agricultural commodity usually performed on the premises where it is produced.

- Structures necessary and incidental to the agricultural use of the land.
- Single-family dwellings incidental to the agricultural use of the land for the residence of the owner and family of the owner or lessee of the land.
- Dwellings for persons employed by the owner or lessee (and their families) incidental to the agricultural use of the land.
- An aircraft landing strip incidental to the agricultural use of the land.
- Erection, constriction, alteration, or maintenance of gas, electric, water or communication utility facilities.
- Erection, constriction, alteration, or maintenance of radio, television or microwave antennae, transmitters, and related facilities.
- Public or private hunting clubs and accessory structures.
- Public or private hunting of wildlife or fishing.
- Public or private shooting range, archery range, or other similar use.
- Public or private riding or hiking trails.
- Removal of natural materials.
- Disposal of specified oil field wastes, when in accordance with all required local and state permits.

When a land owner enters into a Williamson Act contract with the County, the land is restricted to agricultural and compatible uses for at least 10 years. Williamson Act contracts are automatically renewed annually for an additional one-year period, unless the property owner applies for non-renewal. The Williamson Act also contains limited provisions for cancellation of contracts by the Board of Supervisors and a substantial penalty for the cancellation is assessed. Non-renewal is the preferred method of ending a contract; cancellation is intended only for unusual situations (*Sierra Club v. City of Hayward* [1981] 28 Cal.3d 840). The specific findings to justify cancellation are extremely difficult to make, and contracts are rarely cancelled in Monterey County.

Alternatively, under the Williamson Act, a landowner may enter into a contract with the County placing their land within a Farmland Security Zone. The Farmland Security Zone offers a greater property tax reduction in exchange for agreeing to a longer minimum term on the contract (20 years, rather than the 10 years otherwise provided under the Williamson Act). If an existing Williamson Act contract is being converted to a Farmland Security Zone, the Board of Supervisors will rescind the existing contract upon approving the Zone. Non-renewal or cancellation procedures for Farmland Security Zone contracts are similar to those for the Williamson Act; however, cancellation is also subject to approval by the Director of the California Department of Conservation.

In 2007, 763,396 acres of land in Monterey County were under Williamson Act contract, with an additional 31,278 acres under the more restrictive Farmland Security Zone (Department of Conservation 2008c). The 763,396 acres under these enforceable restrictions represent an 11% increase over the 1991 total.

Table 4.2-8 summarizes the change in Williamson Act acreage between 1991 and 2007.

Table 4.2-8. Change in Williamson Act Contract Acreage (1991–2007)

Acres of Land under Williamson Act Contract		Change (acres) (Percent Change [%])
1991	2007	
686,466	763,396	+76,930 (+11%)

Department of Conservation. 2008c. Williamson Act Program Reports and Statistics. Enrollment Summaries and Trends. County information available online at: http://www.conservation.ca.gov/dlrp/lca/stats_reports/Pages/index.aspx

Exhibit 4.2.2 depicts the locations of parcels in Monterey County with active Williamson Act contracts, as of 2004, which is the latest year for which geographic information systems (GIS) data is available showing the location of Williamson Act contracts.

4.2.5 Project Impacts

This section describes the CEQA impact analysis relating to agricultural resources for the Project and alternatives. It describes the methods used to determine the Project's impacts and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

4.2.5.1 Methodology

Using the criteria for determining significance described below, analysis of the agricultural effects of the project are based on the location and designation of the farmland in the county. Important Farmland as well as land zoned for farming and land under Williamson contract were specifically analyzed. Additionally, the location of other development in relation to farmland in the county was also used to analyze impacts. A qualitative analysis is provided to determine whether the development and land use activities contemplated by the 2007 General Plan would create substantial impact on farmland in the county.

4.2.5.2 Thresholds of Significance

Thresholds of Significance under CEQA

The State CEQA Guidelines were used to determine whether the proposed action would have a significant environmental effect. The proposed action may have a significant effect on visual resources under CEQA if it would:

- convert Prime, Unique, or Farmland of Statewide Importance (collectively Important Farmland) to non-agricultural use;
- conflict with existing zoning for agricultural use, or a Williamson Act contract; or
- involve other changes in the existing environment, which, due to their location or nature, would result in conversion of farmland to non-agricultural use.

4.2.5.3 Impact Analysis

Implementation of the 2007 General Plan to the 2030 and 2092 planning horizons could result in impacts to Important Farmland, land zoned for farming, land under Williamson Act/Farmland Security Zone contract and other existing farmland.

Loss of Important Farmland

Impact AG-1: Implementation of the 2007 General Plan would result in the conversion of Important Farmland to non-agricultural use. (Significant Unavoidable Impact.)

2030 Planning Horizon

Impact of Development with Policies

Implementation of the 2007 General Plan would result in a net loss of Important Farmland within the county. As of 2006, there were approximately 236,142 acres of Important Farmland in Monterey County, as mapped by the California Department of Conservation. Of this acreage, 233,571 acres are in an agricultural (e.g., Farmland) or agricultural supporting (Agricultural Industrial) land use designation of the 2007 General Plan. The remaining 2,571 acres are contemplated to be converted to urban uses by the 2007 General Plan. Note that this figure includes approximately 476 acres of Important Farmland that are within the Sphere of Influence of the cities. Table 4.2-9 summarizes the net loss of Important Farmland that would occur from implementation of the General Plan. It is expected that most of the conversion of Important Farmland in the unincorporated county

would occur in the Boronda, Castroville, Chualar, and Pajaro Community Areas.

The exact amount of conversion that would occur by 2030 was not estimated. Table 4.2-9 shows the total amount of conversion that would occur through buildout. Conversion by 2030 would be somewhat less than this total.

Table 4.2-9. Change in Net Important Farmland Acreage

Existing Important Farmland (2006)	Important Farmland within a Proposed Agricultural Land Use Designation	Important Farmland Removed from Agricultural Land Use Designation
236,142 acres	233,571 acres	2,571 acres

Sources: California Department of Conservation. Farmland Mapping and Monitoring Program. Monterey County Important Farmland Data Availability. *Land Use Conversion Table 2004–2006.* This table is available online through the Farmland Mapping and Monitoring Program: http://redirect.conservation.ca.gov/DLRP/fmmp/county_info_results.asp.

County of Monterey. *2007 General Plan*. 2007.

While the loss of 2,571 acres of Important Farmland would represent only about one percent of the total Important Farmland acreage in Monterey County, this is considered significant because the land would be permanently removed from agricultural production.

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized below set forth comprehensive measures to avoid and minimize adverse impacts on conversion of Important Farmland to non-agricultural uses to the maximum extent practicable.

Land Use Element

Land Use Element Policies LU-1.1 through LU-1.5 and LU-1.7 though LU-1.9 promote general land use concepts that emphasize city-centered growth and discourage conversion of prime agricultural lands to urban uses. Policies LU-1.1 (requires that the type, location, timing, and intensity of growth in the unincorporated area be managed), LU-1.2 (discourages premature and scattered development), LU-1.3 (stipulates that balanced development of the county be assured through designating adequate land for a range of future land uses), LU-1.4 (limits growth to areas where an adequate level of services and facilities exists or can be assured concurrent with growth and development), LU-1.5 (requires that land uses be designated to achieve compatibility with adjacent uses), LU-1.7 (allows for clustering of residential development to those portions of the property most suitable for development), LU-1.8 (encourages voluntary reduction or limitation of development potential in the

rural and agricultural areas through dedication of scenic or conservation easements, transfer of development rights, and other appropriate techniques), and LU-1.9 (prioritizes infill of vacant non-agricultural lands in existing developed areas and new development within designated urban service areas) are intended to ensure that growth in the unincorporated county would occur in a planned fashion and would be compatible with existing land uses. These policies discourage urban development outside of the incorporated cities, except within identified Community Areas and Rural Centers. As much of the agricultural land in the county occurs in unincorporated areas, these policies serve to limit development in agricultural areas and conserve prime agricultural lands thereby reducing the potential for impacts of their conversion to non-agricultural uses.

Agricultural Element

Agricultural Element Policies AG-1.1 through AG-1.12 establish land use guidelines designed to preserve existing agricultural operations, particularly those located on Important Farmland. Policies AG-1.1 (prohibits land uses that would interfere with routine and ongoing agricultural operations on viable farmlands), AG-1.2 (establishes a regulatory framework allowing for the use of agricultural buffers to protect existing agricultural operations), AG-1.3 (limits the subdivision of Important Farmland and land designated as Farmlands, Permanent Grazing, or Rural Grazing), AG-1.4 (requires that viable agricultural land uses on Important Farmland be conserved, enhanced, and expanded through agricultural land use designations and encouragement of large-lot agricultural zoning), AG-1.5 (encourages the use of tax and economic incentives for farms and ranches), AG-1.6 (allows farm worker housing in areas designated for agricultural land use, under certain conditions), AG-1.7 (encourages the clustering of residential uses accessory to the agricultural use of the land in locations that will have minimal impact on the most productive land), AG-1.8 (requires that discretionary development projects on agricultural lands be reviewed by the County's Agricultural Advisory Committee), AG-1.9 (allows agricultural operations to be protected from nuisance claims), AG-1.11 (stipulates that permits for agricultural activities be integrated with applicable Resource Conservation District permit coordination (streamlining) programs), AG-1.12 (requires the County to establish a program to mitigate the loss of Important Farmland when a proposed change of land use designation would result in the loss of Important Farmland (as mapped by the California Department of Conservation), including annexation of agricultural land to an incorporated area) set forth general measures to promote the long-term protection and conservation of existing productive agricultural lands. Further, the policies ensure that surrounding uses are compatible with agricultural land uses. Implementation of these

policies would promote protection of agricultural areas from conversion to non-agricultural uses.

Agricultural Element Policies AG-2.1 through AG-2.4, and AG-2.8 and AG-2.9 identify measures to promote the viability and financial feasibility of agricultural business in the county. These policies define appropriate and compatible uses of agricultural lands. Policies AG-2.1 (allows agricultural support facilities serving onsite and offsite farming and ranching activities to be established in the Farmlands, Permanent Grazing, and Rural Grazing land use designations), AG-2.2 (encourages the establishment and retention of a broad range of agricultural support businesses and services to enhance the full development potential of the agricultural industry in the county), AG-2.3 (allows agricultural processing facilities to be developed in the Farmlands, Permanent Grazing, and Rural Grazing land use designations, where compatible and appropriate), AG-2.4 (requires agriculture-related enterprises and agricultural support uses to be sited and designed to minimize the loss of productive agricultural lands and to minimize impacts on surrounding land uses), AG-2.8 (restricts compatible recreational uses to those that do not adversely impact long-term productivity of onsite or adjacent agricultural uses), and AG-2.9 (allows onsite farm equipment storage facilities within agricultural land use designations) reduce the potential for impacts to agricultural land by maintaining the viability of agricultural activities.

Agricultural Element Policies AG-3.1 through AG-3.3 are designed to prevent inappropriate limitations on routine and ongoing agricultural activities. Policies AG-3.1 (permits routine and ongoing agricultural activities, and stipulates that activities with the potential for significant impacts are subject to a greater level of review), AG-3.2 (encourages cooperation between the County, the agricultural industry, and state and federal agencies to streamline permit procedures for routine and ongoing agricultural activities), and AG-3.3 (identifies a non-exclusive list of routine and ongoing agricultural activities that the county may consider for exemption from selected General Plan policies based on development of an ordinance in order to provide flexibility for agricultural operations to continue in the county and to meet the changing demands of both regional and global competition) support typical, routine agricultural activities in a manner that would reduce the potential for agricultural land conversion by allowing for their continuation and economic viability.

Area Plan Policies

Supplemental policies in the North County (Inland) Area Plan, Greater Salinas Area Plan, Central Salinas Valley Area Plan, Carmel Valley Master Plan, Toro Area Plan, Cachagua Area Plan, and South County

Area Plan are designed to preserve existing agricultural land uses and to allow new, expanded permitted agricultural uses in these areas.

North County Area Plan

North County Area Plan Policy NC-1.2 (allows commercial mushroom growing operations to increase production, subject to a use permit) and Policy NC-1.3 (promotes the preservation and enhancement of large acreages in higher elevations and on steeper slopes for grazing) reduces the potential for conversion of farmland by supporting expansion of agricultural uses. Policy NC-6.1 (land designated for farmland and grazing uses be assessed and taxed accordingly) would allow more secure tax benefits for farmland and grazing, which would encourage the conservation of those uses by the owners.

Greater Salinas Area Plan

Greater Salinas Area Plan Policy GS-1.1 (specific agricultural buffers in the Butterfly Village Special Treatment Area) would reduce potential conversion impacts by establishing buffers in the Butterfly Village Special Treatment Area. Policies GS-1.3 (restrictions for visiting farms on the agricultural property in the Highway 68/Foster Road Special Treatment Area) and GS-1.5 (encourage commercial uses which support farm activities near Highway 68 and the Salinas River) reduce potential conversion impacts by taking measures to protect and support agricultural uses in the Special Treatment Area. Policies GS-1.7 (Spence/Potter/Encinal Road Study Area new development requirements), GS-1.8 (town of Spreckels may be developed as agriculturally related commercial uses), GS-1.9 (town of Spreckels industrial development requirements), GS-1.10 (Special Treatment Area designation at Natividad/Rogge Road to permit soil dependent agricultural operations), and GS-1.11(establish Espinosa Road Study Area to potentially encourage more intensive agricultural uses and businesses) identify specific parcels and/or locations, and either require or encourage future development on these sites to preserve existing agricultural uses (if present) or ensure compatibility with adjacent agricultural uses (if present). With their support of potential future agricultural development, these policies would reduce the potential conversion of agricultural lands to non-agricultural uses. Policy GS-6.1 (promotes the donation of development rights on agricultural land to a duly established Farmland Trust or other qualified organization that meets the criteria of Section 501(c)(3) of the Internal Revenue Code), Policy GS-6.2 (allows accessory uses on agricultural land that maintain the viability of continued agricultural production) and Policy GS-6.3 (sets forth standards for support facilities on agricultural land that would ensure compatibility with agricultural production) establish standards that promote

continuation of agricultural uses, which reduces the potential for agricultural land conversion to non-agricultural uses.

Central Salinas Valley Area Plan

Implementation of Central Salinas Valley Area Plan Policies CSV-1.3 (specific development requirements for the Spence/Potter/Encinal Road area that would allow for alternative land uses to support the agricultural industry) and CSV-1.4 (details of requirements for various studies to ensure that surrounding agricultural uses in the Spence/Potter/Encinal Road area would not be adversely affected) would provide protection for agricultural land to reduce potential conversion impacts in the plan area.

Carmel Valley Master Plan

Carmel Valley Master Plan Policy CV-6 (future development adjacent to agricultural lands must be planned to minimize adverse effects on the productivity of the agricultural soils) and policy CV-6.3 (croplands and orchards be retained for agricultural use and promotes the use of low-density, clustered development to preserve agricultural lands) establish protections that reduce the potential for conversion of agricultural land.

Toro Area Plan

Toro Area Plan Policy T-3.6 (preservation and enhancement of large acreages in higher elevations and on steeper slopes for grazing) protects agricultural land and would subsequently reduce impacts from conversion of agricultural land.

Cachagua Area Plan

Cachagua Area Plan Policy CACH-2.3 (private airstrips and agricultural landing fields must have a use permit and be controlled to ensure that they do not permanently preclude cultivation of Farmlands of Local Importance) protects potential uses of land for agricultural production.

South County Area Plan

South County Area Plan Policy SC-1.2 (encourages clustered development in all areas where development is permitted) and policy SC-6.1 (promotes the conservation of irrigated and non-irrigated farmlands) promote preservation of agricultural land. Policy SC-1.3 (supports policies and programs such as large lot zoning and agricultural land trusts) would reduce pressure to convert farmland to non-agricultural uses by enhancing the competitive capabilities of farms and ranches.

Agricultural Winery Corridor Plan

The AWCP included in the 2007 General Plan is designed to promote development of an integrated wine industry in Monterey County. Monterey County has nine approved American Viticulture Area appellations, and the proposed AWCP includes much of the Monterey appellation plus the areas of Santa Lucia Highlands, Arroyo Seco, Chalone, San Lucas, San Bernabe, Hames Valley, and San Antonio Valley (Monterey County Vinters and Growers Association 2008). The only approved appellation not included in the AWCP is Carmel Valley. The AWCP designates a winery corridor within portions of three planning areas: Toro, Central Salinas Valley, and South County. The 2007 General Plan sets general land use policies to guide the establishment of a defined number of wineries and tasting rooms within each segment of the corridor.

Agricultural Element Goal AG-4 and its corresponding policies (AG-4.1 through AG-4.4) establish the framework for the Agricultural Winery Corridor Plan (AWCP), and support the marketing and promotion of the area as a wine industry. The policies establish guidelines to balance the needs of tourism, marketing, and wine processing capacity.

The AWCP would authorize up to 40 artisan wineries, 10 full-scale wineries, and 10 tasting rooms within the corridors, as well as supporting activities and bed and breakfast inns as discussed below. The 2007 General Plan and its AWCP policies include standards that regulate the size and location of wineries; they are designed to allow for development of an AWCP that is consistent with the existing agricultural land uses. Development standards under Section 3.5 of the AWCP limit minimum parcel size within the corridor to 5 acres, and then only under specified circumstances. It limits building site coverage to 30% of the total site; building height to 35 feet and, for processing facilities, 45 feet; requires wineries to be set back at least 100 feet from property lines and 200 feet from a private residence, with greater setbacks when tasting rooms, retail sales, tours, or special events are included in the winery; and establishes minimum parking requirements.

Moreover, policies AG-4.1 (support of development of a fully integrated wine industry), AG-4.2 (establishment of a winery corridor), AG-4.3 (development and maintenance of an AWCP), and AG-4.4 (wineries are allowed outside the winery corridor subject to conformance with zoning) ensure that winery land uses remain consistent and compatible with surrounding land uses in agricultural production. A total of three restaurants, five delicatessens, and eight inns would also be allowed under the AWCP. Each segment of the winery corridor would have a maximum number of each type of

development. In addition, one consolidated area may be identified for a wine-related business cluster. No specific locations have been identified for any of these future uses.

Most of the area within the AWCP boundaries contains cultivated fields or grazing land. Nearly all of the cultivated fields are identified as Important Farmland by the California Department of Conservation. A significant percentage of the lands along the River Road/Arroyo Seco Road/Central Avenue and Metz Road corridors are encumbered by Williamson Act contracts, with a smaller percentage of the lands along Jolon Road under these contracts. Note that portions of the corridor in and around the cities of Soledad and Greenfield are encumbered by Farmland Security Zone contracts, which confer a greater degree of protection than standard Williamson Act contracts. Agricultural and winery uses are generally consistent with the Williamson Act; however, uses such as restaurants and bed and breakfast facilities are not. (See discussion under Impact AG-2.)

Implementation of the AWCP would promote the continued cultivation of Important Farmland in Monterey County by facilitating planned development of wineries that would produce wine products from locally grown grapes. Development of wineries would enhance the economic viability of agriculture by providing an additional income stream and reduce economic pressures to convert agricultural land to urban uses, which would ultimately preserve Important Farmland.

Significance Determination

Development and land use activities contemplated by the 2007 General Plan would result in the significant and unavoidable conversion of Important Farmland to non-agricultural uses. A total of 2,571 acres of Important Farmland are anticipated to be permanently and irreversibly converted to urban uses. Implementation of the 2007 General Plan and Area Plan policies would ensure that conversion of Important Farmland to non-agricultural uses is minimized to the maximum extent possible through (1) land use concepts such as city-centered growth and clustered development to provide for housing opportunities as required under California Planning Law, and (2) programs that promote the conservation of viable agricultural land, including the AWCP.

Policies AG-1.1 through AG-1.4, described above, partially mitigate this impact by helping protect and preserve agricultural lands. The requirements of the prospective mitigation program to be developed under Policy 1.12 to protect remaining Important Farmland permanently would partially reduce the significance of this impact. However, because the requirements are yet to be determined, the effectiveness of that program cannot be known at this time. In addition or moreover, the loss of Important Farmland cannot be

mitigated to a level of insignificance once land is permanently converted to non-agricultural land use; therefore, such loss is a significant unavoidable impact associated with implementation of the 2007 General Plan.

The AWCP encompasses large acreages of Important Farmland. Implementation of the AWCP would facilitate development of up to 40 artisan wineries, 10 full-scale wineries, and 10 stand-alone tasting rooms, as well as restaurants, inns, bed and breakfast inns, and a business cluster. The County Zoning Ordinance allows bed and breakfast inns within the "F" Farmland Zoning District upon approval of a conditional use permit (Chapter 21.30, Title 21, Monterey County Code). The other uses are not allowed and would require a zoning change. The potential impacts of any future restaurants, inns, or the business cluster cannot be determined at this time because their sizes, intensities, and locations are unknown. However, the provisions of the AWCP would require setbacks from adjoining agricultural lands, as well as limit the size of any new parcels created for AWCP activities to at least 5 acres.

When approved, development of these uses would be consistent with the agricultural land use designations of the parcels on which they would be located. As discussed in Section 4.9, Biological Resources, new vineyards are likely to be established on lands currently devoted to grazing, thereby expanding the amount of Important Farmland. Moreover, these uses would inherently support agriculture and enhance the long-term economic viability of agriculture in Monterey County. Therefore, Important Farmland land would not be lost, but would be enhanced by implementation of the AWCP.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is feasible.

Significance Conclusion

Implementation of the 2007 General Plan would result in the loss of Important Farmland. Although implementation of the 2007 General Plan policies discussed above would reduce this impact, they would not reduce it to a less-than-significant level, and no additional mitigation is feasible.

Buildout

Impact of Development with Policies

Buildout to the 2092General Plan could result in the conversion of Important Farmland to non-agricultural uses. It is somewhat speculative to evaluate the specific potential impacts of conversion related to ultimate buildout of all residential lots in the county because the buildout year (2092) occurs over 100 years in the future. However, given projected population increases, the trend of agricultural conversion to urban uses is expected to continue, as the population in the county grows. Urban uses will displace agricultural use, particularly in the cities, Community Areas, and Rural Communities of

Monterey County. Unless a substantial new source of water is tapped for the Monterey Peninsula, most new urban development will occur inland where agricultural land is most prevalent.

The availability of water will be a decisive factor in future agricultural use. The Salinas Valley Water Project Zone 2C area of benefit encompasses approximately 240,180 acres of farmland and 45,500 acres of grazing land. The EIR prepared for the Salinas Valley Water Project projects that by 2030 there will be a net loss of agricultural land due to urbanization. The availability of water to what is now grazing lands offers some opportunity for conversion of grazing land to irrigated agricultural land in the longer term future, despite the projections of the Salinas Valley Water Project EIR. The extent to which that might occur cannot be known at this time.

Among the factors that might affect this trend either by reducing or expanding the extent of conversion are future changes to State law regarding the conversion of agricultural land; future regulation of development to reduce greenhouse gas production that would otherwise result from scattered land use patterns; competition for water supplies (particularly since future water supplies will probably be similar to those today); the viability of foreign and domestic markets for agricultural products that are capable of being grown in Monterey County (e.g., county growers' future success in competitive markets); future mobility (e.g., whether movement of goods and people will be easier or more difficult than today); and future environmental regulations that may affect commercial agricultural practices by raising the cost of production or making certain crops impractical to grow. The effects of these factors, if any, on the conversion of agricultural land are not known and cannot be known at this time.

2007 General Plan Policies

The 2007 General Plan contains goals and policies that address agricultural resources impacts from buildout of the 2007 General Plan; see discussion above under "2030 Planning Horizon".

Significance Determination

Buildout by 2092 would potentially result in adverse impacts to Important Farmland assuming that current trends continue. However, the 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts on farmland to the maximum extent practicable. The 2007 General Plan employs land use concepts such as city-centered growth and clustered development to provide for housing opportunities as required under California Planning Law and programs that promote the conservation of viable agricultural land, including the AWCP to minimize conversion of Important Farmland to non-agricultural uses to the maximum extent possible. Given that the buildout of the 2007 General Plan would not occur until 2092 and that there are many factors, as described above, that could change by then which would dictate the significance of Important

Farmland conversion, it is not possible to precisely determine the impacts from conversion in 2092 nor is it feasible to devise mitigation measures to be implemented at that time. However, given current trends, the significance of impacts are expected to be significant and unavoidable.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is feasible because the future economic and physical environment cannot be known at this time.

Significance Conclusion

Buildout by 2092 would result in adverse impacts to Important Farmland. The possible impacts would be significant and unavoidable.

Agricultural Use Zoning and Williamson Act Contracts

Impact AG-2: Implementation of the 2007 General Plan would result in conflicts with existing zoning for agricultural use or Williamson Act contracts. (Less Than Significant Impact.)

This impact is not the same as the conversion of agricultural land. Conflict with existing zoning or a Williamson Act contract would occur if the 2007 General Plan would allow incompatible uses on agriculturally zoned or contracted lands. Allowing compatible uses on Williamson Act lands would not result in a conflict, nor would the termination of Williamson Act contracts in accordance with the procedures for termination set out in the Williamson Act.

2030 Planning Horizon

Impact of Development with Policies

Implementation of the 2007 General Plan to the 2030 planning horizon would not result in conflicts with Williamson Act contracts within the county. Williamson Act contract acreage (including lands within Farmland Security Zones) increased by 76,930 acres (11%) from 1991 to 2007, totaling approximately 763,396 acres of agricultural land under Williamson Act contracts in unincorporated Monterey County.

The latest year of GIS data available for Williamson Act contracts is 2004. Using the 2004 data, the 2007 GP would ultimately result in conversion of 6,874 acres under Williamson Act contract to urban uses. Note that this figure includes 299 acres of Williamson Act land that is within the Sphere of Influence of the cities. A city's Sphere of Influence describes the area that would eventually be annexed to the city. Agricultural lands within a Sphere of Influence can be expected to eventually convert to urban use and the Williamson Act contract would either be non-renewed or cancelled prior to that time.

The county does not allow non-compatible uses within lands under Williamson Act contract. Contract cancellations are rarely approved by Monterey County, and then only in strict adherence to Williamson Act findings requirements and recognizing the role of the Department of Conservation in overseeing cancellations of Farmland Security Zones. The eventual termination of contracts as cities begin to annex the land within their Spheres of Influence will also occur in accordance with statute.

2007 General Plan Policies

The 2007 General Plan contains goals and policies that minimize conflicts with Williamson Act contracts. The applicable goals are included in the summary of the Land Use Element and Agricultural Element policies under Impact AG-1. Note that Williamson Act contracts (including Farmland Security Zones) are the premiere tax incentive for the preservation of agricultural lands, and are thus the primary target for Agricultural Element Policy AG-1.5 (encourages the use of tax and economic incentives to enhance the competitive capabilities of farms and ranches in order to promote long-term conservation, enhancement, and expansion of viable agricultural lands). This policy would encourage owners to continue agricultural uses and Williamson Act contracts on their property.

Area Plan Policies

The Area Plan supplemental policies listed under Impact AG-1 establish specific measures to promote the conservation of agricultural lands. Conservation of these lands would reduce pressures to convert farmland to non-agricultural uses. Additional applicable policies are listed below.

North County Area Plan

North County Area Plan Policy NC-6.1 (summarized above in Impact AG-1) would allow more secure tax benefits for farmland and grazing, which would encourage the conservation of those uses by the owners.

Policy AG-1.4 (provides that viable agricultural land uses will be conserved, enhanced, and expanded through land use designations and encouragement of large lot agricultural zoning, and establishes agriculture as the top land use priority for guiding further economic development on agricultural lands) helps protect the economic viability of Williamson Act contracted lands, which would result in less threat of conversion of such lands.

Agricultural Winery Corridor Plan

Parcels within the boundaries of the AWCP are under Williamson Act contracts. The Williamson Act authorizes the Board of

Supervisors to adopt rules governing its administration, subject to certification by the State Department of Conservation. One limitation of a Williamson Act contract is a requirement to retain an economically viable agricultural operation. A second limitation is a minimum parcel size of 10 acres.

AWCP development proposals on Williamson Act properties would not include uses that are inconsistent with the Williamson Act. Certain types of facilities allowed under the AWCP, such as wineries, tasting rooms, and restaurants and bed-and-breakfasts, would require prior approval of a conditional use permit before they may be allowed within an agricultural area. Because they are not considered "compatible uses" under the County's Williamson Act program these uses would not be allowed on Williamson Act-contracted land. Put another way, Williamson Act contracted land would not be available for these uses. Based on the County's past strict interpretation of contract cancellation requirements and Department of Conservation oversight, contract cancellations to allow these uses are unlikely to be proposed on contracted lands and, if proposed, would not be approved. The AWCP allows creation of 5-acre parcels. However, because the Williamson Act limits the size of contracted parcels to 10 acres, no contracted land would be subdivided into such small parcels.

Significance Determination

Implementation of the 2007 General Plan, including Area Plans, would result in the eventual conversion of Williamson Act-contracted farmland to non-agricultural uses. This is expected primarily to occur where future planned development would be in close proximity to agricultural lands, including areas in or around the city Spheres of Influence, the Castroville, Chualar, and Pajaro Community Areas and the San Lucas Rural Center. Because incompatible uses would be precluded within the AWCP and would therefore be located on non-contracted land, impacts on Williamson Act properties associated with AWCP development would be less than significant. Implementation of the 2007 General Plan and Area Plan policies described above would ensure that conversion of Williamson Act farmland to non-agricultural uses is minimized to the greatest extent possible through the use of land use concepts such as city-centered growth, clustered development, and programs that promote the conservation of Williamson Act farmland. Any termination of Williamson Act contracts would be undertaken consistently with the provisions of the Act. Overall, the amount of agricultural land in the county is expected to remain steady, or decline slightly, to the 2030 planning horizon. This would be a less than significant impact associated with implementation of the 2007 General Plan.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

Implementation of the 2007 General Plan goals and policies would result in a less-than-significant impact.

Buildout

Impact of Development with Policies

Buildout to the 2092 General Plan would not result in conflicts with Williamson Act contracted land. As stated above in the "Buildout" analysis under Impact AG-1, it is somewhat speculative to evaluate the specific potential impacts to agriculture related to ultimate buildout of all residential lots in the county. The trend of agricultural conversion to urban uses is expected to continue, as the population in the county grows and urban uses will displace agricultural use, particularly in the cities, Community Areas, and Rural Centers of Monterey County. As a result, by buildout, agricultural land (and by proxy Williamson Act land) will decline in area. There is no reason to expect, however, that the County's approach to administering the Williamson Act would substantially change.

2007 General Plan Policies

The 2007 General Plan contains goals and policies that address agricultural resources impacts from buildout of the 2007 General Plan; see discussion above under "2030 Planning Horizon".

Significance Determination

Buildout by 2092 would not result in conflicts with Williamson Act contracted land. Implementation of the 2007 General Plan and Area Plan policies described above would ensure that conversion of Williamson Act farmland to non-agricultural uses is minimized to the greatest extent possible through the use of land use concepts such as city-centered growth, clustered development, and programs that promote the conservation of Williamson Act farmland. Given that the buildout of the 2007 General Plan would not occur until 2092 and that there are many factors that could change by then which would lead to conflicts with Williamson Act contracted land, it is not possible to precisely determine the significance of impact in 2092 nor is it possible to know whether mitigation measures would be needed at that time. However, given past County practice in the implementation of the Williamson Act, the impact is expected to be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

Buildout by 2092 would result in less than significant impacts to Williamson Act contracted land.

Conversion of Farmland to Non-Agricultural Use

Impact AG-3: Implementation of the 2007 General Plan would involve other changes in the existing environment which, due to their location or nature, would result in conversion of farmland to non-agricultural use. (Significant Unavoidable Impact.)

2030 Planning Horizon

Impact of Development with Policies

Implementation of the 2007 General Plan to the 2030 planning horizon would result in increased population growth and economic development that would create economic pressures to convert agricultural land to non-agricultural uses. Examples include land use conflicts between urban land uses and agricultural activities, competition for water supplies, and reduced air quality (as a result of urban development and traffic) that reduces crop yields.

2007 General Plan Policies

The 2007 General Plan contains goals and policies to promote the long-term preservation of agriculture in Monterey County. The applicable policies are included in the summary of the Land Use Element and Agricultural Element policies under Impact AG-1. Additional applicable policies are described below.

Land Use Element

Land Use Element Policy LU-1.5 (requires that land uses be designated to achieve compatibility with adjacent uses) and Policy LU-1.8 (encourages voluntary reduction or limitation of development potential in the rural and agricultural areas through dedication of scenic or conservation easements, transfer of development rights, and other appropriate techniques) would result in standards that separate agricultural from urban uses and thereby minimize the potential for conflicts.

Agricultural Element

Agricultural Element Policy AG-1.2 (encourages the use of land use concepts such as buffers) would reduce land use compatibility impacts between urban and agricultural land with the use of buffers.

Area Plan Policies

The Area Plan supplemental policies listed under Impact AG-1 establish specific measures to promote the conservation of agricultural lands. The conservation of these lands would reduce pressures to convert farmland to non-agricultural uses, and therefore would reduce the potential for conflicts between urban and agricultural land uses.

Agricultural Winery Corridor Plan

The AWCP is consistent with all of the 2007 General Plan goals and policies summarized under Impact AG-1. In addition, the AWCP is consistent with 2007 General Plan Policy LU-2.8 (designate and establish regulations for an Agricultural Buffer/conservation easement (AB) designation to protect existing agricultural operation), which reduce land use compatibility impacts between urban and agricultural land by encouraging the use of land use concepts such as buffers. The AWCP is also consistent with 2007 General Plan Policies associated with Goal AG 4 (summarized in Impact AG-1).

Moreover, the AWCP is consistent with the 2007 General Plan policies listed under Impact AG-1 that establish specific measures to promote the conservation of agricultural lands. The AWCP would provide nearby processing for county grapes, thereby reducing the cost of transport, as well as new economic returns from wine sales and tourism. This increases the value of vineyards and lessens economic pressures to convert that farmland to non-agricultural uses.

Significance Determination

New development permitted by the 2007 General Plan would create increased pressures to convert agricultural land uses to non-agricultural uses. However, as discussed under Impact AG-1, the 2007 General Plan and Area Plan policies emphasize the long-term preservation of agriculture in Monterey County and would ensure that such pressures are avoided to the maximum extent feasible. The 2007 General Plan policies emphasize compatibility between land uses and discourage the introduction of incompatible uses adjacent to existing land uses. The proposed polices allow for the implementation of land use planning tools such as buffers to soften the impacts between urban and agricultural land uses where these edges do occur. This is expected to minimize the adverse spillover effects of urban

development on agricultural land (e.g., light and glare, urban runoff, litter, and trespassing) to the maximum extent practicable.

Nonetheless, because it provides for additional residential development as required under State Planning Law, implementation of the 2007 General Plan would create development pressures that would result in the conversion of agricultural lands to non-agricultural uses within the cities, some Community Areas, and a Rural Center. Because no feasible mitigation is available to reduce the significance of this impact to a less-than-significant level, this would be a significant and unavoidable impact associated with implementation of the 2007 General Plan.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is feasible.

Significance Conclusion

Implementation of the 2007 General Plan would result in pressure to convert agricultural land to non-agricultural uses as a result of other changes to the environment. The County has no authority to regulate land uses within the cities and so cannot stop conversions from that source. The County cannot stop new residents from moving into Monterey County. As population increases, air quality and traffic impacts will also increase, having some effect on crop yields. Although the proposed 2007 General Plan policies include provisions for reducing demand on from new residential development groundwater (Goal PS-2 and Policies PS-2.8 and PS-2.9), demand will increase over the planning period due to both new development in the cities and development of individual lots in the county. Implementation of the 2007 General Plan goals and policies would reduce impacts, but not to a less-than-significant level.

Buildout

Impact of Development with Policies

Buildout to the 2092 General Plan would result in potential conversion of agricultural land to non-agricultural uses as a result of other changes to the environment. As stated above in the "Buildout" analysis under Impact AG-1, it is somewhat speculative to evaluate the specific potential impacts to agriculture related to ultimate buildout of all residential lots in the county. The trend of agricultural conversion to urban uses is expected to continue, as the population in the county grows and urban uses will displace agricultural use, particularly in the cities, Community Areas, and Rural Communities of Monterey County. Many factors that might affect the trend could change and the effects of these factors, if any, on the conversion of agricultural land are not known and cannot be known at this time.

2007 General Plan Policies

The 2007 General Plan contains goals and policies that address agricultural resources impacts from buildout of the 2007 General Plan; see discussion above under "2030 Planning Horizon."

Significance Determination

Buildout by 2092 could potentially result in conversion of agricultural land to non-agricultural land due to other environmental changes. However, the 2007 General Plan and Area Plan policies emphasize the long-term preservation of agriculture in Monterey County and would ensure that such pressures are avoided to the maximum extent feasible. The 2007 General Plan policies emphasize compatibility between land uses and discourage the introduction of incompatible uses adjacent to existing land uses. The proposed polices allow for the implementation of land use planning tools such as buffers to soften the impacts between urban and agricultural land uses where these edges do occur. This is expected to minimize the adverse spillover effects of urban development on agricultural land (e.g., light and glare, urban runoff, litter, and trespassing) to the maximum extent practicable. Given that the buildout of the 2007 General Plan would not occur until 2092 and that there are many factors that could change by then which would dictate the existence and conversion of agricultural land, it is not possible to determine the precise significance of impact in 2092 nor is it feasible to devise mitigation measures to be implemented at that time. However, given past trends and expected population growth, the impact is likely to be significant and unavoidable.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is feasible.

Significance Conclusion

Buildout by 2092 could potentially result in conversion of agricultural land to non-agricultural land due to other environmental changes. The impact will be significant and unavoidable.

4.2.6 Level of Significance after Mitigation

Conversion of Important Farmland to non-agricultural use a nd conversion of agricultural land to non-agricultural uses would lead to significant unavoidable impacts associated with implementation of the 2007 General Plan. The 2007 General Plan establishes policies and regulations to reduce such impacts, but not to a less-than-significant level. Conversions of Williamson Act contract land would be less than significant.

4.3 Water Resources

This section of the EIR discusses water and its importance as a fundamental component of the environment, beginning with an overview of the current physical characteristics of Monterey County's surface- and groundwater systems. Water supply and demand for human consumption and associated infrastructure is also discussed. Related topics such as tsunamis, seiches, and mudflows are discussed separately in Section 4.4, Geology, Soils, and Seismicity.

4.3.1 Abstract

Monterey County depends on supplies from its own watersheds and does not receive imported water from other regions of California. The three major watersheds in Monterey County—the Salinas, Carmel, and Pajaro Rivers—all have significant constraints. Erosion associated with agriculture has deteriorated surface water quality in the Salinas and Pajaro Valleys. High nitrate levels have been recorded in the Salinas Valley and in the area known as "North County," which lies between the Salinas and Pajaro Valleys. Groundwater overdraft is a significant problem in North County. Seawater intrusion into groundwater sources is a substantial issue near Pajaro and Castroville. Flood hazards are present along the major drainages in the county. Tsunami inundation areas are located in the coastal portions of the county.

Development and land use activities contemplated in the 2007 *Monterey County General Plan* (2007 General Plan) would result in the following significant impacts on water resources.

- **Water Supply**—Implementation of the 2007 General Plan would increase demand for water up to the 2030 planning horizon. Supply in the Salinas Valley provided by the Salinas Valley Water Projects is adequate to provide new water for new development up to 2030. Increased demand on the Monterey Peninsula and in the Pajaro Valley would require new or expanded water facilities and new or expanded water entitlements. Supply on the Monterey Peninsula will be adequate to meet current demand, assuming that the CalAm seawater desalination plant is permitted and operational by 2015 as currently expected, but will not be sufficient to meet additional demand up to the 2030 planning horizon without adversely affecting groundwater; thus additional water supply infrastructure will be needed. Supply in the Pajaro Valley would not meet demand up to the 2030 planning horizon without overdraft of the aquifer even with implementation of local recycled water projects, diversions, and conservation due to the difficulties with importation of water. Current water supply planning does not anticipate meeting demands to the 2092 planning horizon; while water resources are available from county rivers and in some groundwater basins, these resources have not yet been fully proven and thus are uncertain at this time. Mitigation

measures are proposed to provide additional water supply, but uncertainty over their success leaves this a significant, unavoidable impact in all basins for buildout.

- **Water Supply Infrastructure** – Implementation of the 2007 General Plan would result in demand for new water infrastructure including: the under-construction Salinas Valley Water Project (SVWP) and new distribution facilities in the Salinas Valley for 2030 and new diversions, reservoir expansion, and distribution facilities for buildout; desalination, aquifer storage, recycled water, and distribution facilities for 2030 and further desalination, recycling, aquifer storage, diversions, and distribution facilities for buildout related to the Monterey Peninsula; and recycled water, desalination, distribution facilities and possible future import pipeline facilities for the Pajaro Valley. This new infrastructure would have construction and/or operational impacts on biological resources, hydrology and water quality, farmland, recreation, geology and soils, cultural resources, traffic, noise, air quality, utility disruption, and growth inducement. While many of these impacts can be mitigated to a less-than-significant level (as shown in completed CEQA evaluations of the MCWRA SVWP, the MPWMD aquifer storage and recovery project, and the PVWMA's Basin Management Plan), it is not considered feasible that all significant impacts will be mitigated to a less than significant level and thus this is identified as a significant and unavoidable impact.
- **Groundwater level decline and overdraft and saltwater intrusion**: Current water supply planning, with mitigation, is adequate to address overdraft and saltwater intrusion in the Salinas Valley up to the 2030 planning horizon. Development and land use activities anticipated in the 2007 General Plan would exacerbate existing groundwater overdraft conditions and saltwater intrusion within the Seaside Aquifer and the Pajaro Valley. Mitigation is proposed, but this would be a significant and unavoidable impact under the 2030 planning horizon for the Seaside Aquifer and Pajaro Valley due to the uncertainty regarding the feasibility and timing of new supplies. Current water supply planning does not anticipate meeting demands to the 2092 planning horizon; while water resources are available, they have not yet been fully proven and thus their feasibility for, and timing to, avoid further groundwater overdraft and saltwater intrusion is uncertain. Mitigation is proposed but this would be a significant and unavoidable impact for buildout for all areas in 2092 due to the uncertainty.

All other water resources impacts would be less than significant during the 2030 planning horizon and would not require mitigation.

4.3.2 Existing Conditions

4.3.2.1 Regional Setting

Climate

The climate of Monterey County is characterized by warm dry summers and cool moist winters. The average temperature is approximately 56°F. Average rainfall across the county is approximately 15 inches per year, though rainfall in excess of 30 inches has been recorded in some years. Approximately 90% of this rainfall occurs between November and April. Measurable precipitation averages 51 days per year, and the average length of the growing season is 235 days (Monterey County Water Resources Agency 2003).

Average annual precipitation in King City, in the inland portion of the Salinas River watershed, is 11 inches. In contrast, average annual precipitation for the Big Sur watershed is estimated at 43 inches (Monterey County Water Resources Agency 2003).

Topography and Drainage

Topography within Monterey County is extremely varied. Elevations range from sea level to 5,844 feet at Junipero Serra Peak, which is located 12 miles inland in the Santa Lucia range. The county includes the famous Salinas Valley, which is bounded by the Gabilan Mountains to the east and the Santa Lucia Mountains to the west. The valley is 10 to 20 miles wide and 130 miles long and has approximately 1,000 square miles of broad bottom land (Monterey County Water Resources Agency 2003).

The Gabilan and Santa Lucia Mountains are the sources of the principal watercourses in the area. The largest of these, the Salinas River, is 155 miles long. This river roughly bisects the county, running from Santa Margarita Reservoir in San Luis Obispo County northwest to its termination point at Monterey Bay. Meandering creeks generally have their headwaters in the surrounding mountains and then drain across the flat, alluvial portions of the Salinas Valley.

Drainage patterns in Monterey County have been altered by urbanization, resulting in increased runoff that poses a greater flood threat than in previous years. To accommodate the increasing runoff, many cities in the county have developed extensive storm drainage systems. The overall drainage pattern in the county is from south to north, the direction of flow of the Salinas River.

4.3.2.2 Monterey County Watersheds

Water resources are commonly described and characterized in terms of "watersheds," referring to the topographic area that is tributary to a particular river system. Watershed and drainage basin often are used interchangeably. Both terms refer to surface water, the component of the natural water system that originates in precipitation, gathers to form runoff, and either infiltrates into the soil or flows into creeks and rivers. Groundwater basins, though not corresponding to watershed boundaries, convey underground flows and have a direct relationship via the soil to surface water flows.

Monterey County has two major watersheds (Exhibit 4.3.1), the Salinas River watershed (by far the largest) and the Carmel River watershed. There are also many smaller watersheds, including those of the Big Sur Coast, El Toro, Laguna Seca, and Canyon del Rey. The Pajaro River watershed in the North County and the Estrella watershed in the southeast county are only partially within Monterey County. Each of these watersheds has tributary drainages with seasonal creeks and streams. The following section describes water resources of major watersheds—their surface water, their groundwater, and the influences on their hydrology. A subsequent section discusses water quality and supply issues in each of the basins.

Three major water resource agencies have somewhat overlapping daily responsibilities in overseeing and managing surface- and groundwater within the county.

- The Monterey County Water Resources Agency (MCWRA) has countywide jurisdiction over flood control and water resources management.
- The Monterey Peninsula Water Management District (MPWMD) manages water resources on the peninsula, primarily the Carmel River, its tributaries, and impoundments, as well as the groundwater beneath its management area.
- The Pajaro Valley Water Management Agency (PVWMA) manages surface- and groundwater along the Pajaro River, both in the North County area of Monterey County and in Santa Cruz County.

Because of their overlapping areas of responsibility and the need to coordinate water resources management on a larger scale, these agencies have Memoranda of Understanding (MOUs) with each other that outline how they will coordinate planning and engineering, policy development, and program development and implementation. Section 4.3.3, Regulatory Framework, provides more detailed information on these and other state and federal agencies that have some jurisdiction over Monterey County's water resources.

Salinas River Watershed

The Salinas River basin hydrology, as it exists today, is far from natural. In addition to altering the basin's hydrology by extracting water for consumption,

human activities have significantly altered the natural hydrology through various diversions of the basin's surface water. Major alterations include the Nacimiento and San Antonio Reservoirs, which alter the timing and magnitude of flows in the river throughout its entire length in the county. In its natural state, most of the land west of the city of Salinas was swamp. In 1917, the Reclamation Ditch was constructed, partly along the historical course of Gabilan Creek as it wound its way through low-lying sloughs and swamps to Tembladero Slough, the Old Salinas River Channel, Elkhorn Slough, and Monterey Bay. Land reclamation to accommodate agriculture and urban development has eliminated most natural lakes and ponds (including eight lakes that historically drained into Tembladero Slough). Grading and irrigation for agricultural fields has redirected, channelized, or removed many creeks and tributaries throughout the basin floor. Urban development has eliminated or greatly modified the natural course and flow of creeks. Further modifications to accommodate human activities currently are planned as part of the Salinas Valley Water Project (SVWP).

The Salinas River drains an area of approximately 3,950 square miles and is the largest water system in Monterey County (Exhibit 4.3.2). In Monterey County, the river meanders through the Salinas Valley floor, an area of about 1,000 square miles (Monterey County Water Resources Agency 2003). Several tributaries enter the river along this length, including Pancho Rico Creek, Santa Rita Creek, Estrella Creek, Reliz Creek, Chalone Creek, San Lorenzo Creek, the Arroyo Seco River, El Toro Creek, Prunedale Creek, the Nacimiento River, and the San Antonio River. The Nacimiento and San Antonio Rivers are by far the largest tributaries, encompassing tributary watersheds of about 330 square miles. Dams owned and operated by the MCWRA control flow volumes in both of these rivers.

Average annual flows to the ocean from the Salinas River are around 282,000 acre feet per year (AFY), most of which occurs from November through March (an acre-foot of water is defined as the volume of 1 acre of surface area to a depth of 1 feet and is equal to 325,851.4 gallons). This period corresponds to the months of peak seasonal rainfall and coincides with a seasonal drop in irrigation in the valley. During spring and summer, the two reservoirs on the Nacimiento and San Antonio Rivers regulate flow to minimize outflow to the ocean and maximize groundwater recharge through the Salinas River bed. Under current reservoir operations, water is released into the river during summer to recharge groundwater in the basin. Because a natural clay layer underlies the river north of Chualar inhibiting groundwater recharge from the channel, outflows from the dams are regulated to maintain river flow only as far north as the State Route (SR) 68 bridge.

As previously mentioned, water resources in the Salinas River watershed are managed by the MCWRA. Most water users in the Salinas Valley unincorporated county area are agricultural, using the majority of the more than 700 wells throughout the basin. All the water used in the basin—for irrigation, domestic, municipal, and industrial purposes—is supplied from groundwater (with the exception of an area near Greenfield, which has a diversion from the Arroyo Seco River). One of the main environmental water uses in the region is

for the 366-acre Salinas River National Wildlife Refuge, where the Salinas River empties into Monterey Bay (California Department of Water Resources 2005).

Nacimiento Reservoir

Nacimiento Dam is a large earth fill dam, constructed in 1957, owned and operated by the MCWRA. Although it is located approximately 15 miles northwest of Paso Robles in San Luis Obispo County, Nacimiento Reservoir is an important component of the region's existing water supply. It impounds 377,900 acre-feet of water, which then is released for groundwater recharge. When full, the lake is 18 miles long and has 165 miles of shoreline (Monterey County Water Resources Agency 2003).

Currently, the storage capacity in Nacimiento Reservoir is constrained because of rule curve restrictions mandated by the State of California Division of Safety of Dams (DSOD) and the Federal Energy Regulatory Commission (FERC). Rule curves ensure that sufficient flood storage is available in the reservoir to safely pass the inflow design flood (Monterey County Water Resources Agency 2003).

The reservoir has a minimum pool volume of 22,300 acre-feet and a conservation pool of 237,700 acre-feet. Water from the conservation pool is released during the summer, in conjunction with releases from San Antonio Reservoir, to enhance groundwater recharge in the Salinas Valley. During the winter, flood protection is provided by keeping an empty space, called the flood pool, in the reservoir to temporarily store flood water. The flood pool is between elevation 777.3 feet and the top of the spillway, elevation 800 feet. Nacimiento Reservoir's flood pool storage is 117,900 acre-feet (Monterey County Water Resources Agency 2003).

San Antonio Reservoir

San Antonio Dam and its reservoir are located approximately 7 miles southwest of Bradley on the San Antonio River in Monterey County. The earth fill dam, constructed in 1965, is owned and operated by the MCWRA. It has a 330-square-mile watershed. When full, it is 16 miles long and has approximately 100 miles of shoreline (Monterey County Water Resources Agency 2003).

The reservoir has minimum pool storage of 23,000 acre-feet. On July 24, 2000, the MCWRA Board of Directors adopted a new rule curve, reducing the maximum flood pool to 30,000 acre-feet and increasing the conservation pool to 282,000 acre-feet. When the reservoir is full (spillway elevation 780 feet), it has a maximum storage capacity of 335,000 acre-feet (Monterey County Water Resources Agency 2003).

Both Nacimiento Reservoir and San Antonio Reservoir are multiuse facilities, meaning the dams are operated for flood control, water conservation, recreation uses, and water supply. The most important priority of the water conservation operation is to maximize the amount of percolation into the Salinas Valley aquifer. This is accomplished by storing water that flows into San Antonio Reservoir so that water is available for later release during the dry summer

months when water demand is greatest (Monterey County Water Resources Agency 2003).

Groundwater

Groundwater recharge in the Salinas Valley basin is principally from infiltration from the Salinas River, from Arroyo Seco, and, to a much lesser extent, from deep percolation of rainfall. Minor amounts are derived from infiltration from small streams and inflow from bedrock areas adjoining the basin. Percolation of applied irrigation water is the second largest component of the groundwater budget, but because it represents recirculation of existing groundwater rather than an inflow of "new" water, it is not considered a source of recharge.

According to the California Department of Water Resources (DWR), the Salinas Valley groundwater basin consists of one large hydrologic unit composed of four subareas (Exhibit 4.3.3). These subareas have different hydrogeologic and recharge characteristics, but barriers to horizontal flow do not separate them, and water can move between them (California Department of Water Resources 2004a–d).

- **Upper Valley Aquifer Subarea** includes approximately 98,200 acres near the south end of the Salinas Valley, from approximately Greenfield to San Ardo. The primary aquifer of the subbasin is unconfined and is represented by unconsolidated to semiconsolidated and interbedded gravel, sand, and silt of the Paso Robles Formation, alluvial fan, and river deposits. Groundwater recharge to the Upper Valley Aquifer Subarea occurs primarily from percolation in the channel of the Salinas River. (California Department of Water Resources 2004a)
- **180-Foot/400-Foot Area Subarea** includes approximately 84,400 acres of the lower reaches and mouth of the Salinas River, between Gonzales and Monterey Bay. It is composed mostly of confined and semiconfined aquifers separated by clay layers (aquitards) that limit the amount of vertical recharge. Three primary water-bearing strata have been identified in this subarea: the 180-foot aquifer (average 100 feet thick), the 400-foot aquifer (average 200 feet thick), and the Deep Zone (up to 900 feet thick). These aquifers are separated by aquitards, although areas of thin or absent aquitards allow some interconnection between the 180- and 400-foot aquifers. Heavy pumping of the 180- and 400-foot aquifers has caused significant seawater intrusion into both. Because of the impermeable nature of the clay aquitard above the 180-foot aquifer, surface recharge (including that from precipitation, agricultural return flows, and river flow) does not occur. Instead, recharge is from underflow originating from the Upper Valley and Forebay Subareas and, more recently, from seawater intrusion (California Department of Water Resources 2004b). Seawater intrusion has rendered many coastal wells in the 180-foot aquifer unusable. Much of the runoff from the Salinas River either evaporates or discharges into Monterey Bay during the wet season.
- **Forebay Aquifer Subarea** extends from Gonzales to Greenfield and consists of approximately 94,000 acres of unconsolidated alluvium (including the Arroyo Seco Cone, a large and relatively permeable alluvial fan on the west side of the Salinas Valley). The primary water-bearing units of this subbasin

are the same units that produce water in the 180- and 400-foot aquifers. Principal sources of recharge to the Forebay Subarea are percolation from the Salinas River and the Arroyo Seco River and groundwater outflow from the Upper Valley Aquifer Subarea. (California Department of Water Resources 2004c)

- **East Side Aquifer Subarea** consists of 57,500 acres from just south of Prunedale to Gonzales, along the eastern side of the lower Salinas Valley. The primary water-bearing units of this subbasin are the same units that produce water in the 180- and 400-foot aquifers. It includes unconfined and semiconfined aquifers in the northern portion of the basin that historically received most of its recharge from percolation from stream channels on the west slope of the Gabilan Range. Because of extractions in excess of recharge, the declines in groundwater level in the East Side Aquifer Subarea have induced subsurface recharge from the 180-Foot/400-Foot and Forebay Aquifer Subareas. This inflow is now a larger source of recharge than the stream channels coming from the Gabilan Range. (California Department of Water Resources 2004d.)

Table 4.3-1 provides a summary of groundwater extraction in the four subareas of the Salinas Valley groundwater basin. In all four subareas, primary groundwater quality issues are twofold: high levels of total dissolved solids (TDS) and chloride, due to seawater intrusion; and extensive nonpoint source nitrate, due to long-term agricultural production in the Salinas Valley (California Department of Water Resources 2004a–d; Monterey County Water Resources Agency 2001).

Table 4.3-1. Total Extraction Data in the Salinas Valley Groundwater Basin (2005)

Subarea	Agricultural Pumping (acre-feet)	Urban Pumping (acre-feet)	Total Pumping (acre-feet)
Upper Valley Aquifer	126,488	4,536	131,024
Forebay Aquifer	139,951	8,571	148,522
180-Foot/400 Foot Aquifer	97,028	21,344	118,372
East Side Aquifer	80,100	16,028	96,128
Total	443,567	50,479	494,046

Source: Monterey County Water Resources Agency 2007.

The MCWRA and its co-operators, including the Monterey Regional Water Pollution Control Agency (MRWPCA), have several major capital projects to better manage groundwater quality and reverse the long-term trend of seawater intrusion and groundwater declines in the Salinas Valley groundwater basin. Some of these projects have been completed, and others are underway.

- The MCWRA completed the Castroville Seawater Intrusion Project (CSIP) in 1998. This project injects recycled water into the aquifer to establish a hydraulic barrier to further seawater intrusion.

- The SVWP includes improvements and operational changes to management of flows in the Salinas River. It will recharge the Salinas Valley groundwater basin, halting seawater intrusion, as well as avert a maximum flood event at Nacimiento Reservoir Dam. The SVWP is currently underway; construction on the Nacimiento Dam Spillway Modification Component began in April 2008. This component will enlarge the spillway and install a rubber spillway gate to allow the reservoir to store more water, and release more water during the late spring and summer months. It is expected to be completed in the fall of 2009. The second component of the SVWP is construction of a rubber dam on the Salinas River near Marina to allow diversion of river water from late spring to early fall for treatment and piping to nearby farms for irrigation. An average of 9,700 AFY of water is expected to be made available by pumping pooled water behind the dam into the existing CSIP distribution pipeline for delivery to agricultural users. This will substantially reduce groundwater pumping during those periods and thereby allow the aquifers to retain the pressure needed to keep out seawater intrusion. The second component will begin construction after completion of the Nacimiento Dam work.

El Toro Creek Subwatershed

Surface water in the El Toro Creek portion of the Salinas Valley watershed drains approximately 41 square miles to El Toro Creek, which flows northeastward into the Salinas River. The longest distance for water to run off to the Salinas River is 16.8 miles via Calera Canyon and El Toro Creek. The 100-year flood velocities on El Toro Creek range from 3.9 to 8.8 feet per second (Monterey County Water Resources Agency 2003). High infiltration rates and low precipitation levels result in little surface runoff. Most streams in the El Toro Creek subwatershed are intermittent, flowing less than 25% of the year. Much of the upper portion of the subwatershed is composed of steep slopes and narrow alluvium-filled valleys. The lowest portion of the subwatershed is the most highly urbanized. Large amounts of sediment and debris were deposited in the stream channel during the 1995 and 1998 floods, resulting in increased flooding on lower El Toro Creek (Monterey County Water Resources Agency 2003).

Water supply for the El Toro Creek subwatershed is derived entirely from groundwater, which is composed of the Corral de Tierra Area subbasin. The Corral de Tierra Area subbasin is a 22,300-acre area within the Salinas Valley groundwater basin, located in the eastern portion of the former Fort Ord and other unincorporated areas. Multiple water-bearing units include poorly consolidated marine sandstone and alluvial material along creeks (California Department of Water Resources 2004e).

The MCWRA has divided the El Toro Creek subwatershed into five planning areas: Corral de Tierra, El Toro Creek, San Benancio Gulch, Watson Creek, and Calera Creek. Groundwater levels in some portions of the El Toro Creek subwatershed have declined severely in recent years. Several groundwater studies have been conducted in El Toro Creek to determine the extent of groundwater depletion. A 2007 groundwater study concluded that additional

groundwater production may be feasible in the Upper Corral de Tierra Valley where the Basal Sand unit is a relatively productive aquifer (Geosyntec Consultants 2007). The remaining four subareas have poor groundwater potential. As such, the study recommends expansion of the County's restrictive B-8 zoning into these areas.

In addition to water quantity concerns, only a few areas in the region are connected to sewer systems; consequently, most parcels use septic systems for wastewater disposal. This has exacerbated the poor groundwater quality in the El Toro Creek watershed by contributing to nitrate contamination. Additionally, groundwater pumped from the El Toro Creek watershed generally contains arsenic at concentrations exceeding primary drinking water standards.

Seaside Area Groundwater Subbasin

The Seaside Area groundwater basin contains 25,900 acres within the coastal communities of Seaside and Marina, as well as the western portion of the former Fort Ord. The overall Seaside groundwater basin supplies the Laguna Seca Water Company, the Bishop Water Company, the Carmel Valley Mutual Water Company, and the Laguna Seca Golf Course (all currently operated by the California-American Water Company [Cal-Am]); the Society for the Prevention of Cruelty to Animals, the County park, and various unincorporated and incorporated areas.

No major surface water features are located within the basin. Ultimately draining to the Salinas River to the north, the Seaside Area groundwater basin is composed of a number of smaller subbasins. Multiple water-bearing units in the Seaside basin include poorly consolidated marine sandstone and dune sand deposits. Groundwater recharge is from deep percolation of local precipitation, subsurface inflow from the Corral de Tierra Area subbasin to the east, and seepage of minor amounts from creeks (California Department of Water Resources 2004f).

The Laguna Seca planning area is a 4,320-acre portion of the Seaside Area groundwater basin that parallels SR 68. Almost all groundwater production is from the Santa Margarita aquifer in the eastern half of the planning area. Water levels in that aquifer have been chronically declining (Monterey Peninsula Water Management District 2005b). The Seaside Area and El Toro Creek groundwater subbasins are hydrogeologically contiguous in the area along SR 68, which has suffered the greatest declines in groundwater levels.

Cal-Am presently operates eight wells in the Seaside Area groundwater basin, and ten wells currently are operated by non–Cal-Am entities. Groundwater conditions in the Seaside Area basin have deteriorated in the past decade. Groundwater extraction near the coast increased markedly beginning in 1995, resulting in declining water levels and depletion of groundwater storage. Storage depletion of an aquifer occurs when groundwater extraction exceeds groundwater recharge, which leads to the decline in the groundwater volume held in storage.

During 2006, a total of 13,400 acre-feet was reported produced in wells from the Seaside aquifer, including 3,710 acre-feet by Cal-Am and 1,296 acre-feet by other parties (MPWMD 2006).

In recent years, California State Water Resources Control Board (SWRCB) regulation has limited available surface water supplies from the Carmel River, such that new water supply sources must be developed before additional regional growth can be supported (California Department of Water Resources 2005). The State Water Board has limited diversion from the Carmel River in order to protect fish habitat. As a result, Cal-Am has increased pumping from the Seaside Area groundwater subbasin, exceeding the sustainable yield (refer to the groundwater adjudication discussion under Section 4.3.2.5 below). The following projects are underway to relieve pressure on the Seaside groundwater basin.

- Cal-Am and MPWMD's Seaside Basin Aquifer Storage Recovery (ASR) project is described in detail in Section 4.3.2.5 ("Carmel River Watershed").
- Cal-Am's Coastal Water project proposed a desalination plant at the Moss Landing Power Plant (MLPP) that will supply about 11,730 AFY to allow Cal-Am to meet the SWRCB's order to reduce its reliance on the Carmel River. It is under consideration by the California Public Utilities Commission.
- The Marina Coast Water District (MCWD) has built a new water desalination plant that has a peak capacity of 300,000 gallons per day when in operation (Marina Coast Water District 2008).
- The MPWMD currently is evaluating the feasibility of a desalination plant in Sand City, which would take 15 million gallons per day (mgd) of saline groundwater from the coastal beachfront and produce 7.5 mgd of potable water (Monterey Peninsula Water Management District 2004).

Carmel River Watershed

Unlike the Salinas River, the Carmel River flows in a well-defined channel for much of its 36-mile length. Most of the river's watershed (approximately 65%) is upstream of the confluence with its major tributary, Tularcitos Creek (Exhibit 4.3.4). Downstream of the Tularcitos Creek confluence (at about 15 river miles, measured from the river's mouth), the channel widens from 20 to 150 feet. Alluvial deposits that comprise a groundwater basin underlie this downstream reach of the channel.

The Carmel River drains a 255-square-mile watershed. Average annual runoff (from 1962 to 2006) is 78,190 acre-feet (Monterey Peninsula Water Management District 2007). Its larger tributaries include Garzas Creek, San Clemente Creek, Tularcitos Creek (with its tributaries, Choppiness and Rana Creeks), Pine Creek, Danish Creek, Cachagua Creek, and the Miller Fork. The Carmel River originates in the Santa Lucia Mountains, with headwaters at 4,500- to 5,000-foot elevations. The upper reaches flow northwesterly, generally following the trend

of the fault block structure of the Coast Ranges, to a confluence with Tularcitos Creek. From this point, the lower reach flows in a more westerly direction through the Carmel Valley and into the Pacific Ocean at Carmel Bay, just south of the City of Carmel-by-the-Sea (Monterey County Water Resources Agency 2003).

The average gradient of the upper reach from the source to the confluence with Tularcitos Creek is about 320 feet per mile, and the stream is actively eroding its bed. Valley trenching is particularly evident in the Tularcitos Creek and Cachagua Creek subwatersheds. The average gradient of the lower reach through the Carmel Valley is only about 40 feet per mile. In portions of the downstream reach, the valley is braided with discordant channels, and evidence exists that the river has meandered considerably over the floodplain in the recent geological past (Monterey County Water Resources Agency 2003).

Before European settlement, the Carmel River was in a state of dynamic equilibrium. Periodically, extremely large floods deposited large quantities of sediment in the river's lower reaches. In succeeding years, the river would gradually cut down into the sediments, forming an incised, meandering channel until a large flood again altered the channel. This natural cycle of disturbance on the Carmel River has been altered by human activities.

River flows in 1995 were among the highest recorded on the Carmel River in the past 60 years. In March 1995, a 30- to 50-year flood event occurred in the Carmel River watershed, and many low-lying areas were flooded. Commercial properties and hundreds of homes were inundated at the mouth of the Carmel Valley and in residential neighborhoods in Mission Fields, Hacienda Carmel, Valley Greens, Robles del Rio, and Camp Steffani. Floodplain areas along Cachagua Creek also were submerged by several feet of water. The March 1995 flood caused the SR 1 bridge and several private bridges to collapse, and also resulted in damage to wells (Monterey County Water Resources Agency 2003).

Following the high flows in 1995, many private property owners and several public agencies completed repair projects related to flood control and streambank stabilization. At the mouth of the Carmel Valley, a multiagency habitat enhancement and flood control project was initiated. To reduce flood hazards in Mission Fields and implement components of both the lagoon enhancement plan and the Lower Carmel Valley Flood Control Project proposed by the MCWRA, short segments of the protective levee were removed along the south side of the river. Farther upstream, the United States Army Corps of Engineers (USACE) issued a regional emergency permit to the MCWRA for several streambank repair projects along 15 miles of the lower Carmel River. In conjunction with the MCWRA, the MPWMD issued river work permits to rebuild banks to pre-flood conditions, including the addition of native willows and structural protection from riprap, gabion baskets, concrete cubes, and rubble. The Natural Resources Conservation Service (NRCS) funded streambank repair projects.

In February 1998, streamflows in the Carmel River were again very high. The river flooded low-lying areas and caused substantial bank erosion. Although

some areas repaired after the 1995 floods maintained their integrity, others were severely eroded again. Bank repair and property restoration began again in 1998 under a regional general permit issued by the USACE.

Only a small amount (40 acre-feet) of surface water diversion by a non–Cal-Am party from the Carmel River was reported by MPWMD (Monterey Peninsula Water Management District 2006).

An additional water supply issue in Carmel Valley is the potential unquantified impacts of increased use and demand by riparian users along the Carmel River. No action by the SWRCB or the courts has evaluated the cumulative impacts on the public trust resources by individual well owners since the time of the MPWMD Water Allocation Program EIR (Monterey Peninsula Water Management District 1990). As the allocated water has been exhausted, an increase in claims of riparian rights has been observed. It is unclear whether these claims represent an increased demand on the water resource system and whether environmental impacts are associated with the potential increased demand.

San Clemente Reservoir

The San Clemente Dam, constructed in 1921, is a concrete arch dam with a 300-foot crest, 106 feet above the bedrock and 65 feet above the streambed. The dam was constructed and is operated by Cal-Am to supply water for the growing needs of the Monterey Peninsula. The storage capacity has decreased dramatically from the original 2,260 acre-feet to 150 acre-feet. As a result of an order from the Division of Dam Safety to draw down water levels in order to avoid potential dam failure, the reservoir no longer provides water to the system. (Monterey County Water Resources Agency 2007).

Los Padres Reservoir

The Los Padres Dam was built in 1949 by Cal-Am, 6 miles upstream from the San Clemente Dam, to augment the water supply. This dam is a rock- and earth-filled dam with an overall crest measurement of 680 feet. There is a concrete spillway to allow excess water to exit the reservoir. The normal outflow is controlled by a system of pipes and valves during the rainy season. The lake extends 2 miles into wooded backcountry with an original storage capacity of 3,000 acre-feet that has dwindled to 1,500 acre-feet due to sedimentation (Monterey County Water Resources Agency 2003).

Groundwater

The Carmel River groundwater basin lies along the downstream portion of the Carmel River (Exhibit 4.3.5). Covering approximately 5,160 acres, the groundwater basin consists of younger alluvium and river deposits and older alluvium and terrace deposits. The primary water-bearing formation is the younger alluvium, with a typical thickness of 50 to 100 feet (California Department of Water Resources 2004g).

The Carmel River is the primary source of recharge, constituting 85% of the net recharge. With the presence of surface water, groundwater levels recover

rapidly. After water level recovery, levels range from 5 to 30 feet below the land surface. During normal years, water level fluctuations range from 5 to 15 feet while experiencing declines of up to 50 feet below land surface during droughts (California Department of Water Resources 2004g). The level of groundwater in the aquifer is influenced by pumping from wells operated by Cal-Am, as well as by evapotranspiration of riparian vegetation, seasonal infiltration, and subsurface inflows and outflows. Cal-Am is the primary urban water supplier to about 100,000 residents on the Monterey Peninsula area. In 2006, Calm obtained about 75% of its water from wells in the Carmel Valley basin. The remaining 25% is supplied from wells in Seaside Area basin aquifer (22%) and the Laguna Seca subarea (Monterey Peninsula Water Management District 2006).

During the dry season, pumping of wells has caused significant declines in the groundwater levels of the Carmel River groundwater basin. Because streamflow and groundwater supplies are directly linked, lowered groundwater levels diminish surface flows in the river. During normal water years, surface flow in the lower Carmel Valley becomes discontinuous or nonexistent in summer and fall. This condition has been cited as causing adverse impacts on native fish populations (most notably the central coast steelhead) and riparian habitat in the lower reaches of the river's course.

During 2006, a total of 13,400 acre-feet was reported produced in wells from the Carmel Valley aquifer, including 10,954 acre-feet by Cal-Am and 2,435 acre-feet by other parties (Monterey Peninsula Water Management District 2006).

As described above, SWRCB regulation has limited diversion from the Carmel River and thereby affected the rate of pumping from the Seaside Area groundwater basin (refer to the groundwater adjudication discussion under Section 4.3.2.5 below). As a result of the need to meet the water demand of the Monterey Peninsula without overusing either the Carmel River or the groundwater basin, the following projects are underway or proposed.

- Cal-Am's Coast Water Project, including a pilot desalination facility at the MLPP.
- Cal-Am and MPWMD's Seaside Basin ASR Project, which involves diverting excess winter flows from the Carmel River for injection into the Seaside aquifer.
- MPWMD currently is evaluating the feasibility of a desalination plant in Sand City, which would take 15 mgd of saline groundwater from the coastal beachfront and produce 7.5 mgd of potable water (Monterey Peninsula Water Management District 2004).

North County Watersheds

The North County watersheds lie between the Salinas River and Pajaro River watersheds, straddling a watershed divide that is not topographically well

defined, and includes the Elkhorn Slough watershed (Exhibit 4.3.6). Elkhorn Slough receives drainage from most of the area.

The Elkhorn Slough drainage and its major tributary, Carneros Creek, extend beyond the county's eastern boundary into San Benito County. The central portion of the watershed includes the Elkhorn Highlands, a hilly upland area transected by several smaller valleys—all of which drain into the slough. North of Elkhorn Slough, and tributary to Elkhorn Slough, is McClosky Slough. To the south, Moro Cojo Slough, which is larger than McClosky Slough, drains a large subarea. Its brackish waters drain northward into the Elkhorn Slough near its entry to Monterey Bay. This complex system of estuaries and uplands combines to create a regionally significant constellation of diverse habitats (see Section 4.9, Biological Resources).

The major water feature north of the Elkhorn Slough watershed is the Pajaro River. Although the Pajaro River enters Monterey Bay at the tip of northern Monterey County where it forms the boundary with Santa Cruz County, most of its large watershed extends into Santa Cruz, Santa Clara, and San Benito Counties. The Pajaro River drains an area of about 1,187 square miles, with headwaters in the Gabilan and Diablo Mountains. Near its mouth at Monterey Bay, the river flows through Watsonville, Harkins, Struve, and McClosky Sloughs in Santa Cruz County. Annual streamflow as recorded at the Chittenden gauging station averaged 124,640 AFY (Pajaro Valley Water Management Agency 2001).

The Special Flood Hazard Area (SFHA) of the Pajaro River affects several hundred acres on both sides of the river channel. Much of this area is farmland, and the community of Pajaro is located entirely within the SFHA. In recent years, flood events have caused tens of millions of dollars in property damage, displaced thousands of persons, and damaged significant riparian and aquatic habitat. In 2002, a Phase 1 report for the Pajaro River Watershed Study was completed to model the hydrologic and sediment regimes in the Pajaro River watershed in order to identify flood control measures (Pajaro River Watershed Flood Prevention Agency 2002). Existing land uses within the flood zone remain at risk until flood control improvements are made. Future growth in the Pajaro community would increase the exposure of persons and property to flood hazards.

Significant constraints affect water quality and quantity in North County. Only a few areas in the region are connected to sewer systems; consequently, most parcels use onsite septic systems for wastewater disposal. This has exacerbated the poor water quality in North County by contributing to nitrate contamination. Subdivisions and second units are prohibited in a portion of Prunedale (B-8 zoning overlay over portions of the Granite Ridge and Highlands South areas) due to nitrate contamination and limited water availability.

Groundwater

Groundwater in the North County can be divided into five planning areas with varying hydrogeologic and water use characteristics: the Pajaro, Springfield

Terrace, and Highlands North planning areas are managed by PVWMA; and the Highlands South and Granite Ridge planning areas are managed by MCWRA (Exhibit 4.3.7). The Highlands North and South areas reflect the jurisdictional boundary between the PVWMA and the MCWRA. This jurisdictional boundary is based on hydrogeology because relatively impermeable mud fills a deep valley underlying Elkhorn Slough and acts as a barrier to groundwater movement between the Salinas and Pajaro Valleys. Local recharge in the area may flow into either the Pajaro Valley groundwater basin or the Salinas Valley groundwater basin.

The Granite Ridge community has experienced problems with water quality and supply. The Granite Ridge area is characterized by fractured granite in lieu of the alluvial soils that make up the Salinas groundwater basin. The County of Monterey and the County Water Resources Agency are assessing potential solutions including new delivery infrastructure and financing options. Other agencies are also assessing the situation, including the Pajaro Sunny Mesa Community Services District and the Pajaro Valley Water Management Agency.

A small portion of the 76,800-acre Pajaro Valley groundwater basin, composed of unconsolidated terrace deposits, is located within Monterey County. The primary sources of recharge to the Pajaro Valley groundwater basin are infiltration of rainfall, seepage of streamflow from the Pajaro River and its tributaries, and percolation of irrigation water. Groundwater supply in North County is limited, however, by a combination of natural conditions, including relatively small aquifers, limited recharge potential, and impermeable layers between subareas.

As documented in numerous groundwater studies conducted over the past 55 years, the Pajaro Valley groundwater basin is in an overdraft condition (Pajaro Valley Water Management Agency 2002). In historic time, artesian conditions existed at the coast (meaning that groundwater levels were high enough in past years that groundwater surfaced in some of the coastal areas). By the 1940s, however, following the major development of groundwater resources to support the agricultural industry, some wells were still artesian but only during winter months. By the 1970s, water levels west of Watsonville were consistently below sea level from approximately May to December, lending the conditions necessary for the occurrence of seawater intrusion (Pajaro Valley Water Management Agency 2002).

The area is used primarily for growing strawberries, a crop that typically requires high levels of irrigation and nitrogen-based fertilizers but that also compromises the aquifer with high nitrate concentrations and saltwater intrusion—especially in the Pajaro and Springfield Terrace planning areas. Nitrate contamination is a major concern in drinking water sources in the Pajaro Valley groundwater basin (Pajaro Valley Water Management Agency 2002).

Other Watersheds

Estrella Watershed

The Estrella River is a main tributary of the Upper Salinas River, located in northeast San Luis Obispo County and the southeast corner of Monterey County. The watershed is bounded by mountain ranges and low hills, including the Cholame Hills, Diablo Range, Temblor Range, and La Panza Range. Soils ranging from silty clays to coarse sandy loams are derived from weathered sandstone and shale and alluvium. The landscape is influenced by movement along the San Andreas Fault, which runs through the Cholame Valley and the town of Parkfield.

Land in the watershed is used predominantly for agricultural production, including dryland range, production of dryland grain and hay, and irrigated vineyards and orchards. Land is predominantly privately owned, numbering approximately 600 farms and ranches in the watershed.

The Cholame Valley groundwater basin is a 39,800-acre watershed located partially within Monterey County. The basin is comprised of Quaternary alluvium and drains toward the Salinas Valley.

Big Sur Coast Watershed

The Big Sur Coast watershed includes the 61-square-mile drainage area of the Big Sur River, on the coastal side of the Santa Lucia Mountains. Water from the upper basin is funneled through the Big Sur Gorge in the eastern portion of Pfeiffer Big Sur State Park and enters the 12.5-square-mile Lower Big Sur River basin. The lower basin includes approximately 8,000 acres on the west slope of the Santa Lucia Mountains. The river flows in a northerly direction through the Big Sur Valley, 7.6 miles to the mouth in Andrew Molera State Park. Pfeiffer Ridge separates the Big Sur Valley from Sycamore Canyon and the ocean to the west. Major tributaries include Pfeiffer-Redwood , Juan Higuera, and Pheneger Creeks. The Post Creek drainage defines the southern limit of the basin, which is bounded on the east by Pine Ridge. At the north end of the valley, the Lower Big Sur River again has an extensive floodplain and forms a lagoon as it nears its mouth.

The average annual runoff of the Big Sur River is 64,900 AFY based on United States Geological Survey (USGS) stream gauge records, with peak flows in January (Monterey County Water Resources Agency 2003). The *Big Sur River Protected Waterway Management Plan* (Monterey County et al. 1983) states that there are no significant water storage facilities within the basin, and water is supplied by shallow wells or stream diversions from the major tributaries. Septic tanks near the river (including the state park) are a concern for water quality.

In October 2006, the Monterey Bay National Marine Sanctuary (MBNMS) released a comprehensive watershed management and ecosystem plan, the *Big Sur Coastal Ecosystem Action Plan,* as part of the MBNMS draft management plan (Monterey Bay National Marine Sanctuary 2006). The Joint Management Plan Review is a multiagency task force convened to prepare a series of

management plans. The task force includes MBNMS; the Bureau of Land Management (BLM); the California Coastal Commission; California State Parks; the California Department of Transportation (Caltrans); the County; and the U.S. Forest Service, Los Padres National Forest.

4.3.2.3 Water Quality

Land use and water resources are unequivocally linked. A variety of natural and human factors can affect the quality and use of streams, lakes, and rivers. The type and intensity of land use developed within a region will have a strong influence on receiving water resources.

Pollution sources that affect surface water may be separated into two categories: point and nonpoint sources. Point sources include sewage treatment plants, industrial discharges, or any other type of discharge from a specific location (commonly a pipe) into a stream or water body. By contrast, nonpoint sources—which include runoff from lawns, roads, or fields—are diffuse sources of contaminants that are not as easily identified or measured as point sources. Typically, the contaminant concentration from nonpoint sources will increase as flow increases during storm runoff; conversely, concentrations from point sources generally decrease through dilution during storm runoff. The type and severity of these pollution sources often are directly related to human activity, which can be quantified in terms of the intensity and type of land use and the associated densities of humans and livestock in source-water areas.

Poor water quality can adversely affect natural resources, including aquatic, coastal, terrestrial, and marine ecosystems. Point and nonpoint source pollution can cause destruction or physical alteration of vegetation and degraded water quality (levels, clarity, and temperature), resulting in reduced diversity and abundance of aquatic and riparian organisms (California Coastal Conservancy 2006). Section 4.3.3, Regulatory Framework has a discussion of water quality regulations and a list of impaired water bodies within the county.

Urban Runoff

Urban areas can contain up to 90% hard surfaces, such as rooftops and pavement, where water collects and quickly runs off. As water passes over hard, impermeable surfaces in the watershed, it can pick up a variety of potential pollutants—such as fertilizers and pesticides (used for landscaping), sediments, construction chemicals (oils and grease, paint, and solvents), nutrients, toxic chemicals (for industrial uses), and pathogens—which can be transported to the region's rivers, wetlands, and harbors. Urban runoff, often called "stormwater pollution," is difficult to prevent because this nonpoint source pollution is spread throughout the watershed. Any deposits of natural (sediment) and human-made pollutants (e.g., oils, pesticides, and heavy metals) in these areas are flushed by rainwater, landscape irrigation, and other means down storm drains and directly into streams, rivers, or Monterey Bay. This problem becomes worse with

population growth and urbanization because such activities alter natural hydrologic processes.

Salinas River Watershed

Urban runoff has the potential to directly affect Salinas River waters. Urban runoff transported by the river also affects water quality in Monterey Bay. Water quality in urban runoff is not currently monitored except in the city of Salinas as part of National Pollutant Discharge Elimination System (NPDES) Phase I requirements. See the discussion of the NPDES program under "Clean Water Act" below.

Carmel River Watershed

Relatively little urbanization has occurred in the Carmel River basin. However, because most of the urban uses are close to the river, they present the potential for direct impacts on surface water quality.

North County Watersheds

There is relatively little urban land use in the North County. Urban runoff sources are limited to the areas of commercial development and small communities at Moss Landing, Castroville, Pajaro, and Prunedale. However, because of their proximity to water bodies throughout the North County area, such as the Pajaro River, Elkhorn Slough, and creeks and sloughs tributary to Elkhorn Slough drainage system, these limited urban uses have the potential to generate significant adverse water quality impacts.

Groundwater Quality

Groundwater is an important water resource in Monterey County. Groundwater recharge is commonly concentrated along undeveloped river channels or beneath lakes/reservoirs where water is able to seep through relatively permeable sediments on the bed. Groundwater basins are horizontally divided into aquifers, which are composed of the most permeable strata. This may be porous sandstone, coarse sandy or gravel alluvial deposits, or fractured rock. Such layers often form aquicludes, or barriers to flow that divide aquifers. In Monterey County, it is not uncommon for wells to penetrate several different aquifers at discrete intervals. Typically, the uppermost aquifer is unconfined by a layer above, while deeper aquifers are more likely to be confined and under pressure. Groundwater flow is strongly tied to the underlying geologic structure, including the pattern of folding and faulting.

Groundwater is tied to the hydrologic cycle, since recharge comes from seepage of surface water through lakes, rivers, and overland flow. However, groundwater basins typically have a much larger volume than surface water reservoirs. They are capable of storing large quantities of water developed through infiltration and seepage of water over a very long time, where storage volume is not lost to the transient effects of runoff and evaporation. Depletion is mainly through diversion of surface water and pumping.

Overall groundwater quality throughout Monterey County is generally considered excellent to good. However, localized water quality problems exist from seawater intrusion and nitrate contamination, most prevalent in agricultural areas. Nitrate contamination levels have been increasing over time. This problem has had a significant local impact on domestic water supplies in the Salinas Valley and North County areas. Each year, the California Department of Food and Agriculture conducts a sampling of agricultural wells throughout the county, and to date it has not reported any problems with synthetic organic pesticide contamination of wells, such as those affecting other agricultural areas of California.

Other problems similar to those found in many communities throughout the state include urban runoff and leaking of underground tanks. These problems have resulted in very limited impacts on supplies of drinking water. Leaks from Underground Storage Tanks (USTs) or Leaking Underground Fuel Tanks (LUFTs) often are cleaned up on an individual site basis per the County's Environmental Health Division or other local regulatory jurisdiction, with oversight by and in compliance with guidelines of the Central Coast Regional Water Quality Control Board (RWQCB). There are also some larger comprehensive cleanup efforts, such as the groundwater contamination cleanup operations at the former Fort Ord Army Base.

The five most prominent water quality problems affecting water basins in Monterey County are: erosion and sedimentation, pollutants in urban runoff, nitrate contamination, salinity/chloride ions resulting from seawater intrusion, and inorganic and secondary constituents.

Erosion and Sedimentation

Erosion problems are widespread in Monterey County, partly because of the erosive nature of local soils. Erosion results from natural conditions and land use practices. The four common causes of excessive erosion and sedimentation in the county are listed below.

- Farming on steep slopes and erosive soils can lead to soil erosion problems. Growing strawberries on the sandy, erosive, hilly soils of the North County and Elkhorn Slough areas has resulted in erosion problems that are currently being addressed.
- Dirt roads that have been graded on slopes without proper design or facilities to accommodate storm runoff are a common source of erosion. Heavy rain can erode slopes undercut for roads or erode the road surface, sending sediment downstream into creeks. Erosion often occurs where dirt roads cross intermittent creeks. Many of these dirt roads are located on private property in the county. Unmaintained or abandoned dirt roads are an especially severe source of erosion.
- Excess erosion occurs when the hydrology (and hydraulic characteristics) of a river or stream is altered (by water management practices and/or land uses upstream) to change the suspended sediment load in water as it flows through the channel. Water with diminished sediment load will erode banks and

channels, altering the channel bottom and destabilizing the stream or riverbank.

- Areas that have been denuded of vegetation by fire, overgrazing, or clearing are also subject to erosion. Grading prior to development without proper erosion control measures can cause erosion and downstream sedimentation, especially during the rainy season.

Salinas River Watershed

Erosion and sedimentation problems in the Salinas Valley often are related to farming activities because of the dominance of intensive agriculture and its reliance on irrigation. Agricultural management practices are uneven throughout the Salinas Valley. Outreach and advisory programs conducted locally by the Resource Conservation District (RCD) and NRCS, to assist growers in controlling erosion, applying fertilizers and crop nutrients according to crop demand, and irrigating more efficiently and cost-effectively, have succeeded in greatly improved practices in many areas. Expansion of these programs would help reduce erosion and sedimentation impacts to an even greater degree.

In much of the Salinas Valley, particularly on the valley floor and alluvial fans where irrigated agriculture is dominant, the local hydrology has been converted to a conveyance system of straight, unlined ditches. The braided streams that drained the eastern slopes of the valley, for example, have been straightened and deepened into channels to allow cultivation of fields. These ditches convey water at a faster rate, resulting in unnaturally high rates of erosion upstream and higher rates of deposition downstream. Consequently, the ditches must be maintained repeatedly after every rainy season. In addition to the adverse environmental impacts, this self-perpetuating system of erosion/sedimentation and repeated maintenance incurs significant costs to farmers as well as to the County, which is burdened annually with clearing downstream roads and culverts of sediments.

Carmel River Watershed

As in the Salinas Valley, the presence of agriculture in the Carmel River basin creates the potential for erosion and sedimentation from farming activities. Agriculture is much less extensive in the Carmel Valley than in the much larger Salinas Valley. The primary source of erosion is bank failure associated with flooding events and destabilization of riverbanks associated with land use activities along the river.

North County Watersheds

North County has areas with significant erosion problems. In the interior hills of North County, soils and topography are conducive to erosion, especially where intensively cultivated strawberries are grown on sandy erosive soils on sloping lands and without proper attention to erosion control. In recent years, increased strawberry farming has resulted in intensive

cultivation on sloping terrain. Strawberries have a high demand for water, relative to most other crops grown in the county. Cultivation practices have led to high erosion/sedimentation rates, primarily in the Elkhorn Highlands and to a lesser extent in the Carneros Creek watershed. This problem not only incurs a significant loss of valuable topsoil, but also potentially affects freshwater wetlands and ponds in the upper reaches of Elkhorn Slough (which contain state and federally listed endangered amphibian species) and riparian habitats in lower Carneros Creek. The RCD is assisting farmers in addressing this problem.

Nitrate Contamination

Nitrate contamination was not a widespread problem until the use of synthetic fertilizers became common shortly after World War II. Organic fertilizer (manure) used in the Salinas Valley before the 1950s provided its own source of organic carbon, which allowed ammonia sulfate and phosphorous in manures to convert to a harmless gas, organic nitrogen. Synthetic fertilizers, however, do not breakdown in this manner. Instead, the nitrogen in chemical fertilizers oxidizes into nitrate as it percolates down into the root zone. The resulting nitrate is an inert form, not subject to further chemical conversion. It remains in the soil or enters the groundwater with subsequent irrigation or is flushed into irrigation drainage ditches to join other nitrate-laden waters flowing toward creeks, rivers and estuaries, and eventually into Monterey Bay.

Nitrate is commonly measured in terms of concentration of nitrate (NO_3) and concentration as nitrogen (N). The state and federal Maximum Contaminant Level (MCL) for NO_3 in drinking water is 45 milligrams per liter (Mg/l). This is also represented as 10 Mg/l for total N.

Nitrate contamination occurs commonly in unconfined and semiconfined aquifers that underlie areas of intense agricultural activity, where excess applied fertilizer can migrate to the groundwater body by leaching from the soil or by deep percolation from surface water bodies fed by agricultural runoff. The widespread use of nitrogen-based fertilizers in the intensive, high-productivity irrigation agriculture of vegetable and truck crops practiced in the Salinas Valley has greatly accelerated in the past 20 to 50 years. However, a cooperative effort between the MCWRA and the USGS has found that nitrates are present in the Salinas Valley basin in concentrations generally below the MCL threshold (U.S. Geological Survey 2005).

Elevated nitrate levels also exist near septic systems and wastewater treatment plants, which contain high nitrogen concentrations in their effluent. The most common cause of septic system failure is inadequate maintenance or degradation of an aging system. Systems also can fail to function if they are sited in conditions that are adverse to infiltration and dispersal of effluents, such as areas of thin soil, steep slopes, or high groundwater, or where too many systems are sited too close together. In addition, septic systems are a contaminant source even when they function properly. Residences that obtain their water supplies from shallow domestic wells often also use septic systems with associated leach fields, thereby increasing their risk factor for nitrate contamination of their

drinking water supply. Another source of nitrate contamination is sewage treatment ponds located in flood zones, such as those in the Salinas River basin. During periods of exceptionally high floods (such as the flows of 1995 and 1998), sewage from these ponds is conveyed in floodwaters and carried downstream. Under normal conditions, nitrate from these ponds also can percolate into the groundwater. Finally, waste from livestock is a common source of nitrate, especially in areas where they are kept in relatively high concentration such as dairy farms, feedlots, and horse stables.

There are two available technologies for removal of nitrate in groundwater: ion exchange and reverse osmosis. Both of these methods are very expensive, particularly if applied to groundwater basins the size of those in Monterey County. Filtration systems are available for individual users to treat water at the "point of use," which is at the individual residence. But disposal of the effluent is a problem. The Central Coast RWQCB has placed restrictions on onsite disposal by individual users, and state and federal law prohibits the use of treatment systems by individual users served by regulated water systems (i.e., four connections or more). Treatment to remove nitrates and other contaminants remains very cost-prohibitive. For this reason, the common solution in most areas of the county is to drill a new and deeper well with a deep seal to prevent contaminated water from entering the perforations. All of the Salinas Valley water utilities, as well as many small water systems throughout the county, have implemented this solution. It is unknown how long this approach will be successful; in some areas, it may have the undesirable effect of drawing the nitrates deeper into the aquifer system.

Sufficient information is available, and initial steps have been taken, toward developing best management practices (BMPs) that would reduce the rate of nitrate contamination in the Salinas Valley basin (and other areas of the county). Nitrate contamination can be partially reduced by improved soil management and water conservation practices adopted by farmers. Achieving this level of mitigation almost certainly necessitates a basin-wide program to assist development of more cost-effective management practices, based on the already successful programs in North County and along Chualar Creek, in which local farmers and landowners partner with the RCD and NRCS. Even so, nitrate contamination will continue at significant rates as long as chemical fertilizers are used in irrigated agriculture.

Salinas River Watershed

Nitrate contamination is present throughout the Salinas Valley basin in varying concentrations. The MCWRA has documented increasing trends of nitrate levels, and levels are anticipated to increase with time. All of the Salinas Valley cities have had to replace domestic water wells due to high nitrate levels that exceed the drinking water standard of 45 Mg/l established by state and federal standards. New wells typically are drilled to a depth of 1,000 feet or more and sealed to at least 450 feet.

The MCWRA reports that nitrate concentrations in the Salinas Valley are highest in the 180-foot aquifer. The 400-foot aquifer has low nitrate levels because the intervening clay layers prevent nitrates from percolating farther into the groundwater table (Monterey County Water Resources Agency 2001). Table 4.3-2 provides a summary of nitrate contamination in the Salinas Valley groundwater aquifers. In nearly 30% of wells sampled throughout the Salinas Valley, nitrate exceeds the 45-Mg/l MCL for drinking water (Exhibit 4.3.8). In some wells, nitrate has reached several hundred Mg/l. Groundwater in these areas of the valley is sufficiently high in nitrate to function as effective fertilizer without further chemical additives. These statistics strongly indicate that nitrate contamination has affected the upper aquifer layer throughout the Salinas Valley basin.

Table 4.3-2. Summary of Nitrate-NO_3 Concentrations for 367 Study Wells in the Salinas Valley Basin (1996)

Subarea	Number of Wells Sampled	Nitrate as NO_3 (mg/l)	Number of Wells Greater than DWS[a]	Percent of Wells Greater than DWS[a]
100-Foot/400-Foot Aquifer	200	22	23	12
East Side Aquifer	57	66	25	44
Forebay Aquifer	78	48	34	44
Upper Valley Aquifer	32	74	17	53
Total Areas	367	38	99	27

[a] DWS = Drinking water standard. The MCL for NO_3 in drinking water is 45 Mg/l.

Source: Monterey County Water Resources Agency 2001.

Carmel River Watershed

In 1983, based on nitrate levels in groundwater identified in a study included in the *Carmel Valley Master Plan*, the County Board of Supervisors adopted a resolution that prohibits further subdivision of lots within four subbasins of the Carmel River. Currently, each property owner in the subbasins is restricted to development of one single-family dwelling (or equivalent). The County also adopted a threshold of 25 Mg/l as the standard for the limits of nitrate concentration in the basin. (Monterey County 2006)

The MPWMD has been monitoring nitrate levels at several wells in the alluvial aquifer of the Carmel River basin since 1981. Results indicate that nitrate levels are well within established standards, with no discernible trend of deteriorating water quality. Under normal conditions, the Carmel River basin flushes out each year when seasonal water levels are restored. This process usually prevents nitrate from accumulating in the basin. The relatively high nitrate levels identified in the four subbasins in 1982 may reflect episodic effects brought on by local conditions or drought. The MPWMD monitoring data suggest that the elevated levels within the four subbasins do not represent basinwide nitrate contamination similar to the

widespread contamination found in North County and the Salinas Valley basin.

North County Watersheds

There are approximately 680 small water systems in North County. This includes all wells serving from 2 to 200 connections. Of these, 77 (about 11% of the total) currently exceed the 45-Mg/l nitrate standard. Approximately 165 systems (about 23% of the total) have nitrate levels greater than half but not in excess of the standard (23–45 Mg/l) The remainder of the systems (about 66% of the total) have nitrate levels of from 0 to 22 mg/L (Monterey County Health Department 2008b).

Seawater Intrusion

Seawater intrusion is the migration of ocean water inland into a freshwater aquifer. This condition occurs when a groundwater source (aquifer) loses pressure, allowing the interface between freshwater and seawater to move into the aquifer. Reducing pressure also can allow seawater to seep into the aquifer from estuaries such as Elkhorn Slough in north Monterey County. A common activity that induces intrusion is pumping of the groundwater basin faster than the aquifer can recharge.

Seawater intrusion is the primary source of salinity in coastal wells. Salinity refers to the salt content, or chloride level, of water. Chlorides in excess of 100 Mg/l produce a salty taste in drinking water. This 100-Mg/l chloride level is a threshold value for irrigation. Ionic constituents of water are important considerations for agricultural supply because of their impact on crops and soils. Increased chloride levels in irrigation water eventually force cropping changes in affected areas.

Although seawater intrusion can be halted by stabilizing groundwater levels and may be reversed to some degree, it may not be possible to restore the seawater/freshwater interface completely to its pre-intrusion location. The difficulty is being able to sufficiently reduce the pressure of a larger body of water (the ocean) to push the line back. There are no documented instances of fully restoring groundwater basins to pre-intrusion conditions.

Salinas River Watershed

Seawater intrusion occurs near the coast principally because extraction of fresh groundwater exceeds recharge in the northern part of the Salinas Valley. Any significant pumping of groundwater between Salinas and the coast causes seawater intrusion. The MCWRA formulated long-term plans to construct and operate facilities to alleviate the seawater intrusion problem with implementation of the *Salinas River Basin Management Plan*.

Seawater intrusion has affected the coastal portion of the 180-Foot/400-Foot Subarea of the Salinas Valley basin since at least the 1940s. Seawater has contaminated two of the three primary producing aquifers in the coastal part

of the Salinas Valley basin, the 180- and 400-foot aquifers. The MCWRA uses the California Safe Drinking Water Act, Secondary Drinking Water Standard, upper limit of 500 Mg/l for chloride as a measurement of impairment of water and, subsequently, as the basis for determining the seawater intrusion front. By 1999, seawater was estimated to affect as much as 24,019 acres overlying the 180-foot aquifer (Exhibit 4.3.9) in the northern Salinas Valley and 10,504 acres overlying the 400-foot aquifer (Exhibit 4.3.10) (Monterey County Water Resources Agency 2001). Table 4.3-3 depicts the magnitude of this problem over time.

Table 4.3-3. Estimated Acreage Overlying Seawater Intrusion

	180-Foot Aquifer		400-Foot Aquifer	
Year	Acres Advanced from Last Date	Total Acres	Acres Advanced from Last Date	Total Acres
1944	1,833	1,833	No data	No data
1959	No data	1,833	22	22
1965	5,839	7,672	No data	22
1975	3,973	11,645	3,695	3,717
1985	4,576	16,221	3,804	7,521
1990	No data	16,221	826	8,347
1993	3,596	19,817	311	8,658
1995	No observed change	19,817	407	9,065
1997	1,802	21,619	896	9,961
1999	2,400	24,019	543	10,504

Source: Monterey County Water Resources Agency 2001.

The intrusion of seawater has forced all water supply wells in the affected area of the 180-foot aquifer to be re-drilled into the 400-foot aquifer. Additionally, in those areas where the 400-foot aquifer also suffers from seawater intrusion, the Deep Zone aquifer has become a major source of water (Marina Coast Water District 2005). The water of this aquifer is up to 30,000 years old. However, because of the prehistoric origin of this water, withdrawal from the Deep Zone is a non-sustainable activity and is the effective equivalent of "mining" water.

Carmel River Watershed

According to the 1998 SEIR for the Carmel River Dam and Reservoir Project (Jones & Stokes Associates, Inc 1998), monitoring wells near the coast indicate that a mixing zone of fresh- and seawater exists at the mouth of the valley near the Carmel River State Beach, but no seawater intrusion into the freshwater aquifer has been recorded.

Monitoring results in the nearby Seaside groundwater basin indicate that it does not have substantial seawater intrusion problems. (Monterey Peninsula Water Management District 2007)

North County Watersheds

The North County groundwater subbasins are shown in Exhibit 4.3.8. Elevated chloride concentrations caused by seawater intrusion have been measured in the Springfield Terrace Subarea and areas adjacent to Elkhorn Slough (Exhibit 4.3.11).

Prior to 1909, Elkhorn Slough was a fresh-to-brackish water estuary that discharged to the Salinas River. At that time, the Salinas River shared a common mouth with the Pajaro River. After 1909, the slough became a closed estuary that seasonally breached the beach, discharging to the Pacific Ocean. In 1947, the USACE created Moss Landing Harbor and initiated dredging operations to keep the harbor mouth open. Since then, Elkhorn Slough has been subject to tidal surge and the mixing of freshwater and seawater. In the slough, saline water, as surface water, overlies aquifers containing fresh groundwater. Because seawater is denser than freshwater and the current water levels are below sea level within the underlying aquifers, seawater within the slough moves vertically downward into the underlying aquifers. Although this is not seawater intrusion in the conventional sense (horizontal movement of seawater through the aquifer from offshore outcrops), it degrades fresh groundwater in areas below and adjacent to the slough.

Thus, while over-pumping in North County has undoubtedly induced lateral intrusion in local aquifers, human activities have engineered changes to the salinity of the slough's waters; these changes have affected the salinity of groundwater that underlies the slough.

Inorganic and Secondary Constituents

Inorganic and secondary constituents refer to the presence in potable water of certain nonorganic compounds regulated by the State Drinking Water Act (SDWA), such as nitrates, iron, and certain other metallic and semimetallic compounds. Primary standards regulate the levels of constituents in water that affect public health, such as nitrate (discussed above) and heavy metals, while secondary standards affect the aesthetics of drinking water, such as taste, color, and odor problems. For instance, at moderate levels, iron can cause water discoloration but may not cause health problems.

Such contaminants either would be introduced into the groundwater by human activities, such as farming, industrial activities, and onsite septic systems, or can be naturally occurring and associated with geologic conditions in aquifers, such as high levels of iron. There is also concern that hazardous substance contamination detected at the former Fort Ord might adversely affect the quality of groundwater extracted from the Salinas Valley groundwater basin (Marina Coast Water District 2005).

High levels of arsenic that approach and exceed SDWA levels occur naturally in certain hardrock or bedrock aquifer materials in parts of Monterey County, especially in parts of the North County and along the SR 168 corridor. This is of concern as long-term exposure to low levels of arsenic can cause multiple human health conditions and even increased risk of cancer. This problem is compounded by the fact that the Environmental Protection Agency (EPA) has recently lowered the arsenic standard for drinking water from 0.050 parts per million (50 parts per billion) to 10 parts per billion to protect consumers served by public water systems from the effects of long-term or chronic exposure to arsenic. Water systems, including those overseen by the County's Environmental Health Division, must comply with this standard as of January 23, 2006. Individual private and certain small water systems may not be able to achieve these standards—even with treatment—either administratively or technically.

Fort Ord

The former Fort Ord was identified by the EPA as a National Priority List federal Superfund site on the basis of groundwater contamination discovered on the installation in 1990. The facility was listed "fenceline to fenceline," all 28,000 acres. Investigations pinpointed 43 sites of concern, including motor pools, vehicle maintenance areas, dry cleaners, sewage treatment plants, firing ranges, fire drill burn pits, hazardous waste storage areas, and unregulated disposal areas (Marina Coast Water District 2005).

In June 2002, a low level of trichloroethylene (TCE), a cleaning solvent, was detected in one of the three water supply wells at the former Fort Ord. The contamination is coming from an abandoned landfill and a fire training pit that were used by the Army once but are closed now. The Army has responded to the landfill contamination problem by installing extensive groundwater cleanup systems to remove the contamination and prevent its further migration (Marina Coast Water District 2005).

4.3.2.4 Potable Water Supply and Infrastructure

The available water supply is a consequence of natural conditions, including climate (precipitation and evaporation), soil permeability, topography, and hydrogeology (the capacity, location, and quality of aquifers), and management activities that function to enhance or redistribute the water supply. The long-term sustainability of water supplies requires major comprehensive management across jurisdictions, as well as planning for emergencies such as drought or disruption of infrastructure.

Management actions are also important in maintaining water quality. Poor quality can render available water unusable. The supply available for human uses is also limited by the consumption requirements of natural ecosystems, both terrestrial and aquatic. Neither water demand nor water supply are constant values, but vary over time, depending for instance on rainfall—which affects runoff, reservoir storage, and groundwater recharge—and temperature—which affects irrigation needs. For management purposes, the long-term objective is to

ensure that these two variables are held in balance, and that demand does not exceed supply for a prolonged period.

There are a number of different agencies that manage water resources within Monterey County (Exhibit 4.3.12).

MCWRA is responsible for management of the water resources in Monterey County. However, in the Monterey Peninsula area, MPWMD has authority over local issues related to water supply. Together, MCWRA and MRWPCA oversee the Monterey Regional Water Recycling projects, which consist of a reclamation plant and a 45-mile distribution system known as the Castroville Seawater Intrusion Project (CSIP). MCWRA is undertaking the SVWP, which consists of changes to the upriver reservoir operations, modifications to the Nacimiento Dam, and installation of a rubber dam on the Salinas to increase summer flows and provide agricultural water to offset the use of groundwater.

The PVWMA has authority over water supply issues in the Pajaro River basin, which includes parts of both Monterey and Santa Cruz Counties. The Marina Coast Water District (MCWD) supplies water to the City of Marina and the former Fort Ord.

These agencies generally regulate private and public water suppliers in the unincorporated area. The major providers are Cal-Am in the Monterey Peninsula Area, California Water Service Company (Cal-Water) in the Salinas Area, and the Castroville and Pajaro/Sunny Mesa Water Districts in the North County area. The vast majority of supply is pumped from groundwater and is allocated for agricultural use.

Water Sources

Monterey County derives a majority of its total water supply from groundwater storage. Groundwater is the primary source of water in the region, accounting for roughly 75% of the annual supply in 2000 (California Department of Water Resources 2005). Local and some imported surface water supplies make up the rest of the available water for this region. Major reservoirs are primarily used as a source of groundwater recharge supply. The two major groundwater basins in Monterey County are the Salinas Valley and the Carmel Valley basins (see Exhibits 4.3.3 and 4.3.5). Several smaller groundwater basins are located throughout the various watersheds (see Exhibit 4.3.7).

Most of these groundwater basins lie beneath thick alluvial deposits of the major rivers, marine terrace deposits, or other thick sedimentary deposits. Groundwater is recharged or replenished through gradual seepage and infiltration of surface water, especially during the wet season. Most recharge occurs where runoff is low due to permeable soils or fractured rock and where slopes are gradual enough to allow water to seep into the ground. Recharge is concentrated where there is sustained flow or a sufficient depth of water to allow for groundwater infiltration and downward seepage into the water table. Recharge also occurs in

any open or unpaved areas where the ground is saturated and water is not lost to evaporation, plant transpiration, consumption, or runoff. Because groundwater provides a majority of the water supply, the protection of this resource from contaminated surface water recharge and spills or leaks of contaminants below the ground, especially around wells, is vital. A significant amount of groundwater recharge is provided by the Pajaro, Salinas, and Carmel Rivers, and by the Arroyo Seco which flows into the Salinas River (California Department of Water Resources 2005). Recharge also occurs beneath surface water reservoirs, such as the San Clemente and Los Padres dams on the Carmel River, San Antonio Reservoir on the San Antonio River, and Nacimiento Dam on the Nacimiento River in San Luis Obispo County (California Department of Water Resources 2005).

As illustrated by the overdraft conditions, current demand exceeds supply in the major supply areas of the county, an issue also present at the time of the existing 1982 General Plan. Goals, objectives, and policies in that plan addressed the need to "promote adequate, replenishable water supplies of suitable quality; to eliminate groundwater overdrafting; and to implement a program to prevent further seawater intrusion by developing supplemental sources of water for North County." These issues are the subject of exhaustive groundwater studies and basin groundwater management plans undertaken by the respective water management agencies and the County since the existing 1982 General Plan. While progress has been made by MCWRA, MPWMD, and PVWMA in halting the rate of groundwater level decline and seawater intrusion, these issues remain a significant challenge to sustainable growth based on the goal of a sustainable groundwater supply.

Groundwater management is complicated, especially in water basins where several hundred or more long-term historical users are pumping from a common groundwater system, as is the case in much of Monterey County. Issues of water supply are further complicated by a number of different water suppliers, obligations, contracts, and disputes over water rights. Following is a summary of water supply issues for the major groundwater basins and planning areas in the county. The major groundwater management authorities and water suppliers for each of the Community Areas are summarized in Table 4.3-4.

Table 4.3-4. Community Area Groundwater Basins and Water Suppliers

Community Area	Planning Area	Groundwater Basin	Management Authority	Water Supplier
Pajaro	North County	Pajaro Valley basin	PVWMA	Pajaro/Sunny Mesa Community Services District
Castroville	North County	Salinas Valley basin (180-Foot/400-Foot Subarea)	MCWRA	Castroville Water District
Boronda	Greater Salinas	Salinas Valley basin (180-Foot/400-Foot Subarea)	MCWRA	California Water Service Co., Salinas District
Chualar	Central Salinas	Salinas Valley basin (180-Foot/400-Foot Subarea)	MCWRA	Cal-Am Water Company, Monterey District
Fort Ord	Greater Monterey Peninsula	Salinas Valley basin (Seaside and Corral de Tierra Subareas)	WPWMD (and Fort Ord Reuse Authority) and MCWRA	Marina Coast Water District

Monterey County also has several major wastewater recycling and desalination efforts in progress or in action. The CSIP provides approximately 19,000 AFY of recycled water to replace coastal groundwater pumping for irrigating vegetables and fruit crops. PVWMA's Watsonville Area Water Recycling Project and the associated Coastal Distribution System are similarly using recycled wastewater for injection into the aquifer and to replace groundwater supplies. The Carmel Area Wastewater District/Pebble Beach Community Services District Reclamation Project replaces approximately 700 acre-feet of potable water for golf courses and other open space in Pebble Beach with recycled water (Monterey Peninsula Water Management District 2007). MCWD has built a new water desalinization plant with a peak capacity of 300,000 gallons per day when in operation (Marina Coast Water District 2008).

Cal-Am has applied to the PUC for a desalination plant at Moss Landing with a proposed capacity of approximately 11,730 AFY. MPWMD is currently evaluating the feasibility of a desalination plant in Sand City, which would take 15 mgd of saline groundwater from the coastal beachfront and produce 7.5 mgd (23.02 AFY) of potable water (Monterey Peninsula Water Management District 2004).

The following sections provide a discussion of the potable water supply obtained through groundwater basins in each of the major watersheds in Monterey County. For a full description of each watershed's characteristics, please refer to Section 4.3.2.2.

Salinas Valley Groundwater Basin

Most of the proposed Community Areas and Rural Centers are located within the Salinas Valley groundwater basin. Community Areas proposed in the 2007 General Plan include Pajaro, Castroville, Boronda, Chualar, and Fort Ord. Rural Centers proposed in the 2007 General Plan include Bradley, Pleyto, Lockwood, San Ardo, Pine Canyon (King City), River Road, and San Lucas. One new Affordable Housing Overlay area will be established in the Salinas Valley watershed—Reservation Road/Hwy 68.

MCWRA is responsible for regulation and supply of groundwater within the Salinas Valley groundwater basin. The Salinas Valley groundwater basin provides water supply to properties in the Greater Salinas plan area, Central Salinas Valley plan area, and Greater Monterey Peninsula plan area. Groundwater subbasins that are hydrogeologically connected to the Salinas River supply water to the Toro and Cachagua plan areas. Incorporated cities that draw water from the basin include Marina, Salinas, Soledad, Gonzales, Greenfield, and King City. Major issues include chronic overdraft that has contributed to seawater intrusion in the north and nitrate contamination due to agricultural runoff.

According to the California Department of Water Resources (DWR), the Salinas Valley groundwater basin consists of one large hydrologic unit comprised of four subareas: Upper Valley Subarea, Forebay Subarea, 180-Foot/400-Foot Subarea, and East Side Subarea. These subareas consist of three main vertically divided aquifers: the 180-foot aquifer, the 400-foot aquifer, and the Deep Zone, which extends approximately 2,000 feet below land surface.

Total estimated water demand in the Salinas Valley, including agricultural and urban requirements, has averaged 507,000 AFY between 1995 and 2005. This includes well extraction data reported to MCWRA and an estimate of other unmeasured or unreported water extraction. Table 4.3-5 provides a summary of groundwater extraction within the MCWRA's service boundary from 1995 to 2005.

In 2005 (the most recent data available as of July 2008), MCWRA estimated total annual extraction from the Salinas Valley groundwater basin at 494,000 acre-feet, including 443,600 acre-feet of agricultural pumping (90% of total) and 50,500 acre-feet (10% of total) of urban pumping (Monterey County Water Resources Agency 2007). A majority of urban pumping supplied water to both unincorporated and incorporated areas around the population centers of Salinas, King City, Fort Ord, and Soledad (86%); 5% to the Former Fort Ord; 4% to MCWD; and 5% to Salinas Valley State Prison (Monterey County Water Resources Agency 2007).

Table 4.3-5. Salinas Valley Groundwater Basin Extraction Data, 1995–2005 (acre-feet)

Year	Urban Pumping	Percent	Agricultural Pumping	Percent	Total
1995	41,884	8	462,628	92	504,512
1996	42,634	8	520,804	92	563,438
1997	46,238	8	551,900	92	598,138
1998	41,527	9	399,521	91	441,048
1999	40,559	8	464,008	92	504,567
2000	42,293	9	442,061	91	484,354
2001	37,693	9	403,583	91	441,276
2002	46,956	9	473,264	91	520,220
2003	50,472	10	450,864	90	501,336
2004	53,062	10	471,052	90	524,114
2005	50,479	10	443,567	90	494,046
Average	**44,891**		**462,114**		**507,004**

Sources: Monterey County Water Resources Agency 2008b.

MCWRA reports that in the 180-Foot/400-Foot Subarea north of Salinas, more than 90% of pumping occurs from the 400-foot aquifer, with 5% from the Deep Aquifer and a smaller fraction from the 180-foot aquifer. In areas south of Salinas, it is estimated that approximately 60% of groundwater pumping occurs from the 400-foot aquifer, while 40% occurs in the 180-foot aquifer (Monterey County Water Resources Agency 2001a). Seawater intrusion into the 100-Foot/400-Foot Subarea was occurring at an annual rate of approximately 14,000 AFY prior to initiation of operations of the MCRWP (particularly the CSIP). As the MCRWP became fully operational, the annual rate of seawater intrusion decreased to approximately 8,900 AFY (Monterey County Water Resources Agency 2001a); this rate of seawater intrusion is the most recent available and is being used as the baseline in this SEIR.

MCWRA indicates that without the SVWP and the associated development of additional water supplies to augment existing groundwater supplies, both existing and future water needs (year 2030 and buildout) would result in further basin overdraft and seawater intrusion. The technical background reports incorporated by reference into the *Draft Environmental Impact Report/Environmental Impact Statement for the Salinas Valley Water Project* (Monterey County Water Resources Agency 2001a) demonstrate that basin overdraft, if left unchanged, is estimated to produce approximately 10,300 AFY of seawater intrusion and 14,000 AFY of storage depletion in 2030.

Table 4.3-6 provides a comparison of the MCWRA's baseline (1995) and projected future (2030) conditions assuming the SVWP is not in place. With full implementation of the SVWP (see discussion below), MCWRA estimates groundwater storage depletion will be substantially improved from their baseline conditions and will avoid additional overdraft. This projection is based on general population projections. Accordingly, it remains valid when a 2007 baseline is substituted.

Table 4.3-6. Estimated Existing and Future Water Conditions in the Salinas Valley Groundwater Basin (AFY)

Parameter	Baseline (1995) Conditions[1]	Projected Future (2030) Baseline Conditions[1]
Groundwater Pumping	463,000	443,000
Urban	*45,000*	*85,000*
Agricultural	*418,000*	*358,000*
Basin Overdraft (Does not include Seawater Intrusion)[2]	17,000	14,000
Seawater Intrusion[3]	8,900	10,300
Salinas River Outflow to Ocean	238,000	249,000

Notes:

[1] Baseline (1995) and Future Baseline (2030) Conditions assume that deliveries from MCWRP are being made. Under 1995 conditions, approximately 13,300 AFY are delivered; under the 2030 conditions, 15,900 AFY are projected for delivery.

[2] Basin overdraft is defined as the average annual rate of groundwater extraction over and above the total recharge to the groundwater basin.

[3] Seawater intrusion is defined as the average annual rate of subsurface flow from the Monterey Bay into the 180-Foot and 400-Foot aquifers in the 100-Foot/400-Foot Subarea.

Source: Monterey County Water Resources Agency 2001a.

The quantity of water used by agriculture is a function of total irrigated acreage, crop types, and, to a lesser extent, irrigation efficiency. Due to market forces driving further irrigation efficiency and a historical change in cropping patterns from truck crops to vineyards in the southern Salinas Valley, as well as urbanization of former agricultural lands, MCWRA projects a decrease in annual groundwater pumping to 358,000 AFY by 2030. While yearly amounts vary, Table 4.3-6 illustrates a general downward trend in groundwater extraction for agricultural purposes. This expected decrease would be partially offset by a projected increase in urban water use from 45,000 to 85,000 AFY by 2030 (Monterey County Water Resources Agency 2001a).

Operation of the SVWP will divert an average of 9,700 AF and up to 12,800 AF of additional Salinas River water (available from reoperation of upstream reservoirs) to the CSIP during the peak irrigation season. This will provide a total yearly average of 12,000 AF and up to 25,000 AF to the CISP for injection into the groundwater aquifer (Monterey County Water Resources Agency 2003).

Modeling undertaken by the MCWRA for the SVWP indicates that by 2030 seawater intrusion will be reduced to 2,300 AF with surface water deliveries only to the CISP. However, if an additional 14,300 AF of SVWP water is delivered outside the CSIP, modeling indicates that seawater intrusion would be halted (Monterey County Water Resources Agency 2001a). The SVWP has been designed to meet the objectives of halting seawater intrusion and meeting water demands to 2030 through drought years through conjunctive use of surface and groundwater. Groundwater would be augmented during wet years from the SVWP, with greater reliance on surface water, and drawn upon in dry years, with less reliance on surface water. This would avoid seawater intrusion through droughts of historic length (Monterey County Water Resources Agency 2001a).

El Toro Creek Groundwater Sub-Basin

El Toro Creek contributes surface flows to the Salinas River watershed and is treated separately for planning purposes relative to the area's groundwater resources. The groundwater basin provides potable water supply to the Toro planning area. No new Community Areas or Rural Centers are proposed in the El Toro Creek basin.

The El Toro Creek groundwater basin is recharged from the surface watershed of El Toro Creek. MCWRA has divided the El Toro Creek basin into five planning areas: Corral de Tierra, El Toro Creek, San Benancio Gulch, Watson Creek, and Calera Creek. Groundwater levels in some portions of the El Toro Creek basin have declined severely in recent years, leading the County to impose a B-8 zoning overlay in these areas, which restricts development to the first single dwelling on existing lots of record. A 2007 groundwater study recommended expansion of the B-8 zoning to cover the entire extent of the El Toro Primary Aquifer System. This same study found that at the current recharge rate for the basin (approximately 1,902 to 2,852 AFY), the projected future demand for 2,145 AFY may lower the groundwater level by 30 feet by 2030 (Geosyntec Consultants 2007)

Future growth in the El Toro Creek basin is constrained by current overdraft conditions and the B-8 overlay zoning. This includes development on existing lots, as well as any future subdivision in areas that draw water from the overdrafted aquifers. Increased withdrawals in these areas would result in significant impacts, without water distribution and/or augmentation to resolve overdraft conditions. Additionally, groundwater drawn in the El Toro Creek basin must treat arsenic to primary drinking water standards

Seaside Area Groundwater Basin

Most of the Seaside Area groundwater basin is within the incorporated cities of Marina, Seaside, and Sand City (see Exhibit 4.3.3). No new Community Areas or Rural Centers are proposed by the 2007 General Plan in the basin. One new Affordable Housing Overlay area will be established in the Seaside basin—Mid-Hwy 68/Mid Peninsula Airport. However, inter-basin transfers of water that may be needed to meet the demands of the 2007 General Plan in neighboring basins would impact the water supply.

The Seaside Area basin is composed of a number of smaller sub-basins. MPWMD is responsible for regulation and supply of groundwater within the Seaside Area groundwater basin. The boundaries of the basin are poorly understood, particularly under Monterey Bay. Total known useable storage in the Seaside basin aquifer is about 6,200 acre-feet. Current water use within the basin is about 5,600 AFY. (Monterey Peninsula Water Management District 2007)

Because of a 1995 State Water Board Order (Order No. WR 95-10) that ruled Cal-Am did not have a legal right to roughly 70% of the surface water it had been diverting from the Carmel River (refer to Carmel River Conflicts), Cal-Am began drawing more water from groundwater wells within the Seaside groundwater basin. In 2006, the basin was adjudicated and a watermaster was appointed to manage the basin and bring its groundwater budget into balance. The adjudication resulted in a court-ordered physical solution to the basin's groundwater problem. The operating yield for three years beginning in 2007 for the basin as a whole was defined as 5,600 acre-feet (including 4,611 acre-feet for the coastal subareas). The judgment requires a 10% decrease in operating yield for the coastal subareas every three years beginning in 2010. The decreases are to continue until production reaches the "natural safe yield" of 3,000 AFY established under the judgment. The watermaster adopted the *Seaside Monitoring and Maintenance Program* in 2006 to implement the decreases. (Monterey Peninsula Water Management District 2007)

Unlike the neighboring Salinas Valley basin, a major portion of the groundwater that is extracted serves urban users. MPWMD reports that the basinwide average annual storage depletion is approximately 1,540 AFY. Annual recharge is estimated to be 3,557 AFY. Based on detailed analysis of water level trends and groundwater budgets, the estimated sustainable yield of the Seaside basin under present conditions is estimated to be 2,880 AFY, but recent average water demand has been approximately 5,600 AFY (Monterey Peninsula Water Management District 2005a). Present production rates are therefore unsustainable.

Water Resources Projects

MCWRA and its cooperators, including MRWPCA, have two major capital projects that are completed or underway to better manage groundwater quality and reverse the long-term trend of seawater intrusion and groundwater declines in the Salinas Valley basin: the CSIP and the Salinas Valley Water Project (SVWP). The Seaside Basin ASR Project, operated jointly by Cal-Am and MPWMD, is described under "Carmel River Watershed" below. The Watsonville Area Water Recycling Project of the PVWMA is described under "Pajaro" below.

Castroville Seawater Intrusion Project

The CSIP was completed in 1998 by MCWRA to mitigate seawater intrusion in groundwater in the Salinas Valley basin. The CSIP includes construction

and operation of a reclaimed wastewater plant that collects sewage from Castroville, Marina, the Monterey Peninsula, Moss Landing, Salinas, and Seaside. The wastewater is treated to agricultural irrigation standards and is provided to area growers in place of water from their private agricultural wells. Through the delivery of water to the farmers, MCWRA is hoping that the CSIP will allow water levels in the 100-Foot/400-Foot Subarea aquifers to recover and possibly reverse the landward groundwater gradient that causes continued inland seawater intrusion. (Monterey County Water Resources Agency 2001b)

Salinas Valley Water Project

MCWRA and MRWPCA are currently proceeding with the SVWP to further manage groundwater quality and reverse the long-term trend of seawater intrusion and groundwater declines in the Salinas Valley groundwater basin. The SVWP was undertaken because studies have established that the primary solution for controlling seawater intrusion and overdraft in the Salinas Valley is by relieving pumping stresses in the aquifers in the 100-Foot/400-Foot and East Side Subareas.

The SVWP project delivery area totals about 12,000 acres (Monterey County Water Resources Agency 2008a). The SVWP is aimed at meeting both agricultural or rural and urban demands in the Salinas Valley, a majority of the countywide demand. The SVWP has two main goals: (1) stopping seawater intrusion; and (2) providing adequate water supply to meet existing and future (2030) water demand on a sustainable basis. The SVWP has three main components (Monterey County Water Resources Agency 2001):

- *Modification of the Nacimiento Dam spillway* to increase flexibility of reservoir operations and allow the reservoir to maintain higher water levels, providing additional storage.
- Reoperation of the Nacimiento and San Antonio Reservoirs to reduce water releases in the wet season, thereby providing additional water available for recharge and diversion year round.
- Surface diversion/impoundment to provide water supply for irrigation during April through October. The facility would divert water to the CSIP system, for delivery to farmers in the Castroville area. The diverted water would supplement the recycled water produced by the CSIP and replace groundwater pumped from irrigation wells.

Nacimiento and San Antonio Reservoirs began operations in 1957 and 1967, respectively. The two reservoirs provide over 700,000 acre-feet of total storage for flood control and conservation purposes. The reservoirs historically have been operated to maximize releases for conservation, while minimizing flood control releases. Changes in the Nacimiento and San Antonio Dam operations under the SVWP will allow for planned releases to recharge into the Salinas Valley groundwater basin (Monterey County Water Resources Agency 2008a).

These components of the project are believed sufficient to halt seawater intrusion in the short term but may not be sufficient to meet water demand through the year 2030. Modeling conducted for the SVWP EIR/EIS determined that groundwater levels would be raised to varying degrees in all four sub-basins of the Salinas Valley groundwater basin (100-Foot/400-Foot, East Side, Forebay, and Upper Valley Subareas) due to decreased pumping and increased recharge along the Salinas River (Monterey County Water Resources Agency 2001). With the SVWP, benefits would be distributed more uniformly throughout the Salinas Valley. An expanded distribution system and expanded deliveries would be necessary to halt seawater intrusion in the long term. This subsequent phase would consist of an additional pipeline extending southeast of the existing CSIP service area, as well as other improvements. The pipeline and its impacts are discussed in concept in the SVWP EIR/EIS, but it has not yet been planned in detail.

An integral feature of the SVWP is restoration of low flows in the river channel during the dry summer season, which would contribute significantly to restoration of instream habitat for several native wildlife species. Restoration of low flows and other habitat restoration measures (see Section 4.9, Biological Resources) may provide the basis of a habitat restoration program that would remedy impaired conditions in a portion of the Salinas River basin.

The SVWP is in the final design stages, with construction on Phase I beginning in 2008. The CSIP and SVWP, along with increased urban and agricultural water conservation efforts, are expected to help bring the Salinas River basin into hydrologic balance.

Carmel River Watershed

No new Community Areas or Rural Areas are proposed in the Carmel Valley groundwater basin. However, one new Affordable Housing Overlay area will be established in the Carmel River watershed—Mid-Carmel Valley. In addition, Carmel Valley Master Plan Policy CV-1.6 would limit buildout to 266 new lots within that part of the watershed.

The Carmel Valley groundwater basin supplies a majority of potable water to the *Carmel Valley Master Plan* and the *Greater Monterey Peninsula Area Plan* properties. Water in the Carmel Valley groundwater basin is derived primarily from alluvial aquifers located along the Carmel River. The water supply wells along the Carmel River aquifer became increasingly important as water supply sources when the Carmel area continued to grow throughout the 1970s and 1980s. The primary water supplier in the Carmel Valley basin is Cal-Am, a private water company that provides water to the MPWMD.

Total known useable storage in the Carmel River basin is about 31,300 acre-feet. This includes about 1,400–1,500 acre-feet in storage in Los Padre Reservoir on the Carmel River (the Seaside basin's 6,200 acre-feet capacity is not included in

this number). Demand in 2006 was estimated to be about 13,150 AFY, of which Cal-Am accounted for about 10,900 AF on average. (Monterey Peninsula Water Management District 2007)

In 2006, the Monterey Peninsula Water Management District estimated that additional demand would be 4,545 AFY by 2026. This was based on estimated water use at buildout of the general plans for the cities within the district and the unincorporated county. (Monterey Peninsula Water Management District 2007)

The water supply deficit in the basin is partly a result of limited water storage capacity. Storage in the Carmel River aquifer system has always been limited because of the naturally small volume of the aquifer, while storage in the two reservoirs has become substantially diminished because of siltation. San Clemente and Los Padres Reservoirs, which formerly had respective storage capacities of approximately 2,260 and 3,000 acre-feet, are now estimated to have only a fraction of their original capacity (Monterey County Water Resources Agency 2003). San Clemente Reservoir is nearly silted up and is no longer used for domestic supply. Los Padres Reservoir has a remaining capacity of approximately 1,400 acre-feet.

The limited reservoir capacity has led Cal-Am to pump more than its allotted water right from the Carmel River to meet customer demand. As a result, Cal-Am has been repeatedly charged by the State Water Board with diverting water from the Carmel River unlawfully (Order WR 95-10 and Order WR 98-04). While no additional demand within the basin is proposed by the 2007 General Plan, current restrictions on extraction in the basin intended to protect fish in the Carmel River (WR Order 2001-04 DWR) may affect adjacent groundwater basins, which must make up the loss of supply. Most recently (January 2008), the State Water Board issued a draft cease and desist order (CDO) (Order WR 2008-00XX-DWR) requiring Cal-Am to stop diverting water from the Carmel River in excess of its legal rights by reducing its unlawful diversions pursuant to a schedule set forth in the CDO (see the full discussion of State Water Board Orders under “Carmel River Conflicts”).

Water Resources Projects

Over-pumping and flow diversion in the area of the lower Carmel Valley basin has caused significant dewatering of the Carmel River and has become a major political and environmental issue, resulting in a major dispute over water rights in the basin.

In the early 1990s, MPWMD pursued the Monterey Peninsula Water Supply Project, which proposed construction of the enlarged dam on the Los Padres Reservoir. However, County voters rejected the project, and, as a result, MPWMD developed an action plan for addressing water supply alternatives that emphasized non–dam-related projects, desalination options, reclamation, and use of the Seaside groundwater basin. Two water resources projects underway for the Carmel Valley are the Coastal Water Project and Seaside Basin ASR Project.

Coastal Water Project

Cal-Am is proposing the Coastal Water Project, which consists of a desalination plant and treatment facilities in the Moss Landing area, conveyance pipelines to transport the desalinated water south, terminal reservoirs and a pump station to distribute the water to Cal-Am's existing system, and facilities for the Seaside Basin Aquifer Storage and Recovery (ASR) Project. The California Public Utilities Commission (CPUC) is preparing the EIR for the Coastal Water Project, which would supply about 11,730 AFY for urban users on the Peninsula, as well as for injection into the Seaside groundwater basin (California Public Utilities Commission 2008a). In the meantime, Cal-Am has initiated a pilot desalination facility at the Moss Landing Power Plant (MLLP), which will divert up to 200,000 gpd from the cooling system of the MLLP (California American Water 2005).

Seaside Basin Aquifer Storage and Recovery Project

The Seaside Basin ASR Project, operated jointly by Cal-Am and MPWMD, involves diverting excess winter flows from the Carmel River for injection into the Seaside aquifer, for recovery in summer months. The State Water Board has granted temporary permits to allow diversion of 2,426 acre-feet of water from the Carmel River between December and May. Diverted water would be treated to potable drinking water standards and pumped through the Cal-Am distribution system to the Seaside groundwater basin, where it would be injected deep into the Santa Margarita Sandstone for storage and subsequent extraction. Maximum extraction would be approximately 2,028 AFY, leaving a portion of the injected water in the aquifer to allow for groundwater basin recovery (Monterey Peninsula Water Management District 2005a).

North County Watersheds

Pajaro is a proposed Community Area in the 2007 General Plan. The North County planning area straddles the Pajaro Valley groundwater basin and the northeastern end of the Salinas Valley groundwater basin (East Side Subarea). The Pajaro Valley basin is administered by the PVWMA, while the Salinas Valley basin is managed by MCWRA. Multiple small groundwater aquifers provide potable water supply to the North County planning area properties.

The PVMA's Basin Management Plan estimates that in 2001 approximately 83% (59,200 AFY) of total water demand (71,500 AFY) was from agriculture, with urban users accounting for 17% (12,200 AFY). The Basin Management Plan projects that by 2040 demand will increase to 80,500 AFY, with agriculture consuming 80% (64,400 AFY) and urban use 20% (16,100 AFY) of that total. (Pajaro Valley Water Management Agency 2001)

Water for agricultural irrigation is mainly supplied by local-farm wells, while residential and municipal supplies are provided either through individual

domestic wells or through relatively small water systems consisting of two or more connections. The public review draft EIR prepared for the 21st Century General Plan update in 2004 reported that there are four large (more than 200 connections) water systems in the study area: Cal-Water's Oak Hills and Las Lomas water systems, Normeo, and the Aromas Water District. These four systems have approximately 2,246 connections, serving approximately 23% of the parcels in North County. There are approximately 600 small (from 2 to 200 connections) water systems in North County, serving approximately 3,707 parcels. This represents 38% of the total number of parcels in the area. Approximately 40% of parcels in North County are served by private wells or are undeveloped.

While the water problem in the greater Salinas Valley has been attributed to lack of effective distribution rather than insufficient supply, the same cannot be said for the North County. The North County aquifers are limited by a much smaller available surface area for recharge and relatively low precipitation compared to some of the highland areas. Due to demand exceeding supply, the area has been in a state of chronic overdraft since the 1950s. Groundwater extractions are estimated to be twice the average annual recharge. Resultant water supply and water quality problems include falling water levels, seawater intrusion, and extensive areas with nitrate contamination. North County problems not only affect residents and agriculture in the area, they also affect water supply and water quality conditions in the adjacent and hydraulically connected Salinas and Pajaro Valleys. Agriculture makes up the largest part of the water demand.

In addition, intensive agriculture and non-sewered residences have resulted in excessive nitrogen loading that has rendered groundwater non-potable in many areas. Continued overdraft of the groundwater will continue to lower water levels and draw seawater into the basin, reducing more of the storage capacity. Continued nitrogen loading will increase nitrate ion concentrations, degrading the potability of additional domestic water supplies.

Pajaro

The PVMWA estimated that net groundwater pumping within the Pajaro groundwater basin (including portions of Santa Cruz County) from agricultural and urban uses, taking into account surface water diversions, was 69,000 AFY in 2001. According to PVWMA, a 65% reduction in basin-wide groundwater pumping (by 45,000 AFY) would be necessary to eliminate seawater intrusion and restore groundwater levels throughout the coastal area. Therefore, the sustainable yield of the groundwater basin at present is approximately 24,000 AFY (Pajaro Valley Water Management Agency 2002). The PVWM Basin Management Plan estimates that total groundwater pumping will increase to 78,000 AFY by 2040 (Pajaro Valley Water Management Agency 2002). This exceeds sustainable yield by approximately 54,000 AFY.

PVWMA is exploring importation from the Central Valley Project and is currently implementing projects that are similar to the CSIP project operated by MCWRA, including the Watsonville Area Water Recycling Project and the

associated Coastal Distribution System. A desalination proposal is also being explored by Pajaro/Sunny Mesa Community Services District.

Potential Importation of Central Valley Project Water

In order to meet supplemental supply volumes, PVWMA is pursuing potential methods of importing water from outside the basin. Importation is considered the only feasible means of mitigating the current overdraft conditions in the Pajaro Valley because of the magnitude of overdraft and the otherwise intractable nature of the supply problem. PVWMA's *Revised Basin Management Plan* includes a 54-inch diameter, 23-mile-long pipeline from the nearest import pipeline in Santa Clara County to the Coastal Distribution System (described below). The amount to be imported was planned to be an average of 11,900 AFY (Pajaro Valley Water Management Agency 2008b). However, the price of the pipeline may be prohibitively high and additional opportunities to obtain Central Valley Project (or other) supply contracts are limited.

Although the PVWMA has a future Central Valley Project entitlement of 19,900 AFY and an existing contract for 6,260 AFY from the U.S. Bureau of Reclamation, these sources will not be available in the foreseeable future, if at all. The Central Valley Project Improvement Act restricts the Bureau of Reclamation from entering into long-term water supply contracts until certain environmental requirements are met. Federal District Court decisions in 2007 and 2008 have restricted water pumping on both the state and federal projects in order to protect special status species fish populations, including the Delta smelt, which have recently plummeted. These restrictions will be modified when the federal wildlife agencies issue new biological opinions for the pumping, but pumping is not expected to return to its prior levels without changes to the system by which water is moved through the Delta itself.

Watsonville Area Water Recycling Project and Coastal Distribution System

The Watsonville Area Water Recycling Project is being built by PVWMA and the City of Watsonville, which owns an existing 8,000-AFY wastewater treatment plant. The plant is undergoing a major upgrade to treat the secondary water to the advanced tertiary level (i.e., Title 22 standards) which is suitable for all uses except for potable uses. The project will provide 4,000 AFY of recycled water for irrigation supply to replace current groundwater pumping (Pajaro Valley Water Management Agency 2008a). In April 2006, the Santa Cruz County Board of Supervisors approved the rezoning and coastal development permit to allow an upgrade of Watsonville's wastewater treatment plant, providing the final approval needed for the projects. Pursuant to the California Coastal Commission's permit for the project, the recycled water available from the plant is to be used for agricultural purposes only and any agricultural groundwater use offset by the delivery of recycled water will not be available for domestic use.

The project is expected to be completed in October 2008. Farmers receiving water will be required to first install backflow prevention devices, so actual water deliveries are not anticipated to occur until March 2009 (Geyer pers. comm. 2008).

The associated Coastal Distribution System is a series of pipelines to deliver the recycled water (and all future sources of new water) to farmlands in the seawater intrusion areas. Groundwater modeling has shown that the most effective way to achieve overall groundwater basin balance and reduce seawater intrusion is to eliminate coastal pumping (Pajaro Valley Water Management Agency 2002). Therefore, replacement water supplies are focused in the coastal zone. Phase 1 of the system was constructed over the last five years on the Santa Cruz County side of the Pajaro River. These pipelines supply water to about 2,000 acres in the areas most impacted by seawater intrusion. Phase 2 of the pipeline, which will serve lands in Monterey County south of the Pajaro River, was completed in June 2008 (Pajaro Valley Water Management Agency 2008a).

Pajaro/Sunny Mesa Desalination Project

The Pajaro/Sunny Mesa Community Services District is currently investigating the possibility of installing a regional desalination plant at Moss Landing to provide freshwater to combat groundwater nitrate contamination and seawater intrusion. The District has entered into an agreement with Poseidon Resources to build the plant, has secured a site, and is pursuing permits (Local Agency Formation Commission of Monterey County 2006). The plant would provide up to 21,000 AFY if approved and built.

Other North County

In 2002, MCWRA drafted a *Comprehensive Water Resources Management Plan* to present strategies to resolve overdraft conditions and associated water quality problems in North County. For the area within MCWRA's jurisdiction (the Salinas Valley basin), the plan proposes a possible long-term expansion of the SVWP to deliver supplemental water to agricultural users in North County. This would be dependent upon the participation and funding support of landowners in the area.

The Final EIR prepared for the Rancho Roberto subdivision in the North County examined the sustainable yields for the area based on the findings of the *Comprehensive Water Resources Management Plan* and an earlier report. The Final EIR stated that the North County recharge volume is between 5,500 AFY and 9,275 AFY. Geologic features underlying the Springfield Terrace sub-area prevent its effective recharge. The following information (Table 4.3-7) taken from the Rancho Roberto Final EIR illustrates the extent of overdraft in the North County. The 1982 General Plan projection would tend to overstate the 2007 General Plan (which limits new development in the North County to the first residence on existing lots of record), except in the Pajaro Community Area, where the 2007 General Plan would authorize more development.

Table 4.3-7. North County Demand, Overdraft, and Sustainable Yield

Subarea	2004 Conditions (AFY)		1982 General Plan Conditions		Sustainable Yield
	Demand	Overdraft	Demand	Overdraft	
Springfield Terrace	7,594	7,594	8,330	8,330	0
Pajaro (Monterey County)	10,130	3,640	10,215	3,725	6,490
Highlands North	5,621	2,701	7,636	4,716	2,920
Highlands South	6,095	1,705	8,399	4,009	4,390
Granite Ridge	1,310	700	1,544	934	610
Total	30,750	16,340	36,124	21,714	14,410

Source: EMC Planning Group 2005.

Other Watersheds

Other areas of the county typically have only small groundwater basins because there are no large alluvial deposits or major valley bottoms through which surface water can infiltrate and collect. This includes most of the mountainous area from the Monterey Peninsula southward through the Big Sur area and within the Diablo Range located east of the Salinas Valley. No Community Areas or Rural Centers are proposed in these areas.

Estrella River Watershed

The Estrella River is a main tributary of the Upper Salinas River and is located in northeastern San Luis Obispo County and the southeast corner of Monterey County. The limited development projected in the 2007 General Plan would occur on land that is currently zoned for resource conservation. Water needed for new development may be obtained from local groundwater wells and would slightly increase pumping.

Big Sur Coast Watershed

The Big Sur Coast watershed includes the steep and rugged terrain on the coastal side of the Santa Lucia Mountains. Development is sparse, with limited cropland and scattered grazing. The major industry of the few small towns such as Big Sur, Gorda, and Lucia is tourism. No significant water storage facilities are located in the basin, and water is supplied by shallow wells or stream diversions from the major tributaries. Septic tanks near the Big Sur River are a concern for water quality. No Community Areas or Rural Centers are proposed within this area under the 2007 General Plan. The developable area is within the Coastal Zone and subject to the Big Sur Local Coastal Program (LCP) Land Use Plan. Because of its beauty and lack of infrastructure this area is not slated for significant future development. The 2007 General Plan does not propose any changes to the Big Sur LCP. The inland portions of the area are not proposed for new development either.

Groundwater Management and Monitoring Programs

Management of the water supply and groundwater system must consider the limits to which water can be drawn without depleting the resource or what exceeds the safe yield. The "safe yield" is defined as the annual draft of water that can be withdrawn without producing some undesirable result. Chronic overdraft can lead to a depletion of groundwater to levels in excess of the system's ability to recover, given the basin's water budget. When groundwater levels decline, they can diminish the productivity of wells altogether or necessitate that wells pump to greater depths.

Overdrafting and diversion or loss of recharge water, as well as periodic droughts, has caused historical declines in the groundwater table and resultant seawater intrusion into coastal aquifers. Long-term management of the overdraft problem through capital programs, water conservation and recycling, and protection of the prime recharge areas for important aquifers play an important role in assuring long-term sustainability in terms of groundwater quality and volume.

Groundwater Extraction Monitoring

There is no overarching monitoring program for all the groundwater basins in the county. However, Ordinances 3663 and 3717 adopted by the Monterey County Board of Supervisors require suppliers within Zones 2, 2A, and 2B to report water use information for groundwater extraction facilities (see Monterey County Water Resources Agency 2007). This includes a majority of the Salinas Valley basin, where water demand is greatest. Information is collected and compiled by the Groundwater Extraction Management System (GEMS) portion of the Water Resources Agency Information Management System, a relational database maintained by MCWRA for most of the Salinas Valley. This information is compiled in an annual groundwater extraction report for domestic water and irrigation systems with pipes of inside diameter exceeding 3 inches. While the information is not comprehensive, it does detail water use statistics for the biggest consumers in the county.

In addition to providing statistical data, the groundwater extraction reports chart trends in agriculture and the success of conservation efforts since 1993 by reporting the net acre distribution of irrigation methods by crop type and implementation of BMPs in agricultural areas, as well as the progress of BMPs used by urban suppliers and consumers. Reports indicate a slight increase in irrigated crop area from the early to mid 1990s (173,600 net acres in 1993) to now (174,500 net acres in 2006) (Monterey County Water Resources Agency 2007). The report also indicates that a shift to the use of water-saving measures, such as drip irrigation versus less conservative irrigation methods such as sprinkler and furrow, has helped reduce total consumption. Use of BMPs by urban providers and consumers has been more variable (Monterey County Water Resources Agency 2007).

As discussed above, the watermaster appointed in the Seaside basin as a result of adjudication of the aquifer established a Seaside Monitoring and Management

Program in 2006 to ensure that the water use reductions established under the adjudication are carried out.

Recycled Water and Reuse

As constraints on local water supply increase, the use of treated wastewater (i.e., recycled water) and other subpotable supplies becomes a more significant component of the total water supply picture. As recycled water becomes more of a commodity, sewerage collection infrastructure may be expanded to developed areas currently being served by onsite septic systems or development-specific "package plants" (hybrid treatment plants that combine two or more of the main treatment stages into one combined process). Many jurisdictions have conducted studies to identify potential uses of nonpotable water supplies. Notwithstanding the significant capital costs associated with recycled water use, opportunities for water recycling do exist throughout the county, provided the proper level of treatment is maintained to ensure protection of public health. The existing 1982 General Plan acknowledged this issue and contains policies in support of water reclamation. Three notable water reuse projects that are currently being implemented in the region include the Monterey County Water Recycling Project and the Watsonville Area Water Recycling project discussed earlier, and the Pebble Beach Community Services District's (PBCSD) use of reclaimed wastewater.

PBCSD contracts with the Carmel Area Wastewater District for use of, on average, 660 AFY of tertiary-treated wastewater for Del Monte Forest/Pebble Beach golf courses, athletic fields, and other landscaped areas. In 1998, Cal-Am sold its Forest Lake Reservoir to PBCSD to increase storage capacity for reclaimed wastewater. The reservoir is expected to supply 800 AFY (496 mgd) for landscaping and irrigation.

4.3.2.5 Carmel River Conflicts

In July 1995, the State Water Board issued Order WR 95-10, which determined that 10,730 AFY of water pumped from the Carmel River was being diverted unlawfully by Cal-Am. The State Water Board also determined that adverse environmental effects had resulted from Cal-Am's actions and that these effects must be mitigated, including impacts on the riparian corridor along the river, wildlife that depends on riparian habitat, and steelhead and other fish inhabiting the river. The order further established an interim annual production goal of no more than 11,285 AFY from the Carmel Valley basin and directed Cal-Am to secure permits for its water use (3,376 AFY), address the adverse environmental consequences of that use, and begin immediate water conservation. This resulted in a judicial order that required Cal-Am to conduct two studies to evaluate whether its existing diversions at San Clemente Dam would be changed in order to maintain more surface flow in the Carmel River.

In settlement of litigation, the State Water Board amended Order 95-10 by issuing Order WR 98-04 in February 1998. This order allowed:

- direct diversion and diversion to storage throughout the year from the Carmel River at times when flows were physically available over and above fish flow requirements;
- that the total quantity of water originating in the Carmel River diverted to beneficial use by Cal-Am and the MPWMD would not exceed 16,000 acre-feet; and
- that Cal-Am would cease withdrawals of water from the San Clemente Dam and reduce diversions from production well facilities in the Carmel River during low flow periods of the year, except during an emergency (California State Water Resources Control Board 2008).

Cal-Am owns and operates San Clemente Dam, Los Padres Dam, and 21 downstream extraction wells on the Carmel River. After reviewing the technical studies prepared by judicial order, the chief of the Division of Water Rights issued WR Order 2001-04 DWR, which directed Cal-Am to shift its diversion from San Clemente Dam to extraction of groundwater in downstream areas. Petitions for reconsideration were filed by the National Marine Fisheries Service (NMFS); Cal-Am; the MPWMD; and, jointly, the Carmel River Steelhead Association and the Ventana Chapter of the Sierra Club. A conservation agreement between Cal-Am and the NMFS later was submitted to the State Water Board for consideration. The conservation agreement required Cal-Am to modify its diversion pattern to forego diversions at San Clemente Reservoir and divert the foregone water at downstream locations to benefit the river's steelhead fishery.

In response to this order, Cal-Am filed a lawsuit to adjudicate the rights of the various groundwater pumpers of the Seaside basin aquifer, where there is also concern about sustainable yield. In a final ruling on March 27, 2006, Cal-Am was required to reduce pumping on the Seaside groundwater basin by 10%, its only current alternative to drawing water from the restricted Carmel River. An additional 10% reduction would be required by 2009. The ruling found that "groundwater production within the Seaside groundwater basin exceeds the Natural Safe Yield" to prevent seawater intrusion and that the solution is to reduce pumping to maintain a positive flow of fresh water into the aquifer and keep out saltwater.

As discussed above, the suit (*Cal-Am v. City of Seaside*) also resulted in a ruling that sets a safe pumping level of 5,600 AFY (500 acre-feet less than the maximum pumped in recent years) and created a "watermaster board" to oversee groundwater management in the Seaside basin, because a groundwater management plan was never adopted. The watermaster board includes representatives from Cal-Am, the City of Seaside, the MPWMD, the MCRWA, the City of Monterey, the City of Sand City, the City of Del Rey Oaks, coastal landowners, and Laguna Seca landowners.

On January 15, 2008, the State Water Board issued a draft CDO (Order WR 2008-00XX-DWR) requiring Cal-Am to stop diverting water from the Carmel River in excess of its legal rights, by reducing its unlawful diversions pursuant to

a schedule set forth in the CDO. The draft CDO alleges that since 2000, Cal-Am has illegally diverted at least 7,164 AFY from the Carmel River and that Cal-Am's unauthorized diversions continue to have adverse effects on the public trust resources on the river (California State Water Resources Control Board 2008). The State Water Board completed its hearings on the draft CDO order in August 2008 and the Board's decision is pending.

As discussed above, Cal-Am has proposed to construct and operate a desalination plant at Moss Landing under its Water Supply Program. This project is being undertaken to provide an alternative water supply that would allow Cal-Am to halt its diversions, while still providing water for existing levels of development on the Monterey Peninsula. The proposed Water Supply Program is subject to review and approval by the CPUC.

4.3.3 Regulatory Framework

Water resources are managed and regulated to meet the needs of human development, while protecting aquatic life and human health, according to the provisions of the federal Clean Water Act (CWA), the California Porter-Cologne Water Quality Control Act (Porter-Cologne), and numerous state and local regulatory programs.

There is extensive overlap in regulatory programs governing environmental aspects of water resources, especially in water quality and the public health and safety aspects of water supply. Much of the development and implementation of local water quality programs or ordinances has been mandated by the State of California, with some of the state programs in turn required by the federal government. Many of the local regulations and ordinances affecting water resources, including drainage and floodplain management, are contained in the Monterey County Code or in the regulations of the MCWRA, or both. In addition, the MPWMD regulates water use on the Monterey Peninsula. As with most counties in California, drinking water standards and local water supply and potable water program enforcement is administered by the County's Environmental Health Division, acting under the guidance of the State Department of Public Health (DPH) and ultimately the federal EPA. Surface water quality and groundwater quality, including point source discharge control programs, groundwater quality that may be affected by surface and subsurface discharges, and stormwater runoff water quality issues, are primarily administered by the Central Coast RWQCB, although certain aspects also may be administered or co-administered by local agencies.

As implied above, water law and water resources regulation in California is very complex, with many regulations and programs, and a large number of separate agencies with a mission to enforce them. Because of the interrelationship among the various issues affecting water resources (for instance, groundwater overdraft and subsequent seawater intrusion affecting groundwater quality and potable water quality and quantity), management often requires close coordination among the many agencies when dealing with a water-related issue.

Consequently, a single project may need to obtain many permits and approvals from several agencies prior to implementation.

4.3.3.1 Federal Regulations

The EPA is the federal entity responsible for establishing and enforcing fundamental water quality regulations in the United States. The EPA also controls public health and the environment by setting standards for drinking water contaminants and protecting sources of drinking water under the Safe Drinking Water Act of 1974. The EPA develops minimum standards, and the states then develop individual programs that best meet their unique needs, consistent with or exceeding the federal minimum standards. The EPA is also responsible for monitoring state adherence to the minimum federal standards.

Clean Water Act

The CWA is the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. It operates on the principle that all discharges into the nation's waters are unlawful unless specifically authorized by a permit; permit review is the CWA's primary regulatory tool.

Several sections of the 1972 CWA regulate impacts on waters of the United States. CWA Section 101 specifies the objectives of the CWA, implemented largely through CWA Title III (Standards and Enforcement) and CWA Section 301 (Prohibitions). Identification of impaired water bodies and required actions to address the impairments are specified under CWA Section 303. The discharge of dredged or fill material into waters of the United States is subject to permitting specified under CWA Title IV (Permits and Licenses) and specifically under CWA Section 404 (Discharges of Dredged or Fill Material). CWA Section 401 (Certification) specifies additional requirements for permit review by the Central Coast RWQCB.

Section 401—Water Quality Certification

Section 401 requires that an applicant pursuing a federal permit to conduct any activity that may result in a discharge of a pollutant obtain a water quality certification. Water quality certifications are issued by the RWQCBs in California. Under the CWA, the state (as implemented by the Central Coast RWQCB) must issue or waive Section 401 water quality certification for the project to be permitted under Section 404. Water quality certification requires the evaluation of water quality considerations associated with dredging or placement of fill materials into waters of the United States. Implementation of any of the action alternatives would require a Section 401 water quality certification.

Section 402—National Pollutant Discharge Elimination System Program

The 1972 amendments to the CWA established the NPDES permit program (Section 402) to control point source discharges from industrial, municipal, and other facilities if their discharges go directly to surface waters. The 1987 amendments to the CWA created a new section of the CWA devoted to regulating stormwater or nonpoint source discharges (Section 402[p]). The EPA has granted California primacy in administering and enforcing the provisions of the CWA and the NPDES program through the State Water Resources Control Board (SWRCB).

The SWRCB issues both general and individual permits for discharges from certain activities, administered by the RWQCBs. As of 2006, the NPDES program now regulates stormwater discharges from municipal storm sewer systems (MS4s) serving at least 50,000 persons or other areas with a population density of at least 1,000 per square mile based on census counts. Recently, the City of Salinas adopted and started enforcing a new stormwater management plan under the provisions of the Phase II NPDES (Orders 99-087 and 2004-0135). Salinas is the only city in Monterey County with a population exceeding 50,000.

Designated Phase II MS4 areas in the unincorporated county include Carmel Valley; Corral de Tierra/San Benancio; Toro Park; a large area bounded by the Salinas River, Davis Road, SR 68, and the city of Salinas; a second large area southeast of San Juan Grade Road and northeast of Salinas; Pajaro and its surroundings; Castroville; and Prunedale. Since 2001, the Monterey Regional Storm Water Permit Participants Group, composed of the Cities of Monterey, Carmel-by-the-Sea, Del Rey Oaks, Sand City, Seaside, Marina, and Pacific Grove; the County; and the Pebble Beach Co., have been developing a regional stormwater program for the Monterey Peninsula and surrounding areas to prepare an NPDES Phase II permit application. The MRWPCA acts as the group's administrative agent.

Construction activities are regulated under the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit), provided that the total amount of ground disturbance during construction exceeds 1 acre. Coverage under a General Construction Permit requires the preparation of a Stormwater Pollution Prevention Plan (SWPPP) and submittal of a notice of intent (NOI) to comply with the General Construction Permit. The SWPPP includes a description of BMPs to minimize the discharge of pollutants from the site during construction. Typical BMPs include temporary soil stabilization measures (e.g., mulching and seeding), storing materials and equipment to ensure that spills or leaks cannot enter the storm drain system or stormwater, and using filtering mechanisms at drop inlets to prevent contaminants from entering storm drains. Typical postconstruction management practices include street sweeping and cleaning stormwater drain inlet structures. The NOI includes site-specific information and the certification of compliance with the terms of the General Construction Permit.

The NPDES General Industrial Permit requirements apply to the discharge of stormwater associated with industrial sites. The permit requires implementation of management measures that will achieve the performance standard of the best available technology economically achievable and best conventional pollutant control technology. Under the statute, operators of new facilities must implement industrial BMPs in the project SWPPP and perform monitoring of stormwater discharges and unauthorized non–stormwater discharges.

Section 404—Discharge of Dredged or Fill Materials

CWA Section 404 regulates the discharge of dredged and fill material into waters of the United States. "Waters of the United States" refers to oceans, bays, rivers, streams, lakes, ponds, and wetlands, including any or all of the following:

- areas within the ordinary high water mark of a stream, including nonperennial streams with a defined bed and bank;
- any stream channel that conveys natural runoff, even if it has been realigned; and
- seasonal and perennial wetlands, including coastal wetlands.

Applicants must obtain a permit from the USACE for all discharges of dredged or fill material into waters of the United States, including wetlands, before proceeding with a proposed activity. Before any actions that may affect surface waters are carried out, a delineation of jurisdictional waters of the United States must be completed, following USACE protocols, in order to determine whether the project area encompasses wetlands or other waters of the United States that qualify for CWA protection.

The USACE issues several types of permits, including regional general permits (RGPs), nationwide permits (NWPs), and individual permits. General permits are preauthorized and are issued to cover multiple instances of similar activities expected to cause only minimal adverse environmental effects. A NWP is a type of general permit issued to cover particular fill activities, which specifies particular conditions that must be met in order for the NWP to apply to a given project. Individual permits are required when the proposed activity does not meet the criteria allowing use of a RGP or NWP. Individual permits may be issued only for the least environmentally damaging practicable alternative. That is, authorization of a dredge or fill project is prohibited if there is a practicable alternative that would have fewer adverse impacts and that lacks other significant adverse consequences.

Drinking Water

A number of federal, state, and local governments protect beneficial uses and water quality objectives for surface water and groundwater resources. Government Code Section 65302 (Land Use), requires city and county general plans to address water supply as a topical issue, using an Urban Water

Management Plan as a primary source document. Programs and regulations related to drinking water quality, water supply, and wastewater treatment and disposal are described below.

The federal government sets minimum standards for the protection of water quality, including for drinking water and environmental protection, and has jurisdiction over flow in some waters where rivers or streams cross state boundaries. The federal government also has a voice in water management through its jurisdiction over energy regulation (for hydroelectric projects) and where endangered fish and aquatic species occur within a water body.

The federal CWA (including WDRs, the NPDES program, and Section 303(d) impaired water bodies and TMDLs) is described in detail in Section 4.3, Water Resources. The CWA is largely administered by the State Water Board and the Central Coast RWQCB.

Safe Drinking Water Act

Drinking water quality is based on two general standards: (1) organic and inorganic water contaminants that may have detrimental effects on health and safety; and (2) aesthetic qualities of water that may make water unpalatable or unpleasant to customers. The Safe Drinking Water Act of 1974 establishes the EPA as the primary government entity with responsibility for setting national drinking water standards for public water systems. Since 1974, the EPA has set national water quality standards for over 80 contaminants in drinking water. The National Primary Drinking Water Standards establish the maximum contaminant levels (MCLs) allowed in public distribution systems. The National Secondary Drinking Water Standards establish the MCLs that apply to potable water supplies at the point of delivery to the customer. While the EPA and state governments enforce water quality standards, local governments and private water suppliers are ultimately responsible for the quality of water supplies.

Coastal Zone Management Act

The federal Coastal Zone Management Act (CZMA) of 1972 (16 United States Code Sections 1451–1465) encourages states to preserve, protect, develop, and, where possible, restore or enhance valuable natural coastal resources such as wetlands, floodplains, estuaries, beaches, dunes, barrier islands, and coral reefs—as well as the fish and wildlife using those habitats. The CZMA asks coastal states to voluntarily develop and implement a comprehensive coastal management program. California's coastal management program has been approved by the federal government. The program includes the California Coastal Commission's program for the Pacific Ocean coastline segment of the coastal zone and the California Coastal Conservancy's program for the restoration and enhancement of coastal resources.

Monterey County's Coastal Commission–approved Local Coastal Program implements the CZMA and the California Coastal Act. Because the proposed

2007 General Plan would not change the County's approved local coastal plans, the CZMA is not pertinent to analysis of the 2007 General Plan's potential environmental effects.

National Flood Insurance Program

The County and all of the incorporated cities in the county are participants in the National Flood Insurance Program (NFIP) administered by the Federal Emergency Management Agency (FEMA). The NFIP is intended to reduce future flood damage by encouraging local governments to adopt floodplain management regulatory programs. Two subsequent laws, the Flood Disaster Protection Act of 1973 and the National Flood Insurance Reform Act of 1994, have made the purchase of flood insurance mandatory for federal financial assistance for acquisition or construction of buildings in SFHAs. The NFIP is composed of three components: Flood Insurance Rate Maps (FIRMs), flood insurance, and floodplain management regulations. The FEMA FIRMs identify floodplain hazard areas prone to flooding during major storm events. The FIRMs are used by insurance companies to set flood insurance rates and by local municipalities for implementing flood control ordinances, which restrict new development in floodplains.

Exhibit 4.3.13 shows the locations and extent of flood zones identified by the FIRMs within the county. The 100-year floodplain was delineated along the course of the Salinas River, the Pajaro River, and the lower reaches of the Carmel River. In the vicinity of Salinas and North County, it encompasses the sloughs and marshes that function as major drainage features.

4.3.3.2 State Regulations

DWR is the state agency responsible for managing California's water resources, including conducting technical studies of surface- and groundwater in cooperation with local agencies, overseeing certain flood prevention and floodplain management programs, and developing and implementing water conservation and efficient water use strategies and programs in cooperation with local agencies. DWR is also responsible for building, operating, and maintaining the State Water Project, which supplies drinking water and agricultural irrigation water to various parts of the state, but not to Monterey County. DWR has been given the responsibility for overseeing the preparation of groundwater management plans. DWR does not regulate water quality, which is the realm of the SWRCB.

Section 303—Impaired Water Bodies and Total Maximum Daily Loads

In accordance with CWA Section 303(d), state governments must present the EPA with a list of "impaired water bodies," defined as those water bodies that do

not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. The CWA also mandates that states rank each water body by factors such as severity, potential restoration of beneficial uses, and availability of data; and that Total Maximum Daily Loads (TMDLs) are developed for the pollutants of concern.

On June 28, 2007, the EPA gave final approval to California's 2006 Section 303(d) List of Water Quality Limited Segments. Table 4.3-8 shows Monterey County water bodies on the 2006 Section 303(d) List. These water bodies are depicted in Exhibit 4.3.14.

The CWA requires the development of actions to improve the quality of impaired water bodies identified through Section 303(d). The TMDL is the quantity of a pollutant that can be safely assimilated by a water body while maintaining its designated beneficial uses and not violating water quality standards. The listing of a water body as impaired does not necessarily suggest that the water body cannot support the beneficial uses; rather, the intent is to identify the water body as requiring future development of a TMDL to maintain water quality and reduce the potential for future water quality degradation. NPDES permits (discussed above) for water discharges must take into account the pollutant for which a water body is listed as impaired. Specific requirements for the permits would be stated in the TMDL for that pollutant.

As a process, TMDLs serve to identify impaired water bodies, determine the sources for this impairment, and implement mitigation measures to reduce those sources and remove impairments. Public input and comment is sought at each of these steps. The TMDL document gives a quantitative assessment of water quality problems and contributing pollutant sources. It specifies the amount of pollution reduction necessary to meet water quality standards, allocates the necessary pollutant limits among the various sources in the watershed, and provides a basis for taking actions needed to restore a water body. The goal of a TMDL is to establish water quality standards to be met through local agency action.

TMDLs are adopted as amendments to the RWQCB's basin plan, which are subject to approval by the RWQCB and the State Water Board.

Table 4.3-8. Monterey County Water Bodies on California's 2006 Section 303(d) List of Impaired Waters

Name	Pollutant	Potential Sources	Estimated TMDL Completion	Estimated Size Affected
Alisal Creek (Salinas)	Nitrate	Unknown	2007	7.4 miles
	Fecal coliform	Agriculture Urban runoff/storm sewers Natural sources Nonpoint source	2007	

Name	Pollutant	Potential Sources	Estimated TMDL Completion	Estimated Size Affected
Blanco Drain	Pesticides	Agriculture Irrigated crop production Agricultural storm runoff Agricultural irrigation tailwater Agricultural return flows Nonpoint source	2008	15.3 miles
Cholame Creek	Boron	Unknown	2019	8.7 miles
Elkhorn Slough	Pesticides	Agriculture Irrigated crop production Agricultural storm runoff Agricultural return flows Erosion/siltation Contaminated sediments Nonpoint source	2008	2,034 acres
	Sedimentation/ siltation	Agriculture Irrigated crop production Agricultural storm runoff Channel erosion Nonpoint source	2015	
	Pathogens	Natural sources Nonpoint source	2015	
Espinosa Slough	Pesticides	Agriculture Urban runoff/storm sewers	2008	1.5 miles
	Priority organics	Nonpoint source	2008	
Gabilan Creek	Nitrate as nitrate (NO_3)	Unknown	2019	6.4 miles
	Fecal coliform	Urban runoff/storm sewers Natural sources Nonpoint sources	2007	
Monterey Harbor	Unknown toxicity	Unknown	2019	76 acres
	Metals	Railroad slag pile	2007	
Moro Cojo Slough	Pesticides	Agriculture Irrigated crop production Agricultural storm runoff Agricultural return flows Nonpoint source	2006	62 acres
	Ammonia (un-ionized)	Unknown	2019	
	Sedimentation/ siltation	Agriculture Irrigated crop production Agricultural storm runoff Construction/land development Nonpoint source	2019	
	Low dissolved oxygen	Unknown	2019	
Moss Landing Harbor	Pathogens	Agriculture Nonpoint sources Boat discharges/ vessel wastes	2019	79 acres
	Pesticides	Agriculture Irrigated crop production Specialty crop production	2006	

Name	Pollutant	Potential Sources	Estimated TMDL Completion	Estimated Size Affected
	Sedimentation/ siltation	Agriculture Irrigated crop production Agricultural storm runoff Hydromodification Dredging Channel erosion Erosion/siltation Nonpoint source	2019	
Natividad Creek	Nitrate as nitrate (NO_3)	Unknown	2019	7 miles
Old Salinas River Estuary	Ammonia (un-ionized)	Source unknown	2019	74 acres
	Fecal coliform	Source unknown	2007	
	Low dissolved oxygen	Source unknown	2019	
	Nutrients	Agriculture Irrigated crop production Agricultural irrigation tailwater Nonpoint source	2007	
	Pesticides	Agriculture Irrigated crop production Agricultural storm runoff Agricultural irrigation tailwater Agricultural return flows Nonpoint source	2008	
Pajaro River	Boron	Unknown	2019	32 miles
	Fecal coliform	Pasture grazing–riparian and/or upland Natural sources Nonpoint source	2011	
	Nutrients *Pajaro River (including Llagas Creek) nitrate TMDL approved on October 13, 2006, by the EPA*	Agriculture Irrigated crop production Agricultural storm runoff Agricultural subsurface drainage Agricultural irrigation tailwater Agricultural return flows Urban runoff/storm sewers Wastewater—land disposal Channelization Removal of riparian vegetation Nonpoint source	Complete	32 miles
	Sedimentation/ siltation *Pajaro River (including San Benito River, Llagas Creek, and Rider Creek) sediment TMDL approved on May 3, 2007, by the EPA*	Agriculture Irrigated crop production Range grazing—riparian and upland Agricultural storm runoff Resource extraction Surface mining Hydromodification Channelization Habitat modification Removal of riparian vegetation Streambank modification/ destabilization Channel erosion	Complete	

Name	Pollutant	Potential Sources	Estimated TMDL Completion	Estimated Size Affected
Quail Creek	Nitrate as nitrate (NO_3)	Unknown	2019	4.2 miles
Salinas Reclamation Canal	Pesticides	Minor industrial point source Agriculture Irrigated crop production Agricultural storm runoff Agricultural irrigation tailwater Agricultural return flows Nonpoint source	2008	14 miles
	Priority organics	Minor industrial point source Agriculture Irrigated crop production Agricultural storm runoff Agricultural irrigation tailwater Agricultural return flows Urban runoff/storm sewers Unknown Nonpoint source	2008	
	Ammonia (un-ionized)	Unknown	2019	
	Low dissolved oxygen	Unknown	2019	
	Fecal coliform	Agriculture Pasture grazing—riparian and upland Urban runoff/storm sewers Natural sources	2007	
Salinas River (lower, estuary to near Gonzales Road crossing, watersheds 30910 and 30920)	Pesticides	Agriculture Irrigated crop production Agricultural storm runoff Agricultural irrigation tailwater Agricultural return flows Nonpoint source	2008	31 miles
	Nutrients	Agriculture	2007	
	Nitrate as nitrate (NO_3)	Unknown	2019	
	Salinity/TDS/ chlorides	Agriculture Natural sources Nonpoint source	2019	
	Toxaphene	Unknown	2019	
	Fecal coliform	Unknown	2007	
Salinas River (middle, near Gonzales Road crossing to the confluence with the Nacimiento River)	Pesticides	Agriculture Irrigated crop production Agricultural storm runoff Agricultural irrigation tailwater Agricultural return flows Nonpoint source	2008	72 miles
	Salinity/TDS/ chlorides	Agriculture Natural sources Nonpoint source	2019	

Name	Pollutant	Potential Sources	Estimated TMDL Completion	Estimated Size Affected
Salinas River (upper, confluence of the Nacimiento River to Santa Margarita Reservoir)	Chloride	Agriculture Pasture grazing—riparian or upland Urban runoff/storm sewers	2019	49 miles
	Sodium	Agriculture Pasture grazing—riparian or upland Urban runoff/storm sewers	2019	
Salinas River Lagoon (North)	Pesticides	Agriculture	2008	197 acres
	Nutrients	Nonpoint source	2007	
San Lorenzo Creek	Boron	Unknown	2019	49 miles
	Fecal coliform	Agriculture Pasture grazing—riparian and/or upland Urban runoff/storm sewers Natural sources	2019	
Santa Rita Creek (Monterey County)	Nitrate as nitrate (NO_3)	Unknown	2019	11 miles
Tembladero Slough	Pesticides	Agriculture Irrigated crop production Agricultural storm runoff Agricultural return flows Nonpoint source	2008	5 miles
	Ammonia (un-ionized)	Unknown	2019	
	Nutrients	Agriculture Irrigated crop production Agricultural storm runoff Agricultural irrigation tailwater Agricultural return flows Nonpoint source	2006	
	Fecal coliform	Agriculture Pasture grazing—riparian or upland Urban runoff/storm sewers Natural sources	2007	

Source: California State Water Resources Control Board 2006.

Porter-Cologne Water Quality Control Act

With the passage of California's Porter-Cologne Act, the SWRCB and the nine RWQCBs became the principal state agencies with responsibility for the coordination and control of water quality. Per the California Water Code, the SWRCB is generally responsible for setting statewide water quality policy and is solely responsible for the allocation or determination of surface water rights. The RWQCBs are responsible for water quality planning and regulatory decisions for their respective regions. The RWQCBs have the authority to implement water quality protection standards through the issuance of permits for discharges to

waters at locations within their respective jurisdictions. Their jurisdiction also extends to discharge of wastes and wastewater to land, and to land disturbance, if the activities would affect the beneficial uses of surface water or groundwater.

Monterey County is within the jurisdiction of the Central Coast RWQCB. The Central Coast RWQCB has a water quality control plan for basins within its jurisdiction (*Central Coast Basin Plan*) that identifies beneficial uses of surface waters, establishes numeric and narrative objectives for the protection of beneficial uses, and sets forth policies to guide the implementation of programs to attain certain objectives.

Water pollution controls, including control of waste discharges to lands that might affect surface- and groundwater, as well as direct point source and diffuse or nonpoint source discharges, are primarily administered by the Central Coast RWQCB. Although the Central Coast RWQCB has many separate programs to help administer, monitor, and enforce its water quality protection authority, the primary programs include the NPDES program, the TMDL program, the Conditional Waiver Program for Agriculture, and the Watershed Management Initiative.

In addition to these programs, the Central Coast RWQCB often will take the lead in investigating and overseeing the cleanup of contaminated surface- and groundwater bodies resultant from spills and leaks. It is involved in the review and issuance of water quality certifications for Section 404 wetlands fill permit requests; provides comments to the State Department of Forestry on Timber Harvest Plan (THP) permit applications; and provides comments to the County and other state agencies on a variety of wastewater treatment, pollution control, development, and mineral resource extraction projects.

Conditional Waiver for Irrigated Agriculture

The RWQCBs have the authority to regulate discharges of waste (such as fertilizer, pesticide, or sediment) that would affect state waters through permits called Waste Discharge Requirements (WDRs). RWQCBs also may conditionally waive WDRs for specific discharges or categories of discharges when it is in the public interest. In 2004, the Central Coast RWQCB adopted a new Conditional Waiver for Irrigated Agriculture, replacing an expired 1983 waiver.

The new conditional waiver was adopted in response to both changing legal requirements and a greater understanding and appreciation of water quality problems in irrigated agricultural areas throughout the region. Prior amendments to California Water Code Section 13269 caused all waivers of WDRs that existed on January 1, 2000, to expire on January 1, 2003, and required RWQCBs to review existing waivers at least every 5 years to renew, terminate, or adopt new waivers. In addition, many of the region's impaired water bodies with TMDL determinations run through agricultural lands, and many groundwater basins underlying agricultural areas show nitrate levels exceeding drinking water standards.

The conditional waiver is applicable to all irrigated lands used for producing commercial crops and requires each grower to:

- submit an NOI to comply with the terms of the waiver;
- complete 15 hours of farm water quality education within 3 years of adoption of the waiver;
- prepare and implement a farm plan for onsite water quality management, including business goals, site assessment, and practices planning; and
- perform individual water quality monitoring or participate in a cooperative monitoring program.

Based on the above requirements, there are two tiers of waivers for reporting frequency. Growers who have completed 15 hours of water quality education and a farm plan qualify for a Tier 1 waiver, requiring them to enroll and submit an updated management plan midway through the 5-year waiver cycle; all others fall under Tier 2 and must submit annual reports until they meet the education and farm plan requirements. Education requirements can be satisfied through courses certified by the Central Coast RWQCB, including the University of California Cooperative Extension's farm water quality short courses and courses through organizations such as the Central Coast Vineyard Team and RCDs. The Central Coast RWQCB certifies courses and evaluates educational availability on an ongoing basis.

The farm plan includes a detailed management practices checklist with four categories of water quality protection strategies: erosion control, irrigation management, pesticide management, and nutrient management. Growers also are required to conduct water quality monitoring and have the option to either perform individual monitoring or participate in a cooperative monitoring program, in which individual growers pool resources and conduct group monitoring. Under the conditional waiver, a group of 23 central coast agricultural organizations have agreed to implement the cooperative monitoring program.

When water quality problems are found where an agricultural facility is determined to be the source, the Central Coast RWQCB will help the facility to come into compliance or to implement alternate BMPs; issue a notice of violation or civil liability complaint; or, where compliance with waiver conditions will not adequately control the discharge, issue individual WDRs.

Watershed Management Initiative

The Watershed Management Initiative (WMI) guides the water resources protection efforts of the State Water Board and RWQCBs. The WMI is designed to integrate various surface- and groundwater regulatory programs while promoting cooperative, collaborative efforts by various agencies and interest groups within a watershed. The WMI takes a watershed management approach for water resources protection by integrating point and nonpoint source discharges, ground- and surface water interactions, and water quality/water quantity relationships. The State Water Board has worked with individual

RWQCBs to identify the major watersheds in each region, prioritizing water quality issues, and developing watershed management policies focused on protecting beneficial uses of water.

Beyond the WMI, NPDES stormwater management, and TMDL programs, there is currently no state mandate to prepare more general or integrated watershed management plans for large (basin-scale) watersheds. In addition, local governments that provide or maintain within their boundaries underground drinking water supplies are responsible for developing wellhead protection programs. Wellhead protection programs (including local ordinances and land use control programs for lands immediately surrounding public water supply wells) focus on preventing groundwater drinking water supplies from being contaminated.

Watershed Management Plans

The following watershed management plans have been developed for Monterey County.

Salinas River Watershed Management Action Plan

The *Salinas River Watershed Management Action Plan*, prepared in 1999 by the Central Coast RWQCB, outlines the watershed characteristics and management actions recommended to control point source and nonpoint source pollution within the Salinas River watershed. The upper watershed is mostly within San Luis Obispo County and overlies the Paso Robles groundwater basin, while the lower watershed extends from Bradley to Monterey Bay and overlies the Salinas Valley groundwater basin.

Carmel River Watershed Assessment and Action Plan

The *Carmel River Watershed Assessment and Action Plan*, prepared in 2004 by the Carmel River Watershed Conservancy, includes an assessment of existing conditions and water quality goals for the Carmel River watershed. The river's water quality and supply have been impaired, with issues regarding water quality and declining flows, lack of riparian habitat for native species, erosion, sediment transport, infiltration and runoff, and flooding/drainage. The plan contains a component with 23 action recommendations for watershed improvement, including habitat restoration, water supply, and groundwater management.

Pajaro Watershed Water Quality Management Plan

The *Pajaro Watershed Water Quality Management Plan*, coordinated by the Association of Monterey Bay Area Governments in 1999, is a comprehensive nonpoint source water quality improvement plan for the Pajaro River watershed, including: (1) identification and assessment of the most significant nonpoint source pollutant types and sources throughout the watershed, (2) identification of recommended strategies for minimizing nonpoint source pollution, and (3) a watershed-wide plan for implementation

of the recommended strategies. The project was facilitated through the Pajaro River Watershed Council, a watershed-wide coordinated resource management and planning group.

Pajaro River Watershed Integrated Regional Water Management Plan

The *Pajaro River Watershed Integrated Regional Water Management Plan* (IRWMP) was a collaborative effort by the PVWMA, San Benito County Water District, and Santa Clara Valley Water District to identify regional and multibeneficial projects for the Pajaro River watershed. Completed in May 2007, the Pajaro River Watershed IRWMP presents the region's water resources management objectives and recommends four water management programs for addressing the highest priority needs: conjunctive water supply management, water supply/salt management, agricultural water quality, and flood protection. The IRWMP will be implemented by the member agencies in collaboration with the sponsors of the individual projects identified for each program.

Monterey Peninsula, Carmel Bay, and South Monterey Bay Integrated Regional Water Management Plan

This IRWMP is coordinating the efforts of more than 30 public and private stakeholders within the watershed. Completed in November 2007, the IRWMP sets out regional goals for the Monterey Peninsula and recommends a number of projects and programs as regional priorities. These include, but are not limited to: lower Carmel River restoration and floodplain enhancement, water conservation retrofit program, and Seaside Basin groundwater replenishment. The IRWMP will be implemented by the member agencies in collaboration with the sponsors of the individual projects identified for each program.

Groundwater Management

In California, surface water rights are regulated by the state, and groundwater is managed by a variety of local entities with a wide array of regulatory authority. Most local governments require well permits that primarily address groundwater quality issues and well construction requirements associated with groundwater. Historically, very few local governments, particularly counties, regulate or manage groundwater usage or withdrawals in order to broadly manage these water resources.

Generally, five methods for groundwater management have evolved over time. Groundwater management can be achieved by one of the following entities or methods.

Local Water Resource Agencies

More than 20 types of local agencies are authorized by the California Water Code to provide water for various beneficial purposes. Many of these agencies also have statutory authority to institute some form of groundwater

management. Most of these agencies are identified in the California Water Code, but their specific authority related to groundwater management varies.

Local agencies within Monterey County with regulatory authority over water resources are listed below.

- Water Management Agencies
  - Monterey County Water Resources Agency
  - Monterey Peninsula Water Management District
  - Pajaro Valley Water Management Agency
- Water Purveyors
  - Aromas Water District
  - Pajaro-Sunny Mesa Community Services District
  - California Water Service Co. (Cal-Water), Salinas District
  - Alco Water Service
  - California American Water Co. (CalAm), Monterey District
  - Castroville Water District
  - Marina Coast Water District
  - Pebble Beach Community Services District
  - Carmel Area Water District
  - San Lucas County Water District
- Wastewater Management Agencies
  - Carmel Area Wastewater District
  - Salinas Valley Solid Waste Authority
  - Monterey Regional Water Pollution Control Agency
- Cities
  - City of Carmel-by-the-Sea
  - City of Monterey
  - City of Del Rey Oaks
  - City of Pacific Grove
  - City of Gonzales
  - City of Salinas
  - City of Greenfield
  - City of Sand City

- City of King City
- City of Seaside
- City of Marina
- City of Soledad

Although the County has the authority to initiate groundwater management, it does not have authority over the above agencies. However, the County would provide management in some areas through its various special water supply or wastewater districts. The County also would develop and implement groundwater management plans under Assembly Bill (AB) 3030 (California Water Code Section 10753).

Groundwater Rights

In general, the state does not regulate groundwater rights. Counties can enact an ordinance to ensure that wells developed on one property do not interfere with the use of adjacent wells. In some areas of overuse, and where there is a high dependence on groundwater, groundwater rights are determined judicially in what are termed "adjudicated" groundwater basins. The Seaside groundwater basin (Coastal and Laguna Seca Subareas) is the only adjudicated groundwater basin in Monterey County.

As discussed above, Carmel Valley is under State Water Board Order WR 95-10, due to overdraft impacts on the Carmel River riparian corridor and associated wildlife, thereby requiring Cal-Am to obtain alternate water supply sources. In response to this order, Cal-Am filed a lawsuit to adjudicate the rights of the various groundwater pumpers of the Seaside basin aquifer, where there is also concern about sustainable yield (refer to discussion in Section 4.3, Water Resources, Water Rights Conflicts).

Groundwater Adjudication

Another form of groundwater management in California is through court adjudication. The groundwater rights of all overlying property owners and appropriators are determined by the court in basins where a lawsuit is brought to adjudicate the basin. The court also decides who the extractors are, how much groundwater those well owners can extract, and who the "watermaster" will be to ensure that the basin is managed in accordance with the court's decree. The watermaster must report periodically to the court. Such adjudications are difficult to achieve, costly, time-consuming, and divisive. The Seaside groundwater basin is the only adjudicated groundwater basin in Monterey County.

Legal action is taken sometimes when stream diversion or groundwater mining directly or indirectly affects stakeholders along waterways. Stakeholders include owners and tenants next to waterways; private, municipal, industrial, and agricultural consumers; and private and public interest groups. A common cause of litigation is the habitat rights of fish.

Flow diversion or over-pumping in an aquifer, or both, may lead to declining surface flows and associated degradation of fish habitat. One such case was brought against Cal-Am and affects the Seaside groundwater basin (see the discussion of "Carmel River Conflicts," above).

Groundwater Management Agencies

Thirteen California groundwater management agencies have been directly authorized by special state legislation. These entities vary significantly as far as why they were created, how they are managed, and what authorities are granted in each case. There are three such agencies in Monterey County: The MCWRA, the PVWMA, and the MPWMD. As previously discussed, these agencies have somewhat overlapping areas of authority and therefore must closely coordinate their programs and policies. More detailed discussion of each agency is provided in the section about local agencies below.

The MPWMD is the groundwater management agency on the peninsula, authorized by the state to augment the water supply through integrated management of surface- and groundwater resources. The PVWMA has legislative authority to manage groundwater actively and, in certain circumstances, to levy an extraction charge on groundwater use in the North County and in the Pajaro River area near Watsonville. Over a wider area, and especially in the Salinas Valley, the MCWRA is responsible for managing groundwater resources.

Assembly Bill 3030 Groundwater Management Plans

The 1992 Groundwater Management Act (California Water Code Section 10750), commonly referred to as AB 3030, was designed to provide local public agencies in California with increased management authority over groundwater resources. AB 3030 allows, but does not require, local water providers to develop a groundwater management plan for DWR-defined groundwater basins. These plans can involve collaboration among numerous agencies and thus offer opportunities for local governments to participate in groundwater management planning in cooperation with water providers. No new level of government is formed under AB 3030, and action is voluntary rather than mandatory. The plan is only prepared following a public hearing and the adoption of a resolution (barring a majority of opposition).

The California Water Code also provides that a groundwater management plan may include any one or all of the following technical components: control of saline water intrusion, management of wellhead protection areas and recharge areas, well abandonment, conditions of overdraft, conjunctive use operations, groundwater contamination cleanup, and water recycling and extraction.

The MPWMD is in the process of preparing a long-term *Seaside Basin Groundwater Management Plan* following AB 3030 guidelines. Other

jurisdictions have typically included aspects of groundwater management in their watershed management or stormwater management plans, or refer to the *Central Coast Basin Plan*, as well as plans devoted to a particular resource, such as the Carmel or Salinas Rivers.

Both the MCWRA and the PVWMA have completed and adopted detailed basin management plans that, although not submitted to DWR as formal AB 3030 groundwater management plans, describe the management actions and capital improvement projects they will undertake to bring their respective basins into water supply/consumptive use balance over the long term.

Timber Harvest Management

The harvesting of timber for commercial purposes is regulated by the California Department of Forestry and Fire Protection (CDFFP). Timber operations are permitted by the CDFFP pursuant to the Z'berg-Nejedly Forest Practice Act (Public Resources Code Section 4511, et seq.) and the Forest Practice Rules (14 CCR 895 et seq.). Timber operations are primarily addressed at the state and regional level through the THP review program, including the timberland conversion rules. The CDFFP, in consultation with the RWQCB and the California Department of Fish and Game (CDFG), administers this program.

THPs are comprehensive, detailed plans for the sustainable harvesting of timber, describing the timber to be harvested, harvesting methods to be used, and environmental impacts of the activities proposed under the THP. A THP is prepared by a registered professional forester on behalf of the landowner and must include mitigation measures to reduce its environmental impacts. THPs are subject to review, revision, and approval by the CDFFP. The County, interested members of the public, and state and federal agencies, including the RWQCB and DFG, are afforded the opportunity to comment on THPs during the review and approval process. CDFFP must consider the comments received, particularly where the comments relate to potential environmental effects.

Surface Water Rights

The State Water Board has jurisdiction over surface water rights in the State of California under the common law public trust doctrine. The California Water Code Section 1735 provides the regulatory framework for long-term transfers, subject to the requirements of CEQA.

Appropriative water rights allow the diversion of surface water for beneficial use. Prior to 1914, appropriative water rights involved a simple posting to describe intent and scope of water use, diversion, or construction of diversion activities. Since 1914, the sole method for obtaining appropriative water rights is to file an application with the State Water Board. Before it can issue a water rights permit, the State Water Board must demonstrate the availability of unappropriated water.

Both pre- and post-1914 appropriative water rights may be lost if the water has gone unused for a period of 5 years.

Riparian water rights apply only to lands that are traversed by or border on a natural watercourse. Riparian owners have a right (correlative with the right of each other riparian owner) to share in the reasonable beneficial use of the natural flow of water that passes the owners' lands. No permit is required for such use. Riparian water must be used reasonably, beneficially, and solely on riparian (adjacent) land and cannot be stored for later use.

Urban Water Management Planning Act

The Urban Water Management Planning Act requires that each urban water supplier that provides water for municipal purposes to 3,000 or more customers, or more than 3,000 AFY, must submit to DWR an Urban Water Management Plan (UWMP). The UWMP must summarize existing and planned sources of water supply, identify current and projected water usage or demand, and include a discussion of 14 specified demand-management (e.g., water conservation) measures. The following is a list of UWMPs within Monterey County:

- Alisal Water Corporation (Alco)—not submitted.
- California American Water, Monterey District (Cal-Am)—submitted to DWR in July 2006.
- California Water Service Co., Salinas District (Cal-Water)—not submitted.
- Marina Coast Water District (MCWD)—submitted to DWR in January 2006.

The remaining water purveyors in Monterey County are small districts that do not meet the volume criteria for preparation of UWMPs.

Agricultural Water Conservation and Management Act

The Agricultural Water Conservation and Management Act establishes a relationship between DWR and agricultural water suppliers to develop and implement efficient water management practices. The legislation that took effect in January 2002 requires an increased effort to identify and assess the reliability of anticipated water supplies and envisions an increased level of communication between municipal planning authorities and local water suppliers.

California Senate Bills 901, 221, and 610

California SB 901 of 1995 required local planning agencies to consider the availability of water prior to approving any major new project. However, the bill provided little direction for the water supply assessment, planning agencies retained the authority to approve a project whether or not water availability was

firmly established, and the assessment was solicited only if the project resulted in an increase in population density or building intensity. These concerns led to the passage in 2001 of SB 221 and SB 610, which require specific documentation by the local water provider of water availability prior to project approvals.

SB 610[1] and SB 221[2] require a more formal and detailed analysis, including answers to such questions as: Where is the water coming from in normal, dry, and multiple dry years? Has the water supplier accounted for the demands in its planning documents? What right does the water purveyor have to the water? What is the condition of regional groundwater aquifers? Who else is competing for the water?

SB 610 is imposed through CEQA and accordingly has broader applicability than SB 221. All projects that are subject to CEQA and that meet any of the following criteria require the assessment:

- Proposed residential development of more than 500 dwelling units.
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
- A proposed hotel or motel, or both, having more than 500 rooms.
- A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
- A mixed-use project that includes one or more of the projects specified in this subdivision.
- A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

The water supplier must prepare and approve a water supply assessment, using a UWMP as its primary planning tool, if available. If the demands expected from the development are accounted for in the UWMP, the UWMP may be used to establish supply availability under normal and drought conditions. If the project would exceed documented supplies, the assessment must describe the source of the new water supply.

SB 221 has similar requirements. It applies to tentative subdivisions maps creating 500 lots or more. A project cannot be approved if the SB 221 water supply verification finds water supplies inadequate, unless the city or county

[1] An act to amend Section 21151.9 of the Public Resources Code, and to amend Sections 10631, 10656, 10910, 10911, 10912, and 10915 of, to repeal Section 10913 of, and to add and repeal Section 10657 of, the Water Code, relating to water.
[2] An act to amend Section 11010 of the Business and Professions Code, and to amend Section 65867.5 of, and to add Sections 66455.3 and 66473.7 to, the Government Code, relating to land use.

specifically finds that water sources not identified by the water supplier will be available.

State Drinking Water Quality Regulations

The DPH is responsible for regulating public water systems and small water systems and monitoring them for compliance with the California Water Code and national standards for drinking water quality. Public water systems are defined as systems that provide water to 15 or more service connections or regularly serve at least 25 individuals daily at least 60 days of the year. Small water systems serve at least 5 but not more than 14 connections and do not regularly serve drinking water to more than an average of 25 individuals daily for more than 60 days out of the year. The DPH is responsible for the issuance of operational permits, routine water system inspections, evaluation of water quality monitoring data, and follow-up compliance activities for these systems.

Under Water Code Section 350, DPH can direct that a water supplier (both public and private) declare a water supply emergency, either on a short-term basis (during an extended drought) or on a long-term basis (where there is evidence that the available water supply may not be able to meet existing public needs—especially for drinking water, sanitation, and fire protection). In these situations, moratoria on new public water connections may be ordered until an adequate supply is ensured.

Septic System Regulations

In California, all wastewater treatment and disposal systems, including individual septic systems, fall under the overall regulatory authority of the State Water Board and the nine RWQCBs. The RWQCBs' involvement in regulation of onsite systems most often concerns the formation and implementation of basic water protection policies. These are reflected in the regional basin plans, generally in the form of guidelines, criteria, or prohibitions related to the siting, design, construction, and maintenance of onsite systems. The RWQCBs generally delegate regulatory authority for septic systems to counties, cities, or special districts, subject to the condition that the local agency commits to enforcing the minimum requirements contained in the basin plan policies.

The Central Coast RWQCB has adopted policies and requirements pertaining to onsite systems that are contained in the *Central Coast Basin Plan*. The onsite systems element of the Basin Plan sets forth various objectives, guidelines, general principles, and recommendations for the use of onsite systems that cover various topics related to siting, design, construction, operation, maintenance, and corrective/enforcement actions. In Monterey County, the Central Coast RWQCB issues WDRs (described above) for all major point source discharges, such as municipal wastewater treatment plants and package wastewater treatment plants. All of Monterey County's treatment plants, including those operated by municipalities or wastewater management districts, are regulated under a WDR.

Onsite sewage disposal systems in Monterey County are regulated by the County's Environmental Health Division. Monterey County regulations for onsite sewage disposal systems are contained in Chapter 15.20 of the Monterey County Code, the sewage disposal ordinance. Regulations set forth specific requirements related to permitting and inspection of onsite systems; septic tank design and construction; drywell and disposal field requirements; and servicing, inspection, reporting, and upgrade requirements. Additional requirements for onsite systems in Monterey County are adopted as part of community plans or as project-specific mitigation measures or conditions applied to development proposals lying within a designated Special Problem Area of the county. In general, soil percolation rates are required to be no less than 1 inch per hour for an area to be considered suitable for a septic tank leachfield system.

Regulations in Monterey County also require that any person or firm that engages in the business of cleaning septic tanks, chemical toilets, cesspools, or sewage seepage pits possess a valid registration issued by the local health officer or their authorized representative.

Assembly Bill 885 Onsite Wastewater Treatment System Regulations

In 2000, the California State Legislature passed AB 885 (California Water Code Sections 13290–13291.7), which requires the State Water Board, in consultation with various agencies and stakeholders, to develop statewide regulations for onsite wastewater treatment systems (OWTS). In March 2007, the State Water Board released a draft of the OWTS regulations, which contain "minimum requirements for the permitting, monitoring, and operation of OWTS for preventing conditions of pollution and nuisance." The regulations would be implemented through conditional waivers of WDRs by the State Water Board or RWQCBs.

The draft regulations dictate that new and replaced OWTS be operated to accept and treat flows of domestic wastewater (e.g., toilet flushing, food preparation, laundry, household cleaning, and personal hygiene) and be designed to disperse effluent to subsurface soils in a manner that maximizes unsaturated zone treatment and aerobic decomposition of the effluent. The draft regulations contain performance requirements and specifications for the OWTS systems and supplemental treatment components. As of spring 2008, the draft regulations are still under consideration and public review.

4.3.3.3 Local Regulations

A number of agencies manage water resources within Monterey County. The Monterey County Water Resources Agency (MCWRA) oversees management of the water resources. Among its responsibilities is the Salinas Valley Water Project. On the Monterey Peninsula area, the Monterey Peninsula Water Management District (MPWMD) has authority over local issues related to water supply. Together, MCWRA and the Monterey Regional Water Pollution Control Agency (MRWPCA) oversee the Monterey Regional Water Recycling Projects,

which consist of a reclamation plant and a 45-mile distribution system known as the Castroville Seawater Intrusion Project (CSIP). The Pajaro Valley Water Management Agency (PVWMA) has authority over water supply issues in the Pajaro River basin, which includes parts of both Monterey and Santa Cruz Counties. The Marina Coast Water District (MCWD) supplies water to the City of Marina and the former Fort Ord.

There are also a number of private and public water suppliers in the unincorporated area. The major providers are Cal-Am on the Monterey Peninsula, Cal-Water in the Salinas Area, and the Castroville and Pajaro/Sunny Mesa Water Districts in the North County area. The vast majority of the county's water supply is pumped from groundwater and is allocated for agricultural use.

Except for water quality issues, most of the regulations affecting water resources (both surface water and groundwater) are contained in the Monterey County Code and related ordinances, with code enforcement primarily by the MCRMA, MCWRA, and MCHD.

Primary regulatory authority is within the MCWRA and the Environmental Health Division of Monterey County Health Department (MCHD), both of which enforce the County codes. The MCRMA administers the County's permit and planning functions. Surface- and groundwater within certain areas of the county are managed by the MPWMD and the PVWMA, in addition to the MCWRA. These and other agencies with regulatory authority are summarized below.

Monterey County Water Resources Agency

The MCWRA, formerly called the Monterey County Flood Control and Water Conservation District, oversees the development and implementation of water quality, water supply, and flood control projects in Monterey County. Primary responsibilities are the management of water supply resources in the reservoir system, including San Antonio and Nacimiento Reservoirs, and permitting and development of the SVWP. As the local administrator of the NFIP, the MCWRA manages floodplain development and implements activities associated with the community rating system. The MCWRA also oversees resources and development of the Salinas River channel and develops and implements various water quality monitoring programs. Maintaining high water quality standards for both supply and environmental habitat are major goals of the agency. Goals are achieved through development and implementation of water quality programs, such as those designed to evaluate and develop strategies for reducing contamination of waterways from chemicals used in agriculture and agricultural waste products, and those for overall watershed protection in reservoir areas.

The Monterey County Water Resources Act, codified in Chapter 52 of the Statutes of 1991, authorizes the MCWRA to develop, maintain, and preserve certain water resources, including the following rights.

- Store water in surface or underground reservoirs within or outside of the agency.
- Conserve and reclaim water for present and future use within the agency boundaries.
- Appropriate and acquire water and water rights, and import water into the agency and conserve water within or outside of the agency, for any purpose useful to the agency.
- Prevent interference with or diminution of, or to declare rights in, the natural flow of any stream or surface or subterranean supply of water used or useful for any purpose of the agency or of common benefit to the lands within the agency or to its inhabitants.
- Prevent contamination, pollution or otherwise rendering unfit for beneficial use the surface or subsurface water used or useful in the agency's boundaries, and commence maintain, and defend actions and proceedings to prevent any interference with those waters which endangers or damages the inhabitants, lands, or use of water in, or flowing into, the agency.
- Control the flood and storm waters of the agency and the flood and storm waters of streams that have their sources outside of the agency but which flow into the agency, and conserve those waters for beneficial and useful purposes of the agency by spreading, storing, retaining, and causing to percolate into the soil within or outside the agency, or save or conserve in any manner all or any of those waters and protect from damage from those flood or storm waters the watercourses, watersheds, public highways, life and property in the agency, and the water courses of streams outside the agency flowing into the agency.
- Cooperate with county, state and federal, public and private organizations in the construction of any work for the controlling of flood or storm waters.
- Carry on technical and other necessary investigations, make measurements, collect data, make analyses, studies and inspections pertaining to water supply, water rights, control of flood and storm waters, and use of water both within and without the agency relating to watercourses or streams flooding in or into the agency. For these purposes, the agency has the right of access to all properties within the agency and elsewhere relating to watercourses or streams flooding in or into the agency.
- Enter upon any land, to make surveys and locate the necessary works of improvement and the lines for channels, conduits, canals, pipelines, roadways, and other rights-of-way.
- Acquire by purchase, lease, contract, gift, devise or other legal means lands and water and water rights or other property necessary or convenient for the construction, use supply maintenance, repair, and improvement of those works.
- Acquire the right to store water in any reservoirs, or carry water through any canal, ditch, or conduit of the agency.

- Grant to any owner or lessee the right to the use of any water or right to store water in any reservoir of the agency, or to carry water through any tunnels, canal, ditch, or conduit of the agency.
- Develop agreements for the transfer or deliver to any district, corporation, association, or individual of any water right or water pumped, stored, appropriated, or otherwise acquired or secured, for the use of the agency, of for the purpose of conserving the waters for beneficial use within the agency, or for the protection, enhancement, and use of groundwater within the agency.
- Issue bonds and cause taxes or assessments to be levied in order to pay any obligation of the Agency and carry out any purposes of the Act.
- Buy, provide, sell, and deliver water.
- Develop and distribute water to persons in exchange for ceasing or reducing groundwater extractions, and prevent groundwater extractions, which are deemed to be harmful to the groundwater basin.
- Transport, reclaim, purify, desalinate, treat, or otherwise manage and control water for the beneficial use of persons or property within the agency.
- Provide, generate, sell, and deliver hydroelectric power.

Although responsibilities for stormwater management within the unincorporated county are spread across several different jurisdictional entities, flood control within specific benefit assessment zones is the responsibility of the MCWRA.

The MCWRA performs three services related to flood control. Flows in the Salinas River, along its entire length through the county, are regulated by operation of Nacimiento and San Antonio Dams. These operations are engineered to maintain adequate storage space in order to simultaneously store winter water for summer release for groundwater recharge and to provide some flood control. Nevertheless, some storm events that reach the 100-year level will still cause flooding in the Salinas Valley basin.

The MCWRA also maintains an alert system to monitor rainfall intensity flow rates along the Salinas River and its tributaries as storm events take place. The alert system allows the MCWRA to collect data on rainfall and stream conditions and to provide a system of early flood warning (flood alert) throughout all of Monterey County. This information also may be useful for improving groundwater management.

Thirdly, the MCWRA performs maintenance of many of the irrigation ditches and channels that drain the Salinas Valley. Regular clearing of debris and overgrown vegetation is performed to maintain the channels' ability to convey floodwaters. In the past, the MCWRA performed this role for the Carmel Valley basin as well as the Salinas Valley basin. Recently, the agency discontinued maintenance in the Carmel Valley basin because of discontinued funding.

An example of the MCWRA's role in flood control is the Salinas River and Arroyo Seco Channel Maintenance Program. Flooding along the Salinas River during spring 1995 resulted in damage of an estimated 30,000 acres of Salinas Valley farmland and permanent loss of 1,100 acres of prime agricultural land to erosion. Farmers and property owners along the river and agencies involved in flood control concluded that management and maintenance of the dry river channel would be the most effective, long-range solution to prevent future crop and property loss from flooding. In response, the USACE issued a permit to MCWRA to repair eroded banks and levees; remove sandbars, vegetation, and debris from the river; and construct pilot channels. This permit expired in January 1996, before all work was completed, but was followed by a second permit to allow farmers and property owners to mechanically remove vegetative obstructions and debris from the channel and relocate or remove sandbars and silt deposits. This second permit expired on December 31, 2001, but the MCWRA obtained a new 5-year Section 404 Regional General Permit to continue the Channel Maintenance Program.

Monterey County Health Department

The MCHD is responsible for the enhancement, promotion, and protection of the health of Monterey County's individuals, families, communities, and environment. With regard to water resources, the MCHD and its agent, the director of environmental health, is responsible for drinking water protection, including:

- the Collaborative Aquifer Protection Program (CAPP), a program to identify and destroy abandoned wells in order to improve groundwater management, in association with MCWMA and PVWMA;
- the Cross-Connection Control Program, to monitor and eliminate cross-connections between drinking water and other water lines, such as irrigation or wastewater;
- regulation of desalination treatment facilities;
- conducting drinking water source assessment and protection, to provide information on contaminants in drinking water and water supply;
- regulation of drinking water systems, including more than 1,250 individual water systems, each serving from 2 to 199 connections (includes permitting, construction oversight, and monitoring);
- regulation of local small water systems serving 2 to 4 residential units, including permitting, inspection, and monitoring;
- review of operation and maintenance for community water systems;
- public water system (15 or more connections) (includes permitting, inspection, and monitoring);
- state small water systems (5 to 14 connections) (includes permitting, inspection, and monitoring);

- water quality monitoring program, including water sampling and analysis; and
- well construction/repair/destruction, including permitting and monitoring of well applications, construction, and destruction to protect groundwater.

The MCHD also administers hazardous waste programs (including monitoring wells), review of septic and wastewater plans for proposed projects, and solid waste management.

Monterey Peninsula Water Management District

The MPWMD was formed in 1978 to augment the water supply and manage water resources for communities on the Monterey Peninsula, including Carmel-by-the-Sea, Del Rey Oaks, Monterey, Pacific Grove, Seaside, Sand City, the Monterey Peninsula Airport District, and portions of unincorporated Monterey County (including Pebble Beach and Carmel Valley). The MPWMD was created following the drought of 1976–1977 in recognition of the need for conservation and augmentation of water supplies on the Monterey Peninsula. The MPWMD's enabling legislation provides authority for integrated management of the groundwater and surface water resources within the Monterey Peninsula area, encompassing the waters of the Carmel Valley and Seaside groundwater basins. The MPWMD's integrated management responsibilities include control over both water supply and demand, causing the MPWMD to act both as a planning agency and a regulatory body.

In addition to groundwater and surface water management, the MPWMD is responsible for water conservation, protection of local water supply, and working with local water suppliers to manage water resources and distribution. The MPWMD manages the production of water from two sources: surface water from the Carmel River stored in San Clemente and Los Padres Reservoirs, and groundwater pumped from municipal and private wells in Carmel Valley and the Seaside coastal area basin.

Over-pumping and flow diversion in the area of the lower Carmel Valley aquifer has caused significant dewatering of the Carmel River and has become a major political and environmental issue. Declining water levels in the river may adversely affect species considered threatened under the federal Endangered Species Act (central coast steelhead and California red-legged frogs) and may endanger the riparian habitat. In order to protect these environmental resources, a comprehensive management plan was deemed necessary to both meet water supply demands and protect aquatic and riparian habitat. The MPWMD has studied more than 70 alternatives to develop a water supply project for area rivers and has implemented an environmental mitigation program along the Carmel River.

Pajaro Valley Water Management Agency

The PVWMA is a state-chartered local agency, created in 1984 to manage existing and supplemental water supplies to reduce long-term overdraft and to provide sufficient water supplies for present and anticipated needs within the boundaries of the agency. The PVWMA's jurisdictional boundary encompasses a portion of southern Santa Clara County, the Pajaro Valley area, and the Highlands North and Springfield Terrace planning area subbasins in North County. The PVWMA is responsible for developing and using supplemental water and available underground storage to manage the groundwater supplies.

PVWMA has studied the issues of overdraft, storage depletion, and seawater intrusion for many years. Major agency projects include implementation of the 2002 *Revised Basin Management Plan*, including the Watsonville Area Water Recycling Project and the 23-mile import pipeline to provide sufficient water resources for agricultural uses and reduce saltwater intrusion into coastal wells (Pajaro Valley Water Management Agency 2008b). However, the pipeline project has largely stalled over the high price of the pipeline and the lack of opportunities to obtain Central Valley Project or other inland supply contracts.

The Pajaro Valley water projects have the potential to resolve much of the supply problem facing North County and the Pajaro Valley basins. However, a regional solution will be necessary to solve these problems. The combined projects and the cooperation of the MCWRA, the PVWMA, and the public are key to the resolution of the needs of the area.

Monterey County Resource Management Agency

The MCRMA was formed in 2005 to optimize the County's delivery of land use–related services, including planning, environmental review and permitting, plan check and permitting, zoning enforcement, redevelopment, housing, public works and facilities, land surveying and design, water and sanitation system management, and design and construction of public buildings. The MCRMA is organized into four divisions: the Planning Department, the Building Services Department, the Public Works Department, and the Housing and Redevelopment Office. The Planning Department is responsible for coordinating the review of all applications for land use entitlements in the county, in coordination with the Public Works Department, the MCHD, the County Parks Department, and the agricultural commissioner. The Building Services Department is responsible for most of the code enforcement related to land use and development related to water resources, including residential development, grading, and land subdivision regulation and enforcement. Sewer connection permits are processed by the Public Works Department.

Fort Ord Reuse Authority

The Fort Ord Reuse Authority (FORA) has a 6,600-AFY allocation from the MCWRA to serve the development proposed in the 1997 *Fort Ord Reuse Plan*. The former Fort Ord has been annexed into Zone 2A of the MCWMA. Full implementation of the plan would require approximately 17,000 AFY and would require participation in supplemental water supply projects proposed by the MCWMA. Wastewater treatment is provided at the MRWPCA plant.

Monterey County Local Agency Formation Commission

Under the Cortese-Knox-Hertzberg Local Government Reorganization Act (Government Code Section 56000 et seq.), the Monterey County Local Agency Formation Commission (LAFCO) is responsible for coordinating logical and timely changes in local governmental boundaries. Responsibilities include annexations and detachments of territory; incorporations of cities; formations of special districts; consolidations, mergers, and dissolutions of districts; and reviewing ways to reorganize, simplify, and streamline governmental structure. The County LAFCO also prepares Municipal Service Reviews (MSRs) for each agency to determine the availability of services, efficiency of delivery, and opportunities for greater efficiencies. Where applicable, the MSR, based on information gathered from local water service providers, will assess each provider's ability to provide for existing and future water needs.

Monterey County Code

The Monterey County Code, including various ordinances, provides the regulatory framework for implementing the County 2007 General Plan policies and programs. Except for water quality issues, most of the regulations affecting water resources (both surface water and groundwater) are contained in the Monterey County Code and related ordinances, with code enforcement primarily by MCWRA and Monterey County Health Department (MCHD).

The Monterey County Code, including various ordinances, provides the regulatory framework for implementing the 2007 General Plan policies and programs. Title 15 of the Monterey County Code (Public Services), addresses domestic water systems, well construction, water conservation, wastewater and sewage disposal, and discharge to streams.

Grading

The County grading ordinance (Chapter 16.08 of the Monterey County Code) generally regulates grading activities greater than 100 cubic yards and over 2 feet in height. Submittal requirements for a grading permit issued by the County building official include site plans, existing and proposed contour changes, an estimate of the volume of earth to be moved, and soils or geotechnical reports (or both). Projects involving grading activities over 5,000 cubic yards must be

prepared by a civil engineer, and geotechnical reports may be required also. Grading is not allowed to cause degradation of a waterway, and erosion control measures are required. Grading within 50 feet of a watercourse or within 200 feet of a river is regulated in the Zoning Code Floodplain regulations. The Zoning Code, Chapter 21.64.230, details specific regulations for development on slopes in excess of 30%. The County building official has regulatory authority over grading activities, although the MCWRA also enforces drainage regulations.

Work in Salinas River and Arroyo Seco River channels is exempted if it is covered by a USACE 5-year regional Section 404 permit, approved by the CDFG, and approved by the MCWRA. All other work requires a separate permit from these agencies, subject to environmental review.

Drainage

Drainage, and the preparation of design improvement plans to control runoff and prevent erosion, is regulated under Chapter 19.10, regarding subdivision improvements. Improvement plans for drainage and runoff control are subject to the approval of the MCWRA in accordance with the MCWRA design criteria. Drainage is also regulated in the grading ordinance (Chapter 16.08 of the Monterey County Code), erosion control ordinance (Chapter 16.12), Floodplain Development (Chapter 16.16), and Subdivisions and Improvement Plans (Chapters 19.03, 19.04, 19.05, 19.07, and 19.10). Drainage management associated with intensive agricultural uses and grazing is regulated in Chapter 21.32 of the Monterey County Code. Chapter 21.66 regulates drainage, groundwater, and surface water conditions associated with hazardous geologic and other areas.

Erosion Control

Chapter 16.12 of the Monterey County Code establishes erosion control regulations for Monterey County. The purpose of the erosion control ordinance is to "eliminate and prevent conditions of accelerated erosion that have led to, or would lead to, degradation of water quality, loss of fish habitat, damage to property, loss of topsoil or vegetation cover, disruption of water supply, or increased danger from flooding." It "requires the control of all existing and potential conditions of accelerated (human-induced) erosion, sets forth required provisions for project planning, preparation of erosion control plans, runoff control, land clearing, and winter operations." Erosion control measures specified in the ordinance must be in place and maintained at all times between October 15 and April 15. The ordinance specifies fines for any person causing or allowing the continued existence of a condition of accelerated erosion, as determined by the director of building inspection.

Prior to permit issuance for building, grading, or land clearing, an erosion control plan following the ordinance's guidelines must be submitted to MCRMA. The plan must show methods for control of runoff, erosion, and sediment movement. Erosion control plans also may be required for other types of applications where erosion can reasonably be expected to occur. Routine agricultural operations need not submit these plans. Development and related construction activities, such as site cleaning, grading, and soil removal or placement that causes a

permanent change to existing site conditions, are generally prohibited on slopes greater than or equal to 30% (greater than 25% within the North County's Coastal Zone).

Erosion also is regulated in the grading ordinance (Chapter 16.08, discussed above), Floodplain Regulations (Chapter 16.16), Preservation of Oak and Other Protected Trees (Chapter 16.60), Protection of the Pajaro River Banks (Chapter 16.65), and Subdivisions/Tentative Maps (Chapters 19.03, 19.05, 19.07, and 19.10), and is regulated within visually sensitive areas (Chapter 21.46). Finally, erosion is regulated in Chapter 16.04, Surface Mining and Reclamation, and subject to review and approval by the State Department of Conservation.

Hydrology and Hydrogeology

Surface water is regulated under Monterey County Code Title 19, the subdivision ordinance. Chapters 19.03, 19.05 and 19.07 of the code regulate subdivisions, land divisions, and other development. The code requires submission of verification of legal rights to water supply; evaluation of site hydrology, hydrogeology, surface and groundwater resources, water balance, and long-term safe yield of the aquifer if development occurs; and analysis of potential changes in water usage due to subdivision development.

All departments of the County enforce the subdivision ordinance, and verification of water resources is also subject to review by the director of environmental health.

Flood Control and Floodplain Management

Chapters 16.16 and 21.64 of the Monterey County Code contain regulations regarding floodplain development. These sections discuss general and specific standards to prevent flood damage within the county. Such measures apply to all development within SFHAs in the county, as identified on FEMA FIRMs. Monterey County floodplain management regulations are based on the model FEMA program; however, the County has adopted regulatory standards that exceed the minimum federal requirements. County regulations prevent the placement of fill, buildings, and other obstructions in regulatory floodways (the zone along a channel where flow moves with depth and velocity and where obstructions can cause the most damage) and require buildings located in SFHAs to be elevated a minimum of 1 foot above the 100-year flooding elevation.

Chapter 21.64.130 regulates land use in the Carmel Valley floodplain, including development within 200 feet of the Carmel River and lands within the 100-year floodplain, floodway, and floodway fringe as defined on FEMA maps. The general manager of the MCWRA and the director of planning and building inspection have regulatory authority.

Chapter 16.16 regulates development in all SFHAs within the jurisdiction of Monterey County and areas within 200 feet of rivers or within 50 feet of watercourses. The general manager of the MCWRA has regulatory authority.

Carmel Valley Floodplain

The zoning ordinance establishes restrictive regulations that prohibit development within 200 feet of the bank, floodway, or riparian corridor of the Carmel River (Chapter 21.64.130). This ordinance is intended to stabilize the river channel, greatly reducing erosion potential, as well as ensure that structures are not built within the flood zone.

Coastal Areas

The adopted coastal implementation plans regulate land development in the Coastal Zone. Because the proposed 2007 General Plan amendment does not affect the existing Local Coastal Program (LCP) and its component Local Coastal Plans, the coastal implementation plans are not pertinent to the project.

Drinking Water

Domestic Water Systems

Title 15 of the Monterey County Zoning Code regulates public services. Chapter 15.04 of the County Code regulates the construction, installation, maintenance, and repair of domestic water systems. The purposes of the chapter are to: (1) regulate construction, installation, maintenance and operation of domestic water systems which have from 2 to 199 service connections; (2) supplement minimum state laws and standards for construction, installation, maintenance, and operation of state small water systems and; (3) regulate the quality and quantity of water supplied to and by such water systems, thereby promoting the public health, safety, and welfare. The ordinance requires permits for domestic systems to be obtained from the County Director of Environmental Health. The MCHD may issue the permit if it finds that (Section 15.04.050):

- there is a person who, at all times, will be available and legally responsible for the proper performance of the system;
- water service for the proposed water system is not available from a public, private, or mutual water system, thereby demonstrating the necessity of formation of an additional water system;
- the water supplied is pure, wholesome, and potable;
- the system supplies the minimum quantity of water required in the ordinance (6 to 12 gallons per minute, depending on the number of service connections); and
- the supply system complies with the design and construction standards described in the ordinance.

As part of the permit approval, water for the system must be subjected to approved bacteriological and chemical tests at the expense of the applicant. Tests must demonstrate that the water falls below the limiting concentrations given in the ordinance for such parameters as inorganic and organic chemicals, radioactivity, metals, total dissolved solids, and chloride. Bacteriological analysis must be performed on the water at least every 6 months and the results filed with the MCHD.

Design and construction standards outlined in the ordinance include required operating pressures, pumping plants, and pipe specifications. Wells must meet state standards (see above) and the standards of the local well ordinance (see below). Operators of domestic water systems must apply to the MCHD for an amended permit prior to making any modifications to their systems. The MCHD may suspend or revoke permits for systems if conditions of the permit are not being met or if the water becomes unpotable.

Water Conservation

Water conservation is regulated in Chapter 15.12 of the County Code (Ordinance 2181, 1976), which contains findings that there is water demand in excess of available supply on the Monterey Peninsula and that new water service facilities should be regulated. These special provisions apply in MCWRA's Zone 11. In this area "waste" of water is prohibited, requiring the use of low-flow toilets, metering faucets, low-pressure piping, and recycling air conditioners; and prohibiting non-recirculating water features such as fountains and pools.

MCWRA Ordinance 3359, adopted in 1991, defines BMPs and xeriscape principles, and clarifies variance procedures. The purpose of the ordinance is to "bring about public awareness of the need for water conservation, to provide for conservation regulations that will permanently reduce or eliminate waste of water in all areas of Monterey County, and to require the adoption of substantially similar or more restrictive regulations in all jurisdictions of the county."

MCWRA Ordinance 3932 (Appendix B) enacted mandatory water conservation regulations. The purpose of the ordinance is to "bring about public awareness of the need for water conservation, to provide for water conservation regulations that will permanently reduce or eliminate waste of water in all areas of Monterey County, and to require the adoption of substantially similar or more restrictive regulations in all jurisdictions of the county…" Mandatory restrictions on water waste, as enforced by MCWRA, are summarized below:

- Steps must be initiated to repair any broken, leaking or defective plumbing, sprinkler or irrigation system within 72 hours after first learning of the problem, and repair work must be diligently pursued to completion.
- Hoses used for washing vehicles must be equipped with a shutoff nozzle.
- Hoses used with potable water for washing the exterior of buildings or any other structure must be equipped with a shutoff nozzle.
- Potable water through a hose may not be used to clean any sidewalk, driveway, roadway, parking lot, or any other outdoor paved or hard-surfaced area, except where necessary to protect public health and safety.

- Water must not be allowed to spill into streets, curbs or gutters, and water may not be used in any manner, which results in runoff beyond the immediate area of use.
- Swimming pools and spas may not be emptied and refilled except to prevent or repair structural damage or to comply with public health regulations.
- Water may not be used to operate or maintain levels in decorative fountains, unless water is recycled in the fountain.
- Visitor-serving facilities must display signs promoting water conservation and/or advising that public waste of water is prohibited.
- All public and quasi-public entities must display signs in restrooms, kitchens, and dining areas promoting water conservation and/or advising that public waste of water is prohibited.
- Commercial car wash facilities may only use the following methods: 1) Mechanical automatic car wash facilities using water-recycling equipment, 2) hoses which operate on timers for limited periods and then shut off automatically, 3) hoses equipped with automatic shutoff nozzles, or 4) bucket and hand washing.
- Potable water may not be used for compaction or dust-control purposes in construction activities where there is a reasonable source of nonpotable water available. All hoses used in construction activities must have shutoff nozzles.
- Water from fire hydrants may not be tapped for any purpose other than fire suppression or emergency aid, without first obtaining written approval.
- No water system may be tapped into without first obtaining written approval.
- Water supply and distribution companies with 15 or more service connections shall maintain a program to detect and repair leaks in their distribution system, and shall review this program annually with the Agency.
- Water may not be used for agricultural irrigation in a manner which substantially conflicts with best management practices in Monterey County or which allows water to run to waste.
- Potable water may not be used for dust control purposes in agricultural activities where there is a reasonable source of non-potable water available.
- In all new construction, toilets must be ultra low-flow, showerheads must have a maximum flow capacity of 2.5 gallons per minute, and all hot water faucets with more than 10 feet of pipe between the faucet and the hot water heater must be equipped with a hot water recirculating system. All new construction requiring a land use permit must apply xeriscape principles throughout the exterior landscape, including such techniques

and materials as native or low water use plants and low precipitation sprinkler heads, bubblers, drip irrigation systems, and timing devices.

- All existing hotels and motels must be retrofitted with showerheads with a maximum flow capacity of 2.5 gallons per minute.
- All existing residential structure must, at the time of change of ownership, be retrofitted with showerheads with a maximum flow capacity of 2.5 gallons per minute, ultra-low flush toilets or dual flush conversion kits. All existing commercial or residential structures must also make these retrofitting at the time of change of ownership or change of use.
- Indiscriminate running of water not otherwise prohibited above is not permitted if it is wasteful and without reasonable purpose.

This ordinance applies in all areas of the county subject to MCWRA's regulatory jurisdiction, including both incorporated and unincorporated areas and all water districts. However, the ordinance is not implemented in any city or water district that adopts and enforces its own regulations that are at least as restrictive as the regulations contained in this ordinance.

Agricultural Water Conservation Plans

Urgency Ordinance 3592, adopted by MCWRA in 1992, requires all growers in the Salinas Valley groundwater basin to develop a mandatory water conservation plan and to file that plan with MCWRA. The intent of the ordinance is to encourage water conservation as a means to reduce water demand and help reduce further overdraft. Growers farming property, any portion of which lies within MCWRA's Zone 2A, must submit a plan to MCWRA containing the following information:

- a description of the property, terrain, water usage and sources, and acreage under consideration;
- a description of their current farming methods and their impact on water use;
- a description of the changes that will be made in the current farming methods, crop selection and/or acreage cultivated;
- a description of alternative water conservation measures the grower considered and rejected, and a brief explanation of why they were rejected; and
- a schedule showing when each element of the water conservation plan will be implemented.

The ordinance encourages adoption of BMPs by requiring growers to select water-saving alternatives from a list developed by MCWRA. The recommended practices (e.g., use of moisture sensors, drip irrigation, nighttime irrigation, time clocks on pumps, tailwater return systems, and acreage set-asides) have been assigned point values. Growers must accumulate at least one point per acre of land. A fine may be assessed of $50 for each day of violation, for failure to

submit a plan. Enforcement actions may be taken through the District Attorney's office.

Water Data from Water Distribution Systems

Ordinance 3428 was adopted by MCWRA in 1989. It requires water distribution systems to implement water use management procedures and provide water use information to MCWRA. The purpose of the ordinance is "to facilitate and encourage water conservation in Monterey County by monitoring water use patterns and practices, through the collection and analysis of water use records and data." Water distribution systems covered by this ordinance include: (1) any system, regardless of ownership, that provides piped water for domestic use and has 50 or more service connections; and (2) industrial or commercial users that require more than 5 AFY, or that are not a service connection of a registered public water system.

Each system covered by the ordinance must register with MCWRA and provide information on the characteristics of the system and the types of water use records maintained. Each water distribution system must have or develop the capability to track monthly and annual cumulative water use and demand by use category, and must report each year to MCWRA the results of an annual water consumption audit. Water distribution systems in areas with defined allocation plans or in areas defined as having critical water supply problems may also be required to report usage by individual service connections. In areas with critical problems, MCWRA also may require periodic and cumulative water use data on the highest water users in each use category, and on customers identified by the Agency as apparently wasting water.

Water Wells

Chapter 15.08 of the County Code regulates the construction, repair, and reconstruction of all wells to prevent groundwater contamination and to ensure that water obtained from wells will be suitable for its intended purpose and will not jeopardize the health, safety, or welfare of the people of the County. It also regulates the destruction of wells found to be public nuisances, or when otherwise appropriate, to ensure that the wells will not cause pollution or contaminate groundwater.

Wells are regulated by the County Director of Environmental Health. A permit must be obtained from MCHD prior to the construction, repair, reconstruction, or destruction of any well, abandoned well, cathodic protection well, observation well, monitoring well, or test well. The applicants must meet the standards for these procedures set forth in DWR Bulletins 74-81 and 74-90. The ordinance also modifies the state standards in several areas, including: (1) the minimum allowable distance between wells and sewage leaching fields, septic tanks, and seepage pits; (2) requirements for sealing of the annular space surrounding the conductor casing of all wells; (3) restrictions on the discharge of drilling fluids; and (4) prevention of erosion caused by test pumping of wells. Well permits are subject to inspection.

All wells must be constructed and cased to prevent pollution, and all openings to the well must be sealed off to prevent pollution. A well is considered abandoned when it has not been used for a period of 1 year, unless the owner can meet various criteria demonstrating an intention to use the well again. Abandoned wells are destroyed by methods described in DWR Bulletins 74-81 and 74-90, with modifications as specified in the County Code to prevent the migration of water from one aquifer to another. Additional requirements are imposed on wells in the Prunedale area, requiring backflow prevention devices on all pumping equipment where fertilizers, fumigants, or pesticides are injected into the irrigation system.

In areas where groundwater quality problems are known to exist and where a well will penetrate more than one aquifer, the Health Officer requires special well seals to prevent the mixing of aquifers. In MCWRA's Zone 6 well construction is subject to the requirements found in the "Specifications for Wells in Zone 6," which are on file with MCHD and MCWRA. These Zone 6 requirements are designed to prevent the leakage of saltwater between aquifers.

Special Groundwater Protection areas have been established where contaminated groundwater is known to occur. These areas are subject to long-term remediation, with additional regulatory requirements associated with installation (or prohibition) of wells. Regulatory oversight is provided by MCHD. These areas include the following:

- Fort Ord, Special Ground Water Protection Zone and Consultation Zone, where contaminant plumes occur, is regulated in consultation with Fort Ord Base Realignment and Base Closure Team, including representatives of the U.S. Army, EPA, California Department of Toxic Substances Control, and Central Coast RWQCB;
- Monterey Peninsula Airport Prohibition Zone and Consultation Zone, where water well construction is prohibited, are subject to special review. Mapping for these areas is maintained by the USACE, and enforced by the Health Officer or other authority in accordance with the map on file in the MCHD.

Wastewater

Wastewater use and disposal is regulated in Chapter 15.16 of the County Code for all areas within MCWRA Zone 11. It allows for waste water from lavatories, bathtubs, showers, clothes washers and dishwashers to be collected for the purpose of flushing toilets and urinals and for the purpose of landscape irrigation subject to certain conditions.

Sewage disposal is regulated in Chapter 15.20 of the County Code, based on a Memorandum of Understanding with the Central Coast RWQCB signed in 1979. This chapter requires all buildings or structures where people reside, congregate, or are employed which are within 200 feet of an approved sanitary sewer to be connected to such sewer. Section 15.20.070 dictates particular standards and specifications for construction of a sewage disposal system, including septic tanks, leech fields, and seepage pits.

Chapters 15.21 and 15.22 prohibit discharge of sewage or hazardous materials into streams, with the finding that existing state and federal requirements are not sufficient to protect Monterey County's water resources. Chapter 15.22 prohibits any new pipes or conduits to carry discharges into county waters which contain any contaminant or cause any contamination or pollution. Sewage disposal must also be consistent with the Central Coast RWQCB Basin Plan and guidelines.

Title 20, the Zoning Code of the Monterey County Coastal Implementation Plan regulates land development in the coastal zone. Within this zone, wastewater disposal is regulated as part of the permit review process. Depending on the proposed action, an Administrative or Coastal Development Permit is required for a proposed development; and the method and adequacy of the disposal plan are subject to the review of the County's Director of Environmental Health. Development density is subject to adequate wastewater disposal capacity.

Groundwater Resources

Groundwater resources are required to be identified during review of subdivision maps in residential allocation zones, per Section 19.07.020 of the County Code. The ordinance requires submittals, including the following:

- Hydrogeologic environment shall include aquifer identification and characterization, groundwater basin delineation, well yields, and a characterization of soils.
- Groundwater levels and flow shall include a discussion of groundwater levels, a groundwater contour map, and a discussion of any seasonal and/or long-term fluctuations. This Section shall also include a discussion of the recharge areas and the amount of recharge shall be quantified using monthly time-step methodology. It shall also evaluate the impact of pumping on neighboring wells.
- Groundwater in storage shall be quantified by discussing the amount of groundwater in storage and the amount that can be recovered.
- Groundwater quality shall be discussed and any impacts on the groundwater by the proposed project shall be discussed and mitigation measures listed.

Other Ordinances

Several other ordinances related to water, which are not described here, are in Chapter 15 of the Monterey County Code. Chapter 15.20 outlines the sewage disposal ordinances regulating toilets, septic systems, and sewer lines. Chapter 15.21 describes the ordinance regulating discharge of sewage into streams, and Chapter 15.22 outlines the ordinance governing discharge of contaminants into County waters. All of these ordinances are enforced by the MCHD.

4.3.3.4 Other Local Plans and Programs

Monterey Bay National Marine Sanctuary Water Quality Protection Program Plans

The MBNMS is a federally protected marine area offshore of the central coast, encompassing 5,322 square miles of ocean and 276 miles of shoreline, from Marin County to San Luis Obispo County. One of 13 national marine sanctuaries administered by the National Oceanic and Atmospheric Administration (NOAA), the MBNMS was established for resource protection, research, education, and public use of this area.

In 1992, eight federal, state, and local agencies signed a memorandum of agreement with the MBNMS to develop collaboratively a Water Quality Protection Program (WQPP) for the MBNMS and its watersheds. The WQPP is now a partnership of 25 federal, state, and local agencies, as well as public and private groups. Four detailed plans have been completed as part of the WQPP: the *Urban Runoff Plan, Marinas and Boating Plan, Water Quality Monitoring Plan,* and *Agriculture and Rural Lands Plan*.

Urban Runoff Plan

The *Urban Runoff Plan* involves seven strategies for controlling nonpoint source runoff pollution: a collaborative effort to develop a regional stormwater management program; a regional education and outreach program; a voluntary technical training program for public works and planning staff; mapping and inspecting storm drains and outfalls; promoting the feasibility of catchment basins and vegetated buffer areas in reducing stormwater pollution; developing a sedimentation and erosion source control program; and developing a modified CEQA checklist to better address urban runoff.

Marinas and Boating Plan

The *Marinas and Boating Plan*, developed in collaboration with harbormasters, resource agencies, and the boating community, involves seven strategies for controlling harbor pollution: a public education and outreach program; a regional technical training program on pollution prevention for harbor and boatyard staff; facilitating the collection of contaminated bilge water and waste oil; promoting the use of containment methods to reduce waste runoff; encouraging the use of less toxic paint on boats and improvements in underwater hull cleanings; developing a pickup system for toxic materials at harbors; and developing a check-off sheet for harbormasters to assess current status and annual progress of pollution control efforts.

Water Quality Monitoring Plan

In an effort to integrate various monitoring programs and their reporting, the WQPP has coordinated with various public and private groups to develop a series of action plans that address the need for an integrated, comprehensive regional monitoring and reporting program. The WQPP's Action Plan II has been

completed and defines priority strategies for addressing monitoring and data sharing issues in the region. Strategies include those listed below.

- Regional monitoring, to coordinate and build on existing federal, state, and local monitoring activities within the MBNMS and its watersheds: Goals include development of a statewide monitoring program for ocean waters and coastal watersheds, and support of citizen monitoring groups (one such group is the Monterey Bay Sanctuary Citizen Watershed Monitoring Network, a network of volunteer monitoring groups, which actively monitor in the watersheds that drain to the MBNMS).
- Data access, to provide local, state, and federal agencies with easy access to existing database systems containing water quality and related information: The goal of this strategy is to provide readily understandable information to resource managers for evaluating environmental problems and making effective management decisions.
- Interagency coordination, to establish a framework for the continuous collaboration on water quality issues and watershed management, including funding priorities, education, technical assistance, monitoring and data exchange, permit review, and enforcement: One goal of the strategy is to establish a water quality coordinating council to ensure implementation of WQPP strategies and to address new problems as they arise.

Agriculture and Rural Lands Plan

The largest of the four plans, the *Agriculture and Rural Lands Plan* was developed in 1999 to address agricultural water quality issues related to runoff from over 4,000 square miles of agriculture and rural lands. It includes an agreement with the six-county Coalition of Central Coast County Farm Bureaus to establish industry-led networks to improve soil, nitrate, and pesticide management practices, with ongoing review and assistance from the WQPP. Initial implementation of this plan has included establishment of farmer-led erosion and nitrate control projects in five watersheds. The effort has generated substantial additional funding from the U.S. Department of Agriculture, the NRCS, the University of California Cooperative Extension, and local RCDs, to bring on a team of experts to help carry out the plan and conduct technical outreach to farmers on conservation measures.

The plan consists of 24 strategies to protect and enhance the quality of water draining into the MBNMS while sustaining the economic viability of agriculture. Primary strategies include: establishing an industry-led regional network to address nonpoint source management; improving technical information and outreach, through increased technical support from the NRCS and RCDs; improving education and public relations; streamlining the regulatory system of permitting; facilitating funding and economic incentives for management practices; and improving planning and maintenance of rural roadways and public lands, by distributing information on BMPs.

The plan resulted in the formation of an Agriculture Water Quality Alliance (AWQA), composed of representatives from the MBNMS, the Coalition of Central Coast County Farm Bureaus, the NRCS, RCDs, and the University of

California Cooperative Extension. The AWQA directs facilitation and coordination of strategy implementation by initiating projects, attracting additional resources, promoting partnerships with local and regional groups, tracking progress of plan implementation, and defining and measuring implementation success.

4.3.4 Project Impacts

This section describes the CEQA impact analysis relating to water resources for the proposed 2007 General Plan. It lists the thresholds used to conclude whether an impact would be significant. The section then provides a discussion of impacts and presents measures to mitigate (avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts.

4.3.4.1 Thresholds of Significance

Criteria for determining the significance of impacts related to water resources are based on criteria set forth in Appendix G of the State CEQA Guidelines (14 CCR 15000 et seq.). Implementation of the 2007 General Plan would result in a significant impact on water resources if it would:

- violate any water quality standards or waste discharge requirements;
- otherwise substantially degrade water quality;
- substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level and demand projected under the General Plan could not be met;
- exceed the capacity of existing water supplies and necessitate the acquisition of new supplies to meet expected demands;
- require new or expanded potable water facilities, or new or expanded water entitlements and resources;
- substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite;
- substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite;
- create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;

- require or result in construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects;
- place housing within a 100-year flood hazard area as mapped on a federal Flood Boundary and Floodway Map or FIRM or other flood hazard delineation map;
- place within a 100-year flood hazard area structures that would impede or redirect flood flows; or
- expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding from the failure of a levee or dam.

Potential impacts of inundation by seiche, tsunami, or mudflow are discussed in Section 4.4, Geology, Soils, and Seismicity.

4.3.4.2 Impact Analysis

Potential impacts related to implementation of the proposed 2007 General Plan span a number of water resource–related issues and topical areas, including water quality and erosion, increased runoff and flooding, and various impacts resulting from groundwater overdraft.

Most of the growth associated with implementation of the 2007 General Plan would be centered in the Community Areas and Rural Centers. Therefore, the water resource impact analysis is focused in and around these areas. In addition, the *Carmel Valley Master Plan* area is analyzed because of the unique water-related constraints in that area.

Water Quality Degradation—Nonpoint Source Pollution from Urban Runoff

Impact WR-1: Residential, commercial, industrial, and public uses consistent with the 2007 General Plan would introduce additional nonpoint source pollutants to downstream surface waters, substantially degrading water quality. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Many of the major streams in Monterey County have been characterized as impaired and, at times, in violation of water quality standards listed in the *Central Coast Basin Plan* for one or more pollutants—mainly sediment, nutrients (nitrates), pathogens, and, in some areas, pesticides. While many of the pollutants that have impaired the County's water bodies can be attributed

to historical agricultural practices and land use practices, runoff from urban development in the incorporated cities and unincorporated county areas also contributes to water quality degradation. Continued impairment of water quality would potentially threaten or exceed adopted water quality standards and the beneficial uses of water bodies, as defined by the *Central Coast Basin Plan*. For some pollutants (e.g., nitrate in groundwater), state and federal water quality standards are already exceeded in certain areas of the county, especially in the Salinas Valley and Pajaro Valley area.

Development of residential, commercial, and industrial land uses, as well as public facilities (e.g., roads, schools, maintenance and corporation yards, water supply, and wastewater facilities) create additional impervious surfaces and generate additional automobile use. Several different types of pollutants (including sediment, organic compounds, nutrients, trace metals, bacteria and viruses, and oil and grease compounds) are common in runoff from these types of land uses. Sediment sources include roads and parking lots, as well as destabilized landscape areas, streambanks, unprotected slopes, and denuded or disturbed areas. (Water quality impacts related to soil erosion and sedimentation are discussed under Impact WR-2.) Organic compounds are derived from automotive fluids, pesticides, and herbicides. Nutrients include nitrogen, phosphorus, and other organic compounds that can be found in organic litter, fertilizers, food waste, sewage, and sediment. Sources of trace metals include motor vehicles, roofing and construction materials, and household chemicals. Animal wastes, sanitary sewer overflow, and trash handling areas can contribute bacteria and viruses. Sources of oil and grease compounds include motor vehicles, food service establishments, and fueling stations.

Increased growth in the Community Areas and Rural Centers allowed by the 2007 General Plan would increase urbanization and the conversion of vacant open lands to areas with increased impervious surface area. Because the 2007 General Plan employs a primarily "existing community area"–centered growth strategy, with growth concentrated in areas surrounding existing incorporated cities and unincorporated town areas, its implementation would result in an increase in urban-type development in these areas. Proposed development of the Chualar Community Area (planned for later in the General Plan update period) would more than double the existing combined residential, commercial, and industrial land use acreage in the area. The Boronda and Pajaro Community Areas would see increases of more than 70% in combined commercial and industrial land use acreage. In addition to these Community Areas, growth allowed by the 2007 General Plan would result in some increase in residential, commercial, industrial, and public uses that would take place in more rural areas (Rural Centers) and on existing lots of record.

Such urban development would result in an increase in pollutants associated with runoff, as described above. Therefore, the water quality of streams and other surface features within or adjacent to the Community Areas would likely be further degraded by urban land use activities. In general, the coastal

communities and smaller isolated rural communities would be expected to experience the least amount of population increase. Therefore, the majority of coastal streams would experience relatively less adverse changes to water quality resulting from implementation of the 2007 General Plan. However, surface water features in the central, more urbanized Salinas Valley may experience continued loading of pollutants from urban runoff.

As described above under "Regulatory Setting," the NPDES Phase II stormwater permitting programs regulate MS4s, industrial facilities, and construction sites. Under the NPDES permitting program, preparation and implementation of SWPPPs are required for construction activities involving more than 1 acre. Project applicants (typically for larger commercial and industrial projects) also may be required to develop a long-term SWPPP or a long-term Stormwater Management Program (SWMP) to cover potential long-term stormwater pollution associated with site development after construction. Compliance with the NPDES program would minimize water quality degradation, particularly during construction activities.

2007 General Plan Policies

The 2007 General Plan policies summarized below establish comprehensive measures to avoid and minimize adverse impacts on water quality. The Conservation and Open Space, Safety, and Public Services Elements of the General Plan contain specific goals and policies addressing water quality issues related to land use.

Conservation and Open Space Element

Conservation and Open Space Element Goal OS-3 (soil conservation and water quality) outlines measures to prevent soil erosion in order to conserve soils and enhance water quality.

Conservation and Open Space Element Policy OS-3.1(BMPs) requires development and enforcement of BMPs to prevent and repair erosion damage.

Conservation and Open Space Element Policy OS-3.2 (restoration programs) requires that existing special district, state, and federal soil conservation and restoration programs be supported. In addition, voluntary restoration projects initiated by landholders, or stakeholder groups including all affected landowners, will be encouraged.

Conservation and Open Space Element Policy OS-3.3 (runoff studies) establishes criteria for hydrology studies to evaluate and address geologic and hydrologic constraints and hazards conditions associated with increased runoff from new development and changes in land use designations. These studies would evaluate geologic and hydrologic constraints such as slope and soil instability, erosion hazards, drainage, water quality, and stream stability problems

created by increased stormwater runoff for new development and changes in land use designations.

Conservation and Open Space Element Policy OS-3.4 (GIS mapping) requires that those areas where slopes pose severe constraints for development be mapped in the County's GIS system, and maps should be updated every five years. This will ensure that potential release of erosion to an impaired water body can be avoided through project design.

Conservation and Open Space Element Policy OS-3.5 (slope development) and OS-3.6 (clustering) prohibits development on slopes in excess of 30% and mandates that a permit process be established to address development on slopes greater than 25%. This new permit process would be established in part to identify development and design techniques for erosion control, slope stabilization, visual mitigation, drainage, and construction techniques.

Conservation and Open Space Element Policy OS-3.7 (coordinated resources management planning [CRMP]) encourages the voluntary preparation and implementation of a CRMP in watersheds that have state-designated impaired water bodies.

Conservation and Open Space Element Policy OS-3.8 (technical assistance) calls for the County to cooperate with appropriate federal, state, and local agencies to provide public education/outreach and technical assistance programs regarding erosion and sediment control, efficient water use, water conservation and re-use, and groundwater management. This cooperative effort shall be coordinated with MCWRA.

Conservation and Open Space Element Policy OS-3.9 (cumulative hydrologic impacts) requires the County to develop a program that would address the potential cumulative hydrologic impacts of the conversion of hillside rangeland areas to cultivated croplands. This program would be designed to address offsite soil erosion, increased runoff-related stream stability impacts, and/or potential violation of adopted water quality standards. The County would convene a committee comprised of County staff, technical experts, and stakeholders to develop the program, including implementation recommendations.

Conservation and Open Space Goal OS-4 (marine and river resources) establishes the protection and conservation of coastal, marine, and river environments (as applied in areas not in the coastal zone).

Conservation and Open Space Element Policy OS-4.2 (discharges) mandates that direct and indirect discharges of harmful substances into marine waters, rivers, or streams shall not exceed state or federal standards.

Safety Element

Safety Element Policy S-1.2 (geologic constraints GIS) requires that the County develop and maintain a Geologic Constraints and Hazards Database in the County GIS. The GIS would be used to identify areas containing hazards and constraints (see *Policy PS-2.6*) that could potentially impact the type or level of development allowed in these areas (see *Policy OS-3.5*). Maps maintained as part of the GIS include: Steep Slope Constraints (see *Policy OS-3.5*), Coastal Erosion, Moderate and High Erosion Hazards, and Highly Erodible Soils. This will ensure that potential release of erosion to an impaired water body can be avoided through project design.

Safety Element Policy S-3.2 (BMPs) require that BMPs be incorporated into all new development to protect surface water and groundwater quality.

Safety Element Policy S-3.6 (GIS inventory) requires that the County conduct an inventory of areas where there is a high probability of accelerated erosion, sedimentation, and/or chemical pollution. This inventory would be maintained as part of the County's GIS mapping database.

Public Services Element

Public Services Element Policy PS-2.5 (water quality testing) proposes regulations for water quality testing of new individual wells.

Public Services Element Policy PS-2.6 (GIS database) calls for a Hydrologic Resources Constraints and Hazards Database to be developed and maintained in the County GIS. The GIS shall be used to identify areas containing hazards and constraints (see Policy S-1.2) that could potentially impact the type or level of development allowed in these areas (see Policy OS-3.5). Maps maintained as part of the GIS would include: impaired water bodies on the State Water Resources Control Board 303d list, important groundwater recharge areas, 100-year flood hazards, hard rock areas with constrained groundwater, and areas of septic tank leachfield unsuitability.

Public Services Element Policy PS-2.7 (conservation strategy) states that, as part of an overall conservation strategy and to improve water quality, Area Plans may include incentive programs that encourage owners to voluntarily take cultivated lands on slopes with highly erosive soils out of production.

Area Plan Policies

The following Area Plan supplemental policies also support water quality protection related to residential, commercial, industrial, and public use development.

North County Area Plan

North County Area Plan Policy NC-5.3 states that cooperative soil conservation, water quality protection, and resource restoration programs within watershed basins shared with neighboring counties shall be pursued.

Greater Salinas Area Plan

Greater Salinas Area Plan Policy GS-1.5 (Salinas River corridor) permits development of commercial land uses near Highway 68 and the Salinas River only if they will not further deteriorate Salinas River water quality. In addition, where feasible, these projects should also enhance the riparian habitat along the Salinas River.

Greater Salinas Area Plan Policy GS-1.8 (Spreckels development) permits development of land near the town of Spreckels designated as industrial to also be developed as agricultural-related commercial uses. However, such agriculturally related development must not deteriorate water quality in the Salinas River or area groundwater. In addition, where feasible, it should be designed to protect and enhance the riparian corridor along the Salinas River.

Greater Salinas Area Plan Policy GS-3.1 (erosion) mandates that all vegetation on land exceeding 25% slope, particularly chaparral and broad leaf evergreen, should remain undisturbed to minimize erosion and retain important visual amenities.

Central Salinas Valley Area Plan

Central Salinas Valley Area Plan Policy CSV-1.2 (development plans) stipulates that all recreation and visitor-serving commercial land uses shall require a use permit. If such uses are on a 10-acre or greater parcel, a comprehensive development plan that addresses hydrology, water quantity and quality, sewage disposal, fire safety, access, drainage, soils, and geology shall be required.

Central Salinas Valley Area Plan Policy CSV-5.2 (recreation development) limits recreation and visitor-serving commercial uses to areas where they will not adversely affect groundwater supply, quality, or recharge.

Greater Monterey Peninsula Area Plan

The Greater Monterey Peninsula Area Plan does not contain any pertinent supplemental policies.

Carmel Valley Master Plan

Carmel Valley Master Plan CV-2.9 (slope development) prohibits roads crossing slopes steeper than 30% unless factors of erosion can be mitigated.

Carmel Valley Master Plan CV-5.6 (containment) requires containment structures or other measures to control the runoff of pollutants from commercial areas or other sites where chemical storage or accidental chemical spillage is possible.

Toro Area Plan

The Toro Area Plan does not contain any pertinent supplemental policies.

Cachagua Area Plan

The Cachagua Area Plan does not contain any pertinent supplemental policies.

South County Area Plan

South County Area Plan Policy SC-5.2 establishes that cooperative soil conservation, water quality protection, and resource restoration programs within watershed basins shared with neighboring counties shall be pursued.

Agricultural Winery Corridor Plan (AWCP)

The AWCP does not contain any pertinent supplemental policies.

Fort Ord Master Plan

Fort Ord Master Plan Hydrology and Water Quality Objective C mandates the control of nonpoint and point water pollution sources to protect the adopted beneficial uses of water.

Fort Ord Master Plan Hydrology and Water Quality Policy C-1 (water quality programs) requires the County to comply with all current mandated water quality programs and to establish new local programs, such as Program C-1.4, as needed. Program C-1.4 (water quality monitoring program) requires development of a surface- and groundwater water quality monitoring program.

Fort Ord Master Plan, Hydrology and Water Quality Policy C-2 (onsite drainage systems) requires all new development to demonstrate that onsite drainage systems are designed to capture and filter urban pollution to the maximum extent feasible. Biological Resources Policies A-5, A-8, and B-2 of the *Fort Ord Master Plan* require new development near habitat management areas (including the Frog Pond Natural Area) and other wetland areas to incorporate measures to protect these areas from water quality impacts.

Significance Determination

Adoption and implementation of the proposed policies and programs in the 2007 General Plan—combined with the current local, state, and federal stormwater, grading, and erosion control regulations described earlier—would ensure that water quality impacts resulting from nonpoint source pollution runoff related to residential, commercial, industrial, and public uses consistent with the 2007 General Plan would be reduced to a less-than-significant level.

Mitigation Measures

Implementation of the 2007 General Plan policies and Area Plan goals and policies would reduce impacts on water quality associated with nonpoint source runoff from increased development to a less-than-significant level. No mitigation is required.

Mitigation is proposed to adopt and implement a Stream Setback Ordinance. While not necessary to address significant water quality impacts, this measure will help to further reduce water quality impacts.

Mitigation Measure BIO-2.1: Stream Setback Ordinance

The County shall develop and adopt a county-wide Stream Setback Ordinance to establish minimum standards for the avoidance and setbacks for new development relative to streams. The ordinance shall identify standardized inventory methodologies and mapping requirements. A stream classification system shall be identified to distinguish between different stream types (based on hydrology, vegetation, and slope, etc.) and thus allow application of standard setbacks to different stream types. The ordinance shall identify specific setbacks relative to the following rivers and creeks so they can be implemented in the Area Plans: Salinas, Carmel River, Arroyo Seco, Pajaro River, Nacimiento, San Antonio, Gabilan Creek, and Toro Creek. The ordinance may identify specific setbacks for other creeks or may apply generic setbacks based on the stream classification developed for the ordinance. The purpose of the ordinance will be to preserve riparian habitat and reduce sediment and other water quality impacts of new development.

The Stream Setback Ordinance shall apply to all discretionary development within the county and to conversion of previously uncultivated agricultural land (as defined in the General Policy Glossary) on normal soil slopes over 15% or on highly erodible soils on slopes over 10%.

Significance Conclusion

The 2007 General Plan would have a less-than-significant impact.

Buildout

Impact of Development with Policies

Buildout would result in a more extensive development pattern than currently exists. Assuming that future development follows the basic spirit of the 2007 General Plan policies, most urban development would be focused in the cities, Community Areas, and Rural Centers. However, because the buildout scenario assumes that existing lots of record would be developed with a single-family residence, there would be substantial low-density development spread across the county. This would increase the potential for nonpoint source pollution resulting from scattered, individual development sites.

Significance Determination

The policies of the 2007 General Plan would be fully implemented by 2092, and it may be assumed that federal and state regulatory requirements would be at least as stringent as today. Federal regulations, including the state-administered TMDL program, have grown increasingly stringent since the enactment of the CWA and Porter-Cologne. Assuming that this trend continues, with most development centered on population centers, these policies and regulations will be effective in avoiding nonpoint source pollution from urban runoff. Development on individual lots presumably would be subject to the same or more stringent regulations than today. This would include future generations of the County's grading and erosion control ordinances, revised to meet more stringent federal and state water quality regulations.

Mitigation Measures

Implementation of the 2007 General Plan policies and Area Plan goals and policies, as well as future regulations, would reduce impacts on water quality associated with nonpoint source runoff from increased development to a less-than-significant level. No mitigation is required.

Significance Conclusion

Future urban runoff impacts would not be substantially greater than the impact associated with the 2030 planning horizon as a result of the

application of federal, state, and county water quality regulations. This impact would be less than significant, and no mitigation is required.

Water Quality Degradation—Construction-Related Soil Erosion and Sedimentation

Impact WR-2: Land uses and development consistent with the 2007 General Plan would result in increased soil erosion and sedimentation during construction activities, substantially degrading water quality in downstream waterways. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Implementation of the 2007 General Plan would result in the construction of a wide range of uses, including residential, commercial, and industrial buildings; public facilities; and agricultural-related uses (e.g., processing, support, and visitor-serving uses) among others. Erosion and sedimentation resulting from construction activities in the unincorporated parts of Monterey County would represent a significant source of particulate pollution conveyed in stormwater runoff. Grading and other earthmoving activities would alter drainage patterns and therefore have the potential to accelerate soil erosion well above natural background rates. Vegetative cover, which acts to stabilize the soil, generally would be removed from areas where earthwork and grading activities would occur during construction.

Although the construction of most new development would occur on relatively gentle slopes surrounding Community Areas and Rural Centers, the 2007 General Plan allows development on hillside areas with moderate to high erosion hazards, especially in the Fort Ord Community Area. Slope limitations are imposed on hillside development and vary somewhat between planning areas and Community Areas. Generally, existing County development regulations require the preparation and implementation of erosion control plans for residential and commercial/industrial development in Community Areas and Rural Centers.

Even with the implementation of erosion control measures, development on moderate slopes (slopes between 15 and 25%) or on highly erosive soils is particularly susceptible to increased erosion and sedimentation, which has the potential to impair water quality. A high level of attention to the planning and implementation of erosion control measures would be required in these areas. Sediment also would accumulate at the inlets of downstream storm drain systems, reducing the system's capacity to convey stormwater. Soil loss from erosion would generate costs to the public associated with the cleanup and maintenance of storm drains, culverts, and open roadside ditches.

As previously discussed, Chapter 16.12 of the Monterey County Code provides erosion control measures, including prohibiting development on slopes greater than 30%, and requirements for erosion control plans, control of runoff, avoiding creek disturbance, land clearing, and wet-weather grading activities.

2007 General Plan Policies

Impacts resulting from development consistent with the 2007 General Plan would be reduced by compliance with the existing County grading and erosion control requirements and by the Phase II NPDES permitting requirements, mandating the preparation and implementation of SWPPPs. In addition, the Conservation and Open Space, Safety, and Public Services Elements of the 2007 General Plan contain goals and policies addressing water quality issues related to erosion and sedimentation.

Conservation and Open Space Element

Goal OS-3 and Policies OS-3.1 through OS-3.9 establish guidelines for erosion prevention.

Conservation and Open Space Element Policy OS-3.1 (erosion) states that Best Management Practices (s) to prevent and repair erosion damage shall be established and enforced.

Conservation and Open Space Element Policy OS-3.2 (erosion and public outreach) requires that existing special district, state, and federal soil conservation and restoration programs shall be supported. Voluntary restoration projects initiated by landholders, or stakeholder groups including all affected landowners, shall be encouraged.

Conservation and Open Space Element Policy OS-3.3 (erosion) ensures that criteria for studies to evaluate and address through appropriate designs and BMPs geologic and hydrologic constraints and hazards conditions such as slope and soil instability, moderate and high erosion hazards, and drainage, water quality and stream stability problems created by increased stormwater runoff shall be established for new development and changes in land use designations.

Conservation and Open Space Element Policy OS-3.4 (erosion and GIS) establishes that those areas where slopes pose severe constraints for development shall be mapped in the County's GIS. The information shall be updated at least every five (5) years.

Conservation and Open Space Element Policy OS-3.5 (erosion/slopes) requires that the County shall prohibit development

on slopes greater than 30%. It is the general policy of the County to require dedication of scenic easement on a slope of 30% or greater. Upon application, an exception to allow development on slopes of 30% or greater may be granted at a noticed public hearing by the approving authority for discretionary permits or by the Planning Commission for building and grading permits. The exception may be granted if one or both of the following findings are made, based upon substantial evidence:

A) there is no alternative which would allow development to occur on slopes of less than 30%; or,

B) the proposed development better achieves the resource protection objectives and policies contained in the Monterey County General Plan, accompanying Area Plans and Land Use Plans, and all applicable master plans.

A permit process will be established as follows:

1. A discretionary permit process for development on slopes greater than 25% or that contain geologic hazards and constraints shown on the County's GIS Geologic (*Policy S-1.2*) or Hydrologic (*Policy PS-2.7*) Hazard Databases shall be established. The process shall be designed to:

    a. Evaluate possible building site alternatives that better meet the goals and policies of the general plan.

    b. Identify development and design techniques for erosion control, slope stabilization, visual mitigation, drainage, and construction techniques.

    c. Minimize development in areas where potentially unstable slopes, soil and geologic conditions, or sewage disposal pose substantial risk to public health or safety.

    2. The County shall develop and implement an Agricultural Permit process for the conversion, for agricultural purposes, of previously uncultivated lands on slopes in excess of 25-percent (25%). An Agricultural Permit shall recognize unique grading criteria for agricultural purposes and the process shall include criteria when a discretionary permit is required. Projects that are subject to a State Agricultural Waiver Program, Agricultural Registration Program, or other similar program that regulates irrigation of agricultural land on steep slopes or projects where only a small portion of the affected area has slopes in conflict with this policy shall be allowed with a ministerial permit that requires compliance with the criteria developed for the following resource areas:

        a. Water Quality/Water Supply

        b. Biological Resources

        c. Cultural Resources

d. Erosion Control

e. Drainage

f. Flood Hazards

3. A ministerial permit process shall be developed and implemented for proposed development, including for purposes of this policy conversion of previously uncultivated lands, on slopes between 15- and 24-percent (15–24%), and 10- to 15-percent (10–15%) on highly erodible soils.

4. The permit processes shall be designed to require that an erosion control plan be developed and implemented that addresses slope stabilization, and drainage and flood hazards.

5. All Routine and Ongoing Agricultural Activities, except for conversion of previously uncultivated lands as described in this policy above, are exempt from the above permit requirements.

Conservation and Open Space Element Policy OS-3.6 (erosion) states that except in Community Areas where Community Plans or Specific Plans are adopted (Policy LU-10.4), areas designated as medium density residential or high density residential, or in areas designated as commercial or industrial where residential use may be allowed, a formula based on slope shall be established to calculate the maximum possible residential density for individual parcels. Clustering is encouraged as a technique to avoid development on slopes over 25%. Where an entire parcel would not be developable because of plan policies, an extremely low density of development or single-family home will be allowed, as appropriate.

Conservation and Open Space Element Policy OS-3.7 (water quality) ensures that voluntary preparation and implementation of a coordinated resources management plan shall be encouraged in watersheds of state-designated impaired waterways.

Conservation and Open Space Element Policy OS-3.8 (erosion and water quality public outreach) requires that the County shall cooperate with appropriate regional, state, and federal agencies to provide public education/outreach and technical assistance programs on erosion and sediment control, efficient water use, water conservation and re-use, and groundwater management. This cooperative effort shall be centered through the Monterey County Water Resources Agency.

Conservation and Open Space Element Policy OS-3.9 (erosion and water quality) establishes that the County will develop a program that will address the potential cumulative hydrologic impacts of the conversion of hillside rangeland areas to cultivated croplands. The

program will be designed to address offsite soil erosion, increased runoff-related stream stability impacts, and/or potential violation of adopted water quality standards. The County should convene a committee comprised of County staff, technical experts, and stakeholders to develop the Program, including implementation recommendations.

Safety Element

Safety Element Policy S-1.7 (erosion) requires development of a geologic constraints and hazards database in the County's GIS, including maps of erosion and sedimentation problem areas.

Safety Element Policy S-3.2 (groundwater and surface water quality and BMPs) states that Best Management Practices to protect groundwater and surface water quality shall be incorporated into all development.

Safety Element Policy S-3.7 (stormwater, erosion, and flood hazards) states that the Monterey County Water Resources Agency shall prepare a Flood Criteria or Drainage Design Manual that established flood plain management policies, drainage standards and criteria, stormwater detention, and erosion control and stormwater quality protection measures in order to prevent significant impacts from flooding and ensure that development does not increase flooding risk over present conditions. The manual will include, as appropriate, hydrologic and hydraulic analysis procedures, procedures to assess stream geomorphology and stability, potential development impacts on streams, and design guidelines for channel design, including biotechnical bank stabilization. Until the Drainage Design Manual is prepared, the County shall continue to apply existing policies and ordinances to manage floodplains and minimize flood risk, erosion control and water quality impacts.

Area Plan Policies

Several Area Plan supplemental policies support water quality protection related to construction impacts on soil erosion and sedimentation.

Central Salinas Valley Area Plan

Policies CSV-1.1 and CSV-1.2 in the Central Salinas Valley Area Plan require certain recreation and commercial land use development projects to complete development plans to address soil stability and water quality.

Greater Monterey Peninsula Area Plan

There are no policies related to construction-related soil erosion and sedimentation in the Greater Monterey Peninsula Area Plan.

Carmel Valley Master Plan

Carmel Valley Master Plan Policy CV-4.1 (erosion, construction, and stormwater runoff) explains that in order to reduce potential erosion or rapid runoff:

- The amount of land cleared at any one time shall be limited to the area that can be developed during one construction season.
- Motorized vehicles shall be prohibited on the banks or in the bed of the Carmel River, except by permit from the Water Management District or Monterey County.
- Native vegetative cover must be maintained on areas that have the following combination of soils and slope:
  - Santa Lucia shaly clay loam, 30–50% slope (SfF)
  - Santa Lucia-Reliz Association, 30–75% slope (Sg)
  - Cieneba fine gravelly sandy loam, 30–70% slope (CcG)
  - San Andreas fine sandy loam, 30–75% slope (ScG)
  - Sheridan coarse sandy loam, 30–75% slope (SoG)
  - Junipero-Sur complex, 50–85% slope (Jc)

Policy CV-3.4 of the Carmel Valley Master Plan includes requirements for minimizing grading, cutting, and filling for hillside development; and Policy CV-1.20 requires design review of new development to consider erosion and grading.

Toro Area Plan

Toro Area Plan Policy T-4.1 prohibits land uses that may contribute to siltation of Toro Creek.

Cachagua Area Plan

Policy CACH-4.1 requires design of commercial mining and timber resource production operations to protect against additional erosion and sedimentation.

South County Area Plan

There are no policies related to construction-related soil erosion and sedimentation in the South County Area Plan.

Agricultural Winery Corridor Plan

There are no policies related to construction-related soil erosion and sedimentation in the Agricultural Winery Corridor Plan.

Community Area Policies

Fort Ord Master Plan

Several policies in the Fort Ord Master Plan address erosion protection. Soils and Geology Policy A-1 requires the use of the NRCS soil survey of Monterey County to determine soil suitability for particular land uses (where more specific site information is unavailable). Soils and Geology Policy A-2 requires developers to prepare and implement erosion control and landscape plans, at a minimum meeting the requirements of SWPPPs required by the State Water Board; programs under this policy require the County to provide lists of erosion control measures by soil type, recommended native plant species for erosion control, and engineering/design techniques addressing Fort Ord soil limitations. Soils and Geology Policy A-3 requires the County to ensure implementation of developer erosion control measures through site monitoring, Soils and Geology Policy A-4 requires the County to continue to enforce the Uniform Building Code to minimize erosion and slope instability problems, and Soils and Geology Policy A-5 requires developers to prepare geotechnical reports in areas with slope and soil limitations. Soils and Geology Policy A-6 requires erosion control measures for development on slopes greater than 25%, with the County mapping areas with slope constraints and designating areas with extreme slope constraints for open space uses if adequate erosion control design measures cannot be implemented. In addition, Hydrology and Water Quality Policy C-4 requires the County to help prevent waterway siltation through developing BMPs for property owners near waterways. Finally, Biological Resources Policies A-4 and A-5 require erosion control measures to protect certain habitat areas.

Significance Determination

As discussed above, existing County, state, and federal requirements; proposed policies of the 2007 General Plan; and existing central coast RWQCB regulatory initiatives, such as the WMI, NPDES Phase II stormwater, and TMDL programs, would substantially reduce the extent of erosion and sedimentation from most construction activities on gentle slopes and where an erosion control plan is required. Additionally, establishment of permits for development on steeper slopes, including an agricultural conversion permit process, in part to identify development and design techniques for erosion control and slope stabilization, would further reduce potential erosion and sedimentation impacts from 2007 General Plan implementation.

Mitigation Measures

Implementation of the 2007 General Plan policies and Area Plan goals and policies would reduce impacts on water quality associated with erosion and sedimentation to a less-than-significant level. No mitigation is required.

Significance Conclusion

Full application of all of existing requirements and the 2007 General Plan policies would reduce this impact to a less-than-significant level.

Buildout

Impact of Development with Policies

Buildout would result in a more extensive development pattern than currently exists. Assuming that future development follows the basic spirit of the 2007 General Plan policies, most urban development would be focused in the cities, Community Areas, and Rural Centers. However, because the buildout scenario assumes that existing lots of record would be developed with a single-family residence, there would be substantial low-density development spread across the county. This would increase the potential for erosion and sedimentation resulting from construction at scattered, individual development sites.

Significance Determination

The policies of the 2007 General Plan would be fully implemented by 2092, and it may be assumed that federal and state regulatory requirements would be at least as stringent then as they are today. With most development centered around population centers, these policies and regulations will be effective in avoiding construction impacts. Federal and state requirements for control of erosion and sedimentation from construction, founded in the CWA and Porter-Cologne, continue to grow more stringent as time passes. Assuming that this trend continues, construction on individual lots by buildout in 2092 would presumably be subject to more stringent regulations than today, including new generation erosion control and grading ordinances. Therefore, although low-density development would be more expansive than is the case at this time, future construction-related impacts would not be substantially greater than the impact associated with the 2030 planning horizon.

Mitigation Measures

Implementation of the 2007 General Plan policies and Area Plan goals and policies would reduce impacts on water quality associated with construction-related erosion and sedimentation to a less-than-significant level. No mitigation is required.

Significance Conclusion

Impacts would be less-than-significant.

Impact WR-3: Agricultural and resource development (i.e., limited timber harvesting and mineral resources extraction) land uses consistent with the 2007 General Plan would increase sediment and nutrients in downstream waterways and violate water quality standards. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Agricultural production and, to a lesser extent, commercial timber harvesting and mineral resources extraction are economically important land use activities in Monterey County. Some agricultural practices, resource development, and associated land uses historically have impaired water quality and, on occasion, have contributed to the violation of water quality standards in the county. Such practices and land use activities include hay farming and grazing, fruit and vegetable production, vineyard planting, some timber and hardwood harvesting (especially associated with land conversion), quarrying, and sand and gravel extraction.

Such agricultural land uses consistent with the 2007 General Plan would potentially be a significant source of soil erosion and sedimentation of downstream waterways, especially when such land use activities occur on moderate to steep slopes or on highly erodible soils. These land use activities also would be sources of nutrients and contaminants from the application of agro-chemicals used in agricultural operations (e.g., fertilizers and pesticides) containing nitrogen and phosphorous in agricultural runoff. In particular, vineyard planting in the South County area on slopes and possibly new cultivated crops on currently unfarmed sloping lands on the margins of the Salinas Valley, and in the North County and Elkhorn Slough watershed, may create water quality impairments. Expanding vineyards onto currently unfarmed steep slopes would potentially result in erosion because of the challenges in developing and implementing successful soil erosion and sediment control plans on these slopes.

Very few agricultural land uses require discretionary or ministerial permits from the County. The most common agricultural practices and land uses consistent with the 2007 General Plan that would contribute to sediment deposition and nutrient/pesticide contamination of surface water bodies likely would include hillside rangeland and timberland (including oak woodland) conversions to agricultural cultivation, such as vineyards, and conversion of pasture and hay lands to cultivated crops.

Hydrologic changes, such as increased runoff from agricultural land conversions (rangeland conversion) on moderate to steep slopes, also would

affect stream geomorphology and stream stability (e.g., accelerate streambank and streambed erosion or sediment accumulation), particularly if several large conversion projects occurred within the same watershed over a short period of time. Cumulative hydrologic changes would be greatest when large portions of forested, oak woodland, or brushland-dominated watersheds would be converted to cultivated crops or vineyards. Changes in peak runoff rates that modify the 2-year channel-shaping flow and changes in sediment supply (e.g., due to changes in land use activities) would further contribute to watershed instability. These hydrologic effects are often additive in watersheds with a prior history of disturbance from rural development and intensive agricultural land uses, especially in watersheds with a high percentage of hillside agricultural cultivation (e.g., the upland portions of south Monterey County).

Future vineyard plantings, which may be an indirect result of the AWCP, would potentially be a significant source of soil erosion and sedimentation of downstream waterways, especially when such land use activities occur on moderate to steep slopes or on highly erodible soils. These land use activities also would be sources of nutrients and contaminants from the application of agro-chemicals used in agricultural operations (e.g., fertilizers and pesticides) containing nitrogen and phosphorous in agricultural runoff. As discussed above, hydrologic changes, such as increased runoff from agricultural land conversions on moderate to steep slopes, would substantially affect stream geomorphology and stream stability (e.g., accelerate streambank and streambed erosion or sediment accumulation), particularly if several large conversion projects occurred in the same watershed over a short period.

2007 General Plan Policies

The County does not regulate agricultural cultivation in most areas; currently, uncultivated land conversion is regulated only in the Elkhorn Slough (North County coastal) area. However, new cultivation on slopes greater than 30% is subject to a grading permit with associated conditions, such as development and implementation of erosion control plans. The County also relies on the educational outreach programs of other agencies, such as the University of California Cooperative Extension and the Resource Conservation District for information and dissemination of agricultural BMPs, as well as on the programs administered by the U.S. Department of Agriculture (USDA) and the Central Coast RWQCB (e.g., the TMDL program and the conditional waiver for irrigated agriculture).

Agricultural Element

Goal AG-3 and its policies exempt routine and ongoing activities from many County permit requirements that would otherwise be interpreted as applicable, except for activities that create significant soil erosion impacts or violate adopted water quality standards.

Conservation and Open Space Element

Policy OS-3.5 mandates establishment of an agricultural conversion permit process, in part to identify development and design techniques for erosion control, slope stabilization, visual mitigation, drainage, and construction techniques.

Policy OS-3.8 directs the County to cooperate with regional, state, and federal agencies to provide public outreach on erosion and sediment control, efficient water use, water conservation and reuse, and groundwater management.

Safety Element

Safety Element Policy S-3.1 (flood hazards and stormwater) limits post-development, offsite peak flow drainage from the area being developed to not be greater than pre-development peak flow drainage. Onsite improvements or other methods for stormwater detention shall be required to maintain post-development, offsite, peak flows at predevelopment levels, where appropriate, as determined by the Monterey County Water Resources Agency.

Safety Element Policy S-3.2 (groundwater and surface water quality and BMPs) states that Best Management Practices to protect groundwater and surface water quality shall be incorporated into all development.

Safety Element Policy S-3.3 (stormwater and new development) establishes that drainage facilities to mitigate the post-development peak flow impact of new development shall be installed concurrent with new development.

Safety Element Policy S-3.6 (flood hazards, erosion, and GIS) requires that an inventory of areas where there is a high probability of accelerated erosion, sedimentation, and/or chemical pollution shall be maintained as part of the County's GIS mapping database.

Public Services Element

Policy PS-2.7 allows Area Plans to include incentive programs to take cultivated lands on slopes with highly erosive soils out of production voluntarily.

Area Plan Policies

The following Area Plan supplemental policies also support water quality protection related to agricultural and resource production development.

Carmel Valley Master Plan

Carmel Valley Master Plan Policy CV-6.2 also helps to mitigate water quality impacts associated with erosion by discouraging agricultural development on slopes greater than 25%.

Cachagua Area Plan

Policy CACH-4.1 in the Cachagua Area Plan addresses potential sedimentation impacts related to mining or commercial timber production.

Community Area Policies

Fort Ord Master Plan

In the Fort Ord Master Plan, Soils and Geology Policy B-1 requires identification and protection of valuable mineral resources in Fort Ord. Soils and Geology Policy B-3 requires the preparation of mining and reclamation plans prior to granting permits for mineral extraction operations, with a requirement for the County to develop a list of issues to be mitigated in these plans—including erosion control, protection of water quality, waste disposal, and reclamation.

Hydrology and Water Quality Program C-1.1 (coastal/marine and nonpoint source water pollution) establishes that the County shall comply with the nonpoint pollution control plan developed by the California Coastal Commission and the SWRCB, pursuant to Section 6217 of the Federal Coastal Zone Management Act Reauthorization Amendments of 1990, if any stormwater is discharged into the ocean.

Hydrology and Water Quality Program C-1.2 (nonpoint source water pollution) ensures that the County shall comply with the General Industrial Storm Water Permit adopted by the SWRCB in November 1991 that requires all storm drain outfalls classified as industrial to apply for a permit for discharge.

Hydrology and Water Quality Program C-1.5 (BMPs and new development) establishes that the County shall adopt and enforce a hazardous substance control ordinance that requires that hazardous substance control plans be prepared and implemented for construction activities involving the handling, storing, transport, or disposal of hazardous waste materials.

Biological Resources Program A-5.3 (stormwater drainage plans) requires that the County shall require stormwater drainage plans for all developments adjacent to the habitat management areas to

incorporate measures for minimizing the potential for erosion in the habitat management areas due to stormwater runoff.

State and Federal Regulations

To the extent that the 2007 General Plan would partially exempt certain kinds of agricultural uses from County permit requirements, state and federal water quality programs (such as the TMDL program and the Conditional Waiver for Irrigated Agriculture) would nonetheless apply to avoid agriculturally related water quality problems.

Timber operations are primarily addressed at the state level through the Timber Harvesting Program (THP) review program. Conservation and open space Element Policy OS-5.7 requires proposals for harvesting or converting commercially valuable timber to include the filing of a THP that contains provisions for erosion control. Monterey County has special rules for timber harvesting operations under the California Forest Practice Rules (Title 14, California Code of Regulations, Chapter 4, 4.5, and 10) enacted by the California Department of Forestry and Fire Protection. These include limits on the construction of new roads, restrictions on harvesting in the Big Sur area, and maintenance of erosion control structures (14 CCR Sections 965.4, 965.6, and 965.9). Monterey County has also supplemented the permit review process for THPs to address important local issues through its County code (e.g., Monterey County Code Section 21.64.260, Preservation of Oak and Other Protected Trees, provides certain planning area-specific requirements). The THP permit review process and the Forest Practices Rules are designed to adequately protect water quality and stream stability, in part through the oversight of the Central Coast RWQCB. As a result, timber harvesting activities consistent with the 2007 General Plan would not be expected to degrade water quality.

The regulatory framework for mineral resources extractions affords the County direct authority over such activities. These activities are regulated in Monterey County by the County's mining ordinance and at the state level by the Surface Mining and Reclamation Act (SMARA). Nearly all proposed mining activities require evaluation of the adequacy of project-specific soil erosion control and mine reclamation plans. Sediment and erosion control plans are an important element of the CEQA review and mine permit process. Therefore, project-specific and cumulative adverse changes to water quality resulting from mining activities are generally considered to be adequately addressed through the existing County ordinance, through the CEQA review process, and by Office of Mine Reclamation staff at the state level.

Significance Determination

In summary, while timber harvesting and mining impacts are adequately addressed on the state level and by the THP process, County ordinance

requirements, and the County's surface mining ordinance, the 2007 General Plan provides additional water quality protections specific to hillside agricultural cultivation and agricultural conversion impacts on moderate slopes. Establishment of an agricultural conversion permit process, in part to identify development and design techniques for erosion control and slope stabilization, would further reduce potential erosion and sedimentation impacts from implementation of the 2007 General Plan (Policy OS-3.5). Further, the Central Coast RWQCB Conditional Waiver for Irrigated Agriculture regulates farm runoff to prevent release of erosion sediment. Thus, overall impacts will be less than significant with implementation of 2007 General Plan policies. No mitigation is required.

Mitigation Measures

Mitigation is proposed to adopt and implement a Stream Setback Ordinance. While not necessary to address significant water quality impacts, this measure will help to further reduce water quality impacts.

Mitigation Measure BIO-2.1: Stream Setback Ordinance

This measure was described above under Impact WR-1.

Significance Conclusion

This impact would be less than significant in light of the policies proposed with the 2007 General Plan, County ordinances, the RWQCB agricultural waiver program, and other regulations now in place. Mitigation Measure BIO-2.1 would further reduce potential water quality impacts.

Buildout

Impact of Development with Policies

The percentage of the county dedicated to agriculture has remained relatively steady over time. Buildout would result in a more expansive distribution of low-density development than is found today. This would result in the conversion of some lands that are currently in agricultural use. At the same time, increasing the population would result in the conversion of level agricultural land surrounding the cities, Community Areas, and Rural Centers to urban uses accommodating the expected increase in population. A reasonable scenario is that by buildout in 2092, agriculture will continue to be a major part of the county's economy, substantial amounts of agricultural land will have been converted to urban use in the areas surrounding today's cities and communities, and agriculture will have continued to expand onto steeper lands. This assumes that today's high-value crops, such as wine grapes, that can be supported on steeper land will continue to have value in the future. The expansion of agricultural areas onto steeper lands increases the potential for soil erosion and sedimentation.

Significance Determination

The policies of the 2007 General Plan would be fully implemented by 2092, and it may be assumed that federal and state regulatory requirements would be at least as stringent as today. Assuming that agricultural land would continue to be worth conserving, particularly as population increases and food production retains its importance, it is likely that local regulations would become more stringent in order to accommodate the conversion of steeper slopes to agricultural use while conserving the soil resources.

Mitigation Measures

Mitigation is proposed to adopt and implement a Stream Setback Ordinance. While not necessary to address significant water quality impacts, this measure will help further reduce water quality impacts.

Mitigation Measure BIO-2.1: Stream Setback Ordinance

This measure was described above under Impact WR-1.

Significance Conclusion

This impact would be less than significant in light of the policies proposed with the 2007 General Plan, County ordinances, the RWQCB agricultural waiver program, and other regulations now in place. Mitigation Measure BIO-2.1 would further reduce potential water quality impacts.

Potable Water Supply

Impact WR-4: Land uses and development consistent with the 2007 General Plan would exceed the capacity of existing water supplies and necessitate the acquisition of new supplies to meet expected demands (Significant and Unavoidable Impact.)

This impact discusses the availability of water supply to serve existing and future demands. Impacts related to the secondary impacts of water supply infrastructure are discussed in Impact WR-5. Impacts on groundwater levels are discussed in Impact WR-6. Impacts on seawater intrusion are discussed in Impact WR-7.

2030 Planning Horizon

Impact of Development with Policies

Because sustainable potable water supply, even in times of drought, is critical for new development, the 2007 General Plan proposes several key new policies to address water supply. Although the 2007 General Plan proposes only limited development in the unincorporated areas, demand is still expected to increase and require new supply and/or reallocation of existing

supply and implementation of more rigorous conservation and recycling measures. General Plan policies influence the activities and practices of individual land uses, for instance by requiring water conservation (e.g., low flush toilets and xeriscape landscaping) and by encouraging recycling or reuse of treated wastewater. In general, policy measures are designed to maintain a long-term sustainable supply. This requires that new development demonstrate adequate allocation, transmission, and distribution of supply.

Development and maintenance of a long-term sustainable water supply for Monterey County is a vital element of the 2007 General Plan. New development in the proposed Community Areas and additional population growth as allowed by the 2007 General Plan (combined with ongoing and potentially increased agricultural water demand) would stress capabilities to provide adequate potable water supplies.

In addition to potable water, water is needed to sustain the agricultural sector and to meet industrial, commercial, and institutional needs, as well as those for fire protection. Agriculture accounts for most of the water demand within the county. For example, over 90% of groundwater pumping in the Salinas Valley in 1995 served agricultural uses (Monterey County Water Resources Agency 2001a). Sustainable water supply requires a comprehensive water budget, as well as planning and management contingencies, in the event that water supplies are interrupted from natural or manmade emergencies. Emergency water supply shortages may result from slow cumulative actions such as low rainfall and drought, or increased demand from progressive development outpacing supply; they would also be due to a sudden disruption in infrastructure from an earthquake, political injunction, or terrorist act.

The 2007 General Plan assumes there will be a 27% increase in population in the unincorporated areas of the county between 2006 and the 2030 planning horizon, from 106,279 in 2006 to 135,375 in 2030. According to the *California Water Plan Update 2005*, per capita water use on the Central Coast averaged 181 gallons per day per capita in 2000 (California Department of Water Resources 2005). Table 4.3-9 provides a summary of projected potable water demand, based on the 2007 General Plan planning horizon and buildout, assuming per capita use of 181 gallons per day.

Agriculture will also place demands on raw water supplies. Based on trends in agricultural employment (AMBAG 2004; AMBAG 2008), no net expansion in overall agricultural acreage is projected for 2030 as virtually no increase in agricultural employment is forecast by AMBAG to 2030 for the county in the most recent (2008) and the immediately prior (2004) economic forecasts. The Salinas Valley Water Project EIR forecast a slight decline in agricultural water demand in the Salinas Valley for 2030 (MCWRA 2001a). While agricultural land use is expected to remain essentially constant during the 2030 planning horizon overall, agriculture's demands on water supplies in some areas are anticipated to increase (North County, pursuant to the projections in the Rancho Roberto Final EIR, for example), while they are

expected to decrease in other areas (Salinas Valley, pursuant to the SVWP Final EIR, for example). Overall, agricultural water demand is expected to remain relatively stable, with a small decline.

Table 4.3-9. Monterey County 2007 GP Estimated New Water Demand from Urban Uses and New Wineries (2030 and Buildout)

Development Area	Water Management District	Water Basin	2030 New Population (1)	Buildout New Population (2)	2030 New Water Demand (AF) (3)	Buildout New Water Demand (AF) (3)
Community Areas						
Chualar CA	MCWRA	Salinas River	1,668	4,224	338	856
Fort Ord CA	MCWRA/ MPWMD	Salinas River/ Seaside Aquifer (4)	9,572	24,246	1,941	4,916
Boronda CA	MCWRA	Salinas River	807	2,044	164	414
Pajaro CA	PVWMA	Pajaro River	752	1,904	152	386
Castroville CA	MCWRA	Salinas River	1,814	4,596	368	932
Community Areas Subtotal			14,613	37,013	2,963	7,504
Rural Centers						
Pine Canyon RC	MCWRA	Salinas River	1,894	4,798	384	973
San Lucas RC	MCWRA	Salinas River	188	476	38	96
Bradley RC	MCWRA	Salinas River	889	2,253	180	457
Lockwood RC	MCWRA	Salinas River	246	622	50	126
Pleyto RC	MCWRA	Salinas River	178	451	36	91
San Ardo RC	MCWRA	Salinas River	534	1,352	108	274
River Road RC	MCWRA	Salinas River	432	1,095	88	222
Rural Centers Subtotal			4,361	11,047	884	2,240
AHOs						
Carmel Mid-Valley AHO	MPWMD	Carmel River	434	1,098	88	223
Hwy 68/Airport AHO	MPWMD	Seaside Aquifer	2,835	7,181	575	1,456
Hwy 68/Reservation AHO	MCWRA	Salinas River	1,034	2,619	210	531
AHOs Subtotal			4,302	10,898	872	2,209
Cachagua	MPWMD/ MCWRA	Carmel River/ Salinas River (4)	51	372	10	75
Carmel Valley	MPWMD	Carmel River	294	2,135	60	433
Central Salinas Valley	MCWRA	Salinas River	177	1,284	36	260

Development Area	Water Management District	Water Basin	2030 New Population (1)	Buildout New Population (2)	2030 New Water Demand (AF) (3)	Buildout New Water Demand (AF) (3)
Greater Monterey Peninsula	MPWMD	Carmel River/ Seaside Aquifer (4)	1,552	11,250	315	2,281
Greater Salinas	MCWRA	Salinas River	542	3,928	110	796
North County	MCWRA/ PVWMA	Salinas River/ Pajaro River (4)	1,266	9,180	257	1,861
South County	MCWRA	Salinas River	365	2,644	74	536
Toro	MCWRA	Salinas River	1,572	11,393	319	2,310
Outside of CA, RA, AHOs			5,819	42,186	1,180	8,553
Wineries in AWCP	MCWRA	Salinas River			224 (5)	224 (5)
INLAND AREA TOTAL			29,096	101,145	6,123	20,731
Subtotal	MCWRA	Salinas River			3,830	12,527
Subtotal	MPWMD	Carmel River			310	1,834
Subtotal	MPWMD	Seaside Aquifer			1,702	5,054
Subtotal	PVWMA	Pajaro River			281	1,317

Notes:

Assumes persons/housing unit = AMBAG 2030 average.

Assumes person/housing unit average from 2007 GP estimates.

Assumes per capita water use [urban applied water (including residential, commercial, industrial, and landscape uses) for Central Coast Region] of 181 gpd per California Water Plan Update 2005.

Assumes 50/50 split between sources/district; this may overestimate or underestimate the totals presented above

Based on calculations in table later in this section

As discussed elsewhere in this EIR, residents of the unincorporated area will make up about 25% of the county's total population in 2030. Therefore, water demand in the cities would be expected to be roughly three times that shown above for the unincorporated areas.

Community Areas

With implementation of the SVWP and CSIP, the Salinas Valley will have sufficient supplies to 2030, and seawater intrusion will be effectively halted in the Castroville area (Monterey County Water Resources Agency 2001a). Development in the Fort Ord and Pajaro Community areas will affect the already overdrafted Seaside Aquifer and Pajaro Valley groundwater basins.

Table 4.3-10, based primarily on information from Urban Water Management Plans (UWMPs) and the Municipal Service Reviews (MSRs) prepared by various water suppliers and Monterey County

LAFCO, summarizes water supply issues affecting Community Areas. Note that these reports generally cover a wider service area than the proposed Community Area boundaries, and therefore discuss groundwater basin concerns on a larger scale. More specific information about demand, supply, and overdraft conditions is found in Section 4.3.2.1, Regional Setting, above.

Table 4.3-10. Water Supply Issue Summary for Community Areas

Community Area	Groundwater Basin	Water Supplier	Potable Water Availability Issues
Pajaro	Pajaro Valley basin	Pajaro/Sunny Mesa Community Services District	Overdraft; seawater intrusion
Castroville	Salinas Valley basin (180-Foot/400-Foot Subarea)	Castroville Water District	Overdraft, seawater intrusion; conversion of agricultural land
Boronda	Salinas Valley basin (180-Foot/400-Foot Subarea)	California Water Service Company, Salinas District	Overdraft; seawater intrusion into 180-foot aquifer within 1 mile of Cal-Water's closest well (diverting production)
Chualar	Salinas Valley basin (180-Foot/400-Foot Subarea)	Cal-Am Water Company, Monterey District	Overall supply severely short, but Chualar wells are independent of larger basins and represent small fraction of District demand
Fort Ord	Salinas Valley basin (Seaside and Corral de Tierra Subareas)	Marina Coast Water District	Seawater intrusion; supply adequate unless Fort Ord Reuse Authority growth limits lifted (imbalance of 2,548 AFY).

Pajaro

The Pajaro Community Area of the Pajaro Valley groundwater basin is in severe overdraft condition, with seawater intrusion problems and groundwater levels in decline. Any substantial increase in water use would contribute to further depletion of water supplies, resulting in a net deficit in aquifer volume and further lowering of the groundwater table. Future growth in the Community Area cannot proceed without significant groundwater impacts unless new supplies are secured.

Castroville

Castroville is in the 180-Foot/400-Foot Subarea of the Salinas Valley basin, where any additional pumping from the local groundwater would result in further seawater intrusion. Some of Castroville's

future development would be through infill and intensification of already urbanized areas within the community.

The CSIP has helped maintain safe well yields, raising water levels up 20 to 40 feet, and slowing seawater intrusion in this area. Additional efforts through the SVWP are expected to halt seawater intrusion by 2030.

With operation of the SVWP, CSIP, and/or other measures, anticipated withdrawals from the 180-Foot/400-Foot subarea to meet water demands of the Castroville Community Area would avoid further lowering of water levels in the aquifer and further seawater intrusion.

Boronda

Boronda is located in the 180-Foot/400-Foot subarea of the Salinas Valley groundwater basin and currently obtains water through Cal-Water, the same distribution system as the City of Salinas. Increased groundwater extraction from these wells would contribute to further seawater intrusion.

According to the Cal-Water 2004 UWMP, the company has already begun shifting production further south and into the 400-foot aquifer (in response to seawater intrusion into the 180-foot aquifer within 1 mile of Cal-Water's closest well). However, completion of the SVWP is expected to accommodate future growth in Boronda to 2030 without further seawater intrusion or lowering of groundwater levels.

Chualar

Chualar is situated in a portion of the Salinas Valley groundwater basin that receives sufficient groundwater recharge and is not subject to seawater intrusion. Past and current agricultural practices have resulted in water quality degradation of the shallow aquifers (primarily high nitrate levels); however, potable water supply is available from deeper in the aquifer system. According to Cal-Am's 2005 UWMP, Chualar is one of the company's six Highway 68 corridor systems, which are managed independently of the larger basin systems and represent only 5% of Cal-Am's demand. Consequently, the area is not subject to Cal-Am's overall shortage conditions. The level of growth anticipated for the proposed Community Area would not incur significant water supply impacts.

Fort Ord

Seawater intrusion forced relocation of the former Fort Ord's wells from the Main Garrison to a more inland location. However, these

wells are also now at risk of seawater intrusion and therefore are not considered a sustainable source of supply to meet future water demands of the Fort Ord community. MCWD is currently drawing water from the non-sustainable Deep Zone, which, combined with the risk of further seawater intrusion from continued pumping in the 180- or 400- foot aquifers, rules out possibilities for meeting the Community Area's water demands from local groundwater sources. In response, MCWD recently (2007) constructed a reverse osmosis desalination plant to convert seawater to potable drinking water (Marina Coast Water District 2008). When operating, this facility can provide up to 300,000 gallons of potable water per day.

Potential water sources for these uses include development of a new well field in the vicinity of Spreckels (where sufficient recharge occurs to preclude significant impacts) with conveyance facilities to Fort Ord; and a desalination plant proposed by Cal-Am at Moss Landing. The Fort Ord Reuse Plan identified a need to augment available potable water supply by 2,400 AFY to accommodate future development. This projection assumed the availability of an additional 6,600 AFY under an agreement with MCWRA that includes Fort Ord as a beneficiary of the SVWP. Sources for both the 6,600 AFY and the additional 2,400 AFY remain uncertain, pending approval of Cal-Am's Coastal Water Project.

Until additional sources and transfer facilities are in place, future water supply to meet the demands of proposed land uses at Fort Ord is not readily obtainable without resulting in substantial depletion of groundwater supplies and further seawater intrusion.

Despite lack of certainty over supply, the MCWD's UWMP (2005) forecasts that the District's service area will have sufficient water available to meet expected demands through 2025 with surplus (unless the currently proposed Fort Ord Reuse Plan development land use limits are exceeded).

Affordable Housing Overlays (AHOs))

Development in the AHOs is included in the overall demand numbers for the various groundwater basins. The Highway 68/Airport AHO is in the Seaside aquifer and the Mid-Valley AHO is in Carmel River Basin; provision of water to new growth in these areas will be dependent on the Monterey Peninsula regional supply projects discussed above. The Highway 68/ Reservation Road AHO is the Salinas Valley, and adequate supply will be provided with completion of the SVWP.

Rural Centers and Development outside Focused Growth Areas

Development in the Rural Centers and on individual lots will contribute to growth in the unincorporated county to 2030. Demand from these future projects is included in the overall demand numbers for the various groundwater basins.

The Rural Centers are all in the Salinas Valley, and adequate supply will be provided with completion of the SVWP.

Legal lot development may occur outside the service areas of water districts, in which case it would be served by individual water wells. As noted in the setting discussion, the groundwater basins in the North County and the Seaside aquifer are overdrafted and future development there will exacerbate that significant effect.

Agricultural Winery Corridor Plan

The new wineries proposed to be constructed during the planning horizon under the ACWP will also generate a demand for water. The AWCP would authorize up to 40 new "artisan" wineries (producing from 2,000 to 50,000 cases of wine per year) and 10 new "full-scale" wineries (producing from 50,000 to over 1 million cases per year). The expected size range of the full-scale wineries is described in Chapter 3 of this EIR.

Following is an estimate of the water demand for typical wineries under the proposed 2007 General Plan AWCP. Assumptions for the analysis are as follows:

- One case of wine equals 2.4 gallons (Monterey County Health Department 2008a)
- A typical winery uses 7 gallons of water to produce one gallon of wine (West Yost 2005)
- Water demand would be 16.8 gallons of water per case
- 40 artisan wineries will be built by 2030, each averaging a production rate of 25,000 cases per year by that time
- The full-scale wineries will reflect the following numbers and production rates by 2030: 5 producing 75,000 cases per year; 2 producing 175,000 cases per year; and 1 each producing 375,000, 750,000, and 1.5 million cases yearly.

Table 4.3-11. Projected AWCP Winery Yearly Water Demand

Type of Winery	Number of Wineries	Water Demand per Winery (gallons)	Water Demand per Winery (acre-feet)	Total Demand (acre-feet)
Artisan (25K cases per year)	40	420,000	1.29	51.6
Full-scale (75K cases per year)	5	1.26 million	3.87	19.35
Full-scale (175K cases per year)	2	2.94 million	9.02	18.04
Full-scale (375K cases per year)	1	6.3 million	19.3	19.3
Full-scale (750K cases per year)	1	12.6 million	38.7	38.7
Full-scale (1.5M cases per year)	1	25.2 million	77.3	77.3
Total Water Demand—all wineries (acre-feet)				224.29

This estimate does not include other uses allowable in the AWCP. They would add to the demand, but would have less demand than the wineries.

The water supply needed to serve the wineries may include water that is currently being used for agricultural production. As described in Chapter 1, a typical artisan winery would occupy approximately 1.2 acres; a typical full-scale winery would occupy 9.4 acres. In total, the 50 new wineries envisioned under the 2007 General Plan AWCP would occupy approximately 142 acres. Because wineries are not "compatible uses" under the County's Williamson Act contracts and the County has traditionally been very reticent to cancel contracts, the new wineries are unlikely to be located on agricultural land that is contracted under the Williamson Act. Assuming conservatively that about 30% of the land available for new wineries in the proposed wine corridor is currently in agricultural use, approximately 43 acres would be converted. The Department of Water Resources estimates that on the Central Coast, average on-farm water application ranges from 1.4 to 2.0 acre-feet per acre (California Department of Water Resources 2005). At that rate, approximately 60–86 acre-feet of the water necessary for winery operations is part of the existing demand within the AWCP.

The AWCP is located in the Salinas River basin. With implementation of the SVWP, water supply is available to serve new uses in the corridor. As noted in Impact WR-5 below, new distribution pipelines will be necessary.

2007 General Plan Policies

The 2007 General Plan proposes a number of policies that (together with state law requiring large subdivisions to obtain written assurance of the ability to supply water) would help ensure that new or expanded potable water supplies and facilities would be provided for future growth.

The policies below are summarized for both water supply and water supply infrastructure for this impact (WR-4) and the following impact (WR-5).

Public Services Element

The Public Services Element of the 2007 General Plan contains goals and policies addressing water supply issues related to land use. As discussed under Impact PSU-1, Public Services Element Policies PS-1.1 through PS-1.6 set forth general standards for the provision of adequate public facilities. Public Services Element Policies 2.1 through 2.6 establish specific policies for potable water supply and quality.

Public Services Element Policy PS-2.1 promotes coordination between and consolidation with those public water service providers drawing from a common water table to ensure that the water table is not overdrawn.

Public Services Element Policy PS-2.2 requires MCWRA to ensure adequate monitoring of wells in those areas experiencing rapid growth.

Public Services Element Policy PS-2.3 requires new development to connect to existing water service providers where feasible, with an emphasis on connections to public utilities.

Public Services Element Policy PS-2.4 calls for the establishment of minimum regulations for installing any new domestic well located in consolidated materials (e.g., in hard rock areas).

Public Services Element Policy PS-2.5 addresses establishing water quality testing regulations for individual wells on lots of record. The regulations would identify testing parameters for a one-time required water quality test for individual wells at the time of well construction and a process that allows the required one-time water quality test results to be available to future owners of the well. The regulations would not establish criteria that would prevent the use of the well in the development of the property and would not apply to agricultural wells.

Public Services Element Policy PS-2.6 stipulates that a Hydrologic Resources Constraints and Hazards Database be developed and maintained in the County GIS. The GIS would be used to identify areas containing hazards and constraints that would potentially impact the type or level of development allowed in these areas (Policy OS-3.4).

Public Services Element Policy PS-2.7 promotes incentive programs that encourage owners to voluntarily take cultivated lands on slopes with highly erosive soils out of production.

Public Services Element Policy PS-2.8 requires that all projects be designed to maintain or increase the site's pre-development absorption of rainfall (minimize runoff) and to recharge groundwater where appropriate.

Public Services Element Policy PS-2.9 mandates that the County use discretionary permits to manage construction of impervious surfaces in important groundwater recharge areas.

Public Services Element Policies 3.1 through 3.15 establish specific policies for water supply.

Public Services Element Policy PS-3.1 prohibits approval of new development that does not have proof of sustainable water supply, both in quality and quantity, to serve the development. The first single-family dwelling and accessory uses on an existing lot of record are exempted from this policy.

Public Services Element Policy PS-3.2 allows credits to be issued for significant reduction in the historical water use on site that would allow for additional development.

Public Services Element Policy PS-3.3 stipulates that specific criteria for proof of a long-term sustainable water supply for new development be developed. Criteria may include, but would not be limited to, water quality; production capability; recovery rates; effect on wells in the immediate vicinity; existing groundwater conditions; and technical, managerial, and financial capability of the water purveyor.

Public Services Element Policy PS-3.4 requires that specific criteria be developed for use in the evaluation and approval of adequacy of all new wells. Criteria would assess both water quality and quantity including, but not limited to, water quality; production capability; recovery rates; effect on wells in the immediate vicinity; existing groundwater conditions; and technical, managerial, and financial capability of the water purveyor.

Public Services Element Policy PS-3.7 requires that a determination of a long-term sustainable water supply be made on a basin-by-basin basis and not based on hauled water.

Public Services Element Policy PS-3.8 promotes coordination between the County and all agencies responsible for the management of existing and new water resources.

Public Services Element Policy PS-3.9 requires that a program to eliminate overdraft of water basins be established as part of the CIFP of the 2007 General Plan. The program would use water banking, groundwater and aquifer recharge and recovery, desalination, pipelines to new supplies, and a variety of conjunctive use techniques.

Public Services Element Policy PS-3.10 encourages systems that use grey water and cisterns for residential and commercial landscaping, subject to a discretionary permit.

Public Services Element Policy PS-3.11 requires that a standard tentative subdivision map and/or vesting tentative and/or Preliminary Project Review Subdivision map application for either a standard or minor subdivision be approved only if the applicant provides evidence of an assured long-term water supply, in terms of yield and quality, for all lots to be created through subdivision. The policy includes detailed requirements for evidence of water supply.

Public Services Element Policy PS-3.12 promotes the use of water conservation and safe, beneficial re-use of water in meeting water supply needs.

Public Services Element Policy PS-3.13 mandates establishment of an ordinance identifying conservation measures that would reduce potable water demand.

Public Services Element Policy PS-3.14 establishes strategies for maximizing the use of recycled water as a potable water offset to manage water demands and meet regulatory requirements for wastewater discharge.

Public Services Element Policy PS-3.15 mandates development of guidelines and procedures for conducting water supply assessments and determining water availability for development approvals.

Area Plan Policies

The following Area Plan supplemental policies also address the potable water supply for future development proposed in the 2007 General Plan.

North County Area Plan

North County Area Plan Policies NC-5.1 and NC-5.2 prioritize the development of water projects that can offer a viable water supply to water-deficient areas in North County, while also protecting groundwater recharge areas.

Greater Salinas Area Plan

Greater Salinas Area Plan Policy GS-1.1 requires that future development within the Butterfly Village Special Treatment Area provide adequate infrastructure, including for potable water.

Central Salinas Valley Area Plan

Central Salinas Valley Area Plan Policy CSV-5.2 stipulates that recreation and visitor-serving commercial uses be allowed only if it can be proven that they would not interfere with prime groundwater recharge areas, would not overdraft existing groundwater supplies, would meet state water quality and quantity standards, and would not adversely impact groundwater quality. Other policies, such as CSV-5.1 and CSV-5.3, require protection of groundwater recharge areas to maintain both water quality and sufficient supply volume.

Carmel Valley Master Plan

The Carmel Valley Master Plan contains several supplemental policies related to water supply. Policy CV-5.1 requires pumping from the Carmel River aquifer to be managed in accordance with the Carmel River Management Program. This policy also requires that new development not cause sufficient drawdown of the aquifer to threaten natural vegetation. Water projects designed to address future growth in the Carmel Valley shall be supported (Policy CV-5.2). Conservation and reclamation projects should be incorporated into project design (Policy CV-5.3). Policies CV-5.4, CV-5.5, and CV-5.6 are designed to protect water quality.

Cachagua Area Plan

In the Cachagua Area Plan, Policy CACH-3.5 requires that watershed impacts due to mining, timber, or related industries be mitigated. CACH-5.1 states that the area should not be deprived of water reasonably required for the beneficial needs of its inhabitants and that water should not be exported outside the planning area boundaries.

South County Area Plan

South County Area Plan Policy SC-5.1 similarly protects groundwater recharge areas, while Policy SC-5.3 prohibits encroachment on the main river channels where there is major recharge to the underlying groundwater basins.

Community Area Policies

Fort Ord Master Plan

In the Fort Ord Master Plan, several supplemental policies and associated programs are included in the Hydrology and Water Quality Element. Policy A-1 requires project applicants to demonstrate that all measures would be taken to ensure that runoff is minimized and infiltration maximized in groundwater recharge areas. Programs developed under this policy also would promote water conservation, recycling, and reclamation efforts. Policy A-2 proposes a program to gauge stream flows and manage creek development such that groundwater recharge in these areas is maintained. Policy B-1 states that the County shall ensure additional water to critically deficient areas with programs combining various efforts of the applicable water agencies. Policy B-2 is similar, while Policy C-1 states that the County shall comply with all mandated water quality programs and establish local water quality programs as needed. Policy C-3 is specifically designed to mitigate seawater intrusion, based on the Salinas Valley Basin Management Plan and through cooperation between MCWRA, MPWMD, and the County. Program C-3.5 (groundwater wells) states that the County shall carry out all actions necessary to ensure that the installation of water supply wells comply with the State of California Water Well Standards and well standards established by the Monterey County Health Department. Program C-3.6 (infrastructure) establishes that the County shall carry out all actions necessary to ensure that the distribution and storage of potable and non-potable water comply with the State Health Department regulations through Title 22. Water supply for fighting fires is addressed under Fire, Flood, and Emergency Management Policy A-2, which requires the County to provide fire suppression water system guidelines and implementation plans for existing and acquired former Fort Ord lands that are equal to or greater than those recommended in the Fort Ord Infrastructure Study (FORIS Section Fort Ord Reuse Plan—Table 4.1.8) for fire protection water volumes, system distribution upgrades, and emergency water storage.

Significance Determination

Implementation of the 2007 General Plan will increase water demand for urban and other uses.

The above-listed 2007 General Plan and Area Plan policies, implemented in conjunction with existing County code and state and federal water laws, will reduce the need for additional water supplies.

The policies include comprehensive requirements to ensure that new discretionary development contemplated in the proposed 2007 General Plan has adequate potable water supplies before it can be built. Policy PS-2.8 requires projects be designed to maintain or increase the site's pre-development absorption of rainfall (minimize runoff) and to recharge groundwater where appropriate. Policy PS-3.1 prohibits approval of new development that lacks proof of sustainable water supply. Policy PS-3.3 requires the development of criteria for proof of sustainable water supply for new development, including water quality, production capacity, recovery rates, effect on nearby wells, existing groundwater conditions, and the capabilities of the water purveyor. In effect, these policies delay discretionary development when there is no sustainable water supply and would avoid significant impacts related to water supplies.

In the Salinas Valley, water supply projects are being built or are in the permitting stage that will meet demands to 2030 without resulting in overdraft. On the Monterey Peninsula and in the Pajaro Valley, while planning is underway for new supply to address current overdraft and seawater intrusion problems, this planning is not sufficiently developed to assure long-term water supplies for new development. Each of these areas is discussed separately in more detail below.

Salinas Valley

In the Salinas Valley, the SVWP will provide sufficient additional supplies from the system's reservoirs to meet 2030 projected demands and halt further seawater intrusion. The impacts of the 2007 General Plan would be less than significant within the Salinas Valley for water supply during the 2030 planning horizon.

Monterey Peninsula

Once in place, the Coastal Water Project desalination plant and the full implementation of the Aquifer Storage and Recovery project for the Seaside Aquifer would both reduce pumping in the impacted Seaside aquifer and reduce illegal diversions from the Carmel River. It will solve the existing supply problem and enable Fort Ord allotments to be met, but whether the CPUC will permit a desalination plant of sufficient capacity to serve additional growth is unknown at this time. A larger plant is among the alternatives being considered.

Similarly, if approved and installed, the Pajaro/Sunny Mesa Community Services District's desalination plant at Moss Landing would be a potential source of supply to the Pajaro Valley and possibly the Monterey Peninsula. However, it is not known at this time whether that

water would be devoted to the Pajaro River problems or if a portion would be available for distribution to the Monterey Peninsula. Supplies sent to the Monterey Peninsula would not be available to reduce overdraft and seawater intrusion in the Pajaro basin.

A regional supply program has been under discussion by the Water for Monterey County Coalition, which would provide additional water for growth to the Monterey Peninsula and North County. This program has been proposed to the CPUC as an alternative to the Cal-Am desalination proposal.

There are an estimated 1,134 vacant residential lots in the Carmel Valley Master Plan and the Greater Monterey Peninsula Plan areas. The development of these lots, albeit slowly because of the MPWMD's existing restrictions on new connections, will exacerbate the existing water shortfall until a regional solution providing water for new development is in place.

As noted above, the 2007 General Plan constrains discretionary development until long-term water supplies are secured. At present, none of the proposed projects to substantially address the existing water supply problems has reached the Draft EIR phase of CEQA compliance (other than the MPWMD ASR project). Thus, while potentially feasible, there is no assurance that comprehensive solutions will be implemented in time to provide water for new development. Discretionary development that results in new water demands will be delayed until this happens, but single-family residential development will not. Thus, development on existing legal lots in the Carmel Valley Master Plan and Greater Monterey Peninsula Plan areas would result in a significant impact, unless such development has no net increase in water demand and/or new supply sources are developed.

Pajaro Valley

The PVWMA's Basin Management Plan includes the following water supply efforts; water conservation program (5,000 acre-feet), Harkins Slough project (1,100 acre-feet), Murphy Crossing project (1,600 acre-feet), and the Watsonville Area Water Recycling Project (4,000 acre feet) and related distribution system. These projects will relieve pumping pressure by providing recycled water supplies to replace groundwater used for farmland irrigation. However, these efforts will not be sufficient to prevent continued overdraft as result of urban and agricultural demands without importation of water from the Central Valley.

There are no plans to import additional water supplies from outside the county in order to meet future demand. Although the PVWMA has long contemplated obtaining water from the State Water Project, that now appears to be infeasible because of the lack of necessary funding (and

lack of local support for funding), and court-ordered reductions in state and federal project water deliveries relating to the impacts of Delta pumping on Endangered Species Act-listed fish species. In December 2007, Federal District Judge Oliver Wanger imposed new rules on state and federal agencies that may reduce water deliveries south of the Delta by as much as 30% in 2008, in order to protect the threatened Delta smelt. In April 2008, Judge Wanger invalidated the biological opinion on salmon and steelhead trout under which DWR and the U.S. Bureau of Reclamation operate their water delivery systems. This is expected to result in continued reductions in water deliveries (San Francisco Baykeeper 2008a, 2008b). These reductions occur in the face of continued population growth in the areas currently supplied by the state and federal aqueducts. The fragility of the state and federal water delivery projects in the face of growing demand greatly reduces the possibility that the PVWMA would obtain water from those sources.

Reduction in coastal pumping proposed by PVWMA will increase the sustainable yield of the groundwater basin; however, new supply is necessary to achieve this reduction. PVWMA estimates that it needs 21,000 acre-feet of new supply to meet existing demands and address overdraft. Of this, the existing feasible projects noted above can supply up to 11,700 acre-feet. PVWMA also estimates that it needs 30,000 acre-feet for 2040 conditions to account for growth (PVWMA 2001). Thus, without additional supply, the overdraft condition will remain and get worse if additional water demands occur within the Pajaro Valley.

The proposed Pajaro-Sunny Mesa desalination plant at Moss Landing would provide up to 21,000 acre-feet of new supply for agricultural use, as well as maintenance of the hydraulic barrier to seawater intrusion. The proposed plant is in the initial stages of permitting, so its date of availability is unknown and cannot be assured to provide water for new growth.

There are an estimated 577 vacant residential lots in the North County Plan area. The 2007 General Plan limits development in these areas to a single residence on each such lot, but also relieves such development of the requirement to demonstrate a sustainable water supply prior to development under Policy PS-3.1. Development of a portion of these existing lots of record by 2030 would exacerbate current problems.

While current PVWMA efforts will help to provide a portion of supply to address current conditions, there is no assurance that solutions will be implemented in time to provide water for new development. Discretionary development that results in new water demands will be delayed until this happens, but single-family residential development will not. Thus, development on existing legal lots in the portion of the North County area within the Pajaro Valley would result in a significant impact, unless such development has no net increase in water demand and/or new supply sources are developed.

Mitigation Measures

The following measure is intended to reduce impacts on the Monterey Peninsula during the 2030 planning horizon to below a level of significance. However, for the reasons discussed above, there are no feasible measures that would reduce the impacts of development on existing lots of record in the North County and the Pajaro River below a level of significance.

WR-1: Support a Regional Solution for the Monterey Peninsula in addition to the Coastal Water Project

The County will revise the draft 2007 General Plan to include the following new policy:

PS-3.16. The County will participate in the Water for Monterey County Coalition, or similar regional group, for the purpose of identifying and supporting a variety of new water supply projects, water management programs, and multiple agency agreements that will provide additional domestic water supplies for the Monterey Peninsula and Seaside basin, while continuing to protect the Salinas and Pajaro River groundwater basins from saltwater intrusion. The County's general objective, while recognizing that timeframes will be dependent upon the dynamics of the regional group, will be to complete the cooperative planning of these water supply alternatives within five years of adoption of the General Plan and to implement the selected alternatives within five years after that time.

Significance Conclusion

Implementation of the 2007 General Plan would increase demand for water in portions of the county beyond available supply.

Within the Salinas Valley, the SVWP will provide sufficient supply to reverse existing overdraft and seawater intrusion problems and to provide water for new development. No new or expanded water entitlements are contemplated to meet demand to 2030, and thus this is considered a less-than-significant water supply impact (see separate discussion below under Impact WR-5 regarding water supply infrastructure).

On the Monterey Peninsula and in the Pajaro Valley, while current planning is underway to address current problems and provide water for new development, none of the major supply projects is sufficiently developed (i.e., none are at the Draft EIR phase) to conclude that they will provide adequate water to address current problems and future needs. Mitigation Measure WR-1 puts the County on record as supporting a regional solution (but not necessarily those currently proposed). 2007 General Plan policies will constrain development until long-term water supplies are assured. Until then, non-discretionary development on legal lots of record will exacerbate existing water supply problems, and this is considered a significant and

unavoidable water supply impact (see separate discussion under Impact WR-5 below regarding water supply infrastructure).

Buildout

Impact of Development with Policies

Buildout under the 2007 General Plan would result in demand that exceeds available water supplies in all parts of the county. There are no specific water supply projects identified beyond the 2030 horizon. Typical projects to support the greater population at buildout could include desalination, surface water diversion, new groundwater wells, water recycling, aquifer storage and recovery, conservation, and importation from outside the local area. Water transfers within the county would be feasible only if new surface water or desalination supplies become available.

Significance Determination

At buildout in 2092, there would be nearly 36,000 more dwellings within the unincorporated county than existed in 2006. The specific locations of these future dwellings, their design, their relationship to other development and land uses, and the character of their surroundings cannot be accurately determined that far into the future. While it would therefore be speculative to evaluate the specific level of potential water resources impacts related to buildout of all residential lots in the county, general conclusions can be made.

Buildout of the proposed 2007 General Plan would increase water demand within the county. Barring new technology that would make desalination less expensive or some other new source of water not currently known that is both economical and highly productive, this additional development would further stress both water supply and groundwater quality.

The SVWP has the capacity to provide additional water to the Salinas Valley with expansion of the distribution system, capture of additional flows through changes in operational management of the dams, and continued trends of per capita conservation. The MCWRA estimates this to be as much as 10,000 AFY, which would be slightly more than estimated as needed for new post-2030 demand (~9,000 acre-feet; see Table 4.3-9).

Given that current water supply planning for the Monterey Peninsula and for the Pajaro Valley to address existing problems and to provide future supplies for 2030 is at a preliminary level, there is no conceptual planning for the period after 2030.

The county's primary rivers, the Salinas, the Carmel, and the Pajaro, have substantial annual flows that could provide additional supplies by diverting winter high flows into storage systems. However, there is no new storage and related distribution systems being proposed on any of these rivers (other

than the dam modifications included in the SVWP and the conceptual post-2030 improvements noted above), portions of these annual flows are already supporting groundwater levels and thereby supplying existing wells, and reduction in flows could adversely affect protected salmonid species (salmon and steelhead) and other aquatic species. Substantial hydrogeological study, infrastructure planning, public or private financing, and federal and state agency permitting would need to be completed before these flows could be tapped. Planning and permitting would need to include consideration of impacts on biological and other resources. There would also have to be community support for changing reliance on groundwater to surface water supplies.

More extensive conservation or conjunctive use programs alone would not avoid this impact. Most water use in the county is attributable to agriculture. As supplies become restricted, they will become more expensive. This has traditionally moved farmers to abandon marginal farmlands (e.g., those with little potential to yield profitable crops), switch to less thirsty crops, or undertake more economical water regimes (e.g., sprinklers, drip irrigation, cropping patterns) to the extent practical given crop needs, weather, soil type, markets, and other factors. Given the importance of agriculture to the county and state economy, as well as its place in the food supply, assuming significant reductions in agriculture is not reasonable. While farms will reduce their water use through a variety of means in the face of the future shortfall, agriculture will remain a major water user and contributor to this significant effect,

The County is required by state housing element law to provide sufficient land that is planned and zoned to accommodate future population growth (Government Code Section 65583). While urban water conservation measures mandated by the 2007 General Plan, local ordinances, and the Urban Water Management Planning Act (Water Code Section 10610, et seq.) will reduce per capita water use in the future, the increase in population will result in a net increase in demand.

Global climate change will have some effect on future precipitation patterns in this part of California in the future. That might in turn affect available water supplies in the reservoirs at the upper end of the Salinas River. What that effect will be is unknown. The California Department of Water Resources reports that California's precipitation is on an upward trend since the 1960s, but that the yearly amount of precipitation is increasingly variable (i.e., wet years can be followed by dry years; California Department of Water Resources 2006). Present climate models do not have the precision to determine with any certainty what will be the case in Monterey County. If global climate change does adversely affect the county's water storage, the county's water supply from groundwater and surface water sources will be reduced. Additional development would result in a significant and unavoidable impact should that occur.

Sea level rise from global climate change is expected to increase seawater intrusion, thereby reducing freshwater yields from the groundwater aquifers. (California Department of Water Resources 2006) The California Department of Water Resources suggests that the threat posed by sea level rise can be lessened by controls on well construction and groundwater production, and the operation of hydraulic barrier projects (California Department of Water Resources 2006). All of these approaches would be undertaken in Monterey County through the policies of the 2007 General Plan, local ordinances, and the seawater intrusion projects underway in the Pajaro Valley, Castroville area, Monterey Peninsula, and Salinas Valley. Despite these current and future activities, there is a reasonable possibility that seawater intrusion would continue to be a significant effect because of the further pressure created by sea level rise. Ultimate buildout, by increasing water demand, would exacerbate that effect on groundwater.

Future sources of water in 2092 are unknown, and cannot be known at this time. Given the expected demands on the state and federal water systems as a result of California's projected growth, those systems are unlikely to be able to supply Monterey County's needs at buildout. Similarly, there is no information available about the locations of any other water supply facilities needed to meet 2092 demands, their physical characteristics, and their uses. Therefore, a discussion of their potential environmental impacts would be speculative.

Mitigation Measures

Implementation of the proposed 2007 General Plan policies and existing regulations would reduce potential impacts from increased water demand. The following mitigation measures would reduce impacts in the Salinas Valley and Monterey Peninsula. However, as described above, there are no feasible mitigation measures in the Pajaro River basin. The mitigation measures would not reduce the impact below a level of significance.

WR-1: Support a Regional Solution for the Monterey Peninsula in addition to the Coastal Water Project

This measure is described above.

WR-2: Initiate Planning for Additional Supplies to the Salinas Valley

The County will revise the draft 2007 General Plan to include the following new policies:

PS-3.17. The County will pursue expansion of the SVWP by initiating investigations of the capacity for the Salinas River water storage and distribution system to be further expanded. This shall also include investigations of expanded conjunctive use, use of recycled water for groundwater recharge and seawater intrusion barrier, and changes in

operations of the reservoirs. The County's overall objective is to have an expansion planned and in service by 2030.

PS-3.18. The County will convene and coordinate a working group made up of the Salinas Valley cities, the MCWRA, and other affected entities for the purpose of identifying new water supply projects, water management programs, and multiple agency agreements that will provide additional domestic water supplies for the Salinas Valley. These may include, but not be limited to, expanded conjunctive use programs, further improvements to the upriver reservoirs, additional pipelines to provide more efficient distribution, and expanded use of recycled water to reinforce the hydraulic barrier against seawater intrusion. The County's objective will be to complete the cooperative planning of these water supply alternatives by 2020 and have projects online by 2030.

Mitigation Measure BIO-2.3: Add Considerations regarding Riparian Habitat and Stream Flows to Criteria for Long-Term Water Supply and Well Assessment

Public Services Policies PS-3.3 and PS-3.4 establish the criteria for proof of a long-term water supply and for evaluation and approval of new wells. The following criteria shall be added to these policies:

- Policy PS-3.3.i—Effects on instream flows necessary to support riparian vegetation, wetlands, fish, and other aquatic life including migration potential for steelhead.
- Policy PS-3.4.g—Effects on instream flows necessary to support riparian vegetation, wetlands, fish, and other aquatic life including migration potential for steelhead.

Significance Conclusion

A second phase of the Salinas Valley Water Project is feasible, according to MCWRA. From a water supply point of view, implementation of Mitigation Measures WR-2 would mitigate the water supply impact in the Salinas Valley of 2007 General Plan buildout to a less-than-significant level (see separate discussion of water supply infrastructure under Impact WR-5 below).

There are no current plans for acquiring new water supplies to meet the post-2030 long-term demand for the Monterey Peninsula or the Pajaro Valley. While discretionary development would be delayed until long-term water supplies are assured, non-discretionary development would exacerbate existing water supply problems. In theory, extension of the currently proposed desalination, aquifer storage and recovery, water recycling, river diversion, and conservation projects would provide water for these areas, but conceptual proposals for after 2030 are not even under consideration at this time. Thus, this would be a significant and unavoidable water supply impact on the Monterey Peninsula and in the Pajaro Valley portion of the North

County Plan area (see separate discussion of water supply infrastructure impacts under WR-5 below).

Impact WR-5: Land uses and development consistent with the 2007 General Plan would increase the demand for water storage, treatment, and conveyance facilities that would have significant secondary impacts on the environment (Significant and Unavoidable Impact.)

2030 Planning Horizon

Impact of Development with Policies

The increased demand for water described under Impact WR-4 also creates a need for additional water storage, treatment capacity, and conveyance facilities. These facilities might include desalination plants, water treatment facilities, water recycling facilities, reservoirs, pipelines, pump stations, and new wells.

There will be secondary environmental impacts related to water infrastructure. New potable supplies are more likely to come from seawater desalination plants and from wastewater recycling in the short term but could also come from surface water diversions in the long-term.

Typically, water supply facilities would consist of treatment facilities, wells, wellhead facilities, intakes, pipelines, and storage reservoirs/tanks. The impacts of these facilities would vary greatly depending upon their size and location. Impacts may be related to, but not be limited to the following: loss or disturbance of biological resources, disturbance of cultural resources, visual impacts, operational noise, impacts related to geology and soils, flooding and water quality effects, and construction impacts (e.g., short-term traffic disruption, air quality emissions from equipment, noise, erosion/sedimentation, and utility disruption).

When specific facilities are proposed, they would be subject to CEQA review, and mitigation of any identified significant impacts would be required where feasible (Public Resources Code Section 21002).

Impacts of Regional Supply Projects

Salinas Valley

Salinas Valley Water Project—The SVWP (MCWRA and U.S. Army Corps of Engineers 2001) includes the following elements:

- Modification of the Nacimiento spillway to increase the spillway capacity and allow the reservoir to store a higher volume of water throughout the wet season.

- Reoperation of Nacimiento and San Antonio Reservoirs to allow for a greater level of groundwater recharge and to allow diversion of water at the lower Salinas River for direct delivery.
- Surface Diversion/Impoundment. A seasonal diversion structure would be constructed on the northern reach of the Salinas River to divert an average of 9,700 AFY for irrigation from April through October.
- Delivery. The diversion structure would be constructed near the current point where the CSIP pipeline crosses the Salinas River. The pipeline has sufficient capacity to deliver project water to the CSIP area also. Hydrologic modeling shows that the project may not halt seawater intrusion in the long-term future (year 2030). If this were to occur, additional distribution capacity will be created in a new pipeline and water would be delivered outside the CSIP area to ensure project objectives are met and seawater intrusion is halted.
- Pumping Limitations. In areas where project water is delivered, groundwater pumping would be limited to peaking capacity and deliveries during drought.

According to the SVWP Draft EIS/EIR (MCWRA and U.S. Army Corps of Engineers 2001), the project will result in the following significant and unavoidable impacts: Nacimiento Reservoir water level changes, which would affect sport fish reproduction and habitat; effects on aesthetic conditions at San Antonio and Nacimiento Reservoirs, as surface levels change substantially over the course of an average year; reduction in lake levels at Nacimiento and San Antonio Reservoirs (short and long term) to the degree that recreational opportunities are substantially affected during the peak recreation season; and short-term air quality (fugitive dust or PM_{10}) effects during construction of the spillway modifications (North Central Coast Air Basin) and project facilities (South Central Coast Air Basin).

Granite Ridge Distribution Facilities—The County of Monterey and the MCWRA are assessing potential solutions including new delivery infrastructure and financing options to provide additional water to the Granite Ridge area. Other agencies are also assessing the situation, including the Pajaro-Sunny Mesa Community Services District and the Pajaro Valley Water Management Agency. Pipeline construction would result in impacts on traffic, air quality, noise, soils and geology, and biological resources.

Monterey Peninsula/Seaside Aquifer

Coastal Water Project (Desalination)—An EIR is currently being prepared for the project under the auspices of the CPUC. The "Proponent's Environmental Assessment" (PEA) submitted to the

CPUC (RBF Consulting 2008) identified the following potential effects: potential for use of cooling water from the Moss Landing Power Plant to contaminate potable supplies; potential for the aquifer storage component to contaminate groundwater; visual impacts, including new sources of light and glare; potential to disturb undiscovered archaeological sites; air quality impacts from construction and operation; temporary and permanent impacts on biological resources; potential impacts from geologic and seismic hazards; potential release of hazardous materials; potential impacts from erosion and noise during construction; traffic impacts during construction; and potential to interrupt public utilities and services during construction. The PEA concluded that all potentially significant impacts would be reduced to a less-than-significant level with mitigation. However, the Draft EIR for this project has not yet been released. It is possible but not known if the EIR will ultimately conclude that there are significant and unavoidable impacts from this project.

Water for Monterey County's Regional Water Supply Program—The Monterey Regional Water Supply Program is proposed to provide up to 26,500 AFY to serve the water needs of northern Monterey County, including the Monterey Peninsula, the former Fort Ord, Marina, Castroville, and North Monterey County, including Moss Landing.

The components of the Project (RMC 2008) include the following:

- Expanded recycled water use, including expansion of existing recycled water agricultural irrigation project, groundwater replenishment, and urban recycled water use
- Stormwater collection and treatment
- Conservation
- Salinas River diversion and surface water treatment plant
- Brackish water desalination

A detailed program description was submitted for consideration by the CPUC in June 2008; the CPUC is analyzing the Coastal Water Project and may decide to analyze this program as an alternative to the CWP.

No environmental analysis has been completed for this program. Potentially significant impacts of the program may include, but are not limited to: water quality impacts of expanded recycled water use; impacts of new diversion on biological resources; physical impacts of new facilities on biological resources, cultural resources, soils and geology; direct and indirect impacts on agriculture due to water diversions, withdrawals, and treatment; construction impacts related to noise, air, and traffic; and other impacts.

Seaside Aquifer Storage Program—MPWMD is proposing to construct and operate an ASR project that would allow diversion of a limited amount of excess flow from the Carmel River for storage in, and later recovery from, the Seaside Groundwater Basin. The ASR project would divert up to 2,426 AFY from the Carmel River. Diversions would occur between December and May. The ASR would utilize new and existing water collection and conveyance facilities. New facilities include an MPWMD-owned injection/extraction well located on land currently owned and managed by the U.S. Army on the former Fort Ord and an MPWMD-owned pipeline connecting the injection/extraction well with the Cal-Am temporary pipeline located west of General Jim Moore Boulevard. No other new facilities would be constructed because the project would utilize the existing Cal-Am wells, pipelines, and pumping facilities that currently divert and transport water from the Carmel River.

A joint draft environmental impact report/environmental assessment (EIR/EA) was prepared in compliance with CEQA and NEPA, respectively (Jones & Stokes 2006). The final EIR/EA concluded that all potentially significant impacts of well and pipeline construction would be less than significant with mitigation (MPWMD 2006).

Pajaro Valley

Pajaro-Sunny Mesa Desalination Plant—The proposed Pajaro-Sunny Mesa desalination plant at Moss Landing would provide up to 21,000 AFY for agricultural use, as well as maintenance of the hydraulic barrier to seawater intrusion. The proposed plant is in the initial stages of permitting, so its date of availability is unknown. No environmental analysis has been completed for this project. Potentially significant impacts of the program are likely to be similar to the Coastal Water Project (but may be greater due to greater size) and may include, but are not limited to: potential for use of cooling water from the Moss Landing Power Plant to contaminate potable supplies; visual impacts; potential to disturb undiscovered archaeological sites; air quality impacts from construction and operation; temporary and permanent impacts on biological resources; potential impacts from geologic and seismic hazards; potential release of hazardous materials; potential impacts from erosion and noise during construction; traffic impacts during construction; and potential to interrupt public utilities and services during construction.

PVWMA's Basin Management Plan—The PVMWA Basin Management Plan calls for a series of strategies and projects to address current and future supply deficiencies including water conservation, water recycling, importation of water and groundwater

banking, associated coastal and inland distribution systems, and the already completed Harkins Slough and Murphy Crossing projects.

Additional water conservation measures are proposed for both urban and agricultural conservation and would not result in significant environmental impacts (PVWMA 2001).

The recycling component would involve construction of tertiary treatment facilities at the Watsonville Wastewater Treatment Facility (WWTF) and pumping, blending, storage, and distribution facilities. The recycled water would be used to offset a portion of the irrigation demands in the coastal area during the irrigation season. A 4,200-foot 24-inch-diameter pipeline to connect the Recycled Water Facility to the San Andreas and Springfield laterals of the Coastal Distribution System would also be required (PVWMA 2001).

The importation and groundwater banking component of the Basin Management Plan 2000 Alternative involves importing surface water from the Central Valley and using it in lieu of groundwater whenever it is available, allowing for natural recharge of the groundwater basin. During droughts and dry periods when little or no surface water may be available, Pajaro Valley would then pump the groundwater that was "saved" or "banked" during wet periods. This component includes construction of an inland distribution system and a pipeline (the Import Pipeline) to link the Pajaro Valley with the Santa Clara Conduit of the San Felipe Division facilities. The facilities associated with this component include the Import Pipeline, supplemental wells, and Inland Distribution System (PVWMA 2001). Importation of water from the Central Valley depends upon contracting with the U.S. Bureau of Reclamation and resolution of Central Valley water supply issues related to the Sacramento–San Joaquin Delta.

The EIR for the Basin Management Plan program identified significant impacts related to flooding, sedimentation and water quality during construction, biological resources, cultural resources, geological conditions, construction-period traffic, air quality, noise, visual aesthetics, and growth inducement. The significant impacts were found to be reduced to a less-than-significant level with identified mitigation except for the following significant and unavoidable impacts: loss of prime farmland, construction across active fault traces, construction criteria pollutant emissions, and secondary impacts due to growth (PVWMA 2001).

However, the EIR did not make any conclusions regarding the potential effects of additional diversions from the Sacramento–San Joaquin Delta. The EIR for the Basin Management Plan described that environmental evaluation of whether authorization of a contract between PVWMA and the U.S. Bureau of Reclamation for

importation of water would affect diversions from the Delta has to be deferred until PVWMA is able to pursue the contract (PVWMA 2001).

Impacts of Community Area Water Infrastructure

Table 4.3-12 summarizes water supply infrastructure issues affecting Community Areas. Note that these reports generally cover a wider service area than the proposed Community Area boundaries.

Table 4.3-12. Water Supply Infrastructure Summary for Community Areas

Community Area	Groundwater Basin	Water Supplier	General Facility/ Infrastructure Issues
Pajaro	Pajaro Valley basin	Pajaro/Sunny Mesa Community Services District	Upgrades needed (connection of Pajaro and Sunny Mesa systems for emergency backup; aging water mains and lateral lines; new tank and well planned).
Castroville	Salinas Valley basin (180-Foot/400-Foot Subarea)	Castroville Water District	Upgrades needed and planned (new tank and well replacement in 10 years). Applied to Local Agency Formation Commission to increase service boundary; if denied, growth will need to be served by private provider.
Boronda	Salinas Valley basin (180-Foot/400-Foot Subarea)	California Water Service Company, Salinas District	Upgrades needed and planned (treatment and well replacement due to nitrate, other contaminants, and aging). Adequate short-term supply; long-term supply likely to require additional water project.
Chualar	Salinas Valley basin (180-Foot/400-Foot Subarea)	Cal-Am Water Company, Monterey District	Current facilities reported as adequate.
Fort Ord	Salinas Valley basin (Seaside and Corral de Tierra Subareas)	Marina Coast Water District	Planned infrastructure capacity adequate.

New treatment, storage, and conveyance facilities and services would serve the Community Areas (where demand is expected to be greatest) and likely would be located in those areas. The impacts of these facilities would vary greatly depending upon their size and location. Impacts may include visual impacts, noise impacts, and construction impacts (e.g., short-term traffic disruption, air quality emissions from equipment, and noise). Site-specific and facility-specific information is not available; the significance of these impacts cannot be determined with certainty.

Pajaro—Planned growth in Pajaro would necessitate extension and/or upgrades of the community's water distribution system. According to the Pajaro/Sunny Mesa Community Service District MSR prepared in February 2006, infrastructure improvements are already needed for emergency contingency supply. The separate Pajaro and Sunny Mesa water systems need to be joined in order for either system to be able to rely on the other in the event of an emergency. A new tank and new well are also planned for the Pajaro Community Area to meet the demand for new growth, in addition to the replacement of aging water lines.

Castroville—Growth in Castroville would necessitate extension of existing water distribution facilities. According to the North County MSR, prepared in February 2006, seawater contamination has led the Castroville Water District to seal one of its wells in the upper screened area to extract solely from the lower aquifers. The Castroville Water District has planned to replace one well and add a new tank in the near future to meet 2007 General Plan growth demands. Potential impacts of these extensions would be identified in the environmental documents prepared for that work. As indicated in the North County MSR, the District has applied to LAFCO to increase its service boundaries. If denied, the District has indicated that additional growth would need to be served by a private water supplier.

Boronda—Redevelopment in the Boronda Community Area also would require new water distribution facilities. Cal-Water's UWMP indicates that, while short-term supply can be met from its central Salinas wells, long-term supply will require identification of a new water source from a yet-to-be-determined water project. District-wide, the company has planned treatment system improvements and 12 well replacements (due to nitrate contamination and aging) over the next 5 years. Cal-Water is also in the process of preparing a master plan to further identify capital improvements needed for future growth. Potential impacts of infrastructure improvements would be addressed within a Community Plan EIR or other public agency environmental analysis.

Chualar—Current facilities are reported as adequate.

Fort Ord—Planned infrastructure capacity is reported as adequate.

Impacts of Water Infrastructure for Rural Centers and Other Development

New treatment, storage, and conveyance facilities and services would also be needed for Rural Centers and likely would be located in or near those areas.

Water infrastructure for development on legal lots outside of the focused growth area would typically be onsite wells and treatment facilities but could also be distribution pipelines from the regional water systems. The

size and type of new facilities would depend on the size and location of the new development, and the availability of existing water supplies. Typically, water supply facilities consist of wells, wellhead facilities, pipelines, and storage reservoirs/tanks. The impacts of these facilities would vary greatly depending upon their size and location. Impacts may include visual impacts from large tank reservoirs, noise impacts if pumps are not located within a solid building, and construction impacts (e.g., short-term traffic disruption, air quality emissions from equipment, and noise). Site- and facility-specific information is not available; the significance of these impacts cannot be determined with certainty.

Impacts of Water Facilities for the AWCP and Agriculture

New water supply facilities would be needed to support the artisan and full-scale wineries and to support agriculture. These would typically be onsite wells and treatment facilities.

A portion of the water demand from these wineries would be met by existing water supply. The size and type of new facilities would depend on the size and location of the specific winery and the availability of existing water supplies. Where agriculture expands into new areas, new infrastructure would also be required to provide water supply.

Typically, water supply facilities for new wineries or expanded agricultural activity would consist of wells, wellhead facilities, pipelines, and storage reservoirs/tanks. The impacts of these facilities would vary greatly depending upon their size and location. Impacts may include visual impacts from large tank reservoirs, noise impacts if pumps are not located within a solid building, and construction impacts (e.g., short-term traffic disruption, air quality emissions from equipment, and noise). Site- and facility-specific information is not available; the significance of these impacts cannot be determined with certainty.

2007 General Plan Policies, Area Plan Policies, and Community Area Policies

The General Plan, Area Plan, and Community Area policies relative to water supply and water supply infrastructure are summarized above under Impact WR-4. Policies relative to secondary impacts on the physical environment (such as biological resources, prime farmland, cultural resources, or water quality) are discussed in the separate portions of the EIR concerning those resources.

Significance Determination

Implementation of the 2007 General Plan would increase demand for new or expanded water treatment, storage, and conveyance facilities.

New potable supplies for growth up to the 2030 planning horizon will come from the SVWP for the Salinas Valley and are likely to come from a combination of desalination plants, water recycling, water conservation, and aquifer storage and recovery in the Monterey Peninsula and Pajaro Valley. Proposed water supply projects (other than SVWP and the ASR) are in the planning and permitting stages. The environmental impacts of proposed supply infrastructure are being analyzed by the CPUC, MPWMD, and PVWMA and will be disclosed and mitigated as part of those CEQA processes. While mitigation can likely address most of the significant impacts identified for these projects and associated distribution facilities, not all significant impacts of large-scale water supply projects are likely to be mitigated to a less-than-significant level, and unavoidable impacts may occur.

New treatment, storage, and conveyance facilities and services would serve the Community Areas and Rural Centers, legal lot development, and agricultural and other uses. While mitigation can likely address most of the significant impacts identified for these facilities, it is possible that some significant impacts may not be feasibly mitigated to a less-than-significant level, and unavoidable impacts may occur.

Salinas Valley

The impacts of the SVWP have been disclosed and mitigated with adoption of the EIR/EIS prepared for that project by the MCWRA in 2002. As noted above, there will be certain significant and unavoidable impacts.

Extension of distribution lines from SVWP supplies to new residential, commercial, industrial, and agricultural uses will also result in environmental impacts due primarily due to construction. Extension of distribution pipelines to the Granite Ridge area will also have construction period impacts. Impacts of their construction will need to be assessed under CEQA at the point of their proposal and mitigated where feasible mitigation is available. It is possible, though unlikely, that the physical impacts of new distribution lines cannot be always mitigated to a less-than-significant level in all locations.

Monterey Peninsula

The impacts of the MPWMD ASR project were analyzed and found to be mitigable to a less-than-significant level.

The potential impacts of the Cal-Am Coastal Water Project facilities are being analyzed in the CEQA document being prepared under direction of the CPUC as part of the permitting process. The regional water supply program of the Water for Monterey Coalition may also be evaluated as part of the CEQA document. The same will be true of the desalination plant proposed by the Pajaro/Sunny Mesa Community Services District

if it is advanced. Feasible mitigation measures will be imposed on the projects that are selected and permitted.

At this point, the specific environmental impacts of all new water supply and distribution facilities on the Monterey Peninsula have not been fully analyzed. While many significant impacts can likely be mitigated to a less-than-significant level, it is possible that certain significant and unavoidable impacts may occur with their implementation.

Pajaro Valley

The Harkins Slough project and Murphy Crossing project have been completed. The Watsonville Water Recycling Project is currently in construction and mitigation was identified in the project EIR that would reduce most impacts to a less-than-significant level with the exception of impacts on prime farmland and secondary effects due to growth, which would be significant and unavoidable.

Although the PVWMA has long contemplated obtaining water from the State Water Project, as discussed above, that now appears to be infeasible. Were delivery to occur, it may result in unavoidable impacts on ESA-listed fish species. The PVWMA also identified significant and unavoidable impacts for the importation pipeline/groundwater banking project related to prime farmland, construction across active fault traces, construction air quality, and growth inducement.

If advanced, the desalination plant proposed by the Pajaro/Sunny Mesa Community Services District would need to be analyzed under CEQA for potential significant impacts and feasible mitigation measures imposed for significant impacts identified. While many significant impacts can likely be mitigated to a less-than-significant level, it is possible that certain significant and unavoidable impacts may occur with implementation.

Mitigation Measures

There are a numerous policies in the General Plan that address impacts from construction and operation of new infrastructure, including policies related to air quality, noise, geology, hydrology, cultural resources, biological resources, farmland, and traffic, among other subjects. Relevant mitigation in other sections of this EIR, such as for biological resources (BIO-1.1 through 1.5, 2.1, 2.2, 2.3, 3.1, and 3.2), air quality (AQ-1, 2, 3, 5, and 6), climate change (CC-1, 2, 5, and 13), and other resource impacts would also apply to new water supply infrastructure and would reduce further impacts. In many cases, the application of 2007 General Plan policies and the mitigation in this EIR would reduce secondary impacts of water supply infrastructure to a less-than-significant level.

A comprehensive list of applicable 2007 General Plan policies and applicable mitigation is not included here, but can be found in the 2007 General Plan and in the other EIR sections.

Significance Conclusion

Expanding or building new treatment, storage, and conveyance facilities will result in significant impacts on physical resources as discussed above. 2007 General Plan policies and resource mitigation identified in this EIR would reduce many of these impacts to a less-than-significant level. When specific facilities are proposed, they would be subject to CEQA review, and mitigation of any significant impacts that may be identified would be required where feasible (Public Resources Code Section 21002).

However, as shown in the completed CEQA evaluations for large-scale water supply and distribution projects (such as the SVWP or the PVWMA BMP), feasible mitigation is not always available to reduce all impacts to a less-than-significant level and thus this impact is disclosed as a significant and unavoidable impact.

Buildout

Impact of Development with Policies

Buildout under the 2007 General Plan would require substantial numbers of additional water supply facilities. There are no specific water supply projects identified beyond the 2030 horizon. New infrastructure could include new desalination plants, water treatment plants, water recycling, facilities pipelines, reservoirs, tanks, and other elements. Impacts related to such facilities were discussed above for the 2030 planning horizon.

Significance Determination

At buildout in 2092, there would be nearly 36,000 more dwellings within the unincorporated county than existed in 2006. The specific locations of these future dwellings, their design, their relationship to other development and land uses, and the character of their surroundings cannot be accurately determined that far into the future. Future sources of water in 2092 are unknown and cannot be known at this time. Similarly, there is no information available about the locations of any other water supply facilities needed to meet 2092 demands, their physical characteristics, and their uses. Therefore, a discussion of their potential environmental impacts would be speculative, although their impacts are likely to be of a similar character as for currently proposed projects.

Mitigation Measures

The implementation of the proposed 2007 General Plan policies and existing regulations would reduce potential secondary impacts from new water supply facilities. Relevant mitigation in other sections of this EIR,

such as for biological resources, agriculture, and other resource impacts, would apply to new water supply mitigation and would, in many cases, reduce impacts to a less-than-significant level. Those measures are not listed in this section due to their length, but would apply.

Significance Conclusion

A second phase of the Salinas Valley Water Project is feasible, according to MCWRA. The secondary impacts of new infrastructure on biological resources and other subjects remains to be evaluated. The significance of secondary impacts due to construction and operation of this second phase is unknown, and they are thus considered significant and unavoidable for this EIR.

There are no current plans for acquiring new water supplies to meet the post-2030 long-term demand for the Monterey Peninsula or the Pajaro Valley. In theory, expansion of the currently proposed desalination, aquifer storage, water recycling, river diversion, and conservation projects could provide water for these areas, but conceptual proposals for after 2030 are not even under consideration at this time. Thus secondary impacts of infrastructure are unknown, and for this EIR, it is concluded that there would be significant and unavoidable secondary impacts related to water supply infrastructure on the Monterey Peninsula and in the Pajaro Valley portion of the North County Plan area.

New water supply facilities would be subject to review and mitigation under CEQA, and in many cases impacts can likely feasibly be mitigated to a less-than-significant level. However, as with many large-scale water supply projects, impacts cannot always be mitigated to a less-than-significant level. Therefore, this is disclosed as a significant and unavoidable impact.

Substantially Deplete Groundwater Supplies or Interfere with Recharge—Groundwater Level Decline and Overdraft

Impact WR-6: Land uses and development consistent with the 2007 General Plan would increase demand on groundwater supplies in some areas; the associated increased well pumping would result in the continued decline of groundwater levels and accelerated overdraft. (Significant and Unavoidable Impact.)

2030 Planning Horizon

Impact of Development with Policies

Groundwater is the primary water supply source for most of the county, including the Community Areas and Rural Centers, and most agricultural water uses. Ultimately, the sustainability of groundwater supplies requires

that the volume of water cumulatively drawn from an aquifer not exceed the volume of groundwater recharge. Typically, this balance needs to occur over a period of years, recognizing that periodic drought conditions and years of abundant rainfall are a part of the normal California weather pattern. As mentioned previously, there has been substantial historical overdraft of most of the county's major aquifers. If a water balance is not achieved and maintained over the long term, groundwater levels will continue to drop, resulting in the need to lower pumps, deepen wells, or drill new wells. Over time, groundwater supplies would be further depleted and local aquifers may no longer be a dependable source of water. Existing and future land uses (including development on lots of record in many of the unincorporated areas outside of the Community Areas and Rural Centers) are and will continue to be highly dependent on individual groundwater wells, as are small mutual or independent water companies relying on this resource as their primary source of water supply.

Once groundwater resources have been adversely affected (i.e., lowering of groundwater levels and intrusion of seawater), recovery is more difficult. Significant groundwater declines already have occurred in many areas of the county, resulting in seawater intrusion into coastal aquifers—including both of the productive 180- and 400-foot aquifers. Some groundwater level declines have occurred in the Deep Zone, and serious groundwater declines have occurred in the coastal zone of the North County area.

A further consequence of groundwater overdraft is the effect on aquatic habitats and CEQA-defined special-status species, such as steelhead, California red-legged frog, the Santa Cruz long-toed salamander, and California tiger salamander, among other species. Groundwater overdraft can dry creek channels, ponds, and wetlands where such water features are groundwater-supported, which can disrupt wildlife migration, movement, reproduction and foraging or can result in mortality in the case of fish. It can also result in saltwater intrusion, which is discussed below under Impact WR-7.

As discussed in the Setting section, many of the county's aquifers are in overdraft. All of the County's water management agencies are acutely aware of the need to reverse the serious overdraft trend and have developed groundwater management programs that, over time, will move toward sustainability. These include capital programs for better storage, treatment, and transportation of water; water conservation recycling and reuse; and development of new water supplies, including potential out-of-basin imports.

A major groundwater resource issue in Monterey County is the problem of seawater or saltwater intrusion. Heavy pumping of freshwater for irrigation has resulted in landward intrusion of brackish or saline water into formerly freshwater aquifers, especially where there are permeable sands and dune deposits next to the coast such as in the Pajaro, Castroville, and Seaside areas. Seawater intrusion was first observed in the coastal aquifers in the mid-1930s.

The protection of major groundwater recharge areas, for both recharge ability and water quality, is an important management tool for the sustainability of groundwater resources. Some areas of the county contain soils with high clay content that have poor infiltration and recharge characteristics or are underlain by hard bedrock formations that do not contain sizable groundwater bodies. In such areas, the majority of groundwater recharge occurs along streams. However, significant portions of major recharge areas consist of permeable soils overlying important regional aquifers. Major recharge areas typically are located along valley floors; some are located in the Community Areas where urban and suburban growth would occur. Urban development and the resultant increase in impervious cover over these recharge areas historically have reduced natural recharge opportunities in some areas. Implementation of the 2007 General Plan would result in construction of additional impervious surfaces, further reducing groundwater recharge.

Other important tools in groundwater management to achieve a long-term sustainable system and basin balance include significant reductions in demand due to increased water conservation and replacement of some groundwater usage with an increased groundwater management program focus on using treated, recycled water and desalinized seawater.

Although Monterey County has mandatory programs (water conservation ordinances) for urban water conservation—for instance, its low-flush toilet requirement for new development and retrofit program for certain types of remodeling projects—community education, outreach, and program enforcement have not been adequately funded. Clearly, more can be done to reduce urban water demand in many unincorporated parts of the county. Desalinization and use of recycled water are currently being explored at both the local and regional level by a number of water supply entities in the county. Although a well-coordinated and largely voluntary program for agricultural water conservation exists throughout most of the county, more also can be done to achieve increased agricultural water conservation through increased outreach, education, and coordination efforts by the County and by increased enforcement of existing agricultural water conservation regulations. This would require fully funding a water conservation program and providing adequate staff resources.

The SVWP will substantially reduce summer demand on groundwater resources in the Salinas Valley. This is expected to reduce or halt the seawater intrusion at its current line in the Castroville area. The SVWP, in conjunction with the Monterey County Water Recycling Projects, is expected to meet both urban and agricultural water needs in the Salinas Valley to 2030. (Monterey County Water Resources Agency 2001.)

Both Cal-Am and the MPWMD are working on obtaining new water supplies for the Monterey Peninsula, while at the same time reducing reliance on the Carmel River to levels authorized by the State Water Board. Their desalination projects are in the planning stage. These projects are designed

to reduce reliance on water from the Carmel River and the Seaside aquifer. When implemented, they are expected to avoid overdraft of the Seaside basin. Additionally, the CSIP is injecting recycled water into its underlying aquifer in order to halt seawater intrusion in the Castroville area. This also counteracts overdraft at the mouth of the Salinas River.

The Pajaro River IRWMP has identified a program for water supply and salt management. This includes the Watsonville Recycled Water Treatment Facility and Coastal Distribution System pipeline that are being installed in Santa Cruz County. These facilities will treat and distribute up to 4,000 AFYof recycled water to agricultural lands directly north of the Pajaro River. The PVWMA estimates that this new supply, combined with other sources, will provide almost one-quarter of the water needed to halt seawater intrusion in the Pajaro River basin. (Pajaro Valley Water Management Agency 2008c) Further, as discussed above, the Pajaro/Sunny Mesa Community Services District is pursuing a desalination plant at Moss Landing that would provide up to 21,000 AFY for groundwater recharge and maintenance of a hydrologic seawater intrusion barrier. Obtaining the outside supplies needed to halt overdraft in the Pajaro basin is not feasible, as discussed under Impact WR-4. Therefore, overdraft will continue during the 2030 planning horizon and beyond.

2007 General Plan Policies

The 2007 General Plan contains various policies addressing groundwater supply issues.

Public Services Element

Public Services Element Policy PS-2.2 (groundwater quality and groundwater monitoring) states that the Water Resources Agency shall assure adequate monitoring of wells in those areas experiencing rapid growth provided adequate funding mechanisms for monitoring are established.

Public Services Element Policy PS-2.6 requires the hydrologic resources constraints and hazards database to include identification and mapping of both prime groundwater recharge areas and hard rock areas with constrained groundwater in the County GIS.

Public Services Element Policy PS-2.8 requires that all projects be designed to maintain or increase the site's pre-development absorption of rainfall (minimize runoff) and to recharge groundwater where appropriate.

Public Services Element Policy PS-2.9 mandates that the County use discretionary permits to manage the construction of impervious surfaces in important groundwater recharge areas.

Public Services Element Policy PS-3.1 requires a long-term, sustainable water supply, both in quality and quantity, to serve development beyond the first single-family residence on any lot. This encourages efforts to improve sustainability by reducing overdraft.

Public Services Element Policy PS-3.3 (new development, surface water and groundwater supply) requires that specific criteria for proof of a long-term sustainable water supply for new residential or commercial subdivisions shall be developed. Criteria shall include but are not limited to:

a. Water quality

b. Production capability

c. Recovery rates

d. Effect on wells in the immediate vicinity

e. Existing groundwater conditions

f. Technical, managerial, and financial capability of the water purveyor of the water system

g. Cumulative impacts and planned growth in the area

h. Status and surety of planned new water supply projects including design, financing mechanism, and environmental review of the project

Public Services Element Policy PS-3.4 requires the County to develop criteria for the evaluation of all new wells, including capacity, recovery rate, effect on nearby wells, and existing groundwater conditions.

Public Services Element Policy PS-3.5 (groundwater wells, groundwater quality and groundwater quality) requires that pump tests or hydrogeologic studies be conducted for new high-capacity wells, including high-capacity urban and agricultural production wells, where there may be a potential to affect existing adjacent domestic or water system wells adversely as determined by the Monterey County Water Resource Agency. In the case of new high-capacity wells for which pump tests or hydrogeologic studies show the potential for significant adverse well interference, the County shall require that the well be relocated or otherwise mitigated to avoid significant well interference.

Public Services Element Policy PS-3.7 (groundwater supply and surface water supply) states that a determination of a long-term sustainable water supply

a. Shall not be based on hauled water

b. Should be determined on a basin-by-basin basis

Public Services Element Policy PS-3.9 requires an overdraft elimination program to be developed as part of the CIFP, to be evaluated every 5 years.

Public Services Element Policy PS-3.11 (new development, surface water supply and groundwater supply) states that a tentative subdivision map and/or vesting tentative subdivision map application for either a standard or minor subdivision shall not be approved until:

a. The applicant provides evidence of an assured long-term water supply in terms of yield and quality for all lots which are to be created through subdivision. A recommendation on the water supply shall be made to the decision making body by the Director of Health Services and the General Manager of the Monterey County Water Resources Agency, or their respective designees.

b. The applicant provides proof that the water supply to serve the lots meets both the water quality and quantity standards as set forth in Title 22 of the California Code of Regulations and County water systems and well regulations (Chapters 15.04 and 15.08 of the Monterey County Code, as may be periodically amended), subject to the review and recommendation by the Director of Health Services to the decision making body.

Public Services Element Policy PS-3.12 requires the County to establish an ordinance identifying conservation measures that reduce agricultural water demand.

Public Services Element Policy PS-3.13 mandates establishment of an ordinance identifying urban conservation measures that reduce potable water demand.

Public Services Element Policy PS-3.14 establishes strategies for maximizing the use of recycled water as a potable water offset to manage water demands and meet regulatory requirements for wastewater discharge.

Public Services Element Policy PS-4.4 encourages the use of reclaimed wastewater for groundwater recharge.

Public Services Element Policies PS-4.7 and PS-4.8 include groundwater recharge in criteria for assessing wastewater treatment facilities and septic systems, respectively.

Public Services Element Policy S-3.5 requires development of runoff performance standards for site planning and design techniques to capture runoff for use in groundwater recharge.

Area Plan Policies

Several Area Plan supplemental policies protect groundwater supply.

North County Area Plan

The North County Area Plan Policy NC-5.1 requires new development to maximize groundwater recharge capabilities. North County Area Plan Policy NC-5.2 (surface and groundwater water supply) states that water development projects that can offer a viable water supply to water-deficient areas in North County shall be a high priority.

Central Salinas Valley Area Plan

Policies CSV-1.1 and CSV-1.2 require comprehensive development plans for certain recreation and commercial land use projects to address water quantity and quality. Policy CSV-5.1 also protects groundwater recharge through preservation of riparian habitats and flood flow capacity along the main channels of the Arroyo Seco and Salinas Rivers. Policy CSV-5.2 requires identification and protection of areas valuable for both natural and artificial groundwater recharge, and requires that recreation and visitor-serving commercial uses prove no negative impact on groundwater quality.

Carmel Valley Area Plan

Policy CV-5.1 in the Carmel Valley Master Plan requires consideration of all beneficial uses of water resources in managing pumping from the Carmel River aquifer. Policy CV-5.3 requires incorporation of water reclamation and conservation development designs to create additional water for the area, and Policy CV-5.4 allows use of reclaimed water for some water sources as long as groundwater quality is not degraded.

Cachagua Area Plan

Cachagua Area Plan Policy CACH-5.1 protects the existing water supply by prohibiting export of groundwater outside the planning area.

South County Area Plan

South County Area Plan SC-5.1 and SC-5.3 each require new development to maximize groundwater recharge capabilities.

Community Area Policies

Fort Ord Master Plan

Fort Ord Master Plan Hydrology and Water Quality Policy A-1 requires new development to demonstrate measures to minimize runoff and maximize infiltration in groundwater recharge areas, including programs requiring the County to develop site drainage design and stormwater infiltration BMPs; to adopt and enforce a stormwater detention plan with design and implementation measures for all new development; and to prepare, adopt, and enforce a master drainage plan for the area based on the approved reuse plan. Hydrology and Water Quality Policy A-2 requires the County to protect groundwater recharge by ensuring that land use does not decrease flow magnitude and duration; corresponding Program A-2.1 requires the County to implement a stream-gauging program for creeks in the eastern part of the former Fort Ord. Hydrology and Water Quality Policy B-1 protects overall water supply by requiring the County to encourage and investigate additional water supply sources for critically deficient areas, including water importation, desalination, and reclaimed or recycled water sources. Hydrology and Water Quality Program C-3.1 (groundwater supply) establishes that the County shall continue to work with the MCWRA and the MPWMD to estimate the current safe yield within the context of the Salinas Valley Water Management Plan for those portions of the former Fort Ord overlying the Salinas Valley and Seaside groundwater basins to determine available water supplies. Hydrology and Water Quality Program C-3.5 (groundwater wells) states that the County shall carry out all actions necessary to ensure that the installation of water supply wells comply with the State of California Water Well Standards and well standards established by the Monterey County Health Department.

Significance Determination

Several 2007 General Plan and Area Plan policies seek to protect groundwater levels, with a special focus on protection of the deep productive aquifers in the Salinas Valley and Pajaro or North County area. Most notably, policies PS-3.1 and PS-3.3 will restrict development within the Community Areas, Rural Centers, and areas outside the Area Plans that restrict development to the first residential unit on existing lots of record until sustainable water supplies are available.

The SVWP is expected to halt further groundwater overdraft to 2030. The EIR/EIS prepared for the SVWP concluded in its analysis of the availability of urban and agricultural water supplies to 2030 that agricultural water demand will decrease with time as a result of changes in crops (with an assumption that vineyards will replace row crops) and management practices (better water conservation; Monterey County Water Resources Agency

2001). Implementation of the AWCP would depend on individual groundwater wells for its water; however, it would not substantially change the assumptions supporting the conclusions of the SVWP EIR/EIS. AWCP projects would be subject to regulation under 2007 General Plan Policies PS-3.1 (requiring proof of a long-term water supply), PS-3.4 (criteria for new wells), PS-3.5 (testing of new high-capacity wells), and PS-3.12 (conservation ordinance for agricultural use), among others. This would avoid groundwater overdraft as a result of new wineries and related facilities in the Salinas Valley during the planning period to 2030.

Separately, the activities of Cal-Am and the MPWMA on the Monterey Peninsula, and the SVWP and the Pajaro River IRWMP's projects in the Salinas River and Pajaro River basins would increase the supply available for domestic use, increase the supply of water available for summer recharge, and reduce demand for groundwater during those periods.

With implementation of mitigation measure MM WR-1, the Monterey Peninsula would maintain this impact at a less-than-significant level.

However, areas in North County in the Pajaro Valley watershed would not avoid significant and unavoidable groundwater impacts. Policies PS-3.1 and 3.3 would act to limit development within the Pajaro Community Area until a sustainable water supply can be assured. However, they would not apply to the many existing lots of record in those areas. As described above, no comprehensive solution to provide adequate water to avoid overdraft has been established in the Pajaro Valley.

Mitigation Measures

In addition to implementation of the 2007 General Plan policies and Area Plan policies, as well as ongoing programs that address groundwater overdraft within the County, the following mitigation measure would mitigate the impacts of new development, but not to a less-than-significant level in all parts of the county.

WR-1: Support a Regional Solution for the Monterey Peninsula in addition to the Coastal Water Project

This measure is described above.

Significance Conclusion

Within the Pajaro River basin, this impact would remain significant and unavoidable during the planning period.

Buildout

Impact of Development with Policies

Under 2092 buildout conditions, overall water demand would probably increase.

Although the SVWP EIR/EIS concluded that water demand would decrease over time within the Salinas River basin, that projection is limited to 2030 (Monterey County Water Resources Agency 2001). Beyond that time, assuming substantial population growth in the county's cities and urbanized communities, urban demand also would be expected to increase substantially, while agricultural demand may remain the same as projected for 2030, may increase, or may decrease. Current SVWP planning only extends to 2030; additional water supplies would be necessary to meet increased urban demand after 2030, or groundwater overdraft will return at that time.

Water demand will increase on the Monterey Peninsula beyond 2030 as well. The currently horizon for regional water supply is only up to 2030, and no planning extends beyond that point. Thus, even if regional solutions are found to Seaside Aquifer and Carmel River overdraft for 2030, overdraft conditions could return after that period without new supplies.

Water demand will increase in the Pajaro Valley beyond 2030 as well. Current planning is inadequate to reverse existing overdraft or projected demands to 2040. Thus overdraft conditions after 2030 will worsen compared to the period before 2030.

Significance Determination

The policies of the 2007 General Plan would be fully implemented by 2092, as would the programs currently in various stages of planning by other agencies. It may be assumed that federal and state regulatory requirements would be at least as stringent as they are today. However, the very long-term future availability of surface water supplies in sufficient quantities to avoid groundwater overdraft is uncertain. Acquisition of additional supplies from outside the county is highly unlikely. The state and federal water projects are oversubscribed and, with continuing population growth statewide, that condition is unlikely to change by 2092. In addition, global climate change may have two future effects on the county's overdraft condition: sea level rise would exacerbate the seawater intrusion, making any groundwater withdrawals more critical to maintaining equilibrium; and variable rainfall may result in less water available to the Salinas, Pajaro, and Carmel Rivers, and other county streams and river systems in some years.

The MCWRA has opined that further actions can extend the supply available from the Salinas River system by 10,000 AFY. This would avoid increased overdraft.

The Seaside Aquifer is currently in overdraft. Current projects described above would address overdraft to 2030 but would not address water demands beyond 2030.

The Pajaro basin would be subject to development of the existing lots of record, as well as continued agricultural demand. Current planning is inadequate to address existing overdraft. With the Pajaro/Sunny Mesa Community Services District desalination plant in operation and dedicated entirely to the Pajaro Valley it might be possible to avoid overdraft up to around 2040, but beyond that overdraft conditions would return. Given the uncertainty about the desalination project, it is likely that overdraft conditions will only worsen after 2030, until a feasible new supply is found.

Mitigation Measures

Implementation of the 2007 General Plan policies and Area Plan policies, as well as the following mitigation measures, would mitigate the impacts of new development, but not to a less-than-significant level county-wide.

WR-1: Support a Regional Solution for the Monterey Peninsula in addition to the Coastal Water Project

This measure is described above.

WR-2: Initiate Planning for additional Supplies to the Salinas Valley

This measure is described above.

Significance Conclusion

A second phase of the Salinas Valley Water Project is feasible, according to MCWRA. From a groundwater point of view, implementation of Mitigation Measure WR-2 would mitigate the impacts of the 2007 General Plan buildout on overdraft to a less-than-significant level.

There are no current plans for acquiring new water supplies to meet the post-2030 long-term demand for the Monterey Peninsula or the Pajaro Valley. While discretionary development would be delayed until long-term water supplies are assured, non-discretionary development would exacerbate existing groundwater overdraft conditions. In theory, expansion of the currently proposed desalination, aquifer storage and recovery, water recycling, river diversion, and conservation projects could provide water for these areas to avoid overdraft, but conceptual proposals for after 2030 are not even under consideration at this time. Thus, this would be a significant and unavoidable groundwater overdraft impact on the Monterey Peninsula and in the Pajaro Valley portion of the North County Plan area.

Substantially Deplete Groundwater Supplies or Interfere with Recharge—Saltwater Intrusion

Impact WR-7: Land uses and development consistent with the 2007 General Plan would increase demand on groundwater supplies in areas currently experiencing or susceptible to saltwater intrusion. Increased groundwater pumping in certain coastal areas would result in increased saltwater intrusion. (Significant and Unavoidable Impact.)

2030 Planning Horizon

Impact of Development with Policies

Seawater intrusion is an existing and ongoing problem, as well as an increasing threat to groundwater quality, with implementation of the 2007 General Plan and continued reliance on groundwater as the primary water source. It is already one of the most significant groundwater management issues in the coastal part of Salinas Valley and the Pajaro Valley/North County area. Seawater intrusion can disrupt water supply to urban uses and agriculture, compromise water quality and result in the demand for additional treatment facilities which can have secondary physical impacts of their own.

A further consequence of seawater intrusion is the effect on freshwater aquatic habitats and CEQA-defined special-status species, such as California red-legged frog, the Santa Cruz long-toed salamander, and California tiger salamander, among other species. Many freshwater amphibians, including these three species, cannot tolerate increased salinity levels and thus seawater intrusion can completely prevent reproduction of these species in affected wetlands, creeks, or ponds. Such breeding disruption for the Santa Cruz long-toed salamander has been reported by the U.S. Fish and Wildlife Service in aquatic areas near Elkhorn Slough (USFWS 2006). Further, most freshwater riparian and wetland vegetation cannot tolerate increased salinity; loss of such vegetation would affect an even wider range of CEQA-defined special-status species and common species dependent on riparian and wetland habitats.

Seawater intrusion occurs in areas where groundwater wells pump from aquifers that are hydraulically connected to the Pacific Ocean, inducing gradients that cause the migration of saltwater toward the wells and inland up the valley aquifers, contaminating groundwater supplies. Activities that reduce reliance on groundwater (thereby reducing groundwater pumping) or that provide for groundwater recharge, particularly adjacent to the seawater intrusion line also retard the advance of seawater intrusion.

The 2007 General Plan would allow development in Community Areas, in Rural Centers, and on legal lots of record in these affected areas—with associated groundwater pumpage contributing to the ongoing, cumulative

saltwater intrusion problem. Outside the PVWMA jurisdictional area, new agricultural wells also can be brought into production with few restrictions on groundwater pumpage (other than on well construction standards and usage reporting requirements). Larger development projects on individual or new small community system wells would be subject to issuance of discretionary permits and thus CEQA review, which would provide a means for addressing the potential for saltwater intrusion and the application of appropriate use restrictions. However, smaller projects in conformance with the land use plan and zoning code would likely not require discretionary review and approval.

As discussed in the last section, both Cal-Am and the MPWMD are working on projects to reduce reliance on groundwater in the Seaside basin, thereby halting seawater intrusion. The Pajaro River IRWMP is undertaking a collaborative and comprehensive program to address intrusion within the Pajaro River basin. The SVWP currently under construction would provide additional seasonal water that would halt seawater intrusion in the Salinas River basin.

2007 General Plan Policies

Seawater intrusion is caused by using groundwater in excess of the recharge capacity of the groundwater basin. The following proposed 2007 General Plan policies would improve recharge capacity during the planning horizon.

Public Services Element

Public Services Element Policy PS-2.6 requires the hydrologic resources constraints and hazards database to include identification and mapping of both prime groundwater recharge areas and hard rock areas with constrained groundwater in the County GIS.

Public Services Element Policy PS-2.8 requires that all projects be designed to maintain or increase the site's predevelopment absorption of rainfall (minimize runoff) and to recharge groundwater where appropriate.

Public Services Element Policy PS-2.9 mandates that the County use discretionary permits to manage construction of impervious surfaces in important groundwater recharge areas.

Public Services Element Policy PS-3.3 requires the County to establish criteria to ensure long-term sustainable water supply for new residential and commercial subdivisions. These criteria are to include production capability, recovery rates, well effects, and groundwater conditions for new development.

Public Services Element Policy PS-3.4 requires the County to develop criteria for the evaluation of all new wells, including capacity, recovery rate, effect on nearby wells, and existing groundwater conditions.

Public Services Element Policy S-3.5 requires the development of runoff performance standards for site planning and design techniques to capture runoff for use in groundwater recharge.

Public Services Element Policy PS-3.6 requires that the County and all applicable water management agencies shall not allow the drilling or operation of any new wells in known areas of saltwater intrusion as identified by the MCWRA until such time as a program has been approved and funded that would minimize or avoid expansion of saltwater intrusion into useable groundwater supplies in that area.

Public Services Element Policy PS-3.9 requires an overdraft elimination program to be developed as part of the CIFP, to be evaluated every 5 years.

Public Services Element Policy PS-3.12 requires the County to establish an ordinance identifying conservation measures that reduce agricultural water demand

Public Services Element Policy PS-3.13 mandates establishment of an ordinance identifying urban conservation measures that reduce potable water demand.

Public Services Element Policy PS-3.14 establishes strategies for maximizing the use of recycled water as a potable water offset to manage water demands and meet regulatory requirements for wastewater discharge.

Public Services Element Policy PS-4.4 encourages the use of reclaimed wastewater for groundwater recharge.

Public Services Element Policies PS-4.7 and PS-4.8 include groundwater recharge in criteria for assessing wastewater treatment facilities and septic systems, respectively.

Area Plan Policies

While no Area Plans specifically address saltwater intrusion, supplemental policies related to groundwater would also help to mitigate this impact.

Greater Salinas Area Plan

Greater Salinas Area Plan Policy GS-1.8 (water quality, groundwater quality, new development, Salinas River, riparian corridor) allows for the land near the town of Spreckels designated as industrial to be developed partially or wholly as agriculturally related commercial uses provided said agriculturally related development complies with, among others, the following conditions:

a. Development shall be designed to protect and, where feasible, enhance the riparian corridor along the Salinas River.

b. Proposed development would not deteriorate water quality in the Salinas River or area ground water.

Greater Salinas Area Plan Policy GS-5.1 (Gabilan Creek, riparian corridor, flood hazard) calls for portions of Gabilan Creek to be evaluated for a linear park as defined by the County's Parkland Classification System at such time when the County can support another regional park. Until such time, Gabilan Creek shall be:

a. maintained in a natural riparian state;

b. kept in a free-flow state devoid of dams;

c. allowed its natural flood capacity through required setbacks conforming to the 100-year-flood plain; and

d. kept free from urban encroachment by residential development through required dedication of land in the floodplain corridor.

Central Salinas Valley Area Plan

Central Salinas Valley Area Plan Policy CSV-5.2 (a. groundwater recharge, b. new development, c. floodways, d. new development, groundwater quality/quantity, e. septic, f. stormwater, erosion) requires that recreation and visitor-serving commercial uses shall only be allowed if it can be proven that:

a. areas identified by the Water Resources Agency as prime-groundwater recharge areas can be preserved and protected from sources of pollution as determined by the Director of Environmental Health and the Water Resources Agency;

b. proposed development can be phased to ensure that existing groundwater supplies are not committed beyond their safe, long-term yields where such yields can be determined;

c. floodways associated with the main channels of either the Arroyo Seco River or the Salinas River will not be encroached on by development because of the necessity to protect and maintain these areas for groundwater recharge, preservation of riparian habitats, and flood flow capacity as determined by the Water Resources Agency;

d. the proposed development meets both water quality and quantity standards expressed in Title 22 of the California Code of Regulations and Title 15.04 of the Monterey County Code as determined by the Director of Environmental Health;

e. the proposed development meets the minimum standards of the Regional Water Quality Control Basin Plan when septic systems are proposed and also will not adversely affect groundwater quality, as determined by the Director of Environmental Health; and

f. the proposed development will not generate levels of runoff which will either cause erosion or adversely affect surface water resources as determined by the Water Resources Agency.

Central Salinas Valley Area Plan Policy CSV-5.3 (Drainage Management Plan) explains that prior to new development, other than those consistent with the underlying land use designation, in the Spence/Potter Road study area, a drainage management plan to mitigate runoff to adjoining farmlands for the entire study area must be developed.

Carmel Valley Area Plan

Carmel Valley Master Plan Policy CV-5.4 (water reclamation, conservation) ensures that the County shall establish regulations for Carmel Valley that limit development to vacant lots of record and already approved projects, unless additional supplies are identified. Reclaimed water may be used as an additional water source to replace domestic water supply in landscape irrigation and other approved uses provided the project shows conclusively that it would not create any adverse environmental impacts such as groundwater degradation.

South County Area Plan

South County Area Plan Policy SC-5.1 (new development and groundwater recharge) establishes that new development shall not diminish the groundwater recharge capabilities in the South County Planning Area where the following resources have been identified:

a. Valuable natural groundwater recharge areas, or

b. Artificial groundwater recharge projects.

Areas that are highly susceptible to water quality degradation because of either high water tables or rapid percolation rates shall require more strict enforcement of this policy. Agricultural land uses in such areas should be maintained to preserve groundwater quality.

Community Area Policies

Fort Ord Master Plan

The Fort Ord Master Plan contains a policy and programs specifically addressing seawater intrusion. Hydrology and Water Quality Program A-1.2 (stormwater detention and groundwater recharge) requires that the County shall prepare, adopt, and enforce a stormwater detention plan that identifies potential stormwater detention design and implementation measures to be considered in all new development, in order to increase groundwater recharge and thereby reduce potential for further seawater intrusion and provide for an augmentation of future water supplies.

Hydrology and Water Quality Policy C-3 requires County cooperation with the MCWRA and MPWMD to mitigate further seawater intrusion (based on the Salinas Valley Basin Management Plan), including programs to estimate current safe yield, determine the extent of seawater intrusion, implement mitigation measures, develop additional water supply sources, adopt and enforce a water conservation ordinance, ensure that installation of supply wells comply with the State of California Water Well Standards, and ensure that water distribution and storage comply with State Health Department regulations through Title 22. Hydrology and Water Quality Program C-3.2 (seawater intrusion) specifically calls for the County to work with the MCWRA and MPWMD to determine the extent of seawater intrusion into the Salinas Valley and Seaside groundwater basin within the context of the Salinas Valley Water Management Plan and requires that the County shall participate by implementing measures to prevent further intrusion.

Significance Determination

New and existing nondiscretionary land use and development entitlements would result in increased seawater intrusion associated with agricultural well development, low-density development, and urban development within the Pajaro basin and North County. Limited development potential in the Seaside basin (due to current restrictions on new water connections) would avoid this impact in the short run, and new desalination projects in the planning stages by Cal-Am and the MPWMD would halt any potential intrusion during the 2030 planning horizon, avoiding this impact. However, other areas face challenges in halting seawater intrusion. Seawater intrusion will be controlled in the Salinas Valley through the SVWP to 2030. Mitigation Measure WR-1, in conjunction with the Coastal Water Project, would avoid a significant impact from seawater intrusion on the Monterey Peninsula.

A solution for the Pajaro basin is not available. Although several 2007 General Plan policies would assist in managing wells in areas where seawater

has intruded into groundwater, a feasible comprehensive solution to the Pajaro Valley seawater intrusion has not been advanced at this time.

Mitigation Measures

New and existing non-discretionary land use and development entitlements would contribute to the ongoing, cumulative saltwater intrusion problem in Monterey County. Implementation of the 2007 General Plan goals and policies and supplemental Area Plans would reduce this impact, but not to a less-than-significant level in all parts of the county.

WR-1: Support a Regional Solution for the Monterey Peninsula in addition to the Coastal Water Project

This measure is described above.

Significance Conclusion

The SVWP and CISP appear to be sufficient to halt seawater intrusion in the Salinas River basin during the planning horizon. Similarly, the desalination projects will avoid future intrusion in the Seaside basin. In those areas, the impact of the project would be less than significant.

In the Pajaro Valley, this impact is considered significant and unavoidable due to the lack of an established feasible comprehensive solution to address existing sweater intrusion as well as future water demands.

Buildout

Impact of Development with Policies

Buildout would result in additional development within the planning area beyond that projected for the 2030 planning horizon. Further development in Community Areas, Rural Centers, and affordable housing overlay areas would increase water demands that would not be met by current water supply planning, which only has a horizon of 2030; thus new demands may exacerbate seawater intrusion.

The addition of dispersed low-density development on the existing lots of record would result in additional water wells throughout the county. Despite 2007 General Plan policies limiting new wells and encouraging groundwater recharge, the potential for overdraft and the resultant seawater intrusion would increase.

Significance Determination

The policies of the 2007 General Plan would be fully implemented by 2092, as would the programs currently in various stages of planning by other agencies. These policies would act to reduce the potential impact of new

water wells. However, the very long-term future availability of surface water supplies in sufficient quantities to avoid seawater intrusion is uncertain. Acquisition of additional supplies from outside the county is unlikely, barring some unforeseen new source of water. The state and federal water aqueducts are oversubscribed and, with continuing population growth statewide, that condition is unlikely to change by 2092. In addition, sea level rise as a result of global climate change would exacerbate the seawater intrusion, making any groundwater withdrawals more critical to maintaining equilibrium. In addition, unpredictable year-to-year variations in rainfall may result in less surface water available to the Salinas and Pajaro Rivers to recharge groundwater and keep seawater out of the aquifers. If that is the case, the impact will be significant and unavoidable.

Mitigation Measures

Implementation of the 2007 General Plan policies and Area Plan policies, ongoing programs that address groundwater overdraft within the County, and the following mitigation measures would mitigate the impacts of new development on seawater intrusion, but not to a less-than-significant level.

WR-1: Support a Regional Solution for the Monterey Peninsula in addition to the Coastal Water Project

This measure is described above.

WR-2: Initiate Planning for additional Supplies to the Salinas Valley

This measure is described above.

Significance Conclusion

A second phase of the Salinas Valley Water Project is feasible, according to MCWRA. From a seawater intrusion point of view, implementation of Mitigation Measure WR-2 would mitigate the impacts of the 2007 General Plan buildout to a less-than-significant level.

There are no current plans for acquiring new water supplies to meet the post-2030 long-term demand for the Monterey Peninsula or the Pajaro Valley. While discretionary development would be delayed until long-term water supplies are assured, non-discretionary development would exacerbate existing seawater intrusion conditions. In theory, expansion of the currently proposed desalination, aquifer storage and recovery, water recycling, river diversion, and conservation projects could provide water for these areas to avoid seawater intrusion, but conceptual proposals for after 2030 are not even under consideration at this time. Thus, this would be a significant and unavoidable seawater intrusion impact on the Monterey Peninsula and in the Pajaro Valley portion of the North County Plan area.

Violate Water Quality Standards—Wastewater Disposal

Impact WR-8: Land uses and development consistent with the 2007 General Plan would result in sewer- and septic-related water quality impacts, including those associated with reuse of treated water and migration of septic tank leachfield wastewater effluent to groundwater that would violate water quality standards. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Conventional wastewater treatment plant discharges, package treatment plant discharges, and failing septic systems would violate water quality standards or WDRs, or both. All of Monterey County's treatment plants, including those operated by municipalities or wastewater management districts, are regulated under a WDR permit issued by the Central Coast RWQCB. The County would be responsible for the water quality of wastewater discharges associated with the plants it operates. In cases where the plants are not directly operated by the County, the County's role would be one of cooperation and coordination with the plants. Water quality problems associated with point source discharges from wastewater treatment plants historically (over the last 10 years) have been infrequent.

The regulation of privately operated package wastewater treatment plants in the county would be more difficult because the financial responsibility for plant operation, maintenance, and potential Central Coast RWQCB penalties would be in the hands of private districts or property owners, such as homeowners associations. Private owners may lack the financial resources to address water quality and maintenance problems when they arise.

Water quality also would be affected by the reuse of treated wastewater from sewer plants for agriculture and landscaping, and as a replacement for other non-potable water demands. Such reuse is a major focus of the County's long-term effort to bring water usage more in line with sustainable water supply. Depending on the extent of treatment that is applied to the wastewater, over-application would result in excessive runoff entering waterways, or leaching of constituents contained in the wastewater (such as salts, nutrients, estrogenic substances, and pharmaceuticals) to the groundwater.

Individual septic systems (i.e., Onsite Wastewater Treatment Systems) serving individual residences also would degrade water quality. This is of particular concern in areas where historical development on small lots has resulted in a high concentration of older septic systems that may not have been designed and constructed using current standards or that are not regularly maintained or upgraded. Nitrate contamination of groundwater is a

concern in these areas (such as the North County), especially in areas of permeable soils and relatively shallow groundwater.

2007 General Plan Policies

The 2007 General Plan contains goals and policies addressing water quality issues related to wastewater disposal. A number of these policies discourage the use of individual septic systems in favor of community systems that are subject to a higher level of regulatory supervision.

Public Services Element

Public Services Element Policy PS-2.6 includes mapping of areas with severe septic tank leachfield suitability constraints via a Hydrologic Resources Constraints and Hazards Database .

Public Services Element Policy PS-4.1 (wastewater treatment) ensures that adequate wastewater treatment facilities shall be assured concurrent with new development.

Public Services Element Policy PS-4.2 (new development and wastewater treatment) requires that developers shall construct or contribute their fair share to the funding of new or expanded wastewater treatment facilities needed to serve their development.

Public Services Element Policy PS-4.3 (new development and wastewater treatment) establishes that all available public and private financing sources and techniques to fund wastewater treatment facilities shall be pursued.

Public Services Element Policy PS-4.4 (groundwater recharge and wastewater treatment) encourages groundwater recharge through the use of reclaimed wastewater, not including primary treated wastewater, in accordance with federal, state, and local laws, regulations and ordinances. This prohibits unregulated discharges.

Public Services Element Policy PS-4.5 (new development and wastewater treatment) ensures that new development proposed in the service area of existing wastewater collection, treatment and disposal facilities should seek service from those facilities unless it is clearly demonstrated that the connection to the existing facility is not feasible.

Public Services Element Policy PS-4.6 (new development and wastewater treatment) requires that new independent wastewater treatment facilities should not be allowed unless it is clearly demonstrated that connection to a regional facility is not feasible.

Public Services Element Policy PS-4.7 requires development of water quality criteria for new wastewater treatment facilities.

Public Services Element Policy PS-4.8 requires development of several criteria for septic disposal systems to protect water quality.

Public Services Element Policy PS-4.9 (new development, wastewater treatment and agency coordination) ensures that the adequate provision of new or expanded wastewater treatment facilities that meet RWQCB waste discharge requirements shall be assured to the satisfaction of the County and RWQCB prior to the approval of new residential subdivision maps or zone changes.

Public Services Element Policy PS-4.10 requires County development of an alternative wastewater system management program, consistent with the regulations pursuant to AB 885, to administer and monitor the use of alternative wastewater systems.

Public Services Element Policy PS-4.11 encourages all new wastewater treatment facilities to use tertiary treatment standards to minimize water quality impacts.

Public Services Element Policy PS-4.12 (North County, Carmel Valley, wastewater treatment, and new development) states that the County Health Department, Environmental Health Division, shall develop On-site Wastewater Management Plans (OWMP) for areas with high concentrations of development that are served primarily by individual sewage systems such as North County and Carmel Valley. Wastewater treatment and disposal for community areas and rural centers shall be through the consolidation of services into regional or subregional facilities. Subdivisions shall be required to consolidate wastewater collection, treatment, and disposal systems of services, connecting to existing systems where feasible. The County shall not allow the use of package plants when connection to a regional facility is feasible.

Area Plan Policies

Some of the Area Plans include policies that specifically address wastewater and water quality issues.

Greater Salinas Area Plan

Greater Salinas Area Plan Policy GS-1.1 (drainage ponds and wastewater facilities) establishes that in the Butterfly Village Special Treatment Area approximately 671 acres located north of San Juan Grade Road and east of Harrison Road (113-271-014-000, 113-212-043-000, 113-212-044-000, 113-212-004-000, 113-212-003-000, 113-212-055-000, 113-212-056-000, 113-212-057-000 and 113-212-

058-000) shall be designated as a "Special Treatment Area" to permit a planned development including the following:

- Public park including trails, public parking, and a series of drainage ponds.
- Public facilities, including fire/sheriff substation, maintenance yard, wastewater treatment facility, and an elementary school site with athletic fields.

Central Salinas Valley Area Plan

Policy CSV-5.2 requires any recreation and visitor-serving commercial development to meet minimum basin plan standards where septic systems are proposed.

Carmel Valley Master Plan

Carmel Valley Master Plan Policy CV-5.5 requires completion of geologic and soil investigations for development projects using onsite septic systems, as well as overall review in accordance with standards of the Carmel Valley Wastewater Study. Policy CV-1.8 requires clustered development to be consistent with the Carmel Valley Wastewater Study by limiting development to five units or less on a minimum of 5 acres of land.

Toro Area Plan

Policy T-5.1 of the Toro Area Plan encourages development in areas that can be served by wastewater treatment facilities to ensure adequate wastewater treatment.

Community Area Policies

Fort Ord Master Plan

Fort Ord Master Plan Hydrology and Water Quality Policy C-5 requires the County to support all actions necessary to ensure that sewage treatment facilities comply with Central Coast RWQCB WDRs, and Policy C-7 requires all development plans to verify adequate wastewater treatment capacity.

Significance Determination

Implementation of the 2007 General Plan policies would promote the use of wastewater collection and treatment systems, as well as establish comprehensive standards for septic and alternative wastewater systems (including recycling of treated wastewater). These requirements would apply to individual lots of record, major and minor subdivisions, Community Areas, and Rural Centers. In addition, the County approval process for

discretionary projects, which include proposed new or expanded community water supply and wastewater disposal systems, would require preparation and submittal of a technical, managerial, and financial (TMF) capacity analysis, demonstrating that such proposed systems have not only available capacity, but also the institutional capability to provide the services on a long-term, sustainable basis. Further, Policy PS-4.10 requires County development of an alternative wastewater system management program, consistent with the regulations pursuant to AB 885 and Central Coast RWQCB requirements.

New wineries and related facilities under the AWCP generally would use septic systems for wastewater disposal. However, the AWCP boundary primarily encompasses agricultural lands in the Salinas Valley, where nitrate contamination from septic systems is not a problem because these systems tend to be dispersed widely and not concentrated in any one area. Policy PS-4.10 would ensure that new septic systems do not exacerbate nitrate pollution in groundwater sources. In addition, disposal systems would be subject to permit by the Central Coast RWQCB, which would regulate their discharges to protect water quality.

Mitigation Measures

Implementation of the 2007 General Plan policies and Area Plan goals and policies would reduce impacts on water quality associated with wastewater systems to a less-than-significant level. No mitigation is required.

Significance Conclusion

The water quality impacts from wastewater systems would be less than significant.

Buildout

Impact of Development with Policies

Buildout would result in a more extensive development pattern than currently exists. Assuming that future development follows the basic spirit of the 2007 General Plan policies, most urban development would be focused in the cities, Community Areas, and Rural Centers. However, because the buildout scenario assumes that existing lots of record would be developed with a single-family residence, there would be substantial low-density development spread across the county. This would increase the potential for water quality impacts resulting from the failure of individual onsite wastewater treatment systems.

Significance Determination

The policies of the 2007 General Plan would be fully implemented by 2092, and it may be assumed that federal and state regulatory requirements would

be at least as stringent then as they are today. With most development centered around population centers and served by wastewater treatment plants, these policies and regulations would be effective in avoiding water quality impacts. Individual systems would presumably be built at a higher standard than today, given the steady evolution of regulatory stringency. As an example of evolving stringency, note that the State Water Board is currently in the process of considering new regulations for the permitting and operation of onsite wastewater treatment systems. This would ensure consistent standards and oversight. Given the time span until buildout, none of today's individual systems would remain in operation through 2092. Therefore, future water quality impacts from wastewater systems would be less than significant.

Mitigation Measures

Implementation of the 2007 General Plan policies and Area Plan goals and policies, along with continued implementation and evolution of federal and state standards, would reduce impacts on water quality associated with wastewater systems to a less-than-significant level. No mitigation is required.

Significance Conclusion

Future water quality impacts from wastewater systems would be less than significant.

Substantially Deplete Groundwater Supplies or Interfere with Recharge—Well Competition and Adverse Well Interference

Impact WR-9: Land uses and development consistent with the 2007 General Plan would result in an increase in the number of private wells in unincorporated areas of the county. Approval of wells in these areas would result in well interference impacts. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Groundwater wells close or adjacent to each other can be thought of as competing for the same groundwater resource, especially in areas where the availability of groundwater is limited; in areas of declining groundwater and overdraft conditions; and in areas of poorly producing aquifer materials, such as hard-rock aquifers. When a well is pumped, a portion of the aquifer around it is dewatered or lowered, creating what is known as a cone of depression. Adjacent wells with overlapping cones of depression may have problems getting water if water levels are lower than the well pumps. Where

such competition is significant, it may affect the performance and delivery of water to the adjacent wells. This condition is referred to as well interference. Most well interference problems are localized and of short duration, but being without water is a major inconvenience and can damage well pumps. In some instances, individual landowners are forced to deepen their wells or lower the pumps to accommodate the localized lowering of groundwater levels due to well interference. Over the long term, high-capacity wells can substantially lower groundwater levels locally, essentially extending the time duration of the cone of depression and enlarging its outward extent.

Potential adverse well interference effects often can be anticipated by a review of adjacent well logs and local hydrogeologic data. Where such interference is thought to be a potential concern, pump tests can be conducted on test wells located in the vicinity of the proposed well. Water levels in the pumping well and nearby wells are monitored and mathematically analyzed using well hydraulic principles to verify and determine the probable extent and significance of the effect and to develop appropriate mitigation and management strategies.

The current County well ordinance (Chapter 15.08 of the Monterey County Code) does not require the completion of hydrogeologic studies for all groundwater wells. Hydrogeologic studies and pump tests of potential well interference impacts may be required by the MCHD in areas with known groundwater supply and quality problems, and the Environmental Health Division often will consult with the appropriate water agencies (MCWMA, MPWMD, PVWMA) in association with the discretionary review of development projects. Generally, however, development of individual parcels on lots of record, including small businesses and residences, if consistent with the General Plan and Zoning Code, do not require discretionary approval and typically would not be required to conduct pump tests or hydrogeologic studies.

2007 General Plan Policies

In addition to the general groundwater supply policies discussed under Impact WR-6, the 2007 General Plan contains policies specifically addressing well competition.

Public Services Element

Public Services Element Policies PS-3.1 and PS-3.3 require a long-term, sustainable water supply, both in quality and quantity, to serve development beyond the first single-family residence on any lot and commit the County to developing specific criteria for proof of a long-term sustainable water supply for new residential or commercial subdivisions. The criteria will include production rate, recovery ability, effects on nearby wells, and existing groundwater conditions.

Public Services Element Policy PS-3.4 further requires that the County develop new criteria for the evaluation of all new wells, including production rate, recovery ability, effects on nearby wells, and existing groundwater conditions.

Public Services Element Policy PS-3.5 requires preparation of pump tests or hydrogeologic studies for new high-capacity urban and agricultural wells with the potential to affect existing adjacent domestic or water system wells. Where pump tests or hydrogeologic studies show the potential for significant adverse well interference, the County shall require that the well be relocated or otherwise mitigated to avoid significant well interference.

Area Plan Policies

No Area Plans specifically address well competition and interference. The previously discussed supplemental policies related to groundwater levels (see the discussion under Impact WR-6) would help to mitigate this impact by ensuring an adequate water supply in general.

Community Area Policies

Fort Ord Master Plan

Hydrology and Water Quality Program C-3.5 (groundwater wells) states that the County shall carry out all actions necessary to ensure that the installation of water supply wells comply with the State of California Water Well Standards and well standards established by the Monterey County Health Department.

Significance Determination

As described above, the proposed 2007 General Plan includes substantive policies addressing potential well interference, establishing and implementing well setback requirements and standardized evaluation criteria for evaluating wells in order to adequately address these impacts.

Mitigation Measures

Implementation of the 2007 General Plan policies, along with continued implementation of state well standards, would reduce new impacts from well interference to a less-than-significant level. No mitigation is required.

Significance Conclusion

This impact would be less than significant.

Buildout

Impact of Development with Policies

Buildout would see a substantial increase in the county's population, particularly within its cities and communities. This would increase the potential for well competition and adverse interference.

Significance Determination

The policies of the 2007 General Plan would be fully implemented by 2092. Although these policies avoid competition and interference under currently projected conditions, the very long-term future availability of surface water supplies or conjunctive supplies in sufficient quantities to avoid competition for groundwater is uncertain. Global climate change is resulting in sea level rise, which in turn impedes efforts to stem seawater intrusion. Increased rainfall variability may result in less surface water available to the Salinas River and Pajaro River watersheds to recharge groundwater and keep seawater out of the aquifers. This would make competition for groundwater unavoidable whenever new wells were drilled.

Mitigation Measures

Implementation of the 2007 General Plan policies and Area Plan policies, as well as ongoing programs that address groundwater competition within the county, would mitigate the impacts of new development, but not to a less-than-significant level.

Significance Conclusion

Conservatively viewed, based on expectations for future sea level rise, the very long-term impact would be significant and unavoidable.

Substantially Alter Existing Drainage Patterns—Increased Runoff and Streambank Erosion

Impact WR-10: Land use and development consistent with the 2007 General Plan would result in alterations to existing drainage patterns. Such changes would increase erosion, both in overland flow paths and in drainage swales and creeks. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Alterations to drainage patterns during and following construction have the potential to result in construction-related increased runoff and erosion problems (see Impact WR-2).

Land uses and development consistent with the 2007 General Plan would result in a gradual increase in impervious cover, especially in developing Community Areas and in some of the Rural Centers, but also from the development of individual lots. Typically, increases in impervious cover result in an increase in stormwater runoff, higher peak stream discharges, and decreased groundwater recharge. Agricultural land use practices also can alter the infiltration properties of surface soils (sometimes beneficially) and can result in similar, but more often smaller, effects on the hydrologic cycle. Increased peak discharges resulting from changes in land use have the potential to degrade water quality by creating erosive velocities and higher bank shear stress, which ultimately can cause bank and bed erosion and sedimentation in drainages and streams. Minor increases in tributary flows also can exacerbate creek bank erosion and cause destabilizing channel incision by altering the so-called 2-year or channel-forming flow, to which most creeks adjust by processes such as channel widening and deepening. Bank instability and bank failure often result in urban drainage systems where the channel-forming flow has been substantially altered.

The magnitude of these effects depends on the size, shape, and nature of the project watershed; the total impervious surface in the watershed; the nature of the storm drain system; the natural geologic stability of the creek system; and the extent that the drainage system incorporates peak flow reduction methodologies (e.g., porous pavement, onsite stormwater detention, or in-pipe detention). Typically, upland watersheds with short, steep drainage pathways and watersheds with brushland and forest covers are more susceptible to adverse effects from changed runoff patterns due to urbanization than are more gently sloping areas with grassland cover. In addition to watershed hydrologic changes from urbanization, the widespread conversion of forested and brushland hillside areas to cultivated crops can significantly alter runoff and erosion (drainage patterns), damaging watershed processes—especially in watersheds with unstable geology.

Conversion of softwood forest would be subject to regulation by the Department of Forestry and Fire Protection under its timberland conversion rules. This would include consideration of drainage. Conversion of hardwood forests (oak woodlands, for example) is not subject to the Department's regulations. Instead, County regulations would apply. Additionally, any agricultural operation would be subject to the Central Coast RWQCB's Conditional Waiver for Irrigated Agriculture, which requires actions to avoid release of sediment into waterways. That would strongly discourage altering runoff patterns.

As required by Monterey County Code Chapter 16.16.040, all development proposals for five parcels or more must ensure that the flood discharge exiting the development after construction is equal to or less than the flood discharge at the location prior to development. Title 19, the subdivision ordinance, includes a requirement for a discussion of how stormwater drainage caused by a proposed project's impervious surfaces will be controlled. The Carmel River setback requirements under Chapter 21.64.130

would avoid erosion along the Carmel River. The MCWRA typically reviews potential increased stormwater runoff and enforces a "no net increase in runoff" policy associated with its review of discretionary development proposals, as well as in its lead role in administering the NPDES Phase II stormwater regulations.

The NPDES program establishes regulations that will be followed during construction activities. It requires preparation of a SWPPP to minimize erosion. This will ensure that construction will not begin a cycle of erosion by damaging streambanks or other sensitive areas.

2007 General Plan Policies

In addition to current NPDES requirements discussed under Regulatory Framework, the Conservation and Open Space and Safety Elements of the 2007 General Plan contain several drainage and stormwater management policies that would help to mitigate the potential drainage and bank erosion channel stability secondary impacts associated with new development. In general, the policies would encourage better land use planning through the use of appropriate hydrologic and hydraulic analysis in the discretionary project approval process with respect to site design, building location, and drainage infrastructure design.

Conservation and Open Space Element

Conservation and Open Space Element Policy OS-3.3 requires the establishment of evaluation criteria for development and land use changes in areas with hydrologic/geologic constraints or hazards, including drainage, water quality, and stream stability problems due to increased stormwater runoff.

Conservation and Open Space Element Policy OS-3.4 (erosion and GIS) establishes that those areas where slopes pose severe constraints for development shall be mapped in the County's GIS. The information shall be updated at least every 5 years.

Conservation and Open Space Element Policy OS 3.5 (erosion/slopes) requires that the County shall prohibit development on slopes greater than 30%. It is the general policy of the County to require dedication of scenic easement on a slope of 30% or greater. Upon application, an exception to allow development on slopes of 30% or greater may be granted at a noticed public hearing by the approving authority for discretionary permits or by the Planning Commission for building and grading permits. Criteria include consideration of erosion control and drainage. This policy is described in detail in Impact WR-2.

Conservation and Open Space Element Policy OS-3.8 (erosion and water quality public outreach) requires that the County shall

cooperate with appropriate regional, state, and federal agencies to provide public education/outreach and technical assistance programs on erosion and sediment control, efficient water use, water conservation and re-use, and groundwater management. This cooperative effort shall be centered through the Monterey County Water Resources Agency.

Conservation and Open Space Element Policy OS-3.9 (erosion and water quality) establishes that the County will develop a Program that will address the potential cumulative hydrologic impacts of the conversion of hillside rangeland areas to cultivated croplands. The Program will be designed to address offsite soil erosion, increased runoff-related stream stability impacts, and/or potential violation of adopted water quality standards. The County should convene a committee comprised of County staff, technical experts, and stakeholders to develop the Program, including implementation recommendations.

Safety Element

Safety Element Policy S-1.2 (GIS, erosion, marine/coastal) calls for a Geologic Constraints and Hazards Database to be developed and maintained in the County GIS. The GIS shall be used to identify areas containing hazards and constraints (see Policy PS-2.6) that could potentially impact the type or level of development allowed in these areas (Policy OS-3.5). Maps maintained as part of the GIS include:

a. Coastal Erosion

b. Moderate and High Erosion Hazards

c. Highly Erodible Soils

Safety Element Policy S-3.1 requires that post-development, offsite peak flow drainage not be greater than pre-development conditions. Onsite improvements or other methods for stormwater detention shall be required to maintain post-development, offsite, peak flows at predevelopment levels.

Safety Element Policy S-3.3 provides for installation of mitigation drainage facilities concurrent with new development.

Safety Element Policy S-3.5 requires the MCWRA to develop and implement runoff performance standards for site planning and to design techniques that would reduce storm flows and capture runoff for groundwater recharge.

Safety Element Policy S-3.6 requires the County to prepare an inventory of areas where there is a high probability of accelerated erosion, sedimentation, and/or chemical pollution. This inventory

shall be maintained as part of the County's GIS mapping database. This information will be used in analyzing project impacts and requiring mitigation.

Safety Element Policy S-3.7 requires the MCWRA to prepare a flood criteria or drainage design manual establishing floodplain management policies, drainage standards and criteria, stormwater detention, and erosion control and stormwater quality protection measures.

Area Plan Policies

In addition to previously discussed Area Plan policies addressing erosion control (see Impact WR-2), supplemental policies related to drainage and runoff issues also would incorporate erosion control measures.

Greater Salinas Area Plan

Greater Salinas Area Plan Policy GS-1.2 (Drainage Management Plan) states that in the Spence/Potter/Encinal Road Special Treatment Area, subdivision of land shall be approved only under certain conditions including that a Drainage Management Plan to mitigate runoff to adjoining farmlands must be prepared for the entire Special Treatment Area.

Greater Salinas Area Plan Policy GS-3.1 (erosion) states that all vegetation on land exceeding 25% slope, particularly chaparral and broad leaf evergreen, should remain undisturbed to minimize erosion and retain important visual amenities.

Central Salinas Valley Area Plan

Central Salinas Valley Area Plan Policies CSV-1.3 and CSV-5.3, include provisions to mitigate runoff impacts on agricultural operations. Central Salinas Valley Area Plan Policies CSV-1.1 and CSV-1.2 require comprehensive development plans for certain recreation and commercial land use projects to address drainage.

Central Salinas Valley Area Plan Policy CSV-5.1 (groundwater recharge, riparian habitat, flood hazards, Arroyo Seco River, and Salinas River) ensures that development shall be designed to maintain groundwater recharge capabilities on the property. To protect and maintain areas for groundwater recharge, preservation of riparian habitats, and flood flow capacity, the main channels of the Arroyo Seco and Salinas Rivers shall not be encroached on by development.

Central Salinas Valley Area Plan Policy CSV-5.2 requires recreation and visitor-serving commercial development to prove that excessive

runoff with erosion potential will not be produced (as determined by the WRA).

Carmel Valley Area Plan

Carmel Valley Master Plan Policy CV-2.9 (erosion and construction) states that no roads should cross slopes steeper than 30% unless factors of erosion and visible scarring can be mitigated.

Carmel Valley Master Plan Policy CV-3.8 (Carmel River, erosion, and riparian) ensures that development shall be sited to protect riparian vegetation, minimize erosion, and preserve the visual aspects of the Carmel River. In places where the riparian vegetation no longer exists, it should be planted to a width of 150 feet from the river bank, or the face of adjacent bluffs, whichever is less. Density may be transferred from this area to other areas within a lot.

Carmel Valley Master Plan Policy CV-3.9 (riparian vegetation) establishes that willow cover along the banks and bed of the Carmel River shall be maintained in a natural state for erosion control. Constructing levees, altering the course of the river, or dredging the river shall only be allowed by permit from the Monterey Peninsula Water Management District or Monterey County.

Policy CV-4.1 in the Carmel Valley Master Plan protects against rapid runoff or erosion impacts by requiring that vegetation be maintained on specified slope and soil combination areas. Carmel Valley Master Plan Policy CV-4.2 requires establishment of a subbasin or valley-wide drainage maintenance program that also would incorporate erosion control mitigation measures.

Cachagua Area Plan

Cachagua Area Plan Policy CACH-3.7 (riparian vegetation and fisheries) requires that new development shall be sited to protect riparian vegetation and threatened fish species, minimize erosion, and preserve the visual aspects of the Carmel and Arroyo Seco Rivers. Private property owners are encouraged to preserve the Carmel River in its natural state, to prevent erosion and protect fishery habitat. Fishery habitats located above the Los Padres and San Clemente Dams shall be maintained in a productive state accessible to fish populations, especially steelhead.

Cachagua Area Plan Policies CACH-3.5 and CACH-4.1 require commercial mining and timber production to include drainage mitigation measures.

South County Area Plan

South County Area Plan Policy SC-5.3 (new development and flood hazards) establishes that new development may not encroach on the main channels and associated floodways of the Nacimiento, San Antonio, and Salinas Rivers in order to conserve groundwater recharge, preserve riparian habitats, and protect flood flow capacity.

South County Area Plan Policy SC-5.4 includes provisions to mitigate runoff impacts on agricultural operations.

Community Area Policies

Fort Ord Master Plan

In addition to Fort Ord Master Plan Soils and Geology policies previously discussed for erosion control (see Impact WR-2), Fort Ord Master Plan Hydrology and Water Quality Policies A-1 and A-2 incorporate stormwater runoff minimization measures for new development. These measures include programs requiring the County to develop site drainage design and stormwater infiltration BMPs; to adopt and enforce a stormwater detention plan for all new development; to prepare, adopt, and enforce a master drainage plan for the area; and to develop a stream-gauging program for creeks in the eastern part of the former Fort Ord.

Soils and Geology Program A-6.2 (erosion and slope limitation) explains that the County shall designate areas with extreme slope limitations for open space or similar use if adequate erosion control measures and engineering and design techniques cannot be implemented.

Hydrology and Water Quality Policy C-4 (erosion and siltation) calls for the County to prevent siltation of waterways, to the extent feasible. Hydrology and Water Quality Program C-4.1 (erosion, siltation and agency coordination) requires that the County, in consultation with the Natural Resources Conservation Service, develop a program that will provide, to owners of property near waterways and other appropriate entities, information concerning vegetation preservation and other best management practices that would prevent siltation of waterways in or downstream of the former Fort Ord.

Biological Resources Program A-5.3 (stormwater drainage plans) states that the County shall require stormwater drainage plans for all developments adjacent to the habitat management areas to incorporate measures for minimizing the potential for erosion in the habitat management areas due to stormwater runoff.

Significance Determination

Current ordinance requirements and practices utilized in the review of flood control, drainage, grading permits, and stormwater runoff controls under the NPDES programs, as administered by the MCWRA—as well as policies contained in the proposed 2007 General Plan (including the new drainage design manual)—would mitigate new impacts associated with increased runoff and other surface drainage modifications, including potential impacts on channel stability, and streambank erosion due to changes in drainage patterns. As described above, these planning and regulatory measures will apply to development within the planning areas, individual lots, and activities on rural lands.

Mitigation Measures

Implementation of the 2007 General Plan policies and Area Plan goals and policies would reduce potential impacts on water quality associated with increased erosion from alterations to drainage patterns to a less-than-significant level. In addition, Mitigation Measure BIO-2.1: Stream Setback Ordinance will require the County to develop and adopt a county-wide Stream Setback Ordinance to establish minimum standards for the avoidance and setbacks for new development relative to streams. This will reduce the potential for erosion along streams that might otherwise occur as a result of new development. No additional mitigation is required.

Significance Conclusion

Preparing new flood control and drainage criteria as required by Policy S-3.7 (the new drainage design manual), including a section detailing erosion control and biotechnical bank stabilization to more specifically address these factors, would reduce these impacts to a less-than-significant level.

Buildout

Impact of Development with Policies

Buildout will result in a more extensive development pattern than currently exists or than is projected to exist under the 2030 planning horizon. Development of existing lots of record will add substantial low-density residential development by 2092.

Significance Determination

The policies of the 2007 General Plan will be fully implemented by 2092, and it can be assumed that federal and state regulatory requirements at that time would be at least as stringent as today. Federal and state regulations, including the NPDES program, have grown increasingly stringent since the enactment of the Clean Water Act and Porter Cologne Act. Assuming that this trend continues, with most development centered around population

centers, these policies and regulations will be effective in avoiding streambank erosion from increased runoff. Development on individual lots would presumably be subject to the same or more stringent regulations than today. Therefore, future runoff impacts would not be substantially greater than the impact associated with the 2030 planning horizon.

Mitigation Measures

Implementation of the 2007 General Plan policies would reduce stream erosion impacts associated with runoff from increased development to a less-than-significant level. No mitigation is required.

Significance Conclusion

This impact would be less than significant.

Substantially Alter Existing Drainage Patterns—Resulting in Increased Flood Risk

Impact WR-11: Land uses and development consistent with the 2007 General Plan would result in increases in stormwater runoff and peak discharge. Existing storm drain systems, including urban creeks and rivers, may be incapable of accommodating increased flows, potentially resulting in increased onsite or offsite flooding. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Land uses and development consistent with the 2007 General Plan would increase runoff and result in adverse modifications to local and regional hydrology. While the majority of future development would be concentrated in the cities, Community Areas, and Rural Centers, potential future development in presently less-developed rural areas of the county may necessitate the construction of new drainage facilities for stormwater conveyance and management. In areas where drainage infrastructure already exists, drainage systems may need to be enlarged or expanded to accommodate future growth. Stormwater management practices commonly used to mitigate increases in peak flows (e.g., detention, retention, and infiltration) also can be implemented throughout the county and can serve to mitigate drainage impacts.

Unless properly planned and engineered, local storm drainage modifications, stream channel alterations, and structural bank stabilization measures would create significant localized flooding impacts, in some cases by moving the existing flooding and channel instability problems cross channel or

downstream, or by changing the timing of peak flows and point of discharge of runoff.

The existing County floodplain management ordinance (Chapter 16.16 of the Monterey County code) and the MCWRA's drainage review practices currently address drainage and flooding issues as part of both discretionary and, occasionally, ministerial projects. New development is prohibited within floodplains unless it meets the requirements of the County floodplain ordinance and can show that it will not adversely affect the flow within the floodplain.

2007 General Plan Policies

The 2007 General Plan contains policies for drainage and flood control.

Safety Element

Safety Element Policy S-3.1 requires that post-development, offsite peak flow drainage not be greater than predevelopment conditions. Onsite improvements or other methods for stormwater detention will be required to maintain post-development, offsite, peak flows at predevelopment levels.

Safety Element Policy S-3.3 requires the installation of mitigation drainage facilities concurrent with new development.

Safety Element Policy S-3.4 (flood hazards) requires that a County Flood Management Program that helps reduce flood risks shall be established consistent with FEMA requirements at a minimum. The program will consider both structural and non-structural solutions to address flooding.

Safety Element Policy S-3.5 requires the MCWRA to develop and implement runoff performance standards for site planning and to design techniques that would reduce storm flows and capture runoff for groundwater recharge.

Safety Element Policy S-3.7 requires the MCWRA to prepare a flood criteria or drainage design manual establishing floodplain management policies, drainage standards and criteria, stormwater detention, and erosion control and stormwater quality protection measures.

Safety Element Policy S-3.8 (flood hazards [mapping]) establishes that, to assist planners in determining potential inundation hazards for existing and future development, the County shall coordinate the periodic review, completion, and filing (with appropriate state and County Offices of Emergency Services) of inundation maps for all dams and levees whose failure could cause loss of life or personal

injury within Monterey County. Where inundation maps indicate dam or levee failure could cause loss of life or property or personal injury, the corresponding responsible party shall investigate levee or dam stability and management, identifying emergency alert, evacuation, rehabilitation, and maintenance needs as appropriate.

Policies providing for water quality and stormwater pollution controls would also reduce the rate of surface water runoff and potential downstream drainage and flooding problems.

Area Plan Policies

In addition to previously discussed Area Plan policies addressing drainage management (see Impact WR-9), there are supplemental policies specific to drainage issues and flood risk.

Greater Salinas Area Plan

Greater Salinas Area Plan Policy GS-1.2 (Drainage Management Plan) states that in the Spence/Potter/Encinal Road Special Treatment Area subdivision of land shall be approved only under certain conditions including that a Drainage Management Plan to mitigate runoff to adjoining farmlands must be prepared for the entire Special Treatment Area.

Greater Salinas Area Plan Policy GS-1.7 (Drainage Management Plan) ensures that in the Spence/Potter/Encinal Road Study Area (see Policies CSV-1.3 and GS-1.2) prior to new development, a drainage management plan to mitigate runoff to adjoining farmlands for the entire study area must be completed.

Greater Salinas Area Plan Policy GS-1.10 (Drainage Management Plan) establishes that in the Natividad/Rogge Road Special Treatment Area subdivision of land shall be approved only under three conditions, one of which is that a drainage management plan to mitigate runoff to adjoining farmlands is prepared for the entire special treatment area.

Greater Salinas Area Plan Policy GS-5.1 (Gabilan Creek, riparian corridor, flood hazard) calls for portions of Gabilan Creek to be evaluated for a linear park as defined by the County's Parkland Classification System at such time when the County can support another regional park. Until such time, Gabilan Creek shall be:

a. maintained in a natural riparian state;

b. kept in a free-flow state devoid of dams;

c. allowed its natural flood capacity through required setbacks conforming to the 100 year flood plain; and

d. kept free from urban encroachment by residential development through required dedication of land in the floodplain corridor.

Central Salinas Valley Area Plan

Central Salinas Valley Area Plan Policy CSV-5.1 (groundwater recharge, riparian habitat, flood hazards, Arroyo Seco River, Salinas River) ensures that development shall be designed to maintain groundwater recharge capabilities on the property. To protect and maintain areas for groundwater recharge, preservation of riparian habitats, and flood flow capacity, the main channels of the Arroyo Seco River and the Salinas River shall not be encroached on by development.

Central Salinas Valley Area Plan Policy CSV-5.2 (a. groundwater recharge, b. new development, c. floodways, d. new development, groundwater quality/quantity, e. septic, f. stormwater, erosion) states that recreation and visitor-serving commercial uses shall only be allowed if it can be proven that:

a. areas identified by the Water Resources Agency as prime-groundwater recharge areas can be preserved and protected from sources of pollution as determined by the Director of Environmental Health and the Water Resources Agency;

b. proposed development can be phased to ensure that existing groundwater supplies are not committed beyond their safe, long-term yields where such yields can be determined;

c. floodways associated with the main channels of either the Arroyo Seco or Salinas Rivers will not be encroached on by development because of the necessity to protect and maintain these areas for groundwater recharge, preservation of riparian habitats, and flood flow capacity as determined by the Water Resources Agency;

d. the proposed development meets both water quality and quantity standards expressed in Title 22 of the California Code of Regulations and Title 15.04 of the Monterey County Code as determined by the Director of Environmental Health;

e. the proposed development meets the minimum standards of the Regional Water Quality Control Basin Plan when septic systems are proposed and also will not adversely affect groundwater quality, as determined by the Director of Environmental Health; and

f. the proposed development will not generate levels of runoff that will either cause erosion or adversely affect surface water resources as determined by the Water Resources Agency.

South County Area Plan

South County Area Plan Policy SC-4.1 (flood hazards) identifies that channelization or realignment work on the Salinas River shall not be permitted without an assessment by the Monterey County Water Resources Agency that such work will not increase the flood hazard downstream.

South County Area Plan Policy SC-5.3 (new development and flood hazards) establishes that new development may not encroach on the main channels and associated floodways of the Nacimiento, San Antonio, and Salinas Rivers in order to conserve groundwater recharge, preserve riparian habitats, and protect flood flow capacity.

South County Area Plan Policy SC-5.4 (stormwater) states that stormwater facilities in new urban development shall be designed to mitigate impacts on agricultural lands located downstream.

Community Area Policies

Fort Ord Master Plan

Hydrology and Water Quality Program A- 1.3 (drainage master plan) states that the County shall prepare, adopt, and enforce a Master Drainage Plan to assess the existing natural and man-made drainage facilities, recommend area-wide improvements based on the approved Reuse Plan, and develop plans for control of stormwater runoff from future development. Such plans for control of stormwater runoff shall consider and minimize any potential for groundwater degradation and provide for the long-term monitoring and maintenance of all stormwater retention ponds.

Hydrology and Water Quality Program A-2.1 (flood hazards) establishes that the County shall implement a stream-gauging program for creeks in the eastern part of the former Fort Ord if proposals are submitted for development in that area. The gauging program should be partially or entirely funded by development fees. This program would provide information about potential flood hazards from these creeks.

Biological Resources Program A-8.1 (stormwater) establishes that the County shall prohibit the direct discharge of stormwater or other drainage from new impervious surfaces created by development of the Office Park parcel into the ephemeral drainage in the natural area expansion (NAE) parcel. No increase in the rate of flow of stormwater runoff beyond pre-development background levels will be allowed. Stormwater runoff from developed areas in excess of background quantities shall be managed on site through the use of basins, percolation wells, pits, infiltration galleries, or any other

technical or engineering methods that are appropriate to accomplish these requirements. Indirect sub-surface discharge is acceptable. These stormwater management requirements will be used for development on Polygon 31b (in Reuse Plan).

Significance Determination

Adoption and implementation of the policies and programs contained in the 2007 General Plan and County regulations discussed above would ensure that potential impacts of future development of on- and offsite drainage infrastructure would be reduced to a less-than-significant level. Although flooding would continue to occur in flood-prone areas, this is considered an existing condition for the purposes of CEQA review, and the policies and programs of the 2007 General Plan would ensure that flooding in these areas would not increase.

Mitigation Measures

Implementation of the 2007 General Plan policies and County regulations would reduce potential impacts on water quality associated with increased flood risk caused by increased runoff to a less-than-significant level. No additional mitigation is required.

Significance Conclusion

This impact would be less than significant.

Buildout

Impact of Development with Policies

Buildout would result in more extensive low-density residential development outside of cities and established communities than would occur within the 2030 planning horizon. This would increase the potential for future residences to affect flood risk.

Significance Determination

The policies of the 2007 General Plan would be fully implemented by 2092, and it may be assumed that federal and state regulatory requirements would be at least as stringent as they are today. Federal regulations, including the locally administered NFIP floodplain ordinance, have grown increasingly stringent since catastrophic flooding occurred in the Midwest in the 1990s, particularly with regard to assessing flood risk. Assuming that this trend continues, with most development centered around population centers, these policies and regulations would be effective in avoiding flood hazard from increased runoff. Development on individual lots would presumably be subject to the same or more stringent regulations than today. Therefore, future development impacts on flooding patterns would not be substantially greater than the impact associated with the 2030 planning horizon.

Mitigation Measures

Implementation of the 2007 General Plan policies would reduce flood impacts associated with runoff from increased development to a less-than-significant level. No mitigation is required.

Significance Conclusion

This impact would be less than significant.

Place Housing within an Area Subject to Flooding—Development in 100-Year Flood Hazard Areas

Impact WR-12: Land uses and development consistent with the 2007 General Plan would allow continued development in 100-year flood hazard areas. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

The 2007 General Plan generally would restrict new development and redevelopment within Community Areas, within Rural Centers, and on legal lots of record within unincorporated areas designated by FEMA as flood hazard areas, consistent with the County floodplain management ordinance and the Code of Federal Regulations for the NFIP. Pursuant to the ordinances, any new development would be required to either build outside the flood hazard areas or to elevate new structures above the anticipated flood depth. In addition, the 2007 General Plan would provide policies to mitigate the potential consequences of such development by means of appropriate siting and design criteria to protect both proposed structures and existing structures downstream.

The current Monterey County Code requires residential structures built within flood hazard areas to be elevated at least 1 foot above the elevation of the 100-year flood level to protect these structures from flood damage. Monterey County and FEMA federal floodplain management guidelines and regulations allow placement of fill within the floodway fringe to raise building pads above the 100-year flood level. New nonresidential buildings must either meet this criterion or provide an alternate method of flood proofing that is certified by a registered engineer and approved by the MCWRA.

Recent flooding on the Pajaro River has highlighted the risk of developing within its floodplain. The multijurisdictional Pajaro River Watershed Flood Prevention Authority has completed its study of potential flooding solutions (Pajaro River Watershed Flood Prevention Authority 2008). The USACE is now preparing an environmental analysis of the preferred project for

improving levees and flood protection along the river. As with many such projects, the proposal has engendered opposition over the type and location of improvements being proposed. Actual construction and improved flood protection are therefore expected to be several years into the future.

2007 General Plan Policies

The 2007 General Plan contains several policies and implementation programs to mitigate potential impacts arising from development in 100-year flood hazard zones. Some of the policies discussed for Impact WR-10 apply to general flood issues as well as issues associated with development in 100-year flood hazard areas. The policies described below are specific to development within 100-year flood hazard zones.

Conservation and Open Space Element

Conservation and Open Space Element Policy OS-3.5 requires a ministerial permit process for development in floodplain hazard areas.

Safety Element

Safety Element Policies S-2.1 through S-2.12 seek to reduce floodplain development and minimize the flood risk of such development through land use planning, the Community Plan process, consultation with the MCWRA, determination of mitigation measures prior to the approval of development, consideration of alternative project designs, compliance with NFIP guidelines, and discretionary permitting.

Safety Element Policy S-3.4 requires the establishment of a County flood management program to reduce flood risks through structural and nonstructural solutions.

Safety Element Policy S-3.7 requires the MCWRA to prepare a flood criteria or drainage design manual that establishes floodplain management policies, drainage standards and criteria, stormwater detention, and erosion control and stormwater quality protection measures in order to prevent significant impacts from flooding and ensure that development does not increase flooding risk over present conditions.

Public Services Element

Public Services Element Policy PS-2.6 includes GIS mapping (and flood map updates) of areas within the 100-year floodplain via the hydrologic resources constraints and hazards database. This will help avoid developing in these areas.

Area Plan Policies

Greater Salinas Area Plan

Greater Salinas Area Plan Policy GS-5.1 specifically mentions 100-year flood hazard areas in requiring conformity to 100-year floodplain setback compliance for Gabilan Creek.

Community Area Policies

Fort Ord Master Plan

Fort Ord Master Plan Fire, Flood, and Emergency Management Policy B-1 requires the County to identify and restrict construction in 100-year-flood-prone areas in the former Fort Ord, especially in the Salinas River Bluffs area.

Significance Determination

Development consistent with the 2007 General Plan within designated 100-year flood hazard zones in unincorporated areas is discouraged by existing County ordinance and proposed 2007 General Plan policies. Any such development would be subject to development standards aimed at minimizing on- and offsite flood damage. Implementation of the above policies and their corresponding implementation programs, along with the County's existing Floodplain Management Ordinance, would reduce potential impacts associated with development within flood hazard areas to a less-than-significant level. Flooding along the Pajaro River is an existing risk. The proposed 2007 General Plan policies would minimize new development within the river's floodplain.

Mitigation Measures

Implementation of the 2007 General Plan policies and County regulations would reduce potential impacts associated with development within Special Flood Hazard Areas (SFHAs) to a less-than-significant level. No additional mitigation is required.

Significance Conclusion

This impact would be less than significant.

Buildout

Impact of Development with Policies

Buildout would result in more extensive low-density residential development outside of cities and established communities than would occur within the 2030 planning horizon. This would potentially expose more residences to flood risk.

Significance Determination

The policies of the 2007 General Plan would be fully implemented by 2092, and it may be assumed that federal and state regulatory requirements would be at least as stringent as they are today. In particular, information gathered in the County's GIS under Policy PS-2.6 would identify those properties subject to flood risk, helping to avoid flood hazards from new development. Federal regulations, including the locally administered NFIP floodplain ordinance, have grown increasingly stringent since catastrophic flooding occurred in the Midwest in the 1990s, particularly with regard to assessing flood risk. Assuming that this trend continues, with most development centered around population centers, these policies and regulations would be effective in avoiding flood hazard related to new development. Development on individual lots would presumably be subject to the same or more stringent regulations than today. Therefore, future development impacts on flooding patterns would not be substantially greater than the impact associated with the 2030 planning horizon.

Global climate change is expected to result in variable weather patterns in the future. This may result in more rain or less than the current average in any given year. If rain levels exceed the assumptions made in preparing the floodplain delineations, then existing floodplain delineations would not accurately identify areas of flood risk and existing flood protection structures may not be sufficient to handle peak flood flows. Flood damage would result.

Mitigation Measures

Implementation of the 2007 General Plan policies would reduce flood impacts associated with runoff from increased development to a less-than-significant level. Specific information for Monterey County regarding future weather patterns and their effect on 100-year floodplain delineations does not exist. Therefore, no mitigation is feasible.

Significance Conclusion

Based on the uncertainty over future weather patterns by 2092, this impact is conservatively considered to be significant and unavoidable.

Placement of Structures in 100-Year Flood Hazard Areas—Leading to Downstream Flood Damage

Impact WR-13: The placement of land uses and structures within Special Flood Hazard Areas would impede or redirect flood flows, resulting in secondary downstream flood damage, including bank failure. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

The 2007 General Plan would continue to allow new development and redevelopment within unincorporated areas designated by FEMA as Special Flood Hazard Areas (SFHAs). Policies and programs included in the 2007 General Plan, however, would seek to mitigate the potential consequences of such development regarding exposure of proposed structures to flood hazards, as well as increased flood risk to existing structures located upstream and downstream. As discussed under Impact WR-10, the County has a flood management ordinance that meets the requirements of the NFIP.

The development of currently vacant land areas within floodplains, especially in rural areas without drainage improvements, may involve modification of minor surface waterways and tributary stream courses. Where development occurs within the floodplain of a larger stream course, sometimes channel modification is required, such as new storm drainage outfalls, local stream realignment, or structural bank stabilization. The practice of lining channel banks with rock riprap and other hard structures can cause cross-bank and downstream channel instability problems. Encroachment of the toe or face of the structures into the stream channel can redirect flow, constrict channels (causing backwater flooding effects), or increase local turbulence and flow velocities (causing bank erosion).

Such local storm drainage modifications, stream channel alterations, and structural bank stabilization measures can create significant flooding impacts. In some cases, these include redirecting or moving existing flooding and channel instability problems cross channel or downstream, or changing the timing of peak flows and the point of discharge of runoff.

2007 General Plan Policies

The 2007 General Plan contains several policies that would reduce the potential for the placement of inappropriate land uses and development in flood hazard areas. These policies are listed above for Impacts WR-10 and WR-11. The flood criteria or drainage design manual, as required by Policy S-3.7, includes floodplain management policies.

In addition to these policies, the current standards of the County Zoning Code prohibit the placement of permanent structures in the floodways, with some exception for properly designed and placed bank stabilization projects. Structures placed in the floodway fringe are allowed. Generally, a use permit, CEQA review, and special review by the MCWRA would be required for placement of any structure within the floodplain. The existing Provisions for Flood Hazard Reduction (Monterey County Code 16.16.050) also consider the secondary upstream and downstream flooding hydraulic impacts of a development or channel modification project by requiring that proposed new development prove that it "will not cause flow-related hazards or otherwise aggravate flow-related erosion hazards."

Area Plan Policies

Previously discussed Area Plan supplemental policies related to flood protection (discussed for Impacts WR-10 and WR-11) would help to mitigate this impact.

Toro Area Plan

Toro Area Plan Policy T-4.1 prohibits practices that may increase the siltation and flooding of Toro Creek. This will maintain its capacity to carry high flows and reduce the frequency of flooding.

Significance Determination

Adoption and implementation of the policies and programs contained in the 2007 General Plan, combined with existing County and NFIP regulations, would ensure that potential impacts of future development on secondary flood hazards are avoided and the impact is less than significant.

Mitigation Measures

No mitigation is required.

Significance Conclusion

This would be a less-than-significant impact.

Buildout

Impact of Development with Policies

Buildout would result in more extensive low-density residential development outside cities and established communities than would occur within the 2030 planning horizon. This would increase the potential for future residences to affect flood risk.

Significance Determination

The policies of the 2007 General Plan would be fully implemented by 2092, and it may be assumed that federal and state regulatory requirements would be at least as stringent as they are today. Federal regulations, including the locally administered NFIP floodplain ordinance, have grown increasingly stringent since catastrophic flooding occurred in the Midwest in the 1990s, particularly with regard to assessing flood risk. Assuming that this trend continues, with most development centered around population centers, these policies and regulations will be effective in avoiding flood hazard related to new development. Development on individual lots would presumably be subject to the same, or more stringent, regulations as today. Therefore, future development impacts on flooding patterns would not be substantially greater than the impact associated with the 2030 planning horizon.

Global climate change is expected to result in variable weather patterns in the future. This may result in more rain or less than the current average in any given year. If rain levels exceed the assumptions made in preparing the floodplain delineations, then existing floodplain delineations would not accurately identify areas of flood risk and existing flood protection structures may not be sufficient to handle peak flood flows. Flood damage would result.

Mitigation Measures

Implementation of the 2007 General Plan policies would reduce flood impacts associated with runoff from increased development to a less-than-significant level. Specific information for Monterey County regarding future weather patterns and 100-year floodplain limits does not exist. Therefore, no mitigation is feasible.

Significance Conclusion

Based on the uncertainty over future weather patterns and their effect on flood zones, this impact is conservatively considered to be significant and unavoidable.

Expose Persons or Structures to Risk from Failure of Levees or Dams

Impact WR-14: Potential failure of levees or dams would expose people and structures to inundation and result in the loss of property, increased risk, injury, or death. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

The County has several large regulated dams within its boundaries whose potential failure would cause severe inundation, including Nacimiento and San Antonio Dams in the Salinas River Valley, and Los Padres and San Clemente Dams in the Carmel Valley. Although the county has not experienced dam failure in the last quarter century, the sudden failure of any one of these facilities—in response to a large magnitude earthquake, for instance—would potentially cause significant flooding downstream of the dams.

Specific requirements with respect to most non-federal dam designs and operations are established by the DSOD and are administered by the County. California Water Code Section 6000, et seq. and 23 CCR 301, et seq. establish the authority and responsibility of the DSOD, including periodic safety inspections of dams; completion of studies that predict the flood zones created by sudden dam failure; and development of emergency response plans in the advent of pending dam failure, including a program for emergency warning and evacuation prepared by the Monterey County Office of Emergency Services (MCOES). The contingency plans are updated every two years and submitted to the Governor's Office of Emergency Services for review and comment. Incorporated cities are responsible for developing contingency plans for state-designated dams affecting incorporated areas. The County is responsible for developing emergency plans for state-designated dams affecting unincorporated areas. As a result of these requirements, the water level in San Clemente Dam has been drawn down by order of DSOD to prevent its potential failure. At this writing, the Coastal Conservancy is leading efforts to fund the eventual removal of the dam.

Monterey County does not have an extensive system of levees providing urban flood protection for areas susceptible to catastrophic levee failure, although there are levees along portions of the Salinas, Arroyo Seco, Carmel, and Pajaro Rivers that are potentially subject to failure or overtopping. Levees and floodwalls that are constructed as part of USACE or U.S. Department of Agriculture flood control projects, or by local city or flood control district programs administered jointly by the MCWMA, also are required to undergo periodic inspections for safety and performance as part of routine maintenance plans. Such plans are completed as elements of project design and operational planning. Levee and floodwall assessment

also typically is completed as part of a FEMA flood insurance study, including floodplain-mapping updates.

The Pajaro River Watershed Flood Prevention Authority (PRWFPA) was created by the California Legislature in response to flooding on the lower river. The PFWFPA is developing a plan for improving flood protection along the Pajaro River involving the use of Soap Lake to attenuate projected flood flows on the lower river. This would prevent future levee failures. Preliminary planning has been completed. (Pajaro River Watershed Flood Prevention Authority 2008)

2007 General Plan Policies

The failure and inundation potential of all dams and levees within unincorporated portions of the county is not presently known. The 2007 General Plan allows growth and development in three areas that are potentially subject to either dam or levee failure: the Carmel Valley planning area and the Castroville and Pajaro Community Areas.

Safety Element

Safety Element Policy S-3.8 (flood hazards [mapping]) establishes that, to assist planners in determining potential inundation hazards for existing and future development, the County shall coordinate the periodic review, completion, and filing (with appropriate State and County Offices of Emergency Services) of inundation maps for all dams and levees whose failure could cause loss of life or personal injury within Monterey County. Where inundation maps indicate dam or levee failure could cause loss of life or property or personal injury, the corresponding responsible party shall investigate levee or dam stability and management, identifying emergency alert, evacuation, rehabilitation, and maintenance needs as appropriate.

Area Plan Policies

Cachagua Area Plan

Cachagua Area Plan Policy CACH-4.2 specifically addresses dam failure by prohibiting construction unless the risk of loss of life or property damage is low.

Significance Determination

The extent to which the County allows future development that puts people at risk to loss of life or property from dam or levee failure represents a potentially significant impact that is addressed by 2007 General Plan goals and policies, including Policy S-3.8. In addition to state and federal regulations requiring periodic inspection of flood protection facilities and dams, actions are underway to eliminate the dam failure hazard from the San

Clemente Dam and to reduce the potential for levee failure on the lower Pajaro River.

Mitigation Measures

Implementation of the 2007 General Plan policies in conjunction with other activities currently underway would reduce potential impacts associated with the risk of dam and levee failure to a less-than-significant level. No additional mitigation is required.

Significance Conclusion

Therefore, this impact would be less than significant.

Buildout

Impact of Development with Policies

Buildout would see the development of a substantial number of existing lots of record throughout the county. This would potentially increase the risk from failure of levees or dams by increasing the geographic extent of development.

Significance Determination

The policies of the 2007 General Plan would be fully implemented by 2092, and it may be assumed that federal and state regulatory requirements would be at least as stringent as they are today. Development on individual lots would presumably be subject to the same, or more stringent, regulations as today.

Global climate change will result in variable weather patterns in the future. Higher rain totals than included in the engineering assumptions for the Pajaro River flood risk reduction project would reduce the effectiveness of anticipated flood protection improvements. Similarly, existing dams may not have sufficient capacity to handle peak flood flows if rain exceeds design assumptions. Presumably, these facilities will be expanded or rebuilt as necessary to maintain dam safety, in accordance with current state law.

Mitigation Measures

Specific information for Monterey County regarding future weather patterns and 100-year floodplain limits does not exist. Therefore, no mitigation is feasible.

Significance Conclusion

As a result of uncertainty over future severe weather patterns, this impact is conservatively considered to be significant.

4.4 Geology, Soils, and Seismicity

This section presents a discussion of geologic, soils, and seismic hazards and impacts on development associated with implementation of the 2007 Monterey General Plan. The topics discussed in this section overlap those discussed in other sections of this EIR, including the erosion and groundwater quality discussion in Section 4.3, Water Resources.

4.4.1 Abstract

Monterey County is located in one of the most seismically active regions in the world. The San Andreas Fault traverses the eastern portion of the County, and many areas therein are susceptible to seismic hazards such as strong ground shaking, liquefaction, and earthquake-induced landslides. In addition, erosion hazards are present in the agricultural areas of the Salinas and Pajaro Valleys. Implementation of the 2007 General Plan would result in development and land use activities on individual lots of record and agricultural areas throughout the County. However, all impacts related to geology, soils, and seismicity would be less than significant with mitigation and compliance with federal, state, and local regulations.

4.4.2 Existing Conditions

4.4.2.1 Regional Geology

Much of the unique landscape and resources of Monterey County have their origins in the County's geologic history. Monterey County lies within the California Coast Ranges geomorphic and physiographic province, a region dominated by active tectonics astride the margin between the Pacific and North American tectonic plates. Regional tectonic forces generate an estimated relative motion between the North American and Pacific plates of approximately 2 inches per year. Over time, these forces have created the varied mountainous, valley, and fault-bound blocks seen in Monterey County today. Present-day plate motion is dominantly right-lateral strike slip, with a minor component of convergence or compression, especially along the Big Sur coastline. "Right-lateral strike slip motion" refers to a rightward shift along the fault boundary when viewing toward the fault.

One hundred million years ago, motion was dominantly convergent when the Pacific Plate was being subducted beneath the North American Plate. This subducted oceanic crustal material was metamorphosed under high pressure to become the Franciscan Complex, one of the oldest rock types underlying Monterey County. Another even older block of rocks, known as the Salinian

block, has been rafted northward along the San Andreas Fault. These rocks originated as marine bed on the continental shelf hundreds of miles to the south of their present location, probably west of the Mojave Desert in southern California. During the Miocene Epoch (5 to 24 million years ago), the Pacific and North American plates shifted the direction of their major movement relative to one another, and instead of a convergent margin, the plate boundary became a transform boundary with lateral movement similar to that occurring along the present-day San Andreas Fault system. Movement along the ancient fault system caused the Salinian rocks to be carried northward—after undergoing folding and intrusion by granitic rocks. Thus, the two major rock types underlying Monterey County, the Salinian and Franciscan, both were created as a result of interaction between the Pacific and North American plates.

Plate motion continues today and is manifested along the County's various fault systems. Two faults considered active with evidence of historic or recent movement are the San Andreas and San Gregorio Faults, which form the eastern and western boundaries of the Salinian block. Tectonic movement in the region has resulted in a variety of active fault types. Uplift along faults is largely responsible for the formation of the Coast Ranges, including the Santa Lucia and Gabilan Ranges. In Monterey County, the uplift that formed the Coast Ranges was much more rapid than in other parts of the state. The dramatic cliffs of the Big Sur Coast and steep slopes of the Santa Lucia Mountains are products of this rapid uplift during the Pliocene epoch, more than a million years ago.

The rapid uplift stimulated by active faulting accelerated other physiographic processes that formed major geologic features evident today. Rapid erosion and deposition of soil from the uplifted mountains formed broad alluvial fans of well-drained, nutrient-rich soil. This process occurred over several tens of millions of years. During the Pleistocene era, the sea level fluctuated repeatedly in response to climate changes that formed glaciers in other parts of the world. As the sea level changed, marine sediments were deposited beneath what later became the floor of the Salinas Valley. The interplay of two fundamentally different depositional processes—the erosion and deposition of alluvial material when the sea level retreated, and the deposition of marine layers when the sea advanced—created a complexity of soils and substrate materials. These processes are responsible for what we now consider the valuable agricultural soils of the Salinas Valley. They also formed the sandy stream terrace deposits along both sides of the Salinas Valley.

The changes in sea level created the 180- and 400-foot aquifers and intervening clay layers that separate them beneath the Salinas Valley. Marine deposits constitute the impermeable clay layer that confines the aquifer in the northern Salinas Valley and is the reason the groundwater table is not recharged from the Salinas River north of Chualar.

It was during this same era of fluctuating sea levels and accelerated erosion that Monterey Canyon was formed. Millions of years ago, when the sea had retreated, streams from the ancestral Gabilan Mountains carved the deep canyon. The sea later returned to submerge the canyon in Monterey Bay. The deep

submarine canyon is largely responsible for the extraordinary biodiversity of Monterey Bay. Other submerged features in Monterey Bay are the gravel ledges and rock bars known to fishermen as Italian Ledge and Portuguese Ledge, which are renowned for their abundance of sea life. These features formed as gravel beds and were uplifted by the Monterey Bay Fault zone, which extends from Monterey Bay into upper Carmel Valley.

Uplift resulting from convergence of the Pacific and North America plates has occurred several times in geologic history, but the uplift of the Santa Lucia and Gabilan Mountains to their present position probably occurred during the last 400,000 years. A series of wave-cut, marine terraces around the Monterey Peninsula and south along Highway 1, together with a series of fluvial terraces that flank the Carmel River, record the uplift of the Santa Lucia Range in the last million years.

Active geologic processes are still modifying the land throughout the County. These processes include rivers eroding and depositing sediment, the formation of dunes by wind-borne sand, and landslides in the mountains and hills.

4.4.2.2 Seismicity

Faulting

Faults form in rocks when stresses overcome the internal strength of the rock, resulting in a fracture. Large faults develop in response to large regional stresses operating over a long time, such as those stresses caused by the relative displacement between the North American and Pacific tectonic plates. According to the elastic rebound theory, these stresses cause strain to build up in the earth's crust until enough strain has built up to exceed the strength along a fault and cause a brittle failure. The slip between the two stuck plates or coherent blocks generates an earthquake. Following an earthquake, strain will build again until another earthquake. The magnitude of slip is related to the maximum allowable strain that can be built up along a particular fault segment. The greatest buildup in strain due to the largest relative motion between tectonic plates or fault blocks over the longest time will generally produce the largest earthquakes. The distribution of these earthquakes is a study of much interest for both hazard prediction and the study of active deformation of the earth's crust. Deformation is a complex process and strain due to tectonic forces is not only accommodated through faulting but also through folding, uplift, and subsidence, which can be gradual or in direct response to earthquakes.

Faults are mapped to determine earthquake hazards since they are where earthquakes tend to recur. A historical plane of weakness is more likely to fail under stress and strain than a previously unbroken block of crust. Faults are therefore a prime indicator of past seismic activity, and faults with recent activity are presumed to be the best candidates for future earthquakes. However, since slip is not always accommodated by faults that intersect the surface along traces, and since the orientation of stresses and strains in the crust can shift, predicting

the location of future earthquakes is complicated. Earthquakes sometimes occur in areas with previously undetected faults or along faults previously thought inactive.

In California, a system has been developed by the California Geological Survey and U.S. Geological Survey (USGS) to assess the activity of faults. Under this system, faults are classified active if they have ruptured in the last 11,000 years or within the Holocene period. Other faults are considered inactive.

There are several fault maps for Monterey County. The Fault Activity Map of California shows nearly all faults that are considered active, potentially active, or inactive (Exhibit 4.4.1). The Alquist-Priolo Earthquake Fault Zones Maps show faults that are considered active. In Monterey County, all of the mapped onshore active fault traces lie along the main San Andreas Fault. The southeast County is an active earthquake area with a regular cycle of moderately large earthquakes. Five earthquakes of magnitude 6.0 or greater on the Richter scale have occurred on this segment of the fault since 1901. Fortunately, this area has only a small population, with only the small town of Parkfield containing land within the Earthquake Fault Zone (EFZ).

Other onshore faults in Monterey County include the Berwick, Seaside-Chupines, Cypress Point, Gabilan Creek, Garrapata, Harper, Hatton Canyon, Jolon, Nacimiento, Navy-Tularcitos, Palo Colorado, Reliz, Rinconada, Rocky Creek, San Gregorio, Sylvan, Tularcitos, and Zayante-Vergeles. No major earthquakes have occurred on these faults during the past 100 years.

A final class of faults is those mapped offshore. Since these faults are offshore, they are not a risk for causing a land rupture but could cause seismic shaking and possibly trigger a tsunami. A tsunami may be triggered by an underwater landslide in response to seafloor deformation or may occur from the actual fault rupture motion. This component of risk is separate from the risk of a tsunami generated elsewhere around the Pacific Rim from a large earthquake, such as the earthquake that caused the devastating 2004 tsunami in Sumatra, but the impact could be similar.

In Monterey County, two earthquakes have caused recorded tsunami run-up heights that exceeded 1 meter. The 1960 Chilean Earthquake of estimated magnitude 9.5 (largest ever recorded) caused a 1.1-meter run-up-and killed one person, while the slightly smaller but nearer 1964 Alaska earthquake of magnitude 9.2 caused a 1.4-meter run up and significant boat damage at harbors in the Monterey Bay area. According to the State of California Seismic Safety Commission Report released in December 2005, the maximum estimated run-up height in Monterey Bay is 1 to 2 meters, while 2 to 5 meters is anticipated along the Big Sur Coast. Perhaps the most likely source for a significant tsunami exceeding 1 meter in run-up height would be from a rupture along the Cascadia Subduction zone in the Pacific Northwest, which evidence indicates has not had a major rupture since 1700 and could produce an earthquake in the Richter magnitude 9.0 range. Various tsunami-generating scenarios have been examined by the USGS, the California Geologic Survey (CGS), the California Seismic

Safety Commission, and universities—including the University of Southern California Tsunami Research Center. This research is being used to update the current warning system. The Monterey County Office of Emergency Services is currently examining the updated tsunami research, particularly that completed by USGS and the University of Southern California, to establish an effective community notification or alert system for evacuation. This would be implemented in coordination with the West Coast and Alaska tsunami warning system, which is the primary alert system in the region. Targeted study areas are those that lie below 5 and 10 meters above mean sea level, since these are considered most at risk from inundation by a major tsunami.

Earthquakes

The entire California Coast and Coast Ranges area is prone to earthquakes, including Monterey County. A Richter magnitude 6.0 earthquake that struck near the Town of Parkfield in 2004 caused only minor damage; however, a magnitude 6.5 earthquake near the more populous area of San Simeon in 2003 in neighboring San Luis Obispo County caused major damage to unreinforced masonry structures and killed two people in Paso Robles. Based on history, the probability of such an earthquake occurring in the next few decades that is equal or larger in magnitude in Monterey County is quite likely.

Table 4.4-1 summarizes the year, epicenter, and magnitude of major historical quakes that have affected Monterey County since 1900. Earthquake damage from some of these historical quakes has been significant. The Preliminary Report of the State Earthquake Commission, dated May 31, 1906, described the damage that occurred in Monterey County from the April 1906 San Francisco quake:

> Along the banks of the Salinas River and extending from Salinas to the vicinity of Gonzales, so far as our reports at present show, the bottom lands were more severely ruptured, fissured, and otherwise deformed than in any other portion of the State. The Spreckels Sugar Mill, situated on the banks of the river, suffered more severely probably than any other steel structure in the State.

Other damage from the 1906 earthquake included destruction of the wharf at Moss Landing and destruction of the Hotel Del Monte in Monterey.

Table 4.4-1. Major Historical Earthquakes in the Region

Year	Epicenter	Richter Magnitude at Epicenter
1901	Parkfield	6.4
1906	San Francisco	8.3
1922	Parkfield	6.3
1934	Parkfield	6.0
1966	Parkfield	6.6
1983	Coalinga	6.5
1984	Morgan Hill	6.1
1989	Loma Prieta	7.1
2003	San Simeon	6.5
2004	Parkfield	6.0

Source: U.S. Geological Survey 2006.

While Richter magnitude provides a useful measure of comparison between earthquakes, the Moment magnitude is more widely used for scientific comparison since it accounts for the actual slip that generated the earthquake. Actual damage is due to the propagation of seismic or ground waves from initial failure, and the intensity of shaking is as much related to earthquake magnitude as the condition of underlying materials. Loose materials tend to amplify ground waves, while hard rock can quickly attenuate them, causing little damage to overlying structures. For this reason, the Modified Mercalli Intensity (MMI) Scale provides a useful qualitative assessment of earthquake intensity. The MMI Scale is shown in Table 4.4-2.

Future Earthquake Probability

Both the USGS and CGS are conducting active research on earthquake probabilities throughout California. While much effort has been focused on the San Francisco Bay Area, there are several active projects in Monterey County, such as the San Andreas Fault Observatory at Depth (SAFOD) project near Parkfield, in the southeastern portion of the County. In 2005, a borehole penetrated to a depth of over 13,000 feet in order to install sensitive monitoring equipment used to record the future pattern and slip from earthquakes at depth.

Table 4.4-2. Modified Mercalli Intensity of Earthquakes

Richter Scale Magnitude	Modified Mercalli Intensity	Effects of Intensity
0.1–0.9	I	Not felt except by a very few under especially favorable circumstances.
1.0–2.9	II	Felt by only a few persons at rest, especially on upper floors of building. Delicately suspended objects may swing.
3.0–3.9	III	Felt quite noticeable in doors, especially on upper floors of building, but many people do not recognize it as an earthquake. Standing cars may rock slightly. Vibration like passing a truck. Duration estimated.
4.0–4.5	IV	During the day felt indoors by many, outdoors by few. At night some awakened. Dishes, windows, doors disturbed; walls make creaking sound. Sensations like heavy truck striking building. Standing cars rocked noticeably.
4.6–4.9	V	Felt by nearly everyone, many awakened. Some dishes, windows, and so on broken; cracked plaster in a few places; unstable objects overturned. Disturbances of trees, poles, and other tall objects sometimes noticed. Pendulum clocks may stop.
5.0–5.5	VI	Felt by all, many frightened and run outdoors. Some heavy furniture moved; a few instances of faller plaster and damaged chimneys. Damage slight.
5.6–6.4	VII	Everyone 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.
6.5–6.9	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, monument walls, and heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving in cars disturbed.
7.0–7.4	IX	Damage considerable in specially designed structures; well-designed frame strictures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.
7.5–7.9	X	Some well-built structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked. Railway lines bent. Landslides considerable from riverbanks and steep slopes. Shifted sand and mud. Water splashed, slopped over banks.
8.0–8.4	XI	Few, if any masonry structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and landslips in soft ground. Rails bent gently.
8.5 ≤	XII	Total damage. Waves seen on ground. Lines of sight and level distorted. Objects thrown into the air.

Source: Abridged from *The Severity of an Earthquake, USGS General Interest Publication.* Available online from the U.S. Geological Service at: http://pubs.usgs.gov/gip/earthq4/severitygip.html (U.S. Government Printing Office Number 1989-288-913).

The most commonly cited document for earthquake planning is the Probabilistic Seismic Hazard Assessment, which addresses the probability of seismic shaking since that is the primary hazard from earthquakes.

Several seismic sources are present in the County, including several that are not considered at risk from fault rupture under the Alquist-Priolo Earthquake Fault Zoning Act (A-P Act). Documented seismic sources are the Rinconada, San Gregorio (Palo Colorado), Monterey Bay-Tularcitos, Hosgri, and San Andreas Faults.

The present analysis of seismic data indicates that the highest-magnitude earthquakes that would generate the strongest seismic shaking are expected to occur on the San Andreas Fault since this has the highest slip rates and rupture lengths. Other faults with high slip and rupture lengths are the southern segment of the San Gregorio and Hosgri Faults. Both the Rinconada and Monterey Bay-Tularcitos Faults have much lower slip rates and are therefore not expected to produce as large an earthquake as the other faults. Evidence indicates that the San Andreas Fault is the dominant seismic source in the region. Based on this assessment, the strongest peak ground accelerations with a 10%probability of being exceeded in 50 years that are greater than 80% of the acceleration due to gravity are along the San Andreas Fault in the Parkfield area. Such ground acceleration would likely generate shaking of a Mercalli Intensity level of at least IX. Peak ground accelerations are predicted to be less elsewhere, with the strongest peak ground accelerations in the more populous North County between Salinas and San Juan Bautista, where peak ground acceleration as high as 70% of gravity is predicted. While these areas are predicted to have the strongest ground shaking, this assessment does not consider the amplification of seismic waves by shallow surface materials, which could be considerable in looser liquefiable materials far from an earthquake. This hazard is addressed separately under the topics of unstable geologic materials, liquefaction, and other secondary seismic hazards.

4.4.2.3 Geologic Hazards

Geologic hazards pose a substantial danger to property and human safety, and are present due to the risk of naturally occurring geologic events and processes impacting human development. Therefore, the hazard is influenced by the conditions of human development as much as by the frequency and distribution of major geologic events. From a planning point of view, these hazards are potential constraints on the intended use of the land. By analyzing these constraints, the risks can be assessed and may be mitigated to an acceptable level.

Billions of dollars and hundreds of lives have been lost due to geologic hazards in California, many of which are present in Monterey County. Common geologic hazards present in Monterey County include ground rupture along faults, strong seismic shaking, liquefaction, and slope failure.

Fault Rupture

Fault rupture is a seismic hazard that affects structures sited above an active fault. The hazard from fault rupture is the movement of the ground surface along a fault during an earthquake. Typically, this movement takes place during the short time of an earthquake but can also occur slowly over many years in a process known as "creep." The only known creeping fault in the County is the part of the San Andreas between San Juan Bautista and Parkfield. Most structures and underground utilities cannot accommodate the surface displacements of several inches to several feet commonly associated with fault rupture or creep.

In response to the severe fault rupture damage of structures by the 1971 San Fernando earthquake, the State of California enacted the Alquist-Priolo Earthquake Fault Zoning Act in 1972. This act required the State Geologist to delineate EFZs along known active faults with a relatively high potential for ground rupture. Faults that are zoned under the A-P Act must meet the strict definition of being sufficiently active and well-defined for inclusion as an EFZ. Properties within EFZs are subject to state regulations that include prohibiting structures for human occupancy being sited within 50 feet of an active fault, requiring geologic reports addressing surface fault hazard, and geologic review of fault reports, among other provisions. Based on fault investigations and evidence of past rupture, the only state-designated EFZs in the County are along the San Andreas Fault.

Ground rupture or cracking outside a mapped active fault trace that is caused from seismic shaking, settlement, or other motion triggered by earthquakes is common. Following the 1989 Loma Prieta earthquake, major ground cracking occurred in the Santa Cruz Mountains, especially along ridgetops; this phenomenon was due to the propagation of seismic waves and probably to differential settlement and lurch cracking.

Ground Shaking

As previously mentioned, strong ground or seismic shaking is a major hazard in the County. Exhibit 4.4.2 depicts predicted peak seismic shaking intensity throughout the County (shaking in percent gravity = "g"). Monterey County is subject to very strong (0.3–0.6 g) to severe (greater than 0.6 g) shaking from the San Andreas, San Gregorio, and Reliz/Rinconada Faults. The entire County is within Seismic Zone 4, considered the most seismically active zone in the United States based on the 2001 California Building Code (adopted by Monterey County) and the 1997 Uniform Building Code. The severity of ground shaking depends on several variables, such as earthquake magnitude, epicenter distance, local geology, thickness and seismic wave-propagation properties of unconsolidated materials, groundwater conditions, and topographic setting. Consequently, the hazard from ground shaking is most severe in areas near the San Andreas Fault and in the unconsolidated alluvial areas of the County such as the Salinas and Carmel Valleys.

The most common type of damage from ground shaking is structural damage to buildings, which can range from cosmetic stucco cracks to total collapse. The overall level of structural damage from a nearby large earthquake would likely be moderate to heavy, depending on the characteristics of the earthquake, the type of ground, and the condition of the building. Besides damage to buildings, strong ground shaking can cause severe damage by falling objects such as bookcases or water heaters, or broken water or gas pipes. In industrial settings, chemical spills are a serious potential hazard. Fire and explosions resulting from ruptured gas pipes are also major hazards associated with strong ground shaking.

The ability to predict which areas will shake the strongest is vital to building design, emergency management, and analysis of related hazards such as liquefaction and earthquake-induced landslides. Although it is not possible to predict the exact level of shaking at a site, it is feasible to assess what level of ground shaking is likely to occur in a given time period.

The most common level of ground shaking used in designing residential and commercial buildings is the design basis ground motion, which has a seismic shaking level (peak ground acceleration) with a 10% chance of being exceeded in 50 years. Expressed another way, this level of ground motion has a 1 in 475 chance of being exceeded each year. Public schools, hospitals, and essential services buildings are designed to resist the upper-bound earthquake, which has a 10% chance of being exceeded in 100 years or a 1 in 949 chance of being exceeded each year.

Liquefaction

Liquefaction is a process in which sediments below the water table temporarily lose strength during an earthquake and behave as a viscous liquid rather than a solid. Liquefaction is restricted to certain geologic and hydrologic environments, primarily recently deposited sand and silt in areas with high groundwater levels. The process of liquefaction involves seismic waves passing through saturated granular layers, distorting the granular structure and causing the particles to collapse. This causes the granular layer to behave temporarily as a viscous liquid rather than a solid, resulting in liquefaction.

Liquefaction can cause the soil beneath a structure to lose strength, which may result in the loss of foundation-bearing capacity. This loss of strength commonly causes the structure to settle or tip. Loss of bearing strength can also cause light buildings with basements, buried tanks, and foundation piles to rise buoyantly through the liquefied soil.

Large ground motions resulting from liquefaction, especially lateral spreading, can cause damage to buried pipelines. Most pipe breaks during the Loma Prieta earthquake were in areas with significant thickness of liquefiable soil (greater than 3 feet). Broken pipelines represent a serious public safety issue as demonstrated by burning natural gas lines in the 1994 Northridge earthquake and broken water mains in San Francisco in the 1906 earthquake.

Ground shaking levels that are strong enough to cause liquefaction are present in all of the alluvial basins in Monterey County. Liquefaction potential is shown in Exhibit 4.4.3. Areas in Monterey County most susceptible to liquefaction include the Salinas River and floodplain, the Moss Landing and Elkhorn Slough areas, the Carmel River and floodplain, the San Antonio and Lockwood Valleys, and the Peachtree and Cholame Valleys.

Slope Instability and Landslides

Landslides are common in Monterey County due to the combination of the rapidly uplifting mountains, locally fractured and weak rocks, and sometimes intense rainfall along the coast. Many ancient landslides formed during the Pliocene or Pleistocene, between 11,000 and 2 million years before the present. Younger landslides formed during the Holocene, or past 11,000 years, are commonly divided into recent or historic deposits and old landslides. Very young landslides have fresh scarps, disrupted drainages, closed depressions, and disturbed vegetation. Older landslides are modified by erosion, resulting in subdued scarps, reestablished vegetation, and new drainage paths. Soils have formed on some older landslide deposits; however, most soils are poorly developed or absent because of high erosion rates and steep slopes.

Causes of Landslides

There are many causes for landslides, but for geologic hazard evaluation, they can be divided into two main groups: human activity and natural causes. Humans can cause landslides by improperly designing or constructing roads, buildings, and septic systems; excavating the toe of a slope or loading the upper slope; vegetation removal; mining; and human-introduced water sources (lawn watering, leach fields, storm drains, and water lines). Natural causes include steep slopes, weak rock, unfavorably inclined planes of weakness (bedding, joints, and faults), undercutting by streams and waves, intense rainfall, vegetation removal by fire, and earthquakes.

Regardless of whether they are caused by human or by nature, all landslides share some common causes. The first is that slopes become unstable as a result of a decrease in the resisting forces that hold the earth mass in place or an increase in the driving forces that facilitate its movement. The second is that water is a key factor in nearly all landslides because it increases the weight of the soil, thereby increasing the driving forces. Water also acts as a lubricant and serves to decrease the resisting forces. An understanding of water and its effect on slope equilibrium is essential to mitigating landslide hazards.

Most landslides are generated by intense rainfall. Other initiating causes include fires and earthquakes. The temporal pattern of high-intensity, short-duration rainfall is a more important factor in triggering landslides than annual or monthly precipitation totals. Antecedent moisture conditions determine whether large amounts of rainfall will successfully trigger a landslide. If earth materials already contain significant moisture from prior rainfall, the severity of precipitation from a new storm can be less yet can still trigger a landslide. If

other factors are equal, magnitude, intensity, and duration of the storm are important factors that can contribute to hillslope instability.

Landslides are one of the most costly geologic hazards to affect the County and are responsible for millions of dollars in damage to houses and roads. As population growth increases, there is increased development pressure to build on unstable slopes. Proper planning can significantly reduce the risks associated with landslides.

Types of Landslides

Landslides and other forms of slope failure form in response to the long-term geologic cycle of uplift, mass wasting, and disturbance of slopes. Mass wasting refers to a variety of erosional processes from gradual downhill soil creep to mudslides, debris flows, landslides, and rock fall—processes that are commonly triggered by intense precipitation that varies according to climactic shifts. Often various forms of mass wasting are grouped together as "landslides," the term generally used to describe the downhill movement of rock and soil.

Geologists classify landslides into several different types that reflect differences in the type of material and type of movement. The four most common types of landslides are translational, rotational, earth flow, and rock fall. Debris flows are another common type of landslide that is similar to earth flows, except that the soil and rock particles are coarser. "Mudslide" is a term that appears in non-technical literature to describe a variety of shallow, rapidly moving earth flows. All of these types of landslides are abundant in Monterey County.

Deep-seated rotational and translational slides are common in several types of geologic units, especially in the Franciscan Complex rocks. The Franciscan rocks and associated serpentinite are relatively unstable because of their numerous discontinuities (faults, joints, and shear zones) and tend to fail as multiple, nested landslides. Granitic and metamorphic basement rocks also have rotational slides, although to a lesser degree than the Franciscan rocks. Debris flows may be more common. Coastal terrace deposits are susceptible to shallow-seated rotational slides.

Landslides occur in all the geologic units, but translational slides are most common in the Monterey Formation. The Monterey Formation is especially prone to translational slides along clay beds. Good examples of translational landslides in the Monterey Formation are along Carmel Valley Road near Arroyo Seco, where the beds are inclined in the same direction as the slope and are sliding in what geologists refer to as "dip-slope conditions." Under these conditions, slip can occur between the beds. This is most common in clay or shale beds where moisture between the beds can cause expansion of highly plastic clays, such as smectite, and form a zone of weakness where downslope shear stress can exceed the strength of the material and trigger a landslide.

Rock falls along road cuts and steep slopes are widespread in the igneous, metamorphic, and volcanic rocks, especially on high ridges and peaks. Many rock falls are a result of failure along closely spaced intersecting discontinuities,

especially where undercut by roads or streams. Localized areas of rock fall are present throughout the Arroyo Seco watershed. Rocks deposited on hillslopes are subject to rolling or sliding where fire has removed the groundcover that stabilized them. Rock falls typically occur shortly after periods of intense rainfall and during earthquakes. The risk of earthquake-triggered landslides in the County that was tabulated from various geological data mostly provided by the USGS and CGS is included as Exhibit 4.4.4.

Relative susceptibility to landslides can be described according to the following geologic conditions:

- **Low**: Flatlands and low relief terrain, includes mainly Quaternary deposits. In steep terrain, includes mainly crystalline basement rock, volcanic rock, and Cretaceous sandstone. Approximately 5% of the area is likely to fail in a major earthquake.
- **Moderate**: Moderately steep terrain underlain by mainly unconsolidated and weakly cemented sandstone, shale, and Franciscan Complex. Approximately 15% of the area is likely to fail in a major earthquake.
- **High**: Steep terrain underlain by mainly unconsolidated and weakly cemented sandstone, shale, Franciscan Complex, and existing landslides. Approximately 25% of the area is likely to fail in a major earthquake.

Land Subsidence

Land subsidence is a gradual settling or sudden sinking of the Earth's surface owing to subsurface movement of earth materials. The principal causes of land subsidence in the region are groundwater mining, which can cause collapse of aquifer sediments and compaction, drainage of organic soils, underground mining, hydrocompaction, and sinkholes. There is little documentation of widespread subsidence in Monterey County.

Aquifer-system compaction (groundwater mining) results from pumping ground water out of the aquifer faster than it is able to recover through recharge. This has caused considerable subsidence—as much as 15 to 25 feet in parts of the Santa Clara and San Joaquin Valleys. It is less common in the Salinas Valley, perhaps due to relatively less diversion of the Salinas River and lower evapotranspiration rates, particularly near the coastal margin. Subsidence can also result from pumping oil and gas, although this is less common than pumping of groundwater. No significant subsidence was reported for the San Ardo oil field or any other oil fields in the County.

There is little evidence of widespread land subsidence from drainage of organic soils, underground mining, or hydrocompaction in Monterey County. Another form of local subsidence is from sinkholes. These most commonly form when the roof of an underground tunnel or cavity collapses. Sometimes when a water main bursts, the ground above will collapse since the subsurface fill was washed out. Sinkholes also occur where rapid runoff erodes subsurface strata above rock

or another hard layer and eventually causes the surface soils to collapse. This process is sometimes related to gullying of erosive surface soils or very soft rock.

4.4.2.4 Soil Hazards

Soil hazards can be considered a subset of geologic hazards that, due to their complexity, are often considered separately. Soils are directly impacted by land use change and climate patterns since they lie at the surface, where development impacts are concentrated. They are therefore a primary consideration of any geotechnical investigation or soils report for a development. Soil characteristics directly impact land use. Soil ideal for agriculture may not be suitable for building foundations or roadways, while certain erosive or expansive soils are entirely unsuitable to use as engineered fill. Important soil characteristics include the properties related to agricultural and natural habitat resources, as well as those properties related to land development projects. Once site-specific soil properties are known, potential impacts on particular land use projects should be evaluated and necessary mitigations implemented. Improper design for specific soil conditions can cause significant financial losses and can influence the performance and safety of civil works. Similarly, soils often have important agricultural or habitat properties that should be considered in planning decisions. To put the importance of soil characterization in perspective, the State of California has estimated that statewide losses[1] caused by damage from expansive soils from 1970 through 2000 exceeded $150 million and losses from erosion during the same period totaled $565 million.

The complexity of the County's geology is reflected in the 25 major soil associations found in the County. These associations represent hundreds of soil series, which were mapped and analyzed in great detail by the U.S. Department of Agriculture Soil Conservation Service in 1978. The variety of soils is due to the variability of the five major soil-forming factors within the County. These are parent material, climate, topography, biological factors, and time. Coastal soils that formed upon the same parent materials as interior soils may vary widely due to the contrast between the cool and damp maritime climate versus the hot and dry climate of the interior. Common soils associations include the Cieneba-Sur-Junipero (CSJ), Sheridan-McCoy, Santa Lucia Reliz (SLR), Oceano, Garey-Greenfield (OGG), Arnold-Santa Ynez, Shedd (ASS)-Los Osos-Nacimiento (LN) and Lithic Xerothents-Gaviota-Plaskett (LXGP).

The Natural Resources Conservation Service has interpreted the behavior of the soils they mapped under various circumstances and examined their suitability for particular land uses. The soil interpretations most useful for planning and land use decisions are runoff potential; erosion hazard; shrinking and swelling behavior; and suitability for agriculture, shallow excavations, sanitary landfills, septic tank absorption fields, roads and streets, dwellings and small commercial buildings. Soil interpretations for farmlands have particular importance in Monterey County, which contains over 300,000 acres of productive farmlands.

[1] The estimate assumes that agricultural and engineering practices are consistent through the 30-year period.

The classifications used for the farmlands inventory, in order of decreasing productivity, are Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance. Prime Farmlands occur in scattered acreages throughout the County, but the most extensive acreages occur on the deep, rich soils of the Salinas Valley, sometimes referred to as the "nation's salad bowl." Soil, climate, and a third component—water—combine to help make Monterey County one of the most agriculturally productive areas in the world. Monterey County does not have any designated Farmland of Local Importance.

Erosion

Erosion can be defined as the wearing away of the land surface by flowing water, waves, or wind, or by such process as mass wasting and corrosion. Erosion not only leads to soil loss but also results in degraded water quality, unwanted soil deposition leading to property damage, and increased danger from flooding. In Monterey County, erosion is a significant force that affects three distinct types of land use: agricultural land, residential development, and coastal bluffs.

Soils can sometimes be quantitatively rated as to their erosion hazard potential. The relative erosion hazard is depicted at a County-wide scale in Exhibit 4.4.5.

Agricultural Erosion

Soil loss or soil erosion is most common in the North County, especially where strawberries are grown on moderately steep hillsides in the Aromas Sand Formation. Loamy sand soils developed on top of sandy dunes or slopes are highly erosive; moderately steep slopes greater than 15% that would not normally be considered erosive if underlain by more cohesive soil or rock are particularly susceptible to scour from wind or from being washed away through runoff, especially when bare. In the Salinas Valley, erosion and deposition are directly related through flooding, where sediment is picked up in one area, transported, and deposited in another. This includes sediment eroded from stream banks due to scouring flow. There is also general erosion on terrace surfaces and wind erosion of bare soils, especially those with low cohesion that have formed from sandy deposits. Due to grading and terracing on unstable slopes, erosion is sometimes triggered on even moderately steep slopes, especially in unvegetated or unplanted areas. Outside the Salinas Valley, there are wide-open undeveloped areas such as in the South County and Diablo Range. In these areas, a substantial proportion of soil erosion may be attributed to livestock grazing, where soil that is bare from compaction and trampling may concentrate runoff and lead to rilling or gullying of the ground. This problem often can be controlled through careful management of rangeland and avoidance of overgrazing. It is also important to consider the benefits of grazing, such as the reduction of overgrown vegetation that raises the fire hazard.

Hillside Development Erosion

Erosion is commonly concentrated on steep slopes; therefore, soil disturbance or grading on steep slopes is likely to trigger erosion unless controlled. Common

causes of erosion are (1) site grading and disturbance of soil and rock during construction, where runoff and improper drainage can trigger erosion and improper drainage; and (2) post-construction drainage. Problems during construction include gullying across freshly graded slopes that have not been seeded or mulched for the winter, slumping of loose soils, and soils or rock fall over steeply cut banks. Poorly graded roads also may allow water to concentrate, resulting in erosion and deposition; in extreme cases, ruts can channel water, creating washouts that can trigger minor debris flows or landslides. Post-construction erosion is mainly a result of poorly designed and maintained drainage structures such as culverts, pipe down-drains, and ditches. Concentrated runoff may erode soil simply by the large impact force that can be generated from high-velocity flows, while sediment-laden water from turbid runoff often can cause drainageways to become clogged and may trigger further erosion by redirecting flow into areas unable to handle the concentrated runoff.

Coastal Erosion

Coastal erosion of dunes, cliffs, and bluffs is a serious problem in Monterey County. Coastal erosion of cliffs is concentrated along the Big Sur Coast due to very steep terrain; but there are locally severe erosion problems in the south Monterey Bay area, mainly due to highly erosive windblown sand and particularly in the incorporated and unincorporated areas around Marina, Sand City, Monterey, and Fort Ord. In this area, the coastline is one of low relief, with sand dunes present from the Pajaro River southward to Carmel, and much erosion is due to movement of unstable windblown sand—especially where vegetation has not been established. Much beachfront property is also lost from high surf and wave action that is concentrated during winter storms. This sand may be redistributed along the coast in a process known as long-shore or littoral drift. When sand is depleted or cut off by an obstruction, the result is often severe; with no new sand to reform the beach, a major retreat of the coastline occurs. This problem is forecast to get worse based on some projections of global warming causing the sea level to rise.

In the Marina State Beach area, bluffs and dunes retreated at an average rate of 5 to 7 feet per year from 1937 to 1983. For example, Stilwell Hall at the former Fort Ord Officer's Club was originally built 300 feet from the beachfront in 1943, but by 2000 was already being threatened by beach waves and has since been demolished. The sewer outfall at Fort Ord also experienced major erosion since construction in 1962, where the beach retreated 175 feet in 21 years. As much as 40 feet of retreat occurred during the storms of 1982 and 1983 when there was an El Niño climatic pattern. Major retreat of the beach has also occurred in the Sand City area, where the beach has retreated 6 to 8 feet per year on average between 1956 and 1975. Some of this is due to sand mining operations.

South of Carmel, the coastline steepens and bluffs are the dominant landform due to the high rates of tectonic uplift. In contrast to the uniformly high erosion rates of the sand dunes along southern Monterey Bay, the erosion rates on the Big Sur Coast differ depending on the type of bedrock, degree of fracturing and weathering, ground water seepage, and exposure to waves. Generally, the

granitic and metamorphic rocks are relatively resistant to erosion, except near faults and other areas of intense fracturing and weathering. Some rocks of the Franciscan complex are intrinsically weak and more readily eroded compared to granitic and metamorphic rocks. In addition, several landslides along State Highway 1 are caused by erosion from violent wave action.

The least resistant units to erosion are the coastal terrace deposits. The terrace deposits are typically far enough above sea level that they are not subject to direct wave action. However, they are subject to erosion from surface water and seepage. Because of their relatively porous texture, large quantities of water can infiltrate into terrace deposits. Groundwater is a major influence in cliff erosion. Erosion takes place through a process known as "spring sapping," in which bluffs are undermined by flowing water loosening rock particles and chemically dissolving the cement that binds the particles. A similar process is "piping," in which water flows through open channels such as burrows, eroding and enlarging them. Non-natural sources of water such as irrigation, septic effluent, and urban runoff add significant amounts of water that could contribute to sapping and piping. Lawn and garden watering contributes the equivalent of 70 to 80 inches per year of rain and 500 to 800 gallons per day of septic effluent. Under certain hydrogeologic conditions, some of this water could contribute to erosion in the form of mass wasting (or even landslides) by groundwater.

Other influences on coastal erosion include changes in climate. Both short-term events such as El Niño storm cycles and long-term events such as rising sea level will increase erosion rates along the coast. Therefore, structures sited along the coast must account for these extreme events.

Unstable Geologic Units

Unstable geologic units are those that lack the integrity to support human-made improvements such as buildings and roadways. This may be due to lack of strength, lack of compaction or low density, or unsuitability of material for a particular foundation. Unstable geologic units may also be initially stable and lose stability due to improper drainage or buildup of pore pressure that causes a reduction in strength. Major problems include settlement, lurch cracking, differential settlement, and expansion. Instability is often due to a range of factors that may be difficult to quantify but can be collectively attributed to unstable native materials and unstable fill soils. Unstable geologic units include soft marshy soils that are prone to subsidence, sandy soils with shallow groundwater prone to liquefaction, and friable or poorly indurated rock such as the Monterey Formation or alluvium that can fail on slopes. Particularly unstable are fill soils or debris placed over marshes and wetlands to create new land. This includes a variety of heterogeneous mixtures of loose to very well consolidated gravel, sand, silt, clay, rock fragments, organic matter, and human-made debris.

Expansive Soils

Expansive soils shrink and swell depending on moisture level as the clay minerals in these soils expand and contract. Soils with moderate or high expansion potential are susceptible to shrinking and swelling due to fluctuations in moisture content and are a common cause of foundation deterioration, pavement damage, cracking of concrete slabs, and shifting of underground utilities. According to the California Building Code, soils with an expansion index exceeding 91 are considered highly expansive; such soils would typically have a liquid limit of 40 or more and plasticity index exceeding 15. These soils are undesirable for use as engineered fill or subgrade directly underneath foundations or pavement, and must be replaced with non-expansive engineered fill or require treatment to mitigate their expansion potential.

4.4.2.5 Other Hazards

Tsunami

Tsunamis are ocean waves caused by large earthquakes and landslides that occur near or under the ocean. When tsunamis approach shore, they behave like a very fast-moving tide that extends far inland. Powerful tsunamis, such as the one that struck Southeast Asia in December 2004, can level structures and result in significant loss of human life. Tsunami waves can persist for many hours because of complex interactions with the coast. The most recent tsunami to strike California occurred in Crescent City in 1964. Currently, efforts are underway to map tsunami inundation zones along the California coast.

Seiche

Seiches are standing waves set up on rivers, reservoirs, ponds, and lakes when seismic waves from an earthquake pass through the area. Effects of seiches are similar to those of a tsunami.

Mudflow

A mudflow (used interchangeably with “debris flow” or “lahar”) is a flowing mixture of water-saturated debris that moves downslope under the force of gravity. Mudflows consist of material varying in size from clay to blocks several tens of meters in maximum dimension. When moving, they resemble masses of wet concrete and tend to flow downslope along channels or stream valleys. Mudflows are formed when loose masses of unconsolidated wet debris become unstable.

The major hazard to human life from mudflows is from burial or impact by boulders and other debris. Buildings and other property in the path of a mudflow

can be buried, smashed, or carried away. Because of their relatively high density and viscosity, mudflows can move and even carry away vehicles and other objects as large as bridges.

4.4.3 Regulatory Framework

4.4.3.1 Federal Regulations

Uniform Building Code

The Uniform Building Code (UBC) defines different regions of the United States and ranks them according to their seismic potential. There are four types of these regions—Seismic Zones 1 through 4, with Zone 1 having the least seismic potential and Zone 4 having the highest. Monterey County is located in Seismic Zone 4; accordingly, any future development would be required to comply with all design standards applicable to Seismic Zone 4.

Disaster Mitigation Act of 2000

The Federal Disaster Mitigation Act (DMA) of 2000 (Public Law 106-390) emphasizes the need for state, tribal, and local entities to closely coordinate disaster mitigation planning and implementation efforts.

Section 322 of the DMA requires adoption of a state mitigation plan as a condition of disaster assistance, adding incentives for increased coordination and integration of mitigation activities at the state level through the establishment of requirements for two different levels of state plans: standard and enhanced. States that demonstrate an increased commitment to comprehensive mitigation planning and implementation through development of an approved Enhanced State Plan can increase the amount of funding available through the Hazard Mitigation Grant Program (HMGP). Section 322 also establishes a new requirement for local mitigation plans and authorizes up to 7% of HMGP funds available to a state to be used for development of state, tribal, and local mitigation plans.

Provisions of the DMA 2000 include:

- funding for disaster planning and mitigation;
- development of experimental multi-hazard maps to better understand risk;
- establishment of state and local government infrastructure mitigation planning requirements (Advance Infrastructure Mitigation [AIM]);
- defining how states can assume more responsibility in managing the HMGP;
- adjusting ways in which management costs for projects are funded; and

- establishment of performance-based standards for mitigation plans and requiring states to have a program (AIM) to develop County government plans. Should counties fail to develop an infrastructure mitigation plan, their federal share of damage assistance would be reduced from 75 to 25% if there was recurrent damage to the same facility or structure in response to the same type of disaster.

To maintain compliance with DMA 2000 and receive full federal funding, Monterey County and its cities prepared the Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) that was adopted in September 2007 by those jurisdictions. This detailed plan identifies potential natural and man-made hazards, assesses their likely risk, and includes mitigation methods to reduce risks. The potential hazards identified in the MJHMP include coastal erosion, dam failure, earthquake, flood, hazardous materials event, landslide, tsunami, wildland fire, and windstorm. Mitigation measures proposed to address these risks Countyincluded preventative actions, property protection techniques, natural resource protection strategies, structural projects, emergency services, and public information and awareness activities.

4.4.3.2 State Regulations

Alquist-Priolo Earthquake Fault Zoning Act

The primary purpose of the A-P Act is to mitigate the hazard of fault rupture by prohibiting the location of structures for human occupancy across the trace of an active fault. The A-P Act addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards.

The A-P Act requires the State Geologist (Chief of the California Geologic Survey) to delineate EFZs along faults that are sufficiently active and well defined. "Sufficiently active faults" show evidence of Holocene surface displacement along one or more or their segments. "Well-defined faults" are clearly detectable by a trained geologist as a physical feature at or just below the ground surface. The boundary of an EFZ is generally about 500 feet from major active faults, and 200 to 300 feet from well-defined minor faults. The A-P Act dictates that cities and counties withhold development permits for sites within an Alquist-Priolo (A-P) Zone, until geologic investigations demonstrate that the sites are not threatened by surface displacements from future faulting.

A-P Zone mapping has been completed by the State Geologist for all of the quadrangles in Monterey County. The maps have been distributed to all affected cities, counties, and state agencies for their use in developing planning policies and controlling renovation or new construction. Local agencies must regulate most development projects within the A-P Zones. Projects include all land divisions and some structures constructed for human occupancy. While state law exempts single-family wood-frame dwellings and steel-frame dwellings that are less than three stories and are not part of a development of four units or more, local regulations may be more restrictive than state law.

Before a project can be permitted within an identified EFZ, cities and counties require a geologic investigation to demonstrate that proposed buildings would not be constructed across active faults. This requires that a site-specific evaluation and written report prepared by a state-licensed geologist document the occurrence or absence of an active fault. This commonly requires trenching to identify any offset strata but also may be completed through simple observation of surface fault expression. If an active fault is identified, a structure intended for human occupancy cannot be placed over the trace of the fault and must be set back, generally no closer than 50 feet from the fault.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (SHMA) addresses non-surface fault rupture earthquake hazards, including strong ground shaking, liquefaction, and seismically induced landslides. The CGS is the principal state agency charged with implementing the SHMA. Pursuant to the SHMA, the CGS is directed to provide local governments with seismic hazard zone maps that identify areas susceptible to amplified shaking, liquefaction, earthquake-induced landslides, and other ground failures. The goal is to minimize loss of life and property by identifying and mitigating seismic hazards. The seismic hazard zones delineated by the CGS are referred to as "zones of required investigation." Site-specific geotechnical hazard investigations are required by SHMA when construction projects fall within these areas. Seismic hazard maps covering Monterey County for both liquefaction risk and earthquake-induced landslides are presented as Exhibits 4.4.3 and 4.4.4.

California Building Standards Code

Title 24 of the California Code of Regulations, also known as the California Building Standards Code, sets forth minimum requirements for building design and construction. The California Building Standards Code is a compilation of three types of building standards from three different origins:

a) Building standards that have been adopted by state agencies without change from building standards contained in national model codes;

b) Building standards that have been adopted and adapted from the national model code standards to meet California conditions; and

c) Building standards, authorized by the California legislature, constituting extensive additions not covered by the model codes that have been adopted to address particular California concerns.

In the context of earthquake hazards, the California Building Standards Code design standards have a primary objective of ensuring public safety and a secondary goal of minimizing property damage and maintaining function during and following seismic event. Recognizing that the risk of severe seismic ground motion varies from place to place, the California Building Standards Code

seismic code provisions vary depending on location (Seismic Zones 0, 1, 2, 3, and 4—with 0 being the least stringent and 4 being the most stringent). Monterey County is located in Seismic Zone 4.

California Department of Transportation Seismic Safety Retrofit Program

The California Department of Transportation (Caltrans) Seismic Safety Retrofit Program was established by emergency legislation (SB 36X) after the October 17, 1989, Loma Prieta earthquake. The purpose of this program is to evaluate all publicly owned bridges in California and to take actions necessary to prevent their collapse due to earthquakes. The local component of the Seismic Safety Retrofit Program provides funding and other assistance to cities and counties for evaluating bridges and improving their resistance to seismic shaking.

4.4.3.3 Local Regulations

Monterey County Grading and Erosion Control Ordinances

Chapters 16.08 and 16.20 of the Monterey County Code regulate grading and erosion control, respectively. These ordinances supplement the regulations from the California Building Standards Code, which addresses standards for all grading construction. These ordinances help to maintain safe grading conditions and erosion control in order to avoid potentially harmful impacts related to property, the public, and environmental health. Slope failure or bank collapses due to improper grading and erosion of sediment into waterways are two critical hazards.

Monterey County Grading Ordinance

The County grading ordinance generally regulates grading involving more than 100 cubic yards of excavation and filling. Minor fills and excavations (cuts) of less than 100 yards that are not intended to provide foundation for structures, or that are very shallow and nearly flat, are typically exempt from the ordinance, as are shallow footings for small structures. Submittal requirements for a County grading permit include site plans, existing and proposed contour changes, an estimate of the volume of earth to be moved, and geotechnical (soils) reports. Projects involving grading activities over 5,000 cubic yards must include detailed plans signed by a state-licensed civil engineer.

Grading is not allowed to obstruct storm drainage or cause siltation of a waterway. All grading requires that temporary and permanent erosion control measures be implemented. Grading within 50 feet of a watercourse, or within 200 feet of a river, is regulated in the Zoning Code Floodplain regulations. Work in the Salinas River and Arroyo Seco River channels is exempted if it is covered by a U.S. Army Corps of Engineers 5-year regional 404 permit, approved by the

California Department of Fish and Game, and approved by the Monterey County Water Resources Agency.

In addition to grading ordinance provisions, the Zoning Code (Chapter 1.64.230) details specific regulations for development on slopes in excess of 30%, including conformance with the grading ordinance and erosion control requirements. Specific geotechnical or engineering geologic investigation requirements include the following:

1) Presentation of data regarding the nature, distribution, and strength of existing soils.
2) Recommended grading procedures and design criteria for corrective measures when necessary, including buttress fills.
3) Examination and recommendations to maintain slope stability.
4) Description of the site geology of the site and the effect of geologic conditions on the proposed development.
5) Incorporation of approved report recommendations in the grading plans and specifications. (Ord. 2535 110, 1979.).
6) Completion of a liquefaction study, where applicable and the potential for liquefaction, should there be:
    a) Shallow ground water at 50 feet (15.24 meters) or less,
    b) Unconsolidated sandy alluvium,
    c) Site within Seismic Zone 4.

Design standards in the ordinance include requirements for fill slopes, cut slopes, and drainage controls.

Monterey County Erosion Control Ordinance

The County Erosion Control Ordinance generally prohibits development on slopes greater than 30%, requiring completion of an Erosion Control Plan, control of runoff, avoiding creek disturbance, regulating land clearing, and prohibiting grading activities during the winter. Enforcement of the Erosion Control Ordinance is by the County Director of Building Inspection.

Monterey County Local Coastal Program

The California Coastal Act requires all development within the coastal zone to comply with policies and regulations enacted by the state and the California Coastal Commission (CCC) for the protection of the coast and its resources. Under the Coastal Act, the CCC delegates land use regulation to cities and counties for which a Local Coastal Program (LCP) has been certified. Regulation within the coastal zone is covered under Title 20 of the Monterey County Code, which embodies the Commission-certified Monterey County LCP. Coastal regulations are established by several local coastal land use plans under the LCP.

To carry out the Coastal Act policies relating to coastal hazards, the Monterey County LCP has provisions to address shoreline hazards, steep slopes and unstable areas, wildland fire, and coastal flooding. The LCP identifies high hazard areas specific to each coastal planning area. Monterey County's LCP consists of four planning areas: North County–Coastal, Del Monte Forest, Carmel Area, and Big Sur Coast.

The *North County Land Use Plan* identifies seismic and geologic high hazard areas as:

a) zones ⅛-mile wide on each side of active or potentially active faults;

b) areas of Tsunami Hazard;

c) areas indicated as "Underlain by Recent Alluvium" and "Relatively Unstable Upland Areas" in the County Seismic Safety Element;

d) Geotechnical Evaluation Zones IV, V, and VI on the County Seismic Safety Element maps;

e) Geotechnical Evaluation Zones V and VI on the Monterey Peninsula Map of the County; and

f) the 100-Year Floodplain and areas classified as having a high to extreme fire hazard through application of the California Department of Forestry and Fire Protection criteria.

The Carmel Area Land Use Plan reflects this list except that it also includes existing landslides and adds consideration of the Fire Hazard Severity Scale in determining fire hazards. The Del Monte Forest Land Use Plan identifies high hazard areas related to seismic and fire risk. Slopes over 30% in combination with unstable bedrock or soils are noted as potentially hazardous, and the Cypress Point fault (potentially active) and minor faulting in the Pescadero Canyon area are the most significant local hazards. Most forested areas of the Del Monte Forest are considered high fire hazard areas. While not specifically identified as a high flood hazard area, the Del Monte Forest Land Use Plan policies address areas subject to potential wave run-up and prohibition of development on bluff faces. The Big Sur Coast Land Use Plan notes that the entire area presents a high degree of hazards, including seismic, geologic, flood, and fire hazards.

Monterey County Health and Safety Element

California Planning Law (Government Code Section 65300 et seq.) requires the County to adopt a Safety Element as an integral part of its General Plan. Safety elements address evacuation routes, traffic congestion, and peak occupant and traffic loads for structures; water supply requirements; and minimum road widths and clearance around structures—as those items relate to identified fire and geologic hazards. The intent of the state-mandated Safety Element is to ensure that local governments develop the regulatory tools necessary to protect public health, safety, and welfare against disasters and hazards.

The Safety Element is expected to establish objectives and policies that will protect the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, dam failure, slope instability leading to mudslides and landslides, subsidence, liquefaction, and other seismic and geologic hazards; flooding; and wildland and urban fires.

The current Monterey County Health and Safety Element was updated in 2004 and again in 2006. This element incorporates two of the seven state-mandated General Plan elements—the Safety Element and the Noise Element. The Safety Element is included in the 2007 General Plan update and incorporates the state requirements for contents of both the safety and noise elements.

4.4.4 Project Impacts

4.4.4.1 Methodology

Widely available industry sources were examined to document regional and local geology. Information regarding regional geology and seismically induced hazards was taken from various sources of the California Department of Conservation, California Geological Survey (CDC, CGS). Information about soil characteristics was derived from the Soil Conservation Service's Soil Survey of Monterey County. In addition, information related to other seismic hazards, such as landslide and liquefaction zoning, was taken from CDC, CGS maps as well as the existing 2006 Monterey County General Plan and General Plan EIR. Where potential geological hazards are identified for a particular planning area within Monterey County, such hazards are expected to affect any potential development in that planning area.

4.4.4.2 Thresholds of Significance

Implementation of the 2007 General Plan would result in a potentially significant impact relative to geology, soils, and seismicity if it would:

a) expose persons or structures to geologic hazards such as fault rupture, ground shaking, liquefaction, or landslides;

b) result in substantial soil erosion or loss of topsoil;

c) permit development on unstable geologic units or soils;

d) permit development on expansive soils;

e) permit the use of septic or alternative wastewater systems in areas where soils are incapable of supporting such systems; or

f) expose persons or structures to inundation by tsunami, seiche, or mudflow.

4.4.4.3 Impact Analysis

Buildout of the 2007 General Plan to the 2030 and 2092 planning horizons could result in impacts related to the following geologic hazards: fault rupture, ground shaking, liquefaction, landslides, erosion, expansive soils, septic tanks, and tsunami/seiche/mudflow. Adverse impacts on geology, soils, and seismicity associated with implementation of the 2007 General Plan are detailed in this section in the discussions for Impacts GEO-1 through GEO-8. Buildout of the General Plan through 2092 would involve development of all available lots now known (41,000 plus units) based on the dwellings per year from the 2030 AMBAG growth estimate. As geologic impacts are location-oriented and buildout to 2092 proposes growth for the same locations as under the 2030 planning horizon, buildout to 2092 would potentially result in similar adverse impacts on geology, soils, and seismicity as those described in this section for 2030 planning horizon impacts. The 2007 General Plan and Area Plans policies set forth comprehensive measures to avoid and minimize adverse impacts related to geology, soils, and seismicity, to the maximum extent practicable. The 2007 General Plan and Area Plans policies summarized below in this section identify seismically sensitive areas and mitigation measures to reduce impacts related to potential impacts. It is anticipated that building codes, grading ordinances, and seismic measures to reduce the potential for geologic hazards would evolve and become more effective over time.

It should also be noted that one of the expected effects of global climate change is rising sea levels. This would expand inland the coastal areas potentially affected by tsunami. Climate change impacts are addressed in the Climate Change section of this EIR.

Fault Rupture

Impact GEO-1: Implementation of the 2007 General Plan could expose persons and property to fault rupture hazards. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Implementation of the 2007 General Plan to the 2030 planning horizon would result in new urban and agricultural development in undeveloped areas. As a result, more persons and structures could be exposed to geological hazards such as fault rupture. Fault rupture as a result of seismic shaking would be harmful because it could cause structural failure and collapse of poorly built structures and cause nonstructural building elements to fall. This could result in utility lines (electrical and natural gas) breaking presenting a hazard to occupants and nearby persons, and damage to contents.

Faults considered recently active by the CGS are the San Andreas and Palo Colorado-San Gregorio Fault systems. Since the Palo Colorado-San Gregorio Fault is mapped underneath the Monterey Bay, only the San Andreas Fault has mapped active traces onshore at risk for fault rupture. These fault traces are included in A-P Zones. However, the 2007 General Plan would not result in more persons and structures proximate to the San Andreas fault or its respective A-P Earthquake Fault Zones (refer to Exhibit 4.4.1). Finally, unexpected ground rupture from a previously unmapped active fault is possible but unlikely, due to the considerable mapping and fault research completed throughout the County.

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized below set forth comprehensive measures to minimize adverse fault rupture impacts.

Safety Element

Safety Element Policies S-1.1, S-1.2, S-1.4, S-1.5, and S-1.8 (consider fault rupture hazards, restrict development in mapped hazard areas, and enforce the A-P Act) direct future growth away from areas of potential fault rupture such as A-P Earthquake Fault Zones for the purpose of avoiding or minimizing geologic hazards. Policies S-1.3, S-1.6, and S-1.7 (establish conditions/standards for geotechnical studies) would help to avoid fault rupture hazard exposure risks in future development by implementing geotechnical study recommendations.

Area Plan Policies

There are no additional Area Plan policies related to fault rupture hazards.

Master Plan Policies

Fort Ord Master Plan

Supplemental policies in the Fort Ord Master Plan address fault rupture hazards. Seismic and Geologic Hazards Policies A-1 and A-2 (Countydevelop standards for minimizing seismic risk and use development review process) would help to avoid fault rupture hazard exposure risks with future development by implementing standards and geotechnical study recommendations. Seismic and Geologic Hazards Policy A-3 (Countyidentify areas of high seismic risk) would help to avoid fault rupture hazard by restricting new development in such high seismic risk areas.

Significance Determination

Implementation of the 2007 General Plan within the 2030 planning horizon could potentially result in adverse impacts related to fault rupture. However, the 2007 General Plan would not result in more persons and structures proximate to the San Andreas fault or its respective A-P Earthquake Fault Zones, and much of the proposed development within the planning areas near other County faults would be agricultural (wine-industry-related). Risks to agricultural development from ground rupture are minimal compared to risks to denser urban development. Most notably, structures (e.g., winery structures containing wine barrels) would not be permitted within 50 feet of an active fault. In addition to not locating structures or development across a known or suspected active fault trace, a primary mitigation for reducing risk would be requiring that new construction in Monterey County comply with California Building Code (CBC) Zone 4 seismic building criteria standards. These standards are designed to reduce ground rupture risks to acceptable levels, and contain construction requirements to minimize potential loss of life during an earthquake. Development in accordance with the 2007 General Plan, adherence to the A-P Act, and enforcement of the CBC would ensure that impacts related to potential fault rupture would be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies and Area Plan policies is necessary.

Significance Conclusion

Implementation of the 2007 General Plan policies and respective Area Plan policies as well as adherence to CBC standards would reduce impacts related to potential fault rupture to a less-than-significant level.

Buildout

Impact of Development with Policies

Buildout under the 2007 General Plan to 2092 would result in new urban and agricultural development in undeveloped areas beyond 2030 levels. New development could expose more persons and structures to geological hazards such as fault rupture.

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized above identify high seismic risk areas and place restrictions on future development in those areas to minimize adverse fault rupture impacts.

Significance Determination

Buildout under the 2007 General Plan to 2092 could potentially result in adverse impacts related to fault rupture. However, the 2007 General Plan would not result in more persons and structures proximate to the San Andreas fault or its respective Alquist-Priolo Earthquake Fault Zones. Nonetheless, new structures would not be permitted within 50 feet of an active fault, and new construction throughout the County would comply with CBC Zone 4 seismic building criteria standards that are designed to reduce ground rupture risks to acceptable levels. Development in accordance with the 2007 General Plan, adherence to the Alquist-Priolo Act, and enforcement of the CBC would ensure that impacts related to potential fault rupture would be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies and Area Plan policies is necessary.

Significance Conclusion

Implementation of the 2007 General Plan policies and respective Area Plan policies as well as adherence to the Alquist-Priolo Act and CBC standards would reduce impacts related to potential fault rupture to a less-than-significant level.

Ground Shaking

Impact GEO-2: Land uses and development consistent with the 2007 General Plan could expose people or structures to substantial adverse seismic effects, including the risk of loss, injury, or death involving strong seismic ground shaking. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Implementation of the 2007 General Plan within the 2030 planning horizon would result in new urban and agricultural development in undeveloped areas. As a result, more persons and structures would be exposed to geological hazards such as ground shaking. Strong seismic ground shaking can be harmful, because it could cause structural failure and collapse of poorly built structures and could cause nonstructural building elements to fall, presenting a hazard to occupants and damage to contents.

Specifically, the 2007 General Plan would result in more persons and structures in and near areas of high probability for strong ground shaking in Pajaro and areas of high probability for moderate ground shaking throughout

the Salinas Valley stretching from Castroville to Bradley (refer to Exhibit 4.4.2). While strong ground shaking is *probable* in these areas, it is *possible* throughout the County from several seismic sources.

2007 General Plan Policies

The 2007 General Plan policies summarized below establish comprehensive measures to minimize adverse ground shaking impacts.

Safety Element

Safety Element Policies S-1.1, S-1.2, S-1.5, and S-1.8 (restrict siting of land uses in identified hazard areas and limit approval of development that does not consider geologic hazards) direct future growth away from areas of high seismic ground shaking for the purpose of avoiding or minimizing geologic hazards. Policies S-1.3 and S-1.7 (establish conditions/standards for geotechnical studies) would help to avoid ground shaking hazard exposure risks with future development through implementation of geotechnical study recommendations.

Area Plan Policies

There are no additional Area Plan policies related to ground shaking hazards.

Significance Determination

Implementation of the 2007 General Plan within the 2030 planning horizon could potentially result in adverse impacts related to ground shaking. The majority of new development proposed under the 2007 General Plan would not occur in areas of high probability for strong seismic ground shaking; rather, much of the proposed planning area development would be in areas of high probability for moderate ground shaking, mostly agricultural (wine-industry-related). Risks to agricultural development from ground shaking are minimal compared to risks to denser urban development. Nonetheless, primary mitigation for reducing risk would require new construction (including winery structures containing wine barrels) in Monterey County to comply with CBC Zone 4 seismic building criteria standards. These are designed to reduce ground shaking risks to acceptable levels by making new structures more resistant to seismic shaking damage, and they contain construction requirements that minimize the potential loss of life from an earthquake. Development in accordance with the 2007 General Plan and enforcement of the CBC would ensure that impacts related to potential ground shaking would be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

Implementation of the 2007 General Plan policies as well as adherence to CBC standards would reduce impacts related to potential ground shaking to a less-than-significant level.

Buildout

Impact of Development with Policies

Buildout under the 2007 General Plan to 2092 would result in new urban and agricultural development in undeveloped areas beyond 2030 levels. New development could expose more persons and structures to geological hazards such as seismic ground shaking.

2007 General Plan Policies

The 2007 General Plan policies summarized above identify high seismic risk areas and place restrictions on future development in those areas to minimize adverse seismic ground shaking impacts.

Significance Determination

Buildout under the 2007 General Plan to 2092 could potentially result in adverse impacts related to fault rupture. The 2007 General Plan would result in more persons and structures in areas of high probability for strong and moderate ground shaking. However, new construction throughout the County will comply with CBC Zone 4 seismic building criteria standards that are designed to reduce ground shaking risks to acceptable levels. Development in accordance with the 2007 General Plan and enforcement of the CBC would ensure that impacts related to potential ground shaking would be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

Implementation of the 2007 General Plan policies as well as adherence to CBC standards would reduce impacts related to potential fault rupture to a less-than-significant level.

Liquefaction

Impact GEO-3: Land uses and development consistent with the 2007 General Plan could expose property and structures to the damaging effects of ground subsidence hazards. This kind of geologic hazard

can be seismically triggered (e.g., liquefaction), caused by seasonal saturation of the soils and rock materials, or related to grading activities. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Implementation of the 2007 General Plan within the 2030 planning horizon would result in new urban and agricultural development in undeveloped areas. As a result, more persons and structures would be exposed to geological hazards such as liquefaction and ground subsidence. Liquefaction would be harmful because it could cause collapse or overturning of structures, collapse of pavements, and in some cases lateral spreading.

The 2007 General Plan would result in more persons and structures in areas of shallow groundwater in the Salinas River floodplain and near Elkhorn Slough, which have moderate to high susceptibility to liquefaction hazards. Thus, liquefaction could be of concern in the Community Plan Areas of Castroville, Chualar, and Pajaro; and in the Rural Centers of Bradley, Lockwood, Pine Canyon (King City), San Lucas, and San Ardo (refer to Exhibit 4.4.3).

2007 General Plan Policies

The 2007 General Plan policies summarized below set forth comprehensive measures to minimize adverse liquefaction impacts.

Safety Element

Safety Element Policies S-1.1, S-1.2, S-1.5, S-1.6, and S-1.8 (restrict siting of land uses in identified hazard areas and limit approval of development that does not consider geologic hazards) direct future growth away from areas of high liquefaction risk for the purpose of avoiding or minimizing geologic hazards. Policies S-1.3 and S-1.7 (establish conditions/standards for geotechnical studies) would help to avoid liquefaction hazard exposure risks with future development through implementation of geotechnical study recommendations.

Area Plan Policies

There are no supplemental Area Plan policies that address liquefaction.

Significance Determination

Implementation of the 2007 General Plan within the 2030 planning horizon could potentially result in adverse impacts related to liquefaction. However, no new structures would be permitted without development of a site-specific geotechnical report and adherence to the recommendations outlined therein

for development on soils of potential liquefaction and subsidence. Specifically, Chapter 16.08 of the Monterey County Code requires that grading permit applications include soils engineering and engineering geology reports that provide "recommendations for grading procedures and design criteria for corrective measures when necessary, and opinions and recommendations covering adequacy of sites to be developed by the proposed grading" (Section 16.08.110). Standard geotechnical engineering procedures and soil testing, proper design, and quality control over construction can identify and mitigate liquefiable soils during site development. Modern soil engineering practices have improved substantially due to increased knowledge of soil types, their strengths, and groundwater conditions, as well as through the proper design and construction of fills and foundations. By using the best, most up-to-date standards, potential hazards related to subsidence and settlement damage—including liquefaction—can be reduced to levels that are generally considered acceptable. Thus, this requirement will identify problem soils and require mitigation when they are present. In addition, all new development would be built to CBC Zone 4 seismic building criteria standards, designed to reduce liquefaction risks to acceptable levels.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

Implementation of the 2007 General Plan policies, adherence to the CBC standards, and enforcement of the Monterey County Grading Ordinance would reduce impacts associated with liquefaction to a less-than-significant level.

Buildout

Impact of Development with Policies

Buildout under the 2007 General Plan to 2092 would result in new urban and agricultural development in undeveloped areas beyond 2030 levels. New development could expose more persons and structures to geological hazards such as liquefaction.

2007 General Plan Policies

The 2007 General Plan policies summarized above identify high seismic risk areas and place restrictions on future development in those areas to minimize adverse liquefaction impacts.

Significance Determination

Buildout under the 2007 General Plan to 2092 could potentially result in adverse impacts related to liquefaction. The 2007 General Plan would result

in more persons and structures in areas of high and moderate probability for liquefaction. However, new construction throughout the County will comply with CBC Zone 4 seismic building criteria standards that are designed to reduce liquefaction risks to acceptable levels. Development in accordance with the 2007 General Plan and enforcement of the CBC would ensure that impacts related to potential liquefaction would be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

Implementation of the 2007 General Plan policies as well as adherence to the Monterey County Grading Ordinance and CBC standards would reduce impacts related to potential liquefaction to a less-than-significant level.

Slope Instability and Landslides

Impact GEO-4: Land uses and development consistent with the 2007 General Plan could expose people and structures to substantial damaging effects of landslides, including the risk of loss, injury, or death from downslope earth movement that may be slow or rapidly occurring. This kind of geologic hazard is commonly caused by earthquakes, seasonal saturation of soils and rock, erosion, or grading activities. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Implementation of the 2007 General Plan within the 2030 planning horizon would result in new urban and agricultural development in undeveloped areas. As a result, more persons and structures could be exposed to geological hazards such as downslope earth movement if new development was located on or near slopes. Landslides resulting in earth and debris flow could result in structural damage or complete loss of structures, as well as injuries or death to persons.

According to the 2007 General Plan, development would be predominantly located in areas of flat relief where there is little or no risk of slope instability. However, there is some proposed residential and agricultural development in and near hilly areas that could be susceptible to landslides, particularly in the Rural Centers of Bradley, Lockwood, Pleyto, and Pine Canyon (King City) (refer to Exhibit 4.4.4).

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized below set forth comprehensive measures to minimize slope instability and landslide impacts.

Safety Element

Safety Element Policies S-1.1, S-1.2, S-1.5, S-1.6, and S-1.8 (restrict siting of land uses in identified hazard areas and limit approval of development that does not consider geologic hazards) direct future growth away from areas of high landslide risk for the purpose of avoiding or minimizing geologic hazards. Policies S-1.3 and S-1.7 (establish conditions/standards for geotechnical studies) would help to avoid landslide hazard exposure risks with future development through implementation of geotechnical study recommendations.

Conservation and Open Space Element

Conservation and Open Space Element Policies OS-1.3 through OS-1.6 restrict ridgeline development. These policies would reduce the potential for slope instability resulting from construction and the risks to homes and persons that would otherwise be built on ridgelines.

Area Plan Policies

The following supplemental policies in the Area Plans address potential impacts from unstable slopes and landslides.

North County Area Plan

Policy NC-1.3 (encourage preservation of large acreages in higher elevations and on steeper slopes) would help to avoid landslide hazard exposure risks with future development by directing larger swaths of growth to occur at lower elevations and on flatter terrain.

Greater Salinas Area Plan

Policy GS-3.1 (promote preservation of land exceeding 25% slope) would help to avoid landslide hazard exposure risks with future development by directing growth away from areas with greater than 25% slope.

Greater Monterey Peninsula Area Plan

Policy GMP-4.1 (encourage preservation of redwood forest and chaparral habitat exceeding 25% slope) would help to avoid

landslide hazard exposure risks with future development by directing growth away from areas with greater than 25% slope.

Carmel Valley Master Plan

Policy CV-3.4 (promote sensitive siting and landscaping on hillsides and natural landforms altered by cutting, filling, grading, or vegetation removal) would help to avoid landslide hazard exposure risks with future development by directing careful growth on altered landforms and hillsides.

Toro Area Plan

Policy T-3.6 (encourage preservation of large acreages in higher elevations and on steeper slopes) would help to avoid landslide hazard exposure risks with future development by directing larger swaths of growth to occur at lower elevations and on flatter terrain.

Cachagua Area Plan

Policy CACH-3.2 (promote sensitive siting and landscaping on hillsides and natural landforms altered by cutting, filling, grading, or vegetation removal) would help to avoid landslide hazard exposure risks with future development by directing careful growth on altered landforms and hillsides.

Significance Determination

Implementation of the 2007 General Plan within the 2030 planning horizon could potentially result in adverse impacts related to landslides. However, no new structures would be permitted without development of a site-specific geotechnical report and adherence to the recommendations therein for development in areas susceptible to landslide. Specifically, Chapter 16.12 of the Monterey County Code (which comprises the County's Erosion Control Ordinance) prohibits construction activities that would lead to soil erosion or that would result in a permanent change to existing site on slopes greater than or equal to 25% (greater than 25% for development in the North County Land Use Plan) with exceptions being made only for special circumstances (Section 16.12.040). Section 21.66.010 of the Monterey County Code requires a conditional use permit for any development proposed on ridgelines. In addition, all new development would be built to CBC Zone 4 seismic building criteria standards, designed to reduce landslide risks to acceptable levels.

Mitigation Measures

No mitigation beyond the 2007 General Plan and Area Plan policies is necessary.

Significance Conclusion

Implementation of the 2007 General Plan policies and respective Area Plan policies in addition to enforcement of the Monterey County Erosion Control Ordinance and the CBC would ensure that potential impacts related to slope instability and landslides would be less than significant.

Buildout

Impact of Development with Policies

Buildout under the 2007 General Plan to 2092 would result in new urban and agricultural development in undeveloped areas beyond 2030 levels. New development could expose more persons and structures to geological hazards such as landslides.

2007 General Plan Policies

The 2007 General Plan policies summarized above identify landslide susceptibility areas and place restrictions on future development in those areas to minimize adverse downward earth movement impacts.

Significance Determination

Buildout under the 2007 General Plan to 2092 could potentially result in adverse impacts related to landslides. The 2007 General Plan would result in more persons and structures in areas susceptible to landslide. However, new construction throughout the County will comply with CBC Zone 4 seismic building criteria standards designed to reduce slope stability and landslide risks to acceptable levels. Development in accordance with the 2007 General Plan and enforcement of the CBC would ensure that impacts related to potential landsliding would be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

Implementation of the 2007 General Plan policies as well as adherence to the Monterey County Grading Ordinance and CBC standards would reduce impacts related to potential landslides to a less-than-significant level.

Soil Erosion Hazards

Impact GEO-5: Erosion from activities and land uses consistent with the 2007 General Plan could result in erosion hazards. (Less-Than-Significant Impact with Mitigation.)

2030 Planning Horizon

Impact of Development with Policies

Implementation of the 2007 General Plan within the 2030 planning horizon would result in new urban and agricultural development in undeveloped areas. As a result, more persons and structures could be exposed to geological hazards such as erosion. Erosion results in the loss of topsoil that may reduce yield of crops or forage and cause sedimentation (siltation) problems downstream. Extreme cases of erosion can lead to landslides.

The 2007 General Plan would result in more persons and structures in areas of potential erosion hazard in the hilly and mountainous areas of Fort Ord/East Garrison and Pine Canyon (King City) Community Plan Areas and the Lockwood Rural Center (refer to Exhibit 4.4.5). In addition, agricultural development could occur on the uncultivated slopes in the Salinas Valley (particularly in portions of the Central/Arroyo Seco/River Road Segment and Jolon Road Segment Wine Corridors) that could put persons and winery structures in areas of potential erosion hazards.

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized below set forth comprehensive measures to minimize adverse erosion impacts.

Conservation and Open Space Element

Conservation and Open Space Element Policies OS-3.1, OS-3.2, and OS-3.5 (require Best Management Practices be implemented and encourage continuance of federal, state, and local erosion control programs) would help to control erosion with future development through compliance with best management practices and all levels of government regulation regarding erosion prevention practices. Policies OS-3.3 and OS-3.7 (establish criteria for erosion-related surveys and promote preparation of watershed plans for state-designated impaired waterways) would help to avoid erosion risks with future development through implementation of erosion-related survey and watershed plan recommendations. Policies OS-3.4 and OS-3.6 (map areas of steep slopes and establish criteria for residential development in such areas) direct future growth away from areas of steep slopes for the purpose of avoiding or minimizing erosion hazards. Policy OS-3.5 (sets forth requirements for a ministerial permitting system for existing lots of record) would help to avoid erosion hazards with future development through implementation of ministerial permit erosion control standards.

Agriculture Element

Agriculture Element Policy AG-5.1 (promote soil conservation programs) would help to avoid erosion hazard exposure risks with future development through implementation of soil conservation program measures that reduce soil erosion and increase soil productivity. Policy AG-5.4 (encourage policies and programs to protect and enhance surface water and groundwater resources) would help to avoid erosion hazard exposure risk with future development through compliance with policies and programs that limit sedimentation of surface and groundwater resources.

Safety Element

Safety Element Policies S-1.1, S-1.2, S-1.5, S-1.6, and S-1.8 (restrict siting of land uses in identified hazard areas and limit approval of development that does not consider geologic hazards) direct future growth away from areas of high erosion risk for the purpose of avoiding or minimizing geologic hazards. Policies S-1.3 and S-1.7 (establish conditions/standards for geotechnical studies) would help to avoid erosion hazard exposure risks with future development through implementation of geotechnical study recommendations. In addition, Policy S-1.9 (prepare erosion control plan measures to reduce moderate and high erosion hazards) would help to avoid erosion hazard exposure risks with future development through implementation of erosion control plan recommendations that would be put forth by a California-licensed civil engineer or a California-licensed landscape architect.

Area Plan Policies

The following supplemental policies in the Area Plans address potential erosion impacts.

North County Area Plan

Policy NC-1.3 (encourage preservation of large acreages in higher elevations and on steeper slopes) would help to avoid erosion hazard exposure risks with future development by directing larger swaths of growth to occur at lower elevations and on flatter terrain. Policy NC-5.3 (encourage conjoint soil, water, and resource protection programs) would help to avoid or minimize erosion with future development through participation in cooperative soil conservation, water quality protection, and resource restoration programs with neighboring jurisdictions.

Central Salinas Valley Area Plan

Central Salinas Area Plan Policy CSV-5.2 (prohibit new recreation and visitor-serving commercial uses that would produce runoff) would direct growth of runoff producing land uses away from areas that would result in erosion. Policy GS-3.1 (promote preservation of land exceeding 25% slope) would help to avoid erosion hazard exposure risks with future development by directing growth away from areas with greater than 25% slope.

Greater Monterey Peninsula Area Plan

Policy GMP-4.1 (encourage preservation of redwood forest and chaparral habitat exceeding 25% slope) would help to avoid erosion hazard exposure risks with future development by directing growth away from areas with greater than 25% slope.

Carmel Valley Master Plan

Policy CV-3.4 (promote sensitive siting and landscaping on hillsides and natural landforms altered by cutting, filling, grading, or vegetation removal) would help to avoid erosion hazard exposure risks with future development by directing careful growth on altered landforms and hillsides. Policies CV-3.8 and CV-3.9 (require retention of riparian vegetation and willow cover along the Carmel River) would help to avoid erosion along the Carmel River with future development through plantings along the river banks. Policy CV-4.1 also establishes specific standards to reduce erosion and runoff potential associated with future development.

Toro Area Plan

Policy T-3.6 (encourage preservation of large acreages in higher elevations and on steeper slopes) would help to avoid erosion hazard exposure risks with future development by directing larger swaths of growth to occur at lower elevations and on flatter terrain. Policy T-4.1 (prohibit practices that contribute to siltation and flooding of Toro Creek) would help to avoid erosion into and sedimentation of Toro Creek with future development.

Cachagua Area Plan

Policy CACH-3.2 (promote sensitive siting and landscaping on hillsides and natural landforms altered by cutting, filling, grading, or vegetation removal) would help to avoid erosion hazard exposure risks with future development by directing careful growth on altered landforms and hillsides.

South County Area Plan

Policy SC-5.2 (encourage conjoint soil, water, and resource protection programs) would help to avoid or minimize erosion with future development through participation in cooperative soil conservation, water quality protection, and resource restoration programs with neighboring jurisdictions.

Master Plan Policies

Fort Ord Master Plan

Fort Ord Master Plan Soils and Geology Policies A-2, A-3, and A-4 (prepare and monitor erosion control plans that meet requirements of a Stormwater Pollution Prevention Plan) would help to avoid or minimize erosion with future development through implementation and monitoring of Stormwater Pollution Prevention Plan erosion control requirements.

Significance Determination

Implementation of the 2007 General Plan within the 2030 planning horizon could potentially result in adverse impacts related to erosion. Accelerated erosion is a widespread impact that may be reduced but not entirely eliminated in areas of moderate to steep topography in Monterey County. Causes include vegetation removal, improper farming practices, grading for roadways and construction, and improper diversion and discharge of water. However, no new structures would be permitted on slopes greater than 25 to 30%, with limited, mitigated exceptions. Specifically, the County Erosion Control Ordinance (Chapter 16.12 of the County Code) prohibits development on slopes greater than 30%, requires implementation of an Erosion Control Plan, regulates the control of runoff, requires that creek disturbance be avoided, regulates land clearing, and prohibits grading activities during winter.

Implementation of the AWCP could induce property owners to change crop cover to vineyards or to plant vineyards on uncultivated slopes, thereby increasing the potential for soil erosion. The potential for soil erosion is particularly acute if property owners cultivate slopes so that rows are parallel to the slope gradient. However, an agricultural permit process would need to be established prior to allowing any conversion of slopes greater than 25% to agricultural lands.

The NPDES program governs water quality, including discharge of sediments into navigable water bodies. In Monterey County, the Central Coast RWQCB is charged with enforcing NPDES requirements, including runoff management programs that include

Best Management Practices to control erosion and sedimentation. Future development proposed in the 2007 General Plan would be required to apply and comply with Central Coast RWQCB NPDES erosion control permits. Phase I of the permit process would cover sites with construction disturbance greater than 1 acre, which includes most residential subdivisions and commercial developments. In addition, Phase II of the permit process would cover sites with construction disturbance less than 1 acre. Thus, 2007 General Plan implementation projects of all sizes would be covered by some phase of NPDES permit.

General Plan implementation activities would be subject to federal, state, and local erosion control programs, as well as the policies of the 2007 General Plan and Area Plans. In addition, by incorporating modern erosion control practices such as the use of biotechnical bank stabilization and geotextile fabrics to hold soil in place as well as various types of planting, soil erosion on most disturbed slopes can be greatly reduced. However, the development and implementation of erosion control measures on steep slopes and areas of highly erodible soils can be challenging and often are only partially successful, and high erosion hazards are widespread throughout the County. Therefore, the potential remains for significant erosion hazards to occur from development on individual lots of record and new hillside agricultural cultivation projects. The 2007 General Plan policies and the existing federal, state, and local erosion control requirements do not adequately mitigate this potentially significant impact to a less-than-significant level. Mitigation Measure BIO-2.1 (see Section 4.9, Biological Resources) would reduce the significance of this impact.

Mitigation Measures

BIO-2.1: Stream Setback Ordinance.

No additional mitigation beyond the General Plan and Area Plan goals and policies is necessary.

Significance Conclusion

Mitigation Measure BIO-2.1 would reduce this potentially significant impact to a less-than-significant level by restricting development near streams and thereby reducing the risk for construction and other activities related to development to cause bank failure or erosion. This measure also ensures that erosion from other activities will not directly flow into creeks and streams. Thus, with compliance with 2007 General Plan and respective Area Plans policies; adherence to federal, state, and local erosion control regulations (i.e., County Grading Ordinance and NPDES program); implementation of the 2007 General Plan would result in a less-than-significant impact related to erosion hazards.

Buildout

Impact of Development with Policies

Buildout under the 2007 General Plan to 2092 would result in new urban and agricultural development in undeveloped areas beyond 2030 levels. New development could expose more persons and structures to geological hazards such as erosion.

2007 General Plan Policies

The 2007 General Plan policies summarized above identify erosion susceptibility areas and place restrictions on future development in those areas to minimize adverse erosion impacts.

Significance Determination

Buildout under the 2007 General Plan to 2092 could potentially result in adverse impacts related to erosion. The 2007 General Plan would result in more persons and structures in areas susceptible to erosion. General Plan implementation activities would be subject to federal, state, and local erosion control programs, as well as the policies of the 2007 General Plan and Area Plans. However the potential remains for significant erosion hazards to occur from development on individual lots of record and new hillside agricultural cultivation projects. The 2007 General Plan policies and the existing federal, state, and local erosion control requirements do not adequately mitigate this potentially significant impact to a less-than-significant level. Mitigation Measure BIO-2.1 (see Section 4.9, Biological Resources) would be in place to reduce the significance of this impact.

Mitigation Measures

BIO-2.1: Stream Setback Ordinance.

No additional mitigation beyond the General Plan and Area Plan goals and policies is necessary.

Significance Conclusion

Mitigation Measure BIO2.1 would reduce this potentially significant impact to a less-than-significant level. Thus, with compliance with 2007 General Plan and respective Area Plan and Area Plan policies; adherence to federal, state, and local erosion control regulations (i.e., County Grading Ordinance and NPDES program, buildout of the 2007 General Plan would result in a less-than significant impact related to erosion hazards.

Expansive Soils and Unstable Geologic Units

Impact GEO-6: Land uses and development consistent with the 2007 General Plan could expose property improvements to potential adverse effects from expansive soils. Expansive soils can damage improvements, especially structures such as residential buildings, small commercial buildings, and pavements. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Implementation of the 2007 General Plan within the 2030 planning horizon would result in new urban and agricultural development in undeveloped areas. As a result, more persons and structures would be exposed to geological hazards such as the effects from expansive soils. Newly constructed buildings, pavements, and utilities could be damaged by differential settlement due to soil expansion and contraction. Movements may cause foundations to crack, various structural portions of the building to be distorted, and doors and windows to warp so that they do not function properly. Utilities also may be affected. These variations in ground settlement may ultimately lead to structural failure and damage to infrastructure.

Soil surveys provide general information about soils in an area. They are available from the Natural Resources Conservation Service, U.S. Department of Agriculture. However, maps provide only generalized locations. Only geotechnical tests can determine the existence of and corresponding swell potential of expansive soils at a site and, thus, the probability for structural damage.

2007 General Plan Policies

The 2007 General Plan policies summarized below set forth comprehensive measures to minimize adverse expansive soil and unstable geologic unit impacts.

Safety Element

Safety Element Policies S-1.1, S-1.2, S-1.5, and S-1.8 (restrict siting of land uses in identified hazard areas and limit approval of development that does not consider geologic hazards) direct future growth away from areas of expansive soil risk for the purpose of avoiding or minimizing geologic hazards. Policies S-1.3 and S-1.7 (establish conditions/standards for geotechnical studies) would help to avoid unstable geologic unit and expansive soil hazard exposure

risks with future development through implementation of geotechnical study recommendations.

Area Plan Policies

No supplemental Area Plan policies address expansive soils or unstable geologic units.

Significance Determination

New development in accordance with the 2007 General Plan could result in construction activities overlying expansive or unstable soils. However, no new structures would be permitted without development of a site-specific soil sampling and laboratory soils testing report and adherence to the recommendations outlined therein, such as the proper subsoil preparation, drainage, and foundation design for constructing on more unstable soils. Procedures used in expansive soils testing are found in the 2001 CBC, adopted by Monterey County. According to the CBC, foundations for structures resting on soil with an expansion index greater than 20 require special design consideration. In addition, the Monterey County Grading Ordinance (Chapter 16.08 of the County Code) requires special treatment for grading sites with difficult soils. These limit the potential for development to occur without design features to mitigate the risk.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

Implementation of 2007 General Plan policies as well as enforcement of the CBC would reduce potential expansive soil impacts. CBC requirements ensure that design and construction conform to recommendations from a geotechnical or soils investigation. This includes procedures for handling expansive soils through such techniques as replacement of expansive soils with non-expansive engineered fill, lime treatment, moisture conditioning, and other techniques. Consequently, potential expansive soil impacts would be less than significant.

Buildout

Impact of Development with Policies

Buildout under the 2007 General Plan to 2092 would result in new urban and agricultural development in undeveloped areas beyond 2030 levels. New development could expose more persons and structures to geological hazards such as expansive soils.

2007 General Plan Policies

The 2007 General Plan policies summarized above identify high seismic risk areas and place restrictions on future development in those areas to minimize adverse expansive soil impacts.

Significance Determination

Buildout under the 2007 General Plan to 2092 could potentially result in adverse impacts related to expansive soils. The 2007 General Plan could result in more persons and structures in areas of expansive soils. However, new construction throughout the County will comply with CBC Zone 4 seismic building criteria standards designed to reduce expansive soil and unstable geologic unit risks to acceptable levels. Development in accordance with the 2007 General Plan and enforcement of the CBC would ensure that impacts related to potential expansive soils would be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

Implementation of the 2007 General Plan policies as well as adherence to CBC standards would reduce impacts related to potential expansive soils to a less-than-significant level.

Septic Systems and Alternative Wastewater Systems

Impact GEO-7: Construction of septic tanks or alternative wastewater disposal systems on soils incapable of adequately supporting such systems could damage improvements and adversely affect groundwater resources. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Implementation of the 2007 General Plan to the 2030 planning horizon would result in new urban and agricultural development in undeveloped areas. As a result, more persons and structures would be exposed to hazards related to construction of septic tanks on soils incapable or adequately supporting such systems. This may result in contaminated surface water or groundwater.

Septic tanks could be associated with development in the Salinas Valley, particularly within the Central/Arroyo Seco/River Road Segment, Metz Road

Segment, and Jolon Road Segment wine corridors and the River Road, Pine Canyon (Kings City), San Lucas, and San Ardo Rural Centers.

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized below set forth comprehensive measures to avoid and minimize adverse impacts associated with septic tank systems.

Public Services Element

Public Services Element Policies PS-4.1, PS-4.2, PS-4.3, and PS-4.5 (promote use of wastewater collection and treatment systems for new development) would help avoid the adverse impacts of impaired surface and groundwater quality that could potentially occur with installation of septic tank systems through determent of the use of septic and alternative wastewater systems. Policy PS-4.8 (require County to establish septic system and alternative wastewater system criteria) would direct future development to comply with septic tank criteria such as minimum lot size, location of wells, the capacity of the system, and other factors related to soil suitability in order to minimize risks to groundwater resources.

Area Plan Policies

The following supplemental Area Plan policies address impacts related to on-site septic systems.

Carmel Valley Master Plan

Carmel Valley Master Plan Policy CV-5.5 (require geologic and soils surveys if including on-site septic system) would help to ensure that future development with proposed septic systems would not contaminate the groundwater aquifer through implementation of geologic and soil survey recommendations. This policy would specifically require review for proper siting and design in accordance with the standards of the *Carmel Valley Wastewater Study*.

Central Salinas Area Plan

Central Salinas Area Plan Policy CSV-5.2 (require recreation and visitor-serving commercial use septic systems to meet RWQCB Basin Plan requirements) would help to minimize potential impairment of groundwater quality from septic systems through implementation of RWQCB Basin Plan measures related to septic systems.

Significance Determination

New development in accordance with the 2007 General Plan could result in installation of septic tank systems for wastewater disposal, especially in more rural areas of the County containing wine-related facilities. However, most General Plan development is not anticipated to be on septic, as population growth and respective new development is anticipated to occur primarily within the community planning areas rather than the rural or winery corridor areas. Nonetheless, no septic tanks would be permitted without development of a site-specific geotechnical report and adherence to the recommendations outlined therein related to installation of septic tanks systems. Finally, any alternative system management program must be consistent with RWQCB requirements, which would ensure that disposal does not degrade surface waters.

Mitigation Measures

No mitigation beyond the 2007 General Plan and Area Plan policies is necessary.

Significance Conclusion

Implementation of the 2007 General Plan policies would promote the use of wastewater collection and treatment systems rather than septic tanks and would establish comprehensive standards for septic and alternative wastewater systems. Consequently, potential septic system impacts would be less than significant.

Buildout

Impact of Development with Policies

Buildout under the 2007 General Plan to 2092 would result in new urban and agricultural development in undeveloped areas beyond 2030 levels. New development could expose more persons and structures to geological hazards associated with use of septic tanks.

2007 General Plan Policies

The 2007 General Plan policies summarized above place restrictions on future development in terms of installation of septic tank systems.

Significance Determination

Buildout under the 2007 General Plan to 2092 could potentially result in adverse impacts related to septic tanks. However, new construction throughout the County would comply with 2007 General Plan and Area Plan policies that would ensure that impacts related to septic tanks would be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan and Area Plan policies is necessary.

Significance Conclusion

Implementation of the 2007 General Plan and Area Plan policies would reduce impacts related to septic tanks to a less-than-significant level.

Tsunami, Seiche, and Mudflow Hazards

Impact GEO-8: Land use activities and development consistent with the 2007 General Plan could expose persons and property to tsunami, seiche, or mudflow hazards. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Implementation of the 2007 General Plan within the 2030 planning horizon would result in new urban and agricultural development in undeveloped areas. As a result, more persons and structures would be exposed to hazards related to tsunami, seiche, or mudflow.

Development is not proposed for the immediate coastal areas or proximate to Lakes Nacimiento and Lake San Antonio (two large inland water bodies). Development is proposed for areas of the Bradley, Lockwood, Pleyto, and Pine Canyon (King City) rural areas.

2007 General Plan Policies

The 2007 General Plan contains policies that address development in areas prone to slope hazards such as landslides and mudflows. These policies are summarized in the discussion for Impact GEO-4.

Area Plan Policies

No Area Plan policies address the topics of tsunami, seiche, or mudflow hazards.

Significance Determination

The probability of seiche and mudflow are low in Monterey County. The areas with the greatest possibility of such hazards are not populated. Portions of the coast could be subject to inundation in the case of a tsunami. However, this risk has been identified in the certified Local Coastal Program, and protective policies have been put in place to minimize risk to new

development. Therefore, there would be no increase in tsunami or seiche hazards over existing levels.

Mudflows have occurred in recent geologic time in the coastal areas near Big Sur, which contain numerous steep slopes. Mudflows are extremely rare outside of that area, particularly in the inland portions of the County. Nonetheless, there is a remote possibility that mudflows could inundate inland areas where significant slopes are located. However, in terms of mudflow, no development would be permitted on slopes greater than 30% without mitigated exception. In addition, new development would be required to meet all applicable standards of the CBC, which includes standards related to slope stability. Therefore, adherence to 2007 General Plan policies and the CBC would ensure that no additional exposure to mudflow hazards would be created.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

With adherence to 2007 General Plan policies and compliance with the CBC, impacts related to tsunami, seiche, and mudflow hazards would be less than significant.

Buildout

Impact of Development with Policies

Buildout under the 2007 General Plan to 2092 would result in new urban and agricultural development in undeveloped areas beyond 2030 levels. New development could expose more persons and structures to geological hazards associated with tsunami, seiche, and mudflow.

2007 General Plan Policies

The 2007 General Plan policies summarized above set forth comprehensive measures to minimize adverse mudflow and landslide impacts.

Significance Determination

Buildout under the 2007 General Plan to 2092 could potentially result in adverse impacts related to tsunami, seiche, and mudflow. However, new construction throughout the County would comply with 2007 General Plan and Area Plan policies that would ensure that impacts related to tsunami, seiche, and mudflow would be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan and Area Plan policies is necessary.

Significance Conclusion

Implementation of the 2007 General Plan and Area Plan policies would reduce impacts related to tsunami, seiche, and mudflow to a less-than-significant level.

4.4.5 Level of Significance after Mitigation

All impacts related to geology, soils, and seismicity would be less than significant with mitigation and compliance with federal, state, and local regulations.

4.5 Mineral Resources

4.5.1 Abstract

The primary mineral commodities currently mined in Monterey County are sand, gravel, and petroleum. This section characterizes the mineral resources setting and regulatory framework applicable to mineral resources in Monterrey County.

The 2007 General Plan policies affect mineral resources in the County by defining methods for their long-term protection. The 2007 General Plan policies guide land use activities in order to avoid adverse impacts to identified mineral resources. This section also evaluates the potential loss of availability of known mineral resources due to land use conversions associated with the implementation of the 2007 General Plan.

All potential mineral resource impacts from development and land use activities by the 2007 General Plan would be less than significant and would not require mitigation.

4.5.2 Existing Setting

This section describes the existing setting related to mineral resource production in Monterey County.

Historic mineral production in Monterey County included sand and gravel mining for construction materials, mining for industrial materials (diatomite, clay, quartz, and dimension stone) and metallic minerals (chromite, placer gold, manganese, mercury, platinum, and silver).

The public depends on several categories of minerals found in Monterey County for a variety of everyday uses. For example, minerals such as sand and gravel are used to make concrete for buildings and asphalt to pave roads. Crude oil, natural gas, and coal are fuel minerals used for producing petroleum and petrochemicals.

The predominant non-metallic minerals found in the county include sand and gravel, limestone and dolomite, gemstones (mainly jade and jasper), asbestos, barite, clay, diatomite, feldspar, phosphate, sodium compounds, and stone.

Of the non-metallic minerals, construction-grade aggregate (sand, gravel, and crushed stone) is the most abundant and commonly used mineral resource in the county.

4.5.2.1 Non-Metallic Minerals

Sand and Gravel

The California Surface Mining and Reclamation Act (SMARA) of 1975 requires the classification of land into Mineral Resources Zones (MRZs) according to known or inferred mineral potential of that area. The classification process is based solely on the underlying geology without regard to existing land use or land ownership. The primary goal of the mineral land classification is to ensure that the mineral potential of the land is recognized by local government decision-makers and is considered before making land use decisions that could preclude mining.

Aggregate resources are classified by the State Geologist into four mineral resources zones based on the likelihood of the presence of mineral deposits and their economic value. This mineral land classification is used to help identify and protect mineral resources in areas within the State subject to urban expansion or other irreversible land use changes that would preclude future mineral extraction. The four divisions are "Areas of No Mineral Resource Significance (MRZ-1)," "Areas of Identified Mineral Resource Significance (MRZ-2)," "Areas of Undetermined Mineral Resource Significance (MRZ-3)," and "Areas of Unknown Mineral Resources Significance (MRZ-4). See the *Regulatory Setting* section of this section for more detailed information about the MRZ classifications.

Exhibit 4.5.1 displays the location of the MRZs in Monterey County, as well as the location of existing mines and oil wells. Nearly all of the areas classified as MRZ-1 are located in the urbanizing areas around Salinas, Castroville, and the Pajaro region. These are areas where, based on available geologic studies and information, no significant mineral resources were identified. The only area in Monterey County designated as MRZ-2, or as an area of identified mineral resource significance, is in the vicinity of Marina, Sand City and Seaside. Monterey and Pacific Grove are designated as MRZ-3, with undetermined mineral resource significance. Land near Del Rey Oaks is designated MRZ-4, or as an area of unknown mineral resource significance. At present, no aggregate resources have been classified beyond the more urbanized northern portions of the County. There are no areas designated by the State Geologist as MRZ in southern Monterey County. However, as shown in Table 4.5-1 and in Exhibit 4.5.1, there are multiple existing sand and gravel facilities located in southern Monterey County, including the Brinan Pit located in San Ardo and the Clark Pit located in King City. However, because these areas were not urbanizing as swiftly as the northern portion of the County, they were not evaluated by the State Geologist.

Table 4.5-1. Existing Aggregate Resources in Monterey County

Name	Operator	Location	Product
Arroyo Seco	Clark	Arroyo Seco	Sand, gravel
BLM Rock Pile	Clark	San Ardo	Stone
Brinan Pit	Swift Tectonics, Inc.	San Ardo	Sand, gravel
Chalone Creek	Swift Tectonics, Inc.	Soledad	Sand, gravel
Clark Pit	William J. Clark Trucking Service	King City	Sand, gravel
Del Monte Quarry	Granite Construction	Del Monte Forest	Sand, gravel
DKD Echo Valley DG Pit	DKD	Prunedale	Sand, gravel
Echenique Pit	Swift Tectonics	San Ardo	Sand, gravel
Jefferson Pit	Don Chapin Co., Inc.	Marina	Sand
Handley Mine	Granite Construction	Gonzales	Sand, gravel
Hidden Canyon	San Benito Supply Inc.	Greenfield	Crushed stone
Lapis	RMC Lonestar	Marina	Sand
Metz	Granite Construction Co.	Greenfield	Sand, gravel
Pine Canyon	Granite Construction	Salinas	Sand, gravel
Stonewall Canyon	Syar Industries	Soledad	Crushed stone

Source: California Department of Conservation, Office of Mine Reclamation 2008. *AB3098 Mine Reclamation List.*

The California Geologic Survey estimates that the Monterey Bay Production-Consumption Region, which includes Monterey, San Benito, Santa Cruz, and southern Santa Clara Counties, will require 379 million tons of aggregate through the year 2047. Currently, with only 269 million tons of permitted reserves, it is estimated that there is only enough aggregate to supply the region until 2033, resulting in an aggregate shortfall (California Geological Survey 1987).

In addition, the Department of Conservation forecasts a 30-percent shortfall of construction aggregates statewide over the next four decades (Hill 2006). The development of new and a gravel mines, along with aggregate recycling would likely be necessary to meet the projected aggregate shortfall in the Monterey Bay Production-Consumption Region.

Limestone and Dolomite

Limestone is an important mineral used in cement, agriculture, sugar refining, and glass manufacturing. Limestone, some of which is metamorphosed to marble, and dolomite are found mainly in the Gabilan Range and in the Santa

Lucia Range, most notably the Pico Blanco limestone deposit near Big Sur (California Division of Mines and Geology 1973). Except for the dolomite in the Natividad area near Salinas, there has been no commercial development of these deposits. The Natividad dolomite deposit in the Gabilan Range is an important source of raw material for extracting magnesium (Perozzo 2007).

Limestone is locally abundant in the Santa Lucia Range; however, most deposits have little economic value because of their remote location. The largest and most important are the extensive deposits at Pico Blanco near Big Sur. The Pico Blanco limestone deposits have a high purity and high calcium content, which make the limestone suitable for whiting and as an ingredient in paints, plastic fillers, and rubber. In response to a petition from the Granite Rock Company, the State Geologist evaluated the Pico Blanco deposits. The State Geologist classified areas owned by the Granite Rock Company as in the MRZ-2, indicating that significant mineral reserves are present (Exhibit 4.5.1). However, the lack of access to the Pico Blanco limestone deposits and concerns about the environmental impacts to the Big Sur area make mining of this limestone deposit difficult. In addition, in 1987, the California Coastal Commission denied the Granite Rock Company a use permit to mine in this area of the California coast.

4.5.2.2 Metallic Minerals

The major metallic minerals found in Monterey County include chromite, copper, gold, lead, manganese, mercury, molybdenum, silver, tungsten, and uranium. Of these minerals only chromite, gold, and mercury were produced in commercial quantities from the 1850s to the 1950s (Perozzo 2007).

Gold was widely prospected in Monterey County following the Gold Rush in the Sierra Nevada in the 1850s (Breschini 1983). Most of the gold occurs as vein deposits associated with Franciscan rock in the Los Burros Mining District near Cape San Martin on the Big Sur Coast. Minor amounts of gold were found in placer deposits in the Jolon area, the Carmel River, and the Cholame Valley. Despite the widespread prospecting, only a small amount of gold was recovered.

Chromite is used mainly as an alloy for steel and for plating metal. It was also stockpiled by the U.S. Government as part of the Strategic Mineral Program during World War II. Known deposits in Monterey County are associated with Franciscan Complex and serpentine in the Los Burros Mining District and in the Diablo Range (Perozzo 2007). The Los Burros deposits in Lilly Group and South Slope Mine were more productive than the Diablo Range deposit at Mee Ranch.

Mercury ore, more commonly known as quicksilver, was widely mined for its use in the amalgamation of gold and silver from their ores. The host rock for quicksilver deposits in Monterey County is cinnabar, found in silicacarbonate rock associated with the Franciscan Complex. Most of the mercury was produced in Parkfield, with a small amount near Dutra Creek (in the southwestern corner of Monterey County), and in Bryson.

4.5.2.3 Fuel Minerals

Oil

The Monterey Formation of California is part of a wide swath of unique sediments deposited around the Pacific Rim during the Miocene period, between about 17.5 and 6 million years ago (Behl 1998). The sediments in this formation are rich in organic matter, and its strata have been extensively investigated and mapped for petroleum exploration. This is a major oil-producing geological formation, and it provides the source rock for much of the oil and gas in California (Behl 1998).

Substantial oil reserves are believed to underlay parts of the Salinas Valley. The San Ardo Oil Field is the largest oil field in Monterey County. It is located in the lower Salinas Valley, about five miles south of the small town of San Ardo (Exhibit 4.5.1). The Energy Information Agency of the United States Department of Energy reports that the San Ardo oil field produced 3.2 million gallons of oil in 2006, which ranks the San Ardo Oil Field as forty-first in the nation in terms of oil production (U.S. Energy Information Administration 2006).

Other oil fields in the Salinas Valley include the Lynch Canyon, McCool Ranch, Monroe Swell, Quinado Canyon, and Paris Valley fields. Only San Ardo and King City have produced significant quantities of oil. Wildcat oil wells also were drilled at Fort Ord and Laguna Seca, in the Spreckels foothills, and in Seaside. None of these wells produced significant quantities of oil.

Coal

Historically, several coal deposits in Monterey County were commercially produced at the turn of the century. Two of these deposits were in the Diablo Range, in the southeastern part of the county. The first and most successful was the Stone Canyon mine. The Stone Canyon mine produced about 250,000 tons of coal from 1870 to 1935. A large amount of infrastructure, including a railway and tramway were built to bring the coal to market. The other Diablo Range coal deposit is near Priest Valley, located halfway between Coalinga and King City on Highway 198. Two mine shafts and 75 feet of drifts were excavated, but no production is recorded from this area. At this time, there is no known coal production underway in Monterey County, nor is coal production anticipated in the near future.

4.5.2.4 Abandoned Mines

As discussed above, existing mining operations in Monterey County are regulated by the State of California under SMARA. However, older mines that were abandoned prior to 1975 are not regulated by SMARA. Exhibit 4.5.2 depicts the locations of several recorded abandoned gold, mercury, and coal

mines of potential concern in Monterey County. As shown on Exhibit 4.5.2, the Plaskett Mines, Buclimo Mine and Old Murray Mine are located within the boundaries of the Los Padres National Forest and outside of the jurisdiction of the County. The Stone Canyon Mine, Partiquin Mine and Gillette Mines are located in a remote, mountainous area on the far eastern edge of the South County Area Plan.

Some of these mines may have been filled in, while others may still have open access. In addition to the public safety risk from entering improperly abandoned mines, some of the mines may be leaching acidic waters or heavy metals into local drainages. Proper closure of these mines is prudent and public funding may be available through State and Federal agencies to accomplish closure.

In California, abandoned mines are regulated by both the Federal government and State agencies. Federal agencies include the EPA and the U.S. Department of Labor, Mine and Safety Administration. State agencies include the State Water Resources Control Board (SWRCB), the Regional Water Quality Control Board (RWQCB), and the California Department of Conservation Office of Mine Reclamation (OMR). These agencies have authority in the mitigation and reclamation of these historic abandoned mines (Central Valley Regional Water Quality Control Board 2007).

Pollution and water quality impacts from abandoned mines in Monterey County are beyond the scope of required CEQA analysis for mineral resources and are not addressed further in this section.

4.5.3 Regulatory Framework

The management of mineral resources is subject to numerous laws and regulations. Summaries of state and local laws related to the management of mineral resources are presented in this section.

4.5.3.1 State

Surface Mining and Reclamation Act of 1975 (SMARA)

As discussed above under the *Existing Setting* section, SMARA (Public Resources Code Section 2710 et seq.) mandated the initiation by the State Geologist of mineral land classifications in order to identify and protect mineral resources in areas within the State subject to urban expansion or other irreversible land uses which would preclude mineral extraction. SMARA was enacted in response to land use conflicts between urban growth and essential mineral production. SMARA also allowed the State Mining and Geology Board (SMGB), after receiving classification information from the State Geologist, to designate lands containing mineral deposits or regional and statewide significance (California Geological Survey, 1999). Construction aggregate was

selected by the SMGD to be the initial commodity targeted for classification because of its importance to society, its unique economic characteristics, and the imminent threat that continuing urbanization poses to that resource. In 1980, SMARA was amended to also provide the classification of non-urban areas subject to land-use threats incompatible with mining. Currently, the State Geologist's SMARA classification activities are carried out under a single program for urban and non-urban areas of the state.

The provisions of SMARA are administered by Monterey County. In accordance with SMARA, permits are required for all mining industries commencing operation on or after January 1, 1976.

Classification of land within the State of California takes place according to a priority list that was established by the SMGB in 1982, or when the SMGB is petitioned to classify a specific area. The SMGB established MRZs to designate lands that contain mineral deposits. Lands designated MRZ-2 are to be protected, as feasible, from land uses that would eliminate their future availability. Throughout California, only construction-grade aggregate minerals are classified by the State Geologist. The classifications used by the State to define MRZs are as follows:

- MRZ-1: Applies to areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists of their presence.
- MRZ-2: Applies to areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists of their presence.
- MRZ-3: Applies to areas containing mineral deposits, the significance of which is undetermined and cannot be evaluated.
- MRZ-4: Applies to areas where available information is inadequate for assignment to any other zone (i.e., where there is not enough information available to determine the presence or absence of mineral deposits).

According to the Guidelines for the Classification and Designation of Mineral Lands, there are two general categories to exclude lands from an MRZ-2 designations, the first is an economic exclusion and the second a social exclusion (California Geological Survey 1999). Social exclusions include cemeteries, public parks and recreation areas, schools, hospitals, prisons and military bases and reservations. Economic exclusions include the following:

- Residential areas, and areas committed to residential development, such as approved tracts,
- Commercial areas with land improvements (buildings)
- Industrial areas (buildings and adjacent storage and parking facilities)
- Major public and private engineering projects, such as canals, freeways, bridges, airports, dams, and railroads.
- Small areas isolated by urbanization (generally less than 40 acres).

AB 3098 List

The Office of Mine Reclamation periodically publishes a list of mines regulated under SMARA that meet provisions set forth under California's Public Resources Code, Section 2717(b). This list is generally referred to as the AB 3098 List, in reference to the 1992 legislation that established it. Sections 10295.5 and 20676 of the Public Contract Code preclude mining operations that are not on the AB 3098 List from selling sand, gravel, aggregates or other mined materials to state or local agencies (California Department of Conservation 2008).

For the Office of Mine Reclamation to place a mining operation on the AB 3098 List, the operation must meet all of the following conditions:

- The operation has an approved reclamation plan;
- The operation has an approved financial assurance;
- The operation has filed its annual report;
- The operation has paid its reporting fee;
- The operation has had its annual inspection by the lead agency which reflects the operation is in full compliance with the law.

California Division of Oil, Gas and Geothermal Resources

The California Division of Oil, Gas and Geothermal Resources (DOGGR) is mandated by Section 3106 of the Public Resources Code (PRC) to supervise the drilling, operation, maintenance and abandonment of oil wells for the purpose of preventing damage to life, health, property, and natural resources. DOGGR is charged with implementing Section 3208.1 of the PRC. The Construction-Site Plan Review Program was developed to assist local permitting agencies in identifying and reviewing the status of oil or gas wells. Before issuing building or grading permits, local agencies review and implement the DOGGR's preconstruction well requirements. Interaction between local permitting agencies and the DOGGR helps resolve land use issues and allows responsible development in oil and gas fields.

4.5.3.2 Local

Monterey County Zoning Ordinance

Title 16, Section 16.04 of the Monterey County Zoning Ordinance, entitled "Surface Mining and Reclamation," specifies zoning regulations and policies for mineral resource extraction. Specifically, the Monterey County Zoning Ordinance addresses mineral resource extraction land use classifications and mine reclamation.

16.04.010 Purpose and intent

Section 16.04.140 (B) "Purpose and Intent" states that the "the extraction of minerals is essential to the continued economic well-being of the County and to the needs of the society, and that the reclamation of mined lands is necessary to prevent or minimize adverse effects on the environment and to protect the public health and safety." In addition, "reclamation of mined lands will permit the continued mining of minerals and will provide for the protection and subsequent beneficial use of the mined and reclaimed land." The purpose and intent of the ordinance is to ensure the continued availability of important mineral resources, while regulating surface mining operations as required by California's Surface Mining and Reclamation Act of 1975 (Public Resources Code Sections 2710 et seq.), as amended, hereinafter referred to as "SMARA", Public Resources Code (PRC) Section 2207 (relating to annual reporting requirements), and State Mining and Geology Board regulations (hereinafter referred to as "State Regulations") for surface mining and reclamation practice (California Code of Regulations [CCR], Title 14, Division 2, Chapter 8, Subchapter 1, Sections 3500 et seq.), as those provisions may be amended, to ensure that:

- Adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition which is readily adaptable for alternative land uses.
- The production and conservation of minerals are encouraged, while giving consideration to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment.
- Residual hazards to the public health and safety are eliminated. (Ord. 4029, 1999; Ord. 2402 § 011, 1978)

16.04.140 Mineral resource protection

Specifically, Section 16.04.140 calls for mine development in areas compatible with mining operations, and designating such areas prior to encroachment from conflicting land uses. Mineral resource areas that have been classified by the State Department of Conservation's Division of Mines and Geology or designated by the State Mining and Geology Board, as well as existing surface mining operations, shall be protected from intrusion by incompatible land uses that may impede or preclude mineral extraction or processing.

In addition, Section 16.04.140 states that the County General Plan and resource maps shall be updated to reflect mineral information (classification and/or designation reports) within twelve (12) months of receipt from the State Mining and Geology Board of such information. Land use decisions within the County would be guided by information provided on the location of identified mineral resources of regional significance. Conservation and potential development of identified mineral resource areas will be considered and encouraged. Recordation on property titles of the presence of important mineral resource areas may be encouraged as a condition of approval of any development project in the impacted area. Prior to approving a use that would otherwise be incompatible with mineral resource protection, conditions of approval may be applied to encroaching development projects to minimize potential conflicts. (Ord. 4029, 1999)

4.5.4 Project Impacts

4.5.4.1 Thresholds of Significance

The impact assessment for Mineral Resources relies on the significance criteria in the CEQA Checklist presented in Appendix G of the CEQA guidelines. The 2007 General Plan would result in a significant impact on mineral resources if it would:

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state;
- Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

The above thresholds of significance are closely related, and are therefore combined for the purposes of the following impact assessment.

In addition, as described under "*Abandoned Mines*," pollution and water quality impacts from abandoned mines in Monterey County are beyond the scope of required CEQA analysis for mineral resources and are not addressed further in this section.

4.5.4.2 Impact Analysis

Loss of Availability of Known Mineral Resources

Impact MIN-1: Implementation of the 2007 General Plan would potentially result in the loss of availability of known mineral resources of value to the region and the residents of the state. (Less-Than-Significant-Impact.)

Impact MIN-2: Implementation of the 2007 General Plan would potentially result in the loss of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. (Less-Than-Significant-Impact.)

2030 Planning Horizon

Impact of Development with Policies

Implementation of the 2007 General Plan to the 2030 planning horizon would result in new urban development in some undeveloped areas of the County. Policies identified in the 2007 General Plan require the identification and conservation of areas with significant mineral resources, as well as the development of new mining activities where environmental

impacts and land use conflicts would be avoided. In addition, the 2007 General Plan emphasizes compact city-centered growth in and near existing urbanized areas. This land use concept is designed to preserve significant undeveloped areas and minimize encroachment into mineral resource extraction areas.

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized below establish comprehensive measures to avoid the loss of known mineral resources of value to the region and the residents of the state.

Conservation and Open Space Element

Policies in the 2007 General Plan Conservation and Open Space Element address the conservation of mineral resources. Conservation and Open Space Element Policy OS-2.1 (Protection of mineral resources sites) states that potentially significant mineral deposits and existing mining operations identified through the State Division of Mines and Geology, including idle and reserve properties, shall be protected from on-site and off-site land uses that would be incompatible with mineral extraction activities.

Conservation and Open Space Element Policy OS-2.2 (SMARA requirements) requires mineral extraction operations to adhere to sound conservation practices consistent with SMARA and other applicable standards. Adequate financial security shall be required to insure reclamation of the extraction site to a condition consistent with the surrounding natural landscape and environmental setting.

Conservation and Open Space Element Policy OS-2.3 (Recycling) supports efforts to conserve raw mineral resources through recycling.

Conservation and Open Space Element Policy OS-2.4 (Mapping) incorporates the use of GIS mapping to maintain up-to-date records on the locations of valuable mineral deposits in the county.

Conservation and Open Space Element Policy OS-2.5 (Abandoned mines) requires the county to inventory, assess, and characterize the location and condition of identified pre-SMARA abandoned gold, mercury and coal mines and implement such measures as may be necessary to ensure that such mines do not contribute to a significant risk to public health or safety or non-compliance with water quality standards and criteria.

The 2007 General Plan Conservation and Open Space Element establishes goals and corresponding policies to provide for the conservation, utilization and development of the County's mineral resources (Monterey County 2007). The policies provide for the

protection of mineral resources by supporting the careful placement of land uses that would be compatible with protection of these mineral resources. In addition, the policies support the updating of mapping information for accurate identification of existing known mineral resources within the county. Therefore, implementation of the policies outlined in the Conservation and Open Space Element of the 2007 General Plan would avoid the loss of known mineral resources of value to the region and the residents of the state.

Area Plan Policies

North County Area Plan

The North County Area Plan does not contain any land use compatibility policies related to the development of mineral resource sites or the protection of mineral resource sites. However, as shown on Exhibit 4.5.1, portions of the North County Area Plan within the Pajaro Valley are designated MRZ-1 by the State Geologist. Lands designated MRZ-1 are areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists of their presence. Therefore, implementation of the 2007 General Plan would not result in the loss of availability of known mineral resources within the North County Area Plan because there are no known mineral resources of value designated by the State Geologist in this area.

In addition, the North County General Plan Land Use Map (Exhibit 3.1a) depicts two existing sites designated as Mineral Extraction. These sites would remain under this designation with implementation of the 2007 General Plan. Therefore, there would be no loss of availability of a locally-important mineral resource site delineated on a local land use plan.

Greater Salinas Area Plan

The Greater Salinas Area Plan does not contain any land use compatibility policies related to the development of mineral resource sites or the protection of mineral resource sites. However, as shown on Exhibit 4.5.1, portions of the Greater Salinas Area Plan are designated MRZ-1 by the State Geologist. Lands designated MRZ-1 are areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists of their presence. Therefore, implementation of the 2007 General Plan would not result in the loss of availability of known mineral resources within the Greater Salinas Area Plan because there are no known mineral resources of value designated by the State Geologist in this area.

Central Salinas Valley Area Plan

The Central Salinas Area Plan does not contain any land use compatibility policies related to the development of mineral resource sites or the protection of mineral resource sites. In addition, as shown on Exhibit 4.5.1, there are no lands within the Central Salinas Valley Area Plan that are designated or mapped by the State Geologist. Therefore, implementation of the 2007 General Plan would not result in the loss of availability of known mineral resources within the Central Salinas Valley Area Plan because there are no known mineral resources of value designated by the State Geologist in this area.

As shown on Exhibit 4.5.1, numerous oil wells are present within the Central Salinas Valley Area Plan on the westside of the valley in the between Greenfield and King City. The Central Salinas Valley Area Plan does not contain any specific land use compatibility policies related to oil field sites, or their protection. However, these oil wells are located in areas predominantly under agricultural production or grazing. Agriculture is generally compatible with oil and gas production, and continued agriculture production or grazing in these areas is not expected to impact oil production. Therefore, implementation of the Central Salinas Valley Area Plan is not expected to adversely affect the continued operation of these existing oil wells, or any future oil wells, due to the current and projected global demand for oil.

Greater Monterey Peninsula Area Plan

The Greater Monterey Peninsula Area Plan does not contain any land use compatibility policies related to the development of mineral resource sites or the protection of mineral resource sites. However, as shown on Exhibit 4.5.1, portions of the Greater Monterey Peninsula Plan are designated MRZ-1, 2, 3 and 4 by the State Geologist. The areas designated MRZ-2 include the incorporated cities of Sand City, Seaside and Marina which are located outside of the County's jurisdiction. The MRZ-3 designation applies to lands containing mineral deposits, the significance of which is undetermined and cannot be evaluated. The areas designated MRZ-3 include the incorporated cities of Monterey, Pacific Grove and Carmel-By-The-Sea which are located outside of the County's jurisdiction. The MRZ-4 designation applies to areas where available information is inadequate for assignment to any other zone (i.e., where there is not enough information available to determine the presence or absence of mineral deposits). The areas designated MRZ-4 include areas on the outskirts of Monterey and Del Rey Oaks.

Implementation of the 2007 General Plan would not result in the loss of availability of known mineral resources within the Greater Monterey Peninsula Area Plan because the areas designated MRZ-2 (the lands containing known mineral deposits) are located in areas that are not under the County's jurisdiction. In addition, the State's Guidelines for Classification and Designation of Mineral Lands applicable to MRZ-2 zones identifies multiple exclusions to the MRZ-2 designation, including residential areas, commercial areas with land improvements, industrial areas, and major public and private engineering works (California Geological Survey 1999). Therefore, many of the urbanized and developed areas currently designated MRZ-2 are actually exempt.

Carmel Valley Master Plan

There are no lands within the Carmel Valley Master Plan that are designated or mapped by the State Geologist. However, Carmel Valley Master Plan Policy CV-1.19 (mines and quarries) encourages land use compatibility with mineral extraction activities by requiring visual screening, safe vehicular access, and noise reduction practices. In addition, policy CV-1.19 allows for development on slopes over 30% within the limits of the quarry.

Therefore, implementation of the 2007 General Plan would not result in the loss of availability of known mineral resources within the Carmel Valley Master Plan because there are no known mineral resources of value designated by the State Geologist in this area. In addition, implementation of Carmel Valley Master Plan Policy CV-1.19 would ensure land use compatibility between proposed mineral resource extraction sites and existing land uses.

Toro Area Plan

The Toro Area Plan does not contain any land use compatibility policies related to the development of mineral resource sites or the protection of mineral resource sites. In addition, as shown on Exhibit 4.5.1, there are no lands within the Toro Area Plan designated or mapped by the State Geologist. Therefore, implementation of the 2007 General Plan would not result in the loss of availability of known mineral resources within the Toro Area Plan because there are no known mineral resources of value designated by the State Geologist in this area.

In addition, the Toro Area Plan Land Use Map (Exhibit 3.10) depicts one existing site designated as Mineral Extraction. This site would remain under this designation with implementation of the 2007 General Plan. Therefore, there would be no loss of availability of a locally-important mineral resource site delineated on a local land use plan.

Cachagua Area Plan

There are no lands within the Cachagua Area Plan designated or mapped by the State Geologist. However, Cachagua Area Plan Policy CACH-3.5 (mining/timber operations) requires that future mining or other resource production operations include visual screening and safe vehicular access. In addition, proposed new mining operations must consider impacts on roadways from truck traffic, noise impacts, drainage impacts and mitigate for impacts to watersheds, flora and fauna. Reclamation plans are also required per SMARA requirements and Zoning Ordinance requirements.

Implementation of the 2007 General Plan would not result in the loss of availability of known mineral resources within the Cachagua Area Plan because there are no known mineral resources of value designated by the State Geologist in this area. In addition, implementation of Cachagua Area Plan Policy CACH-3.5 would ensure land use compatibility between proposed mineral resource extraction sites and existing land uses.

South County Area Plan

The South County Area Plan does not contain any land use compatibility policies related to the development of mineral resource sites or the protection of mineral resource sites. In addition, as shown on Exhibit 4.5.1, there are no lands within the South County Area Plan are designated or mapped by the State Geologist.

Therefore, implementation of the 2007 General Plan would not result in the loss of availability of known mineral resources within the South County Area Plan because there are no known mineral resources of value designated by the State Geologist in this area.

The South County General Plan Land Use Map (Exhibit 3.12) depicts several existing sites designated as Mineral Extraction sites, including the San Ardo oil fields. These sites would remain under this designation with implementation of the 2007 General Plan. Therefore, there would be no loss of availability of a locally-important mineral resource site delineated on a local land use plan.

As shown on Exhibit 4.5.1, numerous oil wells are present within the South County Area Plan centered around the San Ardo Oil Fields. The South County Area Plan does not contain any specific land use compatibility policies related to oil field sites, or their protection. Therefore, implementation of the South County Area Plan is not expected to adversely affect the continued operation of these existing oil wells, or any future oil wells, due to the current and projected global demand for oil.

Agricultural Winery Corridor Plan

The AWCP does not contain any land use compatibility policies related to the development of mineral resource sites or the protection of mineral resource sites. In addition, as shown on Exhibit 4.5.1, there are no lands within the South County Area Plan designated or mapped by the State Geologist.

Therefore, implementation of the 2007 General Plan would not result in the loss of availability of known mineral resources within the AWCP because there are no known mineral resources of value designated by the State Geologist in this area.

As shown on Exhibit 4.5.1, numerous oil wells are present within the AWCP throughout the Jolon Road corridor, as well as the River Road/Arroyo Seco/Central Avenue corridor. The AWCP does not contain any specific land use compatibility policies related to oil field sites, or their protection. However, implementation of the AWCP is not expected to adversely affect the continued operation of these existing oil wells, or any future oil wells, due to the current and projected global demand for oil.

Community Area Policies

Fort Ord Master Plan—Conservation Element

As shown in Exhibit 4.5.1, a small area in the southwest portion of the Fort Ord Master Plan is designated MRZ-2 by the State Geologist. The MRZ-2 designation applies to areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists of their presence. Another small, adjacent area is designated MRZ-4, or as an area where available information is inadequate for assignment to any other zone.

In addition, there are many land use compatibility policies related to the development of mineral resource sites or the protection of mineral resource sites in the Fort Ord Master Plan Conservation Element. Objective B of the Conservation Element provides for mineral extraction and reclamation activities that are consistent with the surrounding natural landscape, proposed future land uses, and soil conservation practices.

Soils and Geology Policy B-1 (mineral resources classification) states the County shall identify areas of highly valuable mineral resources within the former Fort Ord area based on the State of California Division of Mines and Geology's mineral resources "classification-designation" system, and provide for the protection of these areas.

Soils and Geology Program B-1.1 (mineral resource designation) states that if the County determines that valuable mineral resources warranting protection are contained within the former Fort Ord, the County shall designate these areas in a mineral resource or similar land use category that would afford them protection. In addition, this area shall also be zoned in a district consistent with this designation.

Soils and Geology Program B-1.2 (property title) requires the County to record a notice identifying the presence of valuable mineral resources on property titles in the affected mineral resource protection areas.

Soils and Geology Policy B-2 (land use compatibility) states that the County shall protect designated mineral resource protection areas from incompatible land uses.

Soils and Geology Program B-2.1 (zoning compatibility) states that, if so provided, the County shall specify in its mineral resource protection-zoning district those uses that are deemed compatible with mining activities.

Soils and Geology Policy B-3 (reclamation plans) states that prior to granting permits for operation, the County shall require that mining and reclamation plans be prepared for all proposed mineral extraction operations.

Soils and Geology Program B-3.1 (reclamation requirements) states that the County shall develop and make available a list of issues to be considered and mitigated in mining and reclamation plans, including but not limited to, the following: buffering, dust control, protection of water quality, noise impacts, access, waste disposal, security and reclamation.

Soils and Geology Policy B-4 (reclamation bonds) states that the County shall require the posting of bonds for new mining permits if it determines that such a measure is needed to guarantee the timely and faithful performance of mining and reclamation plans.

Implementation of the 2007 General Plan would not result in the loss of availability of known mineral resources within the Fort Ord Master Plan because the areas designated MRZ-2 and MRZ-3 by the State Geologist would be protected under Soils and Geology Program B-1.1. In addition, the State's Guidelines for Classification and Designation of Mineral Lands applicable to MRZ-2 zones identifies multiple exclusions to the MRZ-2 designation, including residential areas, commercial areas with land improvements, industrial areas, and major public and private engineering works (California Geological Survey 1999). Therefore, any portion of the residential or commercial developed areas currently designated

MRZ-2 with the Fort Ord Master Plan area are actually exempt. In addition, implementation of Fort Ord Master Plan policies listed above would ensure land use compatibility between proposed mineral resource extraction sites and existing land uses.

Significance Determination

Implementation of the 2007 General Plan policies through the 2030 planning horizon would not result in the loss of availability of a known mineral resource of value to the region or the residents of the state. In addition, the 2007 General Plan and Area Plan policies address the need to protect access to mineral resources in the County. This would be achieved through compliance with applicable laws that govern surface mining and reclamation and by implementing policies to assist in the proper placement of mining and quarry activities. In addition, many of the lands designated MRZ-2 by the State Geologist are not under the land use jurisdiction of the County. Therefore, impacts in this regard would be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

The loss of availability of known mineral resources of value to the region or residents of the state from implementation of the 2007 General Plan would be less than significant, and no mitigation is required.

Buildout

Impact of Development with Policies

Buildout to 2092 under the 2007 General Plan would potentially result in adverse impacts to known mineral resources of value in the County. However, the 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts related to the loss of mineral resources.

Implementation of the 2007 General Plan to the 2092 planning horizon would result in new urban development in some undeveloped areas of the County. The 2007 General Plan emphasizes compact city-centered growth in and near existing urbanized areas. This land use concept is designed to preserve significant undeveloped areas and minimize encroachment into mineral resource extraction areas. In addition, policies identified in the 2007 General Plan require the identification and conservation of areas with significant mineral resources, as well as the development of new mining activities where environmental impacts and land use conflicts would be avoided.

2007 General Plan Policies

Implementation of the 2007 General Plan policies listed above under the 2030 Planning Horizon would expressly avoid the loss of availability of known mineral resource areas in the County through the 2092 planning horizon.

Significance Determination

Implementation of the 2007 General Plan policies through the 2092 planning horizon would not result in the loss of availability of a known mineral resource of value to the region or the residents of the state. Implementation of the 2007 General Plan policies addresses the need to preserve and conserve access to mineral resources in the county. This would be achieved through compliance with applicable laws that govern surface mining and reclamation and by implementing policies to assist in the proper placement of mining and quarry activities. In addition, many of the lands designated MRZ-2 by the State Geologist are not under the land use jurisdiction of the County. Therefore, impacts in this regard would be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

The loss of availability of known mineral resources of value to the region or residents of the state from implementation of the 2007 General Plan through the 2092 planning horizon would be less than significant, and no mitigation is required.

4.5.4.3 Level of Significance after Mitigation

All impacts to mineral resources would be less than significant with implementation the 2007 General Plan, and no additional mitigation would be required.

4.6 Transportation

4.6.1 Abstract

There are about 1,250 miles of County roads in the unincorporated portion of Monterey County, consisting mostly 2-lane and some 4-lane roads that range from Principal Arterials to Local Roads. Tourism is a source of traffic that contributes substantially to County roads, along with commuter traffic, agricultural product and freight movement, intra-regional travel, and inter-regional travel (through-traffic). The county's leading industry, production and shipping of agricultural products, generates high volumes of traffic throughout the county, another major source of circulation system demands. Movement of goods in Monterey County is one of the primary functions of the transportation system and an essential component of the County's economy. Monterey County is served by four public airports, Monterey Peninsula Airport, Salinas Municipal Airport, Marina Municipal Airport, and Mesa Del Rey Airport (King City).

The County of Monterey, the Transportation Agency of Monterey County (TAMC), the California Department of Transportation (Caltrans), and Monterey-Salinas Transit (MST) are the four agencies responsible for overseeing the transportation needs in Monterey County. These agencies have separate, but sometimes overlapping responsibilities, ranging from maintaining roadway facilities, long-range planning of new and expanded facilities, and providing public transportation. As of 2008, 90 regional and local roadway segments in the County fell below the Level of Service (LOS) standards established in the General Plan or Area Plans.

Implementation of the 2007 General Plan to the 2030 planning horizon and beyond to 2092 would result in significant impacts on transportation infrastructure at three (3) levels:

- **Project-specific Access and Level of Service Impacts on County and Local Roadways—**New vehicle trips generated by growth anticipated under the 2007 General Plan in 2030 and at buildout would result in deficient roadway performance on County roadways and local streets, requiring project-specific environmental assessment. Mitigation is proposed that would reduce the individual impacts of new development to a less than significant level. As described below, cumulative impacts would be significant and unavoidable nonetheless.
- **Cumulative Level of Service Impacts on County Roadways—**New trips generated by growth contemplated by the 2007 General Plan in 2030 and at buildout, along with new trips generated by planned growth in Cities, would cumulatively result in deficient roadway performance on County roadways. Mitigation is proposed that would minimize the impact; of individual projects, however, this impact would remain significant and unavoidable after mitigation.

- **Cumulative Level of Service Impacts on Regional Roadways—**New trips generated by growth contemplated by the 2007 General Plan in 2030 and at buildout, along with new trips generated by planned growth in cities, would cumulatively result in deficient roadway performance on regional roadways (i.e., state and federal highways and major streets within incorporated cities). This also includes regional roads external to Monterey County. Mitigation is proposed that would minimize the impact; however, this impact would remain significant and unavoidable after mitigation.
- **Level of Service Impacts on Roadway Segments within the Winery Corridor—**New trips generated by agricultural and winery growth contemplated by the 2007 General Plan in 2030 and at buildout would result in deficient roadway performance on four roadway segments. Mitigation is proposed that would minimize the impact; however, this impact would remain significant and unavoidable after mitigation.

All other impacts would be less than significant and do not require mitigation.

4.6.2 Existing Conditions

4.6.2.1 Introduction

Monterey County's transportation system has two primary functions:

1. Facilitate mobility and access, for residents, workers and visitors, to community services, the work place, commercial centers, recreation areas and the variety of land uses throughout the County, and
2. Facilitate the transport of goods to, from, and within the County.

The transportation system in Monterey County consists of several components:

- Regional Highways such as; U.S. Route 101 and the State Highways 1, 25, 68, 146, 156, 183, 198, 218;
- Major County Roads such as; Carmel Valley Road, San Miguel Canyon Road, Jolon Road, Blanco Road, Metz Road, River Road, Arroyo Seco Road;
- Arterial and Local Roads, such as; Corral de Tierra Road, Boronda Road, Strawberry Road, Castroville Boulevard, Espinosa Road;
- Regional transit; principally the Monterey-Salinas Transit service;
- Rail services, including; Amtrak (passenger service), future CalTrain (passenger service), and the Union Pacific Railroad (freight);
- Regional and local bike routes, such as; the Monterey Bay Recreational Trail;
- Regional and local pedestrian and hiking trails; mostly found in state and regional parks;

- Public airports, including; Monterey Peninsula Airport, Salinas Municipal Airport, Mesa Del Rey Airport (King City), Marina Municipal Airport;
- Public Harbors, such as Monterey Harbor and Moss Landing.

4.6.2.2 Road and Highway Transportation

There are about 1,250 miles of County roads in the unincorporated portion of Monterey County (**Exhibit 4.6.2**) consisting mostly 2-lane and some 4-lane roads that range from Principal Arterials to Local Roads. Most of these roads were developed to serve agricultural areas, rural communities, or remote wilderness areas in the more mountainous regions of the County. Over the past decades, these roads have shifted from accommodating primarily rural levels of traffic to accommodating urban levels of traffic and commuter traffic, contrary to their originally intended use and design capacities. Consequently, a number of roads function at a below established acceptable levels of service. The same is true of many segments along the nine (9) State Highways that cross the County.

4.6.2.3 Tourism Traffic

Tourism is a source of traffic that contributes substantially to county roads, along with commuter traffic, agricultural product and freight movement, intra-regional travel, and inter-regional travel (through-traffic). An estimated eight million tourists visit Monterey County each year (Source: Monterey County Herald, 4/26/07). Almost all of these tourists traveled by automobile. Of the County's 11,192 hotel and motel rooms, 9,320 are in the Greater Monterey Peninsula area (excluding Big Sur).

Tourism is the county's second largest industry, and the continued expansion of the tourism industry in Monterey County will further exacerbate this source of impact. Present alternatives to the automobile are not attractive to casual weekend travelers or to long-distance tourists. Although visitors comprise a high percentage of commercial airline passengers arriving at Monterey Peninsula Airport (62 percent, according to a 1996 AMBAG study), the relatively low number of airline trips in and out of the Peninsula accounts for only a very small percentage of the annual tourist volume. Monterey Salinas Transit's popular Waterfront Area Visitor Express (WAVE) service is an example of a non-impact transportation mode specifically tailored to tourist demand. However, the increasing demand for access to Monterey County's relatively inaccessible areas such as the Big Sur coastline, along with the over-capacity conditions already in place as a result of resident and commuter traffic, warrants additional measures to facilitate other modes of tourist-oriented transportation.

4.6.2.4 Agricultural Traffic

As the County's leading industry, the production and shipping of agricultural products generates high volumes of traffic throughout the County. This is another major source of circulation system demands. There are two components to this traffic source:

Trucks

A high percentage of local agricultural production is fresh fruits and vegetables, which require speedy transport either directly to wholesalers from the fields or from the field to the processing plant, then to market. Trucks are therefore ever-present on rural roads and moving in and out of towns and cities and contribute to over-capacity conditions. Because of their size and limited maneuverability compared to cars, trucks consume more capacity and demand greater access when entering roads from loading sites or other roads. Their greater weight (up to 40 tons) exerts significant wear and tear on roads, accelerating the need for road repair.

Workers

Agricultural fields are located from the upper limits of northern Monterey County through the Salinas Valley to the southern part of the County (approximately 150 miles). Work is seasonal and crops are regularly rotated creating a moving work place for the workers. As a result, workers in the fields commute from where housing is available, which is generally within the cities. Although buses may be offered for transportation and workers/families may carpool, it is common for there to be a number of individual cars parked in a field that is being harvested.

4.6.2.5 Freight Movement

Movement of goods in Monterey County is one of the primary functions of the transportation system and an essential component of the County's economy. Most goods, particularly agricultural goods and quarried materials, are transported by truck. The Regional Freight Study prepared by the Association of Monterey Bay Area Governments (AMBAG) in 1995 states that Monterey County was generating about 10,800 truck trips per day at that time. AMBAG's study also projected that the County would generate about 12,800 truck trips per day in 2006. The Regional Freight Study indicates that truck traffic accounted for about 11 percent of the total annual travel in Monterey County. Truck traffic is expected to increase as overall traffic volumes increase throughout the County and the State. The Regional Freight Study by AMBAG forecasts a two (2) percent annual increase in truck traffic in Monterey County through 2015.

The four highways that carry the highest level of truck traffic are Highways 1, 101, 156, and 183. AMBAG estimates that truck traffic is utilizing about 5 to 10 percent of the capacity of these highways. Table 4.6-1 shows the average daily truck volumes on these primary truck routes in Monterey County, as well as the less utilized Highway 198.

Table 4.6-1. Average Daily Truck Traffic on Monterey County Highways

Highway	Average Daily Truck Traffic
Highway 1	up to 3,800
U.S. 101	2,800–12,600
Highway 156	2,300–2,500
Highway 183	1,900–3,300
Highway 198	75–150

Source: 2006 Annual Average Daily Truck Volumes on the California State Highway System, Caltrans.

4.6.2.6 Monterey County Travel Patterns

According to the 2000 Census "journey to work" statistics, Monterey County's employed residents primarily commute to work using automobiles, with a substantial proportion driving alone (68 percent), as shown in Table 4.6-2. Carpooling is relatively high at nearly 20 percent of commuters. The third highest mode of travel is walking, at just over 5 percent. All other modes of travel, including public transportation for commuting, equal less than 5 percent.

Part of the reason for this pattern can be attributed to the manner in which the County has developed. All of the valley cities are surrounded by prime agricultural lands and the 1982 General Plan was designed to focus development towards cities in order to retain agriculture as well as to preserve scenic hillsides. As a result, people must commute from population centers to places where there are goods, services, and/or jobs.

Table 4.6-2. Existing Commute Travel Modes

Mode of Travel	Percent of Commuters
Total Car, Van, or Truck	86.1
Drove Alone	68.3
Carpooled	17.8
Public Transportation	3.0
Walk	5.1
Other	1.2
Work at Home	4.6

Source: United States Census Bureau, 2006 American Community Survey.

4.6.2.7 Road and Highway Capacities

The County's circulation system has a finite carrying capacity, and in some areas, the system's capacity has been exceeded. Traffic conditions for any given road segment can be expressed by a simple formula as the ratio of the volume of traffic using the road to the volume the road segment was designed to accommodate; also known as its volume-to-capacity ratio. Both figures are expressed in terms of Average Daily Traffic Volumes (ADT), that is, the total number of vehicles using the road on an average day. The number of vehicles using the road is either measured (by automated or manual traffic counters) or modeled with a computer-based traffic model. The design capacity is based on engineering standards established by the 2000 Highway Capacity Manual (2000 HCM) and adopted by the County, cities, and Caltrans.

The volume-to-capacity ratio is used as a quantitative measure of the roadway LOS. LOS is a qualitative term describing operating conditions a driver will experience while traveling on a particular street or at an intersection during a specific time interval, and is meant to reflect the degree to which traffic on the road is subject to congestion-related delays. The LOS categories and their pairing with specific ranges of volume-to-capacity ratio are a matter of convention, derived from standards developed by traffic engineers. LOS ranges from LOS A, which is very little delay to LOS F representing long delays and congestion. Table 4.6-3 defines each LOS category that has been adopted by the County as matter of policy and is used by the Public Works Department and Caltrans to identify substandard conditions. The County's current standard for road performance is LOS C under the 1982 General Plan and is proposed to be LOS D under the 2007 General Plan.

Table 4.6-3. Level of Service Definitions

Level of Service	Description
A	Free flow with no delays. Users are virtually unaffected by others in the traffic stream.
B	Stable traffic. Traffic flows smoothly with few delays.
C	Stable flow but the operation of individual users becomes affected by other vehicles. Modest delays.
D	Approaching unstable flow. Operation of individual users becomes significantly affected by other vehicles. Delays may be more than one cycle during peak hours.
E	Unstable flow with operating conditions at or near the capacity level. Long delays and vehicle queuing.
F	Forced or breakdown flow that causes reduced capacity. Stop and go traffic conditions. Excessive long delays and vehicle queuing.

Source: Transportation Research Board, Highway Capacity Manual 2000, National Research Council, 2000.

When the volume of daily traffic on a roadway exceeds its design capacity, the road is said to be over-capacity. An over-capacity roadway can be restored to capacity by one of two methods:

- Reduction in traffic volumes—A reduction in volume is usually achieved by building another road to which traffic will be diverted. This is not actually a reduction, but a redistribution of traffic volumes. Reductions in traffic volume are rarely proposed as a means to address over-capacity roadway conditions.
- Increase in road capacity—An increase in road capacity is usually achieved through road widening. Over-capacity conditions are usually addressed by a proposed addition of new lanes or by construction of new roadways.

Road construction and expansion are most often selected and favored by policy in Monterey County. Although this is a common response that reflects conventional policies, it also reflects the inherent difficulty of implementing "demand management" measures to reduce volumes after traffic has already been generated. Demand management is most effective in preventing increased traffic volumes by precluding the need for trips through a combination of prudent land use planning and highly convenient transit services. Policies in the 2007 General Plan are designed to address this issue.

As in any system that has reached or is reaching capacity, competing interests have begun to vie for limited space on local and regional roads. Trucks crowd the downtown streets of Castroville and South Salinas. Tourist traffic jockeys with commuters on Highway 68 and 156. Long distance commuters in North County share country roads with locals driving to the market. Increasing numbers of all these road users result in impacts that run contrary to the historic rural character of Monterey County's unincorporated towns and heartland. Exhibit 4.6.2 depicts the LOS on the County roadway system. Table 4.6.-4 lists the County roadways that currently operated below acceptable levels of service at LOS E and LOS F. There are 14 segments operating at LOS E and 70 segments operating at LOS F.

Table 4.6-4. Roadways Exceeding Level of Service Standard (Year 2008)

Roadway	Segment
State Roadway Segments Operating at LOS E based on Daily Capacity	
U.S. 101	Crazy Horse Canyon Rd to San Miguel Canyon Rd
SR-1	Rio Road to Carmel Valley Road
County Roadway Segments Operating at LOS E based on Daily Capacity	
San Juan Rd (G-11)	Salinas Rd to San Miguel Canyon Rd
San Juan Rd (G-11)	Aromas Rd to Carpenteria Rd
Abbott St	U.S. 101 to Salinas City Line
Carpenter St	Carmel City Line to Serra Ave

Roadway	Segment
Davis Rd	Blanco Rd to Reservation Rd
Espinosa Rd	SR-183 to US-101
Harris Rd	Spreckels Blvd to Abbott St
Porter Dr	Salinas Rd to San Juan Rd
Salinas Rd	SR-1 to Fruitland Ave
Other Regional Roadway Segments Operating at LOS E based on Daily Capacity	
N Fremont St	Casa Verde Wy to SR-218
Sanborn Rd	U.S. 101 to Abbott St
State Roadway Segments Operating at LOS F based on Daily Capacity	
U.S. 101	The Monterey / San Benito County border to Crazy Horse Canyon Rd
U.S. 101	San Miguel Canyon Rd to John St (8 segments)
SR-1	Salinas Rd to SR-183 (4 segments)
SR-1	Fremont Blvd to Del Monte Ave (2 segments)
SR-1	N Fremont St to Aguajito Rd
SR-1	Holman Hwy to Carpenter St
SR-1	Ocean Ave to Carmel Valley Road
SR-68 (Holman Hwy)	Forest Ave to SR-1 (4 segments)
SR-68 (Monterey-Salinas Highway)	SR-1 to Portola Dr (6 segments)
SR-156	Castroville Blvd to US-101
SR-183	SR-156 to Cooper Rd (3 segments)
SR-218	Fremont Blvd to SR-68 (2 segments)
County Roadway Segments Operating at LOS F based on Daily Capacity	
Salinas Rd (G-12)	Porter Dr to Railroad Ave
Elkhorn Rd (G-12)	Salinas Rd to Hall Rd
Hall Rd (G-12)	Elkhorn Rd to San Miguel Canyon Rd
San Miguel Canyon Rd (G-12)	Hall Rd to US-101 (3 segments)
Blanco Rd	Reservation Rd to Davis Rd (3 segments)
Carpenter St	Serra Ave to SR-1
Ocean Ave	Carmel City Line to Sr-1
Porter Dr	San Juan Rd to Santa Cruz County Line
Rio Rd	Carmel City Line to SR-1
San Juan Grade Rd	Salinas City Line to Russell Rd

Roadway	Segment
Other Regional Roadway Segments Operating at LOS F based on Daily Capacity	
Foam St	Prescott Ave to Lighthouse Ave (2 segments)
Lighthouse Ave	David Ave to Washington St (4 segments)
Del Monte Ave	Washington St to SR-1 (3 segments)
Fremont St	Abrego St to Camino Aguajito
Munras Ave/Abrego St	Soledad Dr to Via Zaragoza
Del Monte Blvd	SR-1 to Broadway Ave (2 segments)
Del Monte Blvd	SR-1 to Reservation Rd (2 segments)
John St	Abbott St to U.S. 101
Davis Rd	W Laurel Dr to W Blanco Rd (2 segments)

Source: Kimley-Horn & Associates, Inc. 2008.

In addition, the Area Plan for Carmel Valley specifies an acceptable LOS of "C" or "D" for Carmel Valley Road depending on the roadway segment (see Impact TRAN-2B for identification of segments and associated LOS standards), as opposed to a LOS "C" that is proposed to be the acceptable level for other Carmel Valley roadways and LOS D in the remainder of the unincorporated County. Integration of this analysis into the 2007 General Plan EIR allows for consistency between documents.

The roadway level of service analysis for the Carmel Valley Master Plan (CVMP) area is based on peak hour (AM and PM peak) information. The reason that CVMP roadway facilities are analyzed in the peak hour as opposed to the daily analysis used for the rest of the County is because the CVMP policies establish LOS standards based on peak hour (CV 2.18-d), and a recent draft traffic analysis of the CVMP and the Carmel Valley Transportation Improvement Program was available (CVMP Traffic Study, July 2007). Integration of this analysis into the 2007 General Plan EIR allows for consistency between documents.

The CVMP analysis of roadway segments is based on industry standard methods for peak hour analysis (2000 Highway Capacity Manual, Transportation Research Board). Two performance measures are used in the CVMP analysis; two-lane roadways are analyzed based on the percentage of time vehicles must travel in groups behind slower vehicles due to inability to pass, while four-lane roadways are analyzed based on the density of vehicles, or how closely vehicles travel together making it difficult to change lanes or pass. These performance measures reflect actual roadway operations and require detailed information about roadway configurations and peak hour travel characteristics.

In comparison, the performance measure used for the rest of the County is the ratio of daily traffic volume to daily roadway capacity, a theoretical planning

measure that estimates whether a roadway will experience peak hour congestion by comparing demand to the number of lanes available.

Table 4.6-5 presents existing roadway levels of service and identifies segments that are currently operating at LOS D or worse within the Carmel Valley Area Plan areas and are therefore deficient.

Table 4.6-5. Carmel Valley Roadway Level of Service (Year 2008)

		Level of Service	
Roadway	Direction	AM Peak	PM Peak
Highway (SR) 1			
Between Ocean Ave & Carpenter St	NB	C	C
	SB	C	C
Carmel Valley Road			
East of Holman	BOTH	A	A
Holman Road to Esquiline Road	BOTH	A	A
Esquiline Road to Ford Road	BOTH	C	B
Ford Road to Laureles Grade	BOTH	C	C
Laureles Grade to Robinson Canyon Road	BOTH	D	C
Robinson Canyon Road to Schulte Road	BOTH	D	D
Schulte Road to Rancho San Carlos Road	BOTH	D	D
Rancho San Carlos Road to Rio Road	EB	A	A
	WB	A	A
Rio Road to Carmel Rancho Boulevard	EB	A	B
	WB	B	B
Carmel Rancho Boulevard to Highway 1	EB	B	A
	WB	A	B

Source: Kimley-Horn & Associates, Inc. 2008 and DKS Associates, 2007

In addition to Monterey County roadways described above, the analysis includes regional roadways external to the County that might be impacted by growth allowed under the General Plan in Santa Cruz, San Benito, and San Luis Obispo Counties. Table 4.6-6 present the existing levels of service for regional roadways external to the county. These external regional roadways were selected because they either represent the extents of the AMBAG model network for which future traffic volumes can be projected.

4.6.2.8 Public Transit Services

The Monterey Salinas Transit (MST) system is an inter-city and intra-city bus service. MST serves a 275 square-mile area of Northern Monterey County and Southern Santa Cruz County providing intercity bus service between Monterey and Salinas, Marina and Watsonville, Salinas and Watsonville, and south from Salinas as far as King City. Inter-city service is provided in Gonzales, Marina, Monterey, Pacific Grove, Salinas, and Seaside. MST offers 37 routes that serve an estimated 352,000 people residing within three-quarters of a mile from established routes. These MST lines connect with Santa Cruz Metropolitan Transit District routes originating at the Watsonville Transit Center.

MST's rural service is provided to Carmel Valley and seasonally to Big Sur. The Waterfront Area Visitor Express (WAVE) offers locals and tourists service to popular tourist destinations within the City of Monterey.

MST RIDES, Monterey County's paratransit program, provides transportation service for individuals who have a disability that prevents them from using MST's regular fixed route transit services. The MST RIDES program also provides the RIDES Special Transportation (RIDES ST) service for persons living outside of the ADA-required service corridor (up to ¾-mile from any MST fixed route bus line).

MST RIDES serves 14 municipalities in two counties and 10 additional communities in the unincorporated areas of Monterey County. Service coverage spans the Monterey Peninsula, Carmel, Carmel Valley, Salinas, Chualar, Gonzales, Greenfield, Soledad, King City, and the Watsonville Transit Center. As of February 2006, there are 2,145 people certified as ADA Paratransit eligible within the service area. About half of that population resides either in Salinas or Monterey, approximately 38 percent in Salinas, and 13 percent in Monterey.

Table 4.6-6. Regional Roadway Level of Service External to Monterey County (Year 2008)

		Existing Conditions	
Roadway Segment		V/C Ratio	Level of Service
Santa Clara County			
US Highway 101	Cochrane Rd to E Dunne Ave	1.139	F
US Highway 101	Masten Ave to Leavesley Rd/SR-152 West	0.989	E
US Highway 101	Monterey Rd to SR-25	1.071	F
SR-152	SR-156 to Merced County	0.630	C

Roadway Segment		Existing Conditions	
		V/C Ratio	Level of Service
SR-1	Soquel Ave to 41st St	1.368	F
SR-1	Airport Blvd to SR-152	0.876	D
SR-1	Harkings Slough Rd to SR-129	0.608	C
SR-1	SR-129 to Monterey County	0.492	B
SR-17	Santa Clara County to Granite Creek Rd	0.958	E
SR-129 (Riverside Rd)	Lakeview Rd to Carlton Rd	0.847	D
San Benito County			
US Highway 101	Santa Clara County to SR-129	0.912	E
SR-25 (Bolsa Rd)	Santa Clara County to SR-156	1.196	F
SR-156	Salinas Rd to Union Rd	1.706	F
San Luis Obispo County			
US Highway 101	Monterey County to San Miguel Ave	0.300	A

Source: Kimley-Horn and Associates, Inc.

The MST RIDES ST service area includes the unincorporated areas of Prunedale, Castroville, and Aromas for North Monterey County as well as the area along River Road from State Highway 68 to, and including, Las Palmas Ranch II. The MST RIDES ST service area extends one mile on either side of Highway 101 from Salinas to Bradley including the unincorporated communities of San Lucas and San Ardo for South Monterey County. MST RIDES ST services are provided when MST RIDES and MST's regular bus services are in operation. Table 4.6-7 lists each MST bus route. Exhibit 4.6.3 shows MST bus routes in Monterey County.

Table 4.6-7. Monterey Salinas Transit Bus Routes

Route No.	Route Area	Route No.	Route Area
1	Pacific Grove	29	Watsonville-Salinas
1x	Asilomar-Lovers Point Express	36	Laguna Seca-Carmel
2	Monterey-Pacific Grove	37	Laguna Seca-Seaside
2x	Pebble Beach Express	38	Laguna Seca-Monterey
4	Carmel-Carmel Rancho	39	Laguna Seca-Salinas
5	Monterey-Carmel	41	East Alisal-Northridge
6	Edgewater-Ryan Ranch	42	East Alisal-Westridge
7	Monterey-Carmel	43	Memorial Hospital
9	Fremont-Hilby	44	Northridge
10	Fremont-Ord Grove	45	East Market-Creekbridge
11	Edgewater-Carmel Express	46	Natividad
16	Monterey-Marina	48	Salinas-Airport Business Center
20	Monterey-Salinas	49	Northridge
21	Monterey-Salinas	55	Monterey-San Jose Express
22	Big Sur	56	Monterey-Memorial Hospital
23	Salinas-King City	No-route number - service available on demand	Monterey-Peninsula DART
23x	Salinas-King City Express		MST On Call Marina
24	Carmel Valley Grapevine Express		MST Trolley-Monterey
27	Watsonville-Marina		MST RIDES
28	Watsonville-Salinas		

Source: Monterey Salinas Transit. 2008.

4.6.2.9 Transportation

Civilian Aviation Facilities

Monterey County is served by four public airports, Monterey Peninsula Airport, Salinas Municipal Airport, Marina Municipal Airport, and Mesa Del Rey Airport (King City). The Monterey Peninsula Airport is owned and operated by the Monterey Peninsula Airport District. The Salinas Municipal, Marina Municipal (formerly Fritzsche Army Airfield), and Mesa Del Rey (King City) Airports are owned and operated by their respective cities. Additional information on the four public airports is included in Table 4.6-8. Monterey County also contains over thirty private airstrips and agricultural landing fields.

Table 4.6-8. Monterey County Airports

Airport	Runways	General Aviation Aircraft Based at the Airport	Average Aircraft Operations
Monterey Peninsula Airport	2	165	250 per day with 60 scheduled commercial passenger flights
Salinas Municipal Airport	3	229	213 per day
Marina Municipal Airport	1	69	110 per day
Mesa Del Rey Airport	1	31	67 per week

Source: http://www.airnav.com/ 2008.

The Monterey Peninsula Airport District includes portions of Monterey, Pacific Grove, Del Monte Forest, Pebble Beach, Carmel-by-the-Sea, greater Carmel, Del Rey Oaks, Seaside, Sand City, the Monterey-Salinas Highway to Laureles Grade, and the west end of Carmel Valley. The Airport District is not incorporated into the City or the County, nor is it a public utility. According to the Monterey Peninsula Airport District, passenger and airport operations have been declining since it peak in 1978 (from 640,000 passengers annually to 340,000 in 2004).

A small airstrip had been located in the Carmel Valley Village area under the 1982 General Plan. This airstrip is no longer in operation and the property is under private ownership. A prior action by the Monterey County Board of Supervisors changed the land use designation so that this property is now consistent with the surrounding neighborhood. As such, the former airstrip property is designated for low-density residential uses under the 2007 General Plan.

Military Aviation Facilities

Military aviation facilities are located within the boundaries of Fort Hunter Liggett and Camp Roberts to the south.

The Schoonver Tactical Air Strip at Fort Hunter Liggett is a 5,000-foot compacted dirt and rock surface runway capable of supporting C-130 Hercules and C-12 Huron operations. In addition, Fort Hunter Liggett also contains the Doolittle Aircraft Training Area, which is used for Close Air Support training by Navy aircraft from Naval Air Station Lemoore in Kings County.

McMillan Airfield at Camp Roberts is a 3,500-foot long runway with a paved surface capable of supporting C-130 operations. McMillan Airfield is currently used for Unmanned Aerial Vehicle operations and testing.

4.6.2.10 Rail Transportation

Rail transportation historically played a key role in developing and supporting the land uses and major industries in Monterey County. Several of the cities and communities of the Salinas Valley (e.g., King City, Gonzales, Chualar, Soledad, San Ardo, San Lucas, and Bradley) owe their existence and early vitality to the development and economic benefits associated with the construction of the Southern Pacific Railroad through the County in the late 1800s. The agricultural industry of the valley flourished in partnership with the transport of produce by rail to the national market. The tourism industry, which has been the basis of Monterey Peninsula's economy for more than a century, was spurred originally by construction of Southern Pacific's new line in 1879 from Castroville to Monterey, with a special stop at Southern Pacific's own Del Monte Hotel.

Since the 1950s, the primary mode of travel for county residents and visitors alike has been the single-passenger automobile. The heavy flow of agricultural freight that once traveled by railway is now transported by trucks using local streets and the county's arterial roads and highways. The San Francisco to Monterey passenger rail service (the "Del Monte" trains) was discontinued in 1971 following a long period of declining ridership and downgrades in service.

Currently, the Union Pacific Railroad (which acquired the Southern Pacific in 1996) owns and operates most of the rail trackage in Monterey County. The Coast Line enters Monterey County in Aromas, heads west down the Pajaro Valley to Watsonville Junction (Pajaro), turns south, enters the Salinas Valley, and extends down the length of the Valley to the San Luis Obispo County line. Most of the Coast Line is single-tracked.

The Monterey Branch line from Castroville to Monterey passes through the Cities of Marina and Seaside and through Fort Ord and terminates at Cannery Row in Monterey. This 12.9-mile, single-track branch line is inactive and is owned by the TAMC. In several places in Seaside and Monterey, the tracks have been paved over to accommodate the Monterey Bay Coastal Trail, which runs between Marina and Pebble Beach.

Rail service today is limited to four (4) to six (6) freight trains per day running between Los Angeles and the San Francisco Bay Area. Amtrak's Coast Starlight, a passenger line, stops at Salinas once daily, in each direction, on its run between Seattle and Los Angeles. The nearest commuter rail stop to Monterey County is the Caltrain depot in Gilroy in Santa Clara County. Caltrain operates commuter rail service between Gilroy and San Francisco five (5) days a week during the morning and evening commute hours. Caltrain provides frequent daily service between San Jose and San Francisco.

Future Passenger Rail Service Plans

TAMC is planning to extend Caltrain service from Gilroy to Monterey County, including stops in Pajaro, Castroville, and Salinas. Information available on the TAMC website indicates that initial plans for service include up to four (4) weekday roundtrips between Salinas and San Francisco, with new intermediate stops at Pajaro and Castroville. The estimated cost of the extension of service is $101 million, with service beginning as early as 2011. The route is expected to generate an annual ridership of 530,000. The project is currently in the design and engineering stage.

To accommodate commuter rail service, track improvements would be made to the Coast Line between Gilroy and Salinas; stations would be built at Pajaro and Castroville; the existing train station in Salinas (also referred to as the "Intermodal Transportation Center") would be expanded; and a new layover facility would be constructed in Salinas. Under the preferred alternative, the Pajaro station would be located adjacent to Salinas Road and the Castroville station would be located north of Highway 156. Note that the County of Monterey adopted a Community Plan for Castroville in 2007 that envisions residential and commercial development on 145 acres around the proposed train station and includes elements designed to encourage rail ridership.

The Santa Cruz County Regional Transportation Commission is in the process of negotiating the acquisition of the Santa Cruz Branch line from Union Pacific Railroad, extending from Pajaro/Watsonville to Davenport (Santa Cruz County). The rail line may be used for passenger rail service. Future passenger rail service between Santa Cruz County and the San Francisco Bay Area may result in additional passenger rail service in Monterey County.

TAMC is also studying restoring service to the Monterey Branch line between Castroville and Monterey. These studies of Monterey Peninsula Fixed Guideway Service include sponsoring alternatives analysis, environmental studies, and right-of-way investigations. The route would connect the planned Caltrain service in Castroville to the Peninsula, with stations in Monterey, Seaside, Sand City, Marina/CSUMB, and Castroville. Options under consideration include bus rapid transit (BRT), light rail and express bus service. The project is currently under environmental review, with service anticipated to being in 2014.

Exhibit 4.6.4 depicts the various passenger rail service options in Monterey and surrounding counties being explored by various transportation agencies at the present time.

4.6.2.11 Water Transportation

There are two harbors in Monterey County; Monterey Harbor, and Moss Landing Harbor. Both harbors are classified as small craft harbors, serving commercial fishing vessels and pleasure craft. There are nearly 500 berths, 150 privately owned mooring buoys, and 39 seasonal, rental moorings in the Monterey Harbor.

Nearly 25 percent of the vessels in the Monterey Harbor have commercial uses. Moss Landing Harbor provides 620 berths. The demand for berths exceeds the supply, and waiting periods for berths vary based on the size of the vessel. The estimated waiting periods for small vessels range from three (3) to five (5) years; mid-size vessels, eight (8) to ten (10) years; and up to 15 years for large vessels.

4.6.2.12 Bicycle Transportation

There are approximately 240 miles of bikeways on state, county, and local roads within Monterey County. Caltrans maintains a majority of the bikeways, including the Pacific Coast Route, which is a 120-mile Class III bicycle route that follows the coastline. The remaining bicycle facilities are maintained by the Cities and County and are shown in **Table 4.6-9** by classification and distance.

Table 4.6-9. Bicycle Facilities in Monterey County

Facility Type	Miles of Facility	Description
Class I	27.6	Dedicated bicycle/pedestrian path
Class II	57.4	Striped bicycle lane
Class III	41.0	Signed bike route without lanes
Total	**126.0**	

Source: TAMC 2005 General Bikeways Plan.

Notes: Includes bike facilities in cities and unincorporated county areas.

The largest concentration of bicycle trips is in the northwestern region of the County, which has the highest population density. TAMC estimated 1,436 daily commuter bicycle trips were made by Monterey County residents in 2005. Exhibit 4.6.5 depicts the 2008 Transportation Agency for Monterey County Bicycle Map.

4.6.2.13 Regulatory Framework

California Department of Transportation (Caltrans)

Caltrans builds, operates, and maintains the State Highway system, including the Interstate Highway system. Caltrans' mission is to improve mobility statewide. The department operates under strategic goals to provide a safe transportation system, optimize throughput and ensure reliable travel times, improve the delivery of state highway projects, provide transportation choices, and improve and enhance the states investments and resources. Caltrans controls the planning of the state highway system and accessibility to the system. Caltrans establishes LOS goals for highways and works with local and regional agencies to assess impacts and develop funding sources for improvements to the State Highway system. Caltrans requires encroachment permits from agencies or new development before any construction work may be undertaken within the state's right-of-way. For projects that would impact traffic flow and levels of services on state highways, Caltrans would recommend measures to mitigate the traffic impacts.

Monterey County Public Works Department

The Monterey County Public Works Department is responsible for capital facility planning and maintaining roads, bridges and related facilities, as well as storm drains within the public right of way, sanitation district collection, treatment, and disposal facilities, County Service Area urban services, and County landfills, within the unincorporated area of the County. The department works with the County Planning Department to review land development applications for compliance with Local and State regulations (private roads, driveways and County maintained roads). The department administers encroachment permits for work performed within County rights of way, such as underground utility work, and driveways and road approaches; permits street closures; and issues transportation permits for County roads.

Transportation Agency for Monterey County (TAMC)

TAMC is an independent agency of local officials who oversee planning and funding of regional transportation improvements throughout Monterey County. The agency is directed by elected officials from each of the 12 incorporated cities in Monterey County and the County Supervisors. TAMC prepares the Regional Transportation Plan (RTP) and oversees the implementation of its recommended improvements. The RTP plans and programs local, state, and federal transportation funds for the development of transportation projects in Monterey County over a twenty-five year period conforming to State and Federal requirements. The RTP identifies existing and future transportation related needs, includes all modes of travel, and identifies realistic transportation improvements that would be implemented with anticipated available funding.

Association of Monterey Bay Area Governments

AMBAG was established to conduct planning and study of regional land use, transportation, and economic issues of concern to the Counties and Cities in Monterey, San Benito, and Santa Cruz Counties. Although AMBAG is not a regulatory agency, it prepares studies, plans, policy and action recommendations that may be incorporated into regulatory documents. AMBAG is represented by locally elected officials appointed by their respective City Council or Board of Supervisors. In addition to its transportation planning and study functions, and policy recommendations, AMBAG develops and maintains a regional travel demand forecasting model used for the planning of regional transportation facilities and the assessment of development proposals.

Local Agencies

The incorporated Cities of Salinas, Monterey, Carmel, Del Rey Oaks, Gonzales, Greenfield, King City, Marina, Pacific Grove, Sand City, Seaside, and Soledad have each adopted their own General Plans, polices and/or capital improvement programs which regulate development and transportation improvements within their jurisdiction. However, transportation network and circulation related impacts produced by land use decisions transcend City-County boundaries, requiring coordination between Monterey County and local agencies departments related to land use planning and transportation improvements.

4.6.3 Project Impacts

This section describes the CEQA impact analysis relating to transportation for the Project and its alternatives. It describes the methods used to determine the Project's impacts and lists the thresholds used to conclude whether an impact would be significant or not. Measures to mitigate significant impacts accompany each impact discussion.

4.6.3.1 Methodology

Roadway level of service impacts of the 2007 General Plan on Monterey County, and regional roadways are evaluated for the following five analysis scenarios:

- Existing Conditions (Year 2008)
- Existing plus Project (Development to the year 2030)
- 2030 Cumulative Conditions (Cumulative and project development to the year 2030)
- Existing plus Project (Buildout of the General Plan in 2092)

- Buildout Cumulative Conditions (Cumulative and project development to the year 2092)

Each of the scenarios incorporates different land use and roadway network assumptions for Monterey County. These assumptions are described in the next section. For each scenario, projected daily roadway segment traffic volumes are used to calculate the roadway's level of service which are compared to the County's roadway level of service standard. The results are used to identify roadway segments that fail to meet County standards and significant impacts.

Roadway segment level of service is based on the performance measure of the ratio daily traffic volume to daily roadway capacity (V/C Ratio), a theoretical planning measure that estimates whether a roadway will experience peak hour congestion by comparing traffic demand to the number of lanes available. A ratio greater than 1.0 indicates that traffic demand would exceed theoretical capacity and traffic would become gridlocked. In actuality, roadways can accommodate more traffic than the theoretical daily capacity, but the V/C Ratio planning measure is a good indicator of expected peak hour traffic congestion.

This performance measure is a coarse planning tool, but one that is appropriate for a generalized long-range programmatic assessment such as this General Plan. This generalized planning tool is based on the 2000 Highway Capacity Manual and uses general default values. It is intended for broad applications such as statewide or countywide analyses, potential problem identification, and future year analyses. This level of analysis is typically conducted using daily traffic projections and tends to over-estimate traffic impacts.

At the project-specific or small planning area level of assessment, traffic analyses should conducted at the peak hour level, with more detailed and specific operational input to roadway and intersection characteristics (i.e., number of turning lanes, signal timing, etc.).

While the County's level of service (LOS) standard (LOS D) is applied to both peak hour and daily traffic conditions, daily traffic projections are used in the analysis of the 2007 General Plan because the regional transportation planning tool (the AMBAG Travel Demand Forecasting Model) was developed and validated for daily traffic conditions.

4.6.3.2 Analysis Scenarios

Table 4.6-10 summarizes the land use and transportation network assumptions used in each analysis scenario. Additional information describing the assumptions for each scenario and the methodology for developing projections are provided below. Table 4.6-11 compares the population, employment and housing unit projections analyzed in each of the scenarios. Population and

employment forecasts are divided into incorporated and unincorporated portions of the County[1].

Table 4.6-10. Summary of Land Use and Transportation Network Assumptions

Scenario	Unincorporated Land Use	Incorporated Land Use	Transportation Network
Existing (2008)	Existing Roadway Traffic Volumes		
Existing plus Project Buildout	Buildout of 2007 General Plan	2000 AMBAG Data (2004 version)	AMBAG 2000 Base Network Modified to 2008 [1]
Existing plus Project (2030)	Prorated Buildout of 2007 General Plan to 2030	2000 AMBAG Data (2004 version)	AMBAG 2000 Base Network Modified to 2008 [1]
Cumulative 2030	Prorated Buildout of 2007 General Plan to 2030	2030 AMBAG Projections (2004 version)	2008 Modified Network with proposed TAMC and County Projects
Cumulative Buildout	Buildout of 2007 General Plan	Projected Buildout based on 2030 AMBAG Model	2008 Modified Network with proposed TAMC and County Projects
Cumulative 2030 Prior Land Use (No Project)	2030 AMBAG Projections (2004 version)	2030 AMBAG Projections (2004 version)	2008 Modified Network with proposed TAMC and County Projects

[1] The AMBAG 2000 network represents the year 2000 baseline network for which the model was validated. To reflect 2008 conditions, the 2000 network was modified to reflect completed projects on County roads.

[1] To provide for an equivalent comparison, portions of the County that are currently unincorporated but are forecast to be annexed to cities prior to 2030 are included in the incorporated category for all scenarios.

Table 4.6-11. Population, Housing Unit and Employment Projections by Scenario

	Year 2000	Existing plus Project Buildout	Existing plus Project (2030)	Cumulative 2030	Cumulative Buildout
Countywide					
Housing Units	129,571	168,904	143,009	187,022	290,631
Population	401,499	509,692	437,665	602,790	937,373
Employment	222,471	304,388	253,060	335,362	520,531
Unincorporated					
Housing Units	35,252	74,585	48,690	48,690	74,585
Population	95,047	203,240	131,213	135,431	207,458
Employment	65,242	147,159	95,831	97,109	148,431
Incorporated					
Housing Units	94,319	94,319	94,319	138,332	216,046
Population	306,452	306,452	306,452	467,359	729,915
Employment	157,229	157,229	157,229	238,253	372,100

Notes: Year 2008 population, employment and housing unit data not available, Year 2000 data is shown for comparison.
Existing plus Project 2030 and Cumulative 2030 land uses were adjusted to match the published AMBAG 2004 Population, Employment and Housing Unit forecasts.

Existing Conditions

Existing conditions represents approximate 2008 roadway conditions. Traffic volumes were obtained from various sources, including Caltrans, the County and for those regional roadways within incorporated areas, local agencies. Volumes from 2002 and 2006 were obtained where available and adjusted, based on annual growth rates, to represent 2008 conditions.

Roadway classification was based on aerial photographs, the Transportation Research Board's 2000 Highway Capacity Manual (HCM) classification criteria, and field observations.

Existing plus Project (Development to the year 2030)

Existing plus Project Conditions represents development forecasted to occur in unincorporated areas of the County by the year 2030. It is a prorated portion of the forecast buildout of unincorporated areas (described below). The amount of total development in unincorporated areas assumed under this scenario matches the amount of development in unincorporated areas projected by the AMBAG 2004 forecast to the year 2030. Employment data for unincorporated portions of the County was obtained from the year 2030 AMBAG forecasts. Unincorporated

County population and employment forecasts in 2030 are from the currently approved AMBAG Travel Demand Forecasting Model (AMBAG Model)[2].

The AMBAG development projections prepared in 2004 (the currently adopted regional forecast) are conservative since AMBAG has recently developed, but not yet adopted, new growth projections (2008) that are significantly lower than their 2004 projections. However, since the new projections have not yet been adopted and the approved AMBAG model remains based on 2004 projections, the 2007 General Plan in 2030 remains consistent with AMBAG adopted population and employment forecasts.

No change to the base model land use was made within incorporated areas. The coastal areas (including Big Sur and the Del Monte Forest) do not include any growth as new development is not expected to occur in these areas.

This scenario utilizes the modified AMBAG base year roadway network reflecting 2008 conditions. No major improvement projects that would affect regional roadways have been constructed following the last revision to the model network. To develop 2030 traffic projections the percent annual growth on each roadway segment between the base model (year 2000) and the Existing plus Project (year 2030) scenario was applied to 2008 traffic volumes over 22 years reflecting growth from 2008 to 2030.

2030 Cumulative Conditions with Project (Cumulative and Project Development to the Year 2030)

2030 Cumulative Conditions represent forecast year 2030 conditions with implementation of the 2007 General Plan. Development in unincorporated portions of the County was determined by the methodology described in the Existing plus Project (Development to the year 2030) scenario described above. Development in incorporated portions of the County, and in adjacent counties including Santa Cruz, San Benito and parts of Santa Clara, was obtained directly from the Year 2030 AMBAG 2004 forecasts. The cumulative roadway level of service analysis includes key roadways external to Monterey County.

The roadway network in this scenario represents a conservative estimation of capital projects that would be constructed by the year 2030. These include the projects adopted in the Transportation Agency of Monterey County (TAMC) regional fee program, and the capacity enhancements proposed by the County to be included in the development of a Countywide traffic impact fee program, as specified in 2007 General Plan Policy C-1.8.

Table 4.6-12 describes the sixteen TAMC fee program projects. In addition to the regional roadways, the TAMC projects include capacity-enhancing projects on County roadways. Table 4.6-13 describes the capacity enhancing projects

[2] AMBAG Model developed using 2004 population and employment growth projections.

identified by the County in the development of a Countywide Traffic Impact Fee Program.

Table 4.6-12. TAMC Regional traffic Impact Fee Program Projects

SR 1 - Sand City / Seaside Widening	Highway 1 (Seaside – Sand City)	Widen Highway 1 to six lanes from Fremont Ave to at least Canyon Del Rey and make interchange and related local road improvements in the vicinity of Canyon Del Rey and Fremont Avenues.
SR 68 - CHOMP Widening	Between Highway 1 and Community Hospital of Monterey Peninsula	Widen Holman Highway 68 from CHOMP to Hwy 1 to 4 lanes and make operational improvements at the Hwy 68 – Hwy 1 interchange.
SR 156 Widening	North Monterey County from Castroville Blvd to the 156/101 Interchange	Widen existing highway to 4 lanes and upgrade highway to Freeway status with appropriate interchanges. Interchange modification at US 156 and 101.
Marina - Salinas Corridor	Between Marina and Salinas	Widen Davis Road to 4 lanes from W Blanco Rd to Reservation Road, Widen Reservation Road to 4 lanes from Davis Road to existing 4 lane section adjacent to East Garrison, Widen Imjin Parkway to 4 lanes from Reservation Road to Imjin Road, reconstruct 12th street (Imjin Parkway) interchange.
Del Monte - Lighthouse Corridor Improvements	City of Monterey	Add eastbound lane from El Estero to Sloat Ave. Intersection improvements to Sloat Ave and Aguajito Ave including addition of left turn lanes and signal operations improvements. Widen Lighthouse Ave to 3 lanes (2 lanes for traffic, 1 lane for transit) and convert to one-way heading east. Widen Foam St to 3 lanes from the Lighthouse split to Drake Ave. Widen Hoffman to 2 lanes between Foam and Lighthouse and make one-way from Foam towards Lighthouse. At David Ave/Lighthouse interchange, add double left-turn onto Lighthouse. Add curved return lane on west-side of Lighthouse/Foam split to allow traffic to flow back onto Foam.
US 101 - San Juan Road Interchange	Counties of Monterey and San Benito	Remove three at-grade intersections (Dunbarton Road, San Juan Road and Cole Road) and construct one interchange near the Red Barn.
US 101 - South County	US 101 north of Soledad	Construct 2-lane frontage roads on west-side of US-101 from Harris Rd/Abbott St interchange to Chualar. Remove existing segment of Abbott St from US-101 to Harris Rd. Additional 2-lane frontage rd on east side of US-101 from Chualar to Harris Rd. Construct an interchange at Chualar.

Westside Bypass	City of Salinas	Construct 4-lane westside bypass around Salinas from Boranda to Davis Rd, including 4-lane Rossi St connector. Includes widening of Davis to 4 lanes from bypass connection to W Blanco Rd.
SR 68 Commuter Improvements	Rte 68 between Monterey and Salinas	Widen SR 68 from existing 4 lane section adjacent to Toro park west to Corral De Tierra.
Harris Road / Eastside Connector	City of Salinas	Construct 4-lane arterial from US 101 to Williams Road and an interchange at Harris Rd / US 101.
G-12 South	Unincorporated Monterey County	Widen San Miguel Cyn Rd to four lanes from just south of Moro Rd through Castroville Blvd. Add climbing lane on southbound San Miguel Cyn Rd just north of Strawberry Rd. Add two-way left-turn lane on San Miguel Cyn Rd between Castroville Blvd and Echo Valley Rd. Add a traffic signal at Echo Valley Rd.
G-12 North	Unincorporated Monterey County	Add a two-way left-turn lane on Hall Rd between San Miguel Cyn Rd and Elkhorn Rd. Widen Elkhorn Rd to four lanes from Hall Rd to Werner Rd.
Gloria Rd / US 101 Interchange	Gonzales	Re-align and reconstruct the Gloria Road / US 101 interchange. A Project Study Report is currently underway.
US-101/South Soledad Interchange & US-101/North Soledad Interchange	South Soledad/North Soledad	Modify South Soledad interchange and construct related ramp improvements to accommodate future widening of US-101 to six lanes as well as the planned SR-146 Bypass from Front Street to Metz Road. Modify North Soledad interchange and construct related ramp improvements to accommodate future widening of US-101.
Walnut Ave / US 101 Interchange	Greenfield	Relocate and replace the existing Walnut Avenue / US 101 interchange. Cost estimate assumes selection of Alternative 3 from the Project Study Report currently being prepared.
First Street / US 101 Interchange	King City	Extension and grade separation over railroad tracks of San Antonio Drive (King City loop road) from Lonoak Road to interchange of First Street and US 101.

Source: Regional Impact Fee Nexus Study Report, Kimley-Horn and Associates, Inc.

Table 4.6-13. Countywide Capacity Enhancements Proposed in Countywide Traffic Impact Fee Program

San Juan Road Improvements	North County	Construct traffic signals at the Aromas Road and Carpenteria Road intersections. Widen to four lanes from Pajaro to US-101.
G-12 Improvements	North County LCP	Widen to four lanes on San Miguel Canyon Road between Castroville Boulevard and Hall Road. Perform intersection improvements on Hall Road at Sill Road and Willow Road. Widen to four lanes on Salinas Road between Railroad Avenue and Porter Drive.
G-17 Widening (Reservation Road)	Toro/Greater Salinas	Widen to four lanes on Reservation Road from Davis Road to SR-68. Construct traffic signal at Davis Road.
G-17 Widening (River Road)	Toro	Widen to four lanes from Las Palmas Road to Las Palmas Parkway.
Salinas Road Improvements	North County/North County LCP	Widen to four lanes between future SR-1 and Salinas Road interchange and existing four-lane section. Install traffic signal and construct intersection improvements at Werner Road intersection. Construct signals on Elkhorn Road at Salinas Road and Werner Road intersections. Alternatively, re-align Salinas Road and Werner Road to intersect Elkhorn Road at a single location with a traffic signal.
Castroville Improvements	North County	Extend Castroville Boulevard to Blackie Road. Construct Artichoke Avenue Phases I, II and III from SR-1 to Poole Street. Implement Merritt Street corridor improvements.
San Juan Grade Road Improvements	Greater Salinas	Widen to four lanes from Salinas City Line to Crazy Horse Canyon Road. Install traffic signals at Rogge Road, Hebert Road and Crazy Horse Canyon Road.
Crazy Horse Canyon Road Improvements	North County	Add turn lanes or passing lanes from San Juan Grade Road to US-101.
Hebert Road/Old Stage Road Widening	Greater Salinas	Widen Hebert Road to four lanes from San Juan Grade Road to Old Stage Road and widen Old Stage Road to four lanes from Hebert Road to Natividad Road. Install traffic signal at Natividad Road. Add turn lanes on Old Stage Road from Natividad Road to Williams Road.
Espinosa Road Widening	Greater Salinas	Add turn lanes or passing lanes on Espinosa Road between SR-183 and US-101.

Source: Kimley-Horn and Associates, Inc.

Existing plus Project Buildout of the General Plan

Existing plus Project Conditions Buildout of the General Plan represents existing conditions plus full buildout of unincorporated County land allowed under the 2007 General Plan. The number of potential housing units that can be developed in unincorporated Monterey County was determined from the number of vacant residential lots and the assigned zoning within each planning or community area; calculated to be 35,918 new housing units beyond 2006.

Buildout of housing units was converted to an annual rate of development, calculated to be 417 housing units. Dividing the total amount of buildout development by the annual rate of development yielded the number of years to reach buildout, calculated to be 86 years beyond 2006, or the year 2092.

Employment projections are based on the rate of growth in housing units and population by maintaining the employee per housing unit ratio contained in the 2004 AMBAG land use forecasts. In this scenario, no changes were made to the land uses within incorporated areas.

The coastal areas (including Big Sur and the Del Monte Forest) do not include any growth as new development is not expected to occur in these areas.

This scenario uses the modified AMBAG base year roadway network reflecting 2008 conditions. No major improvement projects that would affect regional roadways have been constructed following the last revision to the model network. To develop buildout (year 2092) traffic projections the percent annual growth on each roadway segment between the base model (year 2000) and the Existing plus Project (buildout to the year 2092) scenario was applied over 84 years (2008 to 2092) to existing 2008 traffic volumes.

The traffic projections show traffic volumes on segments of U.S. 101 and SR-1 decreasing between base year and existing plus project conditions. This is due to changes in travel patterns because of upstream or downstream congestion (traffic finding alternative routes) and/or changes in proximity between jobs and housing changing overall commute patterns. As a conservative approach so that the projections do not result in negative growth, the traffic projections were adjusted to maintain a minimum of a 0.1% annual increase for all state highways. This methodology was utilized for all model scenarios.

Buildout Cumulative plus Project (Cumulative and Project Development to the Year 2092)

The Buildout Cumulative plus Project scenario forecasts year 2092 conditions. Development in unincorporated portions of the County was determined by the methodology described in the Existing plus Project (Buildout of the General

Plan) scenario described above. Development in the incorporated portion of the County was projected at three times the rate of development in the unincorporated portion of the County. This 3:1 ratio for development in the incorporated part of the County versus the unincorporated part of the County is based on projected housing unit development out to 2030 in the adopted 2004 and proposed 2008 AMBAG Population, Employment and Housing Unit forecasts. The AMBAG forecasts indicate that the incorporated areas grow at a rate three times that of unincorporated areas.

Employment in the incorporated portions of the County was increased at the same rate as the growth of housing units, based on a methodology to maintain a constant employee per housing unit ratio.

The network used for this scenario is the improved network, which includes the above-mentioned TAMC fee program and projected County improvement projects. No capital roadway projects were assumed beyond those identified for the year 2030 as described above.

To develop buildout (year 2092) traffic projections the percent annual growth on each roadway segment between the base model (year 2000) and the Existing plus Project (buildout to the year 2092) scenario was applied over 84 years (2008 to 2092) to existing 2008 traffic volumes.

4.6.3.3 Study Area

The roadways selected for inclusion in this analysis include all state highways within the County, Major County roads, regional arterials, and local roads with a current volume of at least 3,000 daily trips. This includes 281 segments on 100 different highways and roadways within Monterey County. The roadways included in the study area are shown on Exhibit 4.6.6.

In addition to Monterey County roadways, the analysis includes regional roadways external to the County that might be impacted by growth allowed under the General Plan in Santa Cruz, San Benito, and San Luis Obispo Counties. Regional roadways external to the county studied include:

- Santa Clara County
  - US Highway 101 - Cochrane Rd to E Dunne Ave
  - US Highway 101 - Masten Ave to Leavesley Rd/SR-152 West
  - US Highway 101 - Monterey Rd to SR-25
  - SR-152 -SR-156 to Merced County
- Santa Cruz County
  - SR-1 - Soquel Ave to 41st St
  - SR-1 - Airport Blvd to SR-152

- SR-1 - Harkins Slough Rd to SR-129
- SR-1 - SR-129 to Monterey County
- SR-17 - Santa Clara County to Granite Creek Rd
- SR-129 (Riverside Rd) - Lakeview Rd to Carlton Rd

- San Benito County
  - US Highway 101 - Santa Clara County to SR-129
  - SR-25 (Bolsa Rd) - Santa Clara County to SR-156
  - SR-156 - Salinas Rd to Union Rd
- San Luis Obispo County
  - US Highway 101 – Monterey County to San Miguel Ave

4.6.3.4 Criteria for Determining Significance

This EIR evaluates potential impacts under six thresholds of significance including roadway level of service, air traffic, roadway hazards, emergency access, parking and alternative transportation. These thresholds conform to CEQA impact assessment requirements. Each threshold of significance is described below.

- Roadway Level of Service – The General Plan does not specify the methodology or measure of performance used to determine level of service, which can vary depending on the characteristics and scale of the project. For analysis of the General Plan, the level of service (LOS) for roadway segments is based on the ratio of projected daily traffic volume to the capacity of the roadway (V/C Ratio). This measure is derived from the methodology contained in the 2000 Highway Capacity Manual. It is a planning methodology suitable for evaluating long-range impacts of large areas such as Monterey County. This measure is applied to two of the three tiers of impacts described earlier; Tier 2: county roads and Tier 3: regional roads and major roads in incorporated cities. This measure is not applied to the first tier of impacts-direct impacts-which are impacts specific to individual developments related to access and localized impacts. The LOS standard in the 2007 General Plan is LOS D and can be applied to either average daily traffic or peak hour traffic. For the analysis of the General Plan, the analysis is based on daily traffic volumes.

  The 2007 General Plan would have a significant effect on the street and highway system if the land use development allowed under the General Plan would:

  - Cause an increase in traffic, which would cause a State Highway or County roadway to fall below the County's adopted standard of LOS D, or add any traffic to a County roadway or State Highway that operates below LOS D without the project and the project worsens the LOS based

on the measure of performance. The exception to this criterion is Policy C-1.1 in the General Plan Update which allows a lower LOS standard as:

- established in the community planning process,
- facilities operating below LOS D at the time the 2007 General Plan is adopted if the project does not further degrade the measure of performance, and
- established in Area Plans.

- Air Traffic – Would the development allowed under the General Plan result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- Roadway Hazards – Would the development allowed under the General Plan substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Emergency Access – Would the development allowed under the General Plan result in inadequate emergency access;
- Alternative Transportation – Would the development allowed under the General Plan conflict with adopted policies, plans, or programs supporting alternative transportation or generate pedestrian, bicycle, or transit travel demand that would not be accommodated by current pedestrian facilities, bicycle development plans, or long-range transit plans.

4.6.3.5 Impact Analysis

This section describes the CEQA impact analysis relating to transportation impacts for the General Plan with development to 2030 and to buildout. It describes the methods used to determine the Project's impacts and identifies the thresholds used to conclude whether an impact would be significant. For each planning horizon and scenario, the roadway level of service impacts are presented in the three tiers described earlier; project-specific localized impacts, County roadways, and regional roadways (State Highways, major city streets, and regional roadways external to the County). Each scenario also presents a discussion of the impacts for the additional significance criteria. Measures to mitigate (avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Roadway Level of Service

Existing plus Project Development to the Year 2030

Project-Specific Impacts of the Project

Impact TRAN-1A: Development allowed under the 2007 General Plan would cause project-specific impacts on County roadways which would cause roadways to fall below the acceptable LOS standard D. (Less-Than-Significant Impact).

Impact of Development with Policies

Project-specific impacts of new development are localized impacts that affect the immediate surrounding transportation system, including access and circulation necessary for the development to function properly and safely. Direct impacts occur where new development needs to gain access to County roadways and/or where traffic generated by new development causes project-specific deficiencies in roadway or intersection operations in the immediate proximity of the development.

Project-specific impacts would occur with the first phases of development (the first uses to be constructed and occupied that require access to the transportation system). New development would be fully responsible for the implementation of mitigation measures or would be responsible for its fair-share of the mitigation depending on the extent of the impact and the development's contribution to the impact. Under 2007 General Plan policies new development is required to mitigate project-specific local impacts to maintain the County's LOS standard and to provide adequate access and circulation facilities. These policies restrict new development or require phasing of new development so that it is concurrent with transportation improvements.

2007 General Plan Policies

The 2007 General Plan policies summarized below set forth measures to minimize adverse impacts of project-specific localized impacts of development. These measures apply to the project-specific impacts of development, but also to measures that may improve LOS indirectly.

Circulation Element

Policy 1.3 requires developments that degrade roads beyond LOS D to establish a plan for improving those facilities. Policy 1.4 requires circulation improvements that mitigate project-specific localized development impacts to be constructed concurrently with the development or for the development to pay a fair share towards the

improvements. Policies 2.1, 2.2, and 2.7 require land uses to be located with access to transportation facilities and for those facilities to expedite access to the development. Policies C3.5, 4.3, 4.5, and 4.9 require development to design public facilities to accommodate pedestrians, bicycles, and transit thus reducing the impacts caused by automobile traffic.

Land Use Element

Policies LU 1.4 and 1.7 require development to occur only when adequate transportation facilities exist and to encourage phasing and clustering of development to provide for adequate long-range planning of infrastructure.

Area Plan Policies

The Area Plans contain a number of policies related to project-specific localized impacts. The Area Plan policies and mitigations would supplement those contained in the Area Plans, consistent with the 2007 General Plan.

North County Area Plan

The North County Area Plan Policy NC 1.1 requires new commercial development to minimize its traffic impacts through mitigation.

Greater Salinas Area Plan

The Greater Salinas Area Plan Policy GS 1.7 requires new development in the Spence/Potter/Encinal Road Area to study and mitigate its impact on highway access and road capacity.

Central Salinas Valley Area Plan

Central Salinas Valley Area Plan Policy 1.4 requires new development in the Spence/Potter/Encincal Road Area to study and mitigate its impact on highway access and road capacity.

Significance Determination

Project-specific impacts of new development are localized impacts that affect the immediate surrounding transportation system, including access and circulation necessary for the development to function properly and safely. Project-specific impacts occur where new development needs to gain access to county roadways and/or where traffic generated by new development causes project-specific deficiencies in roadway or intersection operations. Project-specific impacts would occur with the first phases of development.

New development is required to prepare a project-level traffic study, or project-level Environmental Impact Report. Impacts to roadway LOS or project access would be identified in these studies and development would be fully responsible for the implementation of mitigation measures or would be responsible for its fair-share of the mitigation depending on the extent of the impact and the development's contribution to the impact. If a roadway already falls below the County's LOS standard, then the development is required to mitigate its impact so that the measure of performance (e.g., volume to capacity ratio, peak hour average delay, etc.) of the roadway does not degrade beyond the level without the development. This is a less than significant impact.

Mitigation Measures

Impacts are less than significant, therefore no mitigation is necessary.

Significance Conclusion

Implementation of the 2007 General Plan consistent with policies related to project-specific localized impacts (Policy C-1.4, new development is required to mitigate project-specific local impacts to maintain the County's LOS standard and to provide adequate access and circulation facilities. Policy C-1.3 restricts new development or requires the phasing of new development so that it is concurrent with transportation improvements) would have a less than significant impact and no mitigation is required.

County and Regional Roadway Level of Service Impacts (Existing plus Project Development to the year 2030)

Impact TRAN-1B: Development of the land uses allowed under the 2007 General Plan would create *traffic increases on* County and Regional roadways which would cause the LOS to exceed the LOS standard, or contribute traffic to County and Regional roads that exceed the LOS standard without development. (Significant and Unavoidable Impact)

Impact of Development with Policies

The LOS on study area roadways for the Existing plus Project Development to the year 2030 is shown in Exhibit 4.6.7. A detailed analysis of roadway level of service by segment is included in the Appendix.

Table 4.6-13 shows the roadway segments operating at deficient LOS D, LOS E or LOS F under this scenario and compares the segments to their LOS under existing conditions. Some roadway segments experience an improvement in the volume to capacity ratio as a result of the 2007 General

Plan. This is due to a change in traffic patterns in the future causing the redistribution of housing and jobs.

As shown in Table 4.6-13, there are 10 segments that operate at LOS E and 25 segments that operate at LOS F in this scenario. In comparison, under existing conditions, 29 of the segments in Table 4.6-14 currently operate at LOS E or F. The development in the County up to the year 2030 causes an additional six roadway segments to exceed the county's LOS threshold. Impacts of the 2007 General Plan within the Carmel Valley Plan Area are discussed in the next section (Year 2030 Cumulative Conditions with Project).

Table 4.6-14. County Roadway Segments Operating at LOS E or F under Existing plus Project Development to the Year 2030

		Existing Conditions		Existing + Project Development to the Year 2030	
Roadway Segment		V/C Ratio	LOS	V/C Ratio	LOS
Roadway Segments Operating at LOS F					
County Road G11 (San Juan Rd)	Salinas Rd to San Miguel Canyon Rd	0.942	E	1.087	F
County Road G12 (Salinas)	Porter Dr to Railroad Ave	1.236	F	1.226	F
County Road G12 (Elkhorn Rd)	Salinas Rd to Hall Rd	1.339	F	1.185	F
County Road G12 (Hall Rd)	Elkhorn Rd to San Miguel Canyon Rd	1.879	F	1.627	F
County Road G12 (San Miguel Canyon Rd)	Strawberry Rd to Castroville Blvd	1.485	F	1.216	F
County Road G12 (San Miguel Canyon Rd)	Castroville Blvd to US-101	1.486	F	1.130	F
County Road G14 (Jolon)	US-101 to San Lucas Rd	0.582	D	1.062	F
County Road G17 (River Rd)	Las Palmas Rd to Las Palmas Pkwy	0.805	D	1.007	F
Blanco Rd	Cooper Rd to Armstrong Rd	2.146	F	2.100	F
Blanco Rd	Armstrong Rd to Davis Rd	2.292	F	2.242	F
Carpenter St	Serra Ave to SR-1	1.354	F	1.433	F
Davis Rd	Blanco Rd to Reservation Rd	0.958	E	1.021	F
Ocean Ave	Carmel City Line to SR-1	1.229	F	1.271	F
Pine Canyon Rd (King City)	Merrit St to Jolon Rd	0.583	D	1.646	F
Porter Dr	San Juan Rd to Santa Cruz County Line	1.423	F	1.471	F

Roadway Segment		Existing Conditions V/C Ratio	Existing Conditions LOS	Existing + Project Development to the Year 2030 V/C Ratio	Existing + Project Development to the Year 2030 LOS
Rio Rd	Carmel City Line to SR-1	1.161	F	1.219	F
San Juan Grade Rd	Salinas City Line to Russell Rd	1.015	F	1.164	F
San Juan Grade Rd	Russell Rd to Rogge Rd	0.747	D	1.014	F
Roadway Segments Operating at LOS E					
County Road G11 (San Juan Rd)	Aromas Rd to Carpenteria Rd	0.938	E	0.967	E
Abbott St	SH 101 to Salinas City Line	0.896	E	0.878	E
Carpenter St	Carmel City Line to Serra Ave	0.828	E	0.802	E
Espinosa Rd	SR-183 to US-101	0.896	E	0.896	E
Harris Rd	Spreckels Blvd to Abbott St	0.844	E	0.813	E
Hebert Rd	San Juan Grade Rd to Old Stage Rd	0.443	D	0.885	E
Old Stage Rd	Hebert Rd to Natividad Rd	0.488	D	0.933	E
Porter Dr	Salinas Rd to San Juan Rd	0.967	E	0.942	E
Russell Rd	SR-101 to San Juan Grade Rd	0.661	D	0.802	E

Source: Kimley-Horn and Associates, Inc.

Table 4.6-15 presents the roadway segments operating at LOS E or LOS F under Existing plus Project Development to the Year 2030 conditions and compares the segments to their LOS under existing conditions. Exhibit 4.6.7 presents the segment LOS graphically. A detailed table showing the volume, the volume to capacity ratio and the resulting LOS for each Regional roadway segment is included in the Appendix. There are six (6) regional roadway segments that operate at LOS E and 51 segments that operate at LOS F under this scenario. Under existing conditions, 55 of these Regional roadway segments operate at LOS E or F, so development in the County up to the year 2030 causes an additional two (2) roadway segments to exceed the County's LOS threshold.

Table 4.6-15. Regional Roadway Segments Operating at LOS E or F under Existing plus Project (Horizon Year 2030) Conditions

Roadway Segment		Existing Conditions		Existing + Project Development to the Year 2030	
		V/C Ratio	LOS	V/C Ratio	LOS
Roadway Segments Operating at LOS F in the Existing plus Project Development to the Year 2030 Scenario					
US Highway 101	County Border to Crazy Horse Canyon Rd	1.044	F	1.067	F
US Highway 101	Crazy Horse Canyon Rd to San Miguel Canyon Rd	0.989	E	1.011	F
US Highway 101	San Miguel Canyon Rd to SR-156	1.441	F	1.474	F
US Highway 101	SR-156 to Pesante Rd	1.106	F	1.131	F
US Highway 101	Pesante Rd to Espinosa Rd	1.106	F	1.131	F
US Highway 101	Espinosa Rd to E Boronda Rd	1.098	F	1.123	F
US Highway 101	E Boronda Rd to W Laurel Dr	1.143	F	1.169	F
US Highway 101	W Laurel Dr to N Main St	1.107	F	1.140	F
US Highway 101	N Main St to E Market St	1.172	F	1.198	F
US Highway 101	E Market St to John St	1.114	F	1.145	F
SR-1	Salinas Rd to Struve Rd	1.546	F	1.582	F
SR-1	Struve Rd to Dolan Rd	1.667	F	1.703	F
SR-1	Dolan Rd to Molera Rd	1.496	F	1.530	F
SR-1	Molera Rd to SR-183	1.426	F	1.458	F
SR-1	Fremont Blvd to Canyon del Rey Blvd	1.006	F	1.027	F
SR-1	Canyon del Rey Blvd to Del Monte Ave	1.071	F	1.094	F
SR-1	N Fremont St to Aguajito Rd	1.411	F	1.443	F
SR-68 (Holman Highway)	Forest Ave to 17 Mile Dr	1.448	F	1.552	F
SR-68 (Holman Highway)	17 Mile Dr to Skyline Forest Dr	1.638	F	1.761	F
SR-68 (Holman Highway)	Skyline Forest Dr to CHOMP Dwy	1.638	F	1.761	F
SR-68 (Holman Highway)	CHOMP Dwy to SR-1	1.638	F	1.742	F
SR-68 (Monterey Salinas Highway)	SR-1 to Olmsted Rd	1.422	F	1.464	F
SR-68 (Monterey Salinas Highway)	Olmsted Rd to Canyon del Rey Blvd	1.422	F	1.431	F

Roadway Segment		Existing Conditions		Existing + Project Development to the Year 2030	
		V/C Ratio	LOS	V/C Ratio	LOS
SR-68 (Monterey Salinas Highway)	Canyon del Rey Blvd to Bit Rd	1.304	F	1.331	F
SR-68 (Monterey Salinas Highway)	Bit Rd to Laureles Grade Rd	1.304	F	1.307	F
SR-68 (Monterey Salinas Highway)	Laureles Grade Rd to Corral de Tierra	1.525	F	1.552	F
SR-68 (Monterey Salinas Highway)	Corral de Tierra to Portola Dr	1.617	F	1.638	F
SR-156	Castroville Blvd to US-101	1.902	F	1.939	F
SR-183 (Merritt St)	SR-156 to Blackie Rd	1.184	F	1.202	F
SR-183 (Castroville Rd)	Blackie Rd to Espinosa Rd	1.074	F	1.049	F
SR-218 (Canyon del Rey Blvd)	Fremont Blvd to Carlton Dr	1.099	F	1.130	F
SR-218 (Canyon del Rey Blvd)	Carlton Dr to SR-68	1.099	F	1.164	F
Foam St	Prescott Ave to Drake Ave	1.156	F	2.258	F
Foam St	Drake Ave to Lighthouse Ave	1.277	F	2.392	F
Lighthouse Ave	Prescott Ave to Private Bolio Rd	1.637	F	1.045	F
Lighthouse Ave	Private Bolio Rd to Pacific St	1.270	F	1.188	F
Lighthouse Ave	Pacific St to Washington St	1.124	F	1.061	F
Del Monte Ave	Washington St to Camino Aguajito	1.314	F	1.304	F
Del Monte Ave	Camino Aguajito to Casa Verde Wy	1.313	F	1.288	F
Del Monte Ave	Casa Verde Wy to SR-1	1.443	F	1.421	F
Fremont St	Abrego St to Camino Aguajito	1.065	F	1.052	F
Munras Ave/Abrego St	Soledad Dr to Via Zaragoza	1.226	F	1.338	F
Del Monte Blvd	SR-1 to Canyon del Rey Blvd	1.039	F	1.016	F
Del Monte Blvd	Canyon del Rey Blvd to Broadway Ave	1.058	F	1.049	F
Del Monte Blvd	SR-1 to Reindollar Ave	1.081	F	1.029	F
Del Monte Blvd	Reindollar Ave to Reservation Rd	1.929	F	1.838	F
John St	Abbott St to US-101	1.069	F	1.065	F
Davis Rd	W Laurel Dr to SR-183	1.057	F	1.110	F
Davis Rd	SR-183 to W Blanco Rd	2.428	F	2.521	F

Roadway Segments Operating at LOS E in the Existing plus Project Development to the Year 2030 Scenario

Roadway Segment		Existing Conditions V/C Ratio	Existing Conditions LOS	Existing + Project Development to the Year 2030 V/C Ratio	Existing + Project Development to the Year 2030 LOS
US Highway 101	John St to S Sanborn Rd	0.897	D	0.918	E
SR-1	Holman Hwy to Carpenter St	0.890	D	0.945	E
SR-183 (Castroville Rd)	Espinosa Rd to Cooper Rd	1.012	F	0.988	E
N Fremont St	Casa Verde Wy to SR-218	0.971	E	0.981	E
Sanborn Rd	US-101 to Abbott St	0.983	E	0.974	E
S Main St	Romie Ln to E Blanco Rd	0.817	D	0.854	E

Source: Kimley-Horn and Associates, Inc.

Table 4.6-16 presents compares existing and Existing plus Project Development to the Year 2030 roadway LOS on Regional roadways external to Monterey County. Traffic generated by the land uses allowed under the 2007 General Plan will produce inter-county travel between housing and jobs in Santa Cruz, San Benito, and Santa Clara counties, and to a lesser extent San Luis Obispo County. The affects of this inter-county travel is shown in the table.

The Existing plus Project Development to the Year 2030 is project level analysis required under CEQA. Under this scenario some of the external roadway segments experience an improvement over existing conditions. This is because the Existing plus Project Development to the Year 2030 only considers development of unincorporated Monterey County and does not include growth in incorporated Monterey County, or any growth in adjacent counties. Therefore, in this scenario where only growth unincorporated County is considered, there is a better balance of housing and jobs (both in numbers and proximity) within unincorporated Monterey County than if cumulative growth elsewhere were considered as well. This housing and jobs balance results in trips remaining internal to communities within unincorporated Monterey County and traveling shorter distances. This effect on travel is not found to this extent under cumulative conditions.

Table 4.6-16. Roadway Level of Service of Facilities External to Monterey County under Existing plus Project Development to the Year 2030

		Existing Conditions		Existing + Project Development to the Year 2030	
Roadway Segment		V/C Ratio	LOS	V/C Ratio	LOS
Santa Clara County					
US Highway 101	Cochrane Rd to E Dunne Ave	1.139	F	0.882	D
US Highway 101	Masten Ave to Leavesley Rd/SR-152 West	0.989	E	0.858	D
US Highway 101	Monterey Rd to SR-25	1.071	F	1.007	F
SR-152	SR-156 to Merced County	0.630	C	0.632	C
Santa Cruz County					
SR-1	Soquel Ave to 41st St	1.368	F	1.101	F
SR-1	Airport Blvd to SR-152	0.876	D	0.674	C
SR-1	Harkings Slough Rd to SR-129	0.608	C	0.466	B
SR-1	SR-129 to Monterey County	0.492	B	0.363	B
SR-17	Santa Clara County to Granite Creek Rd	0.958	E	1.005	F
SR-129 (Riverside Rd)	Lakeview Rd to Carlton Rd	0.847	D	0.871	D
San Benito County					
US Highway 101	Santa Clara County to SR-129	0.912	E	0.848	D
SR-25 (Bolsa Rd)	Santa Clara County to SR-156	1.196	F	1.080	F
SR-156	Salinas Rd to Union Rd	1.706	F	1.742	F
San Luis Obispo County					
US Highway 101	Monterey County to San Miguel Ave	0.300	A	0.308	A

Source: Kimley-Horn and Associates, Inc.

Impact of Goods Movement on Roadway Level of Service

The county's current truck traffic generation is expected to increase from 12,600 truck trips per day (2006) to 18,600 in 2030. This increase in freight movement is not significant enough to cause widespread capacity-related impacts, but will contribute large vehicle traffic to roadways and highways that are currently, or are projected to fall below the County's acceptable LOS standard and may cause the localized impacts on heavily traveled freight

routes (e.g., Highways 1, 101, 156, and 183) and within industrialized areas where truck traffic originates.

2007 General Plan Policies

The 2007 General Plan policies summarized below set forth measures to minimize adverse impacts on level of service.

Circulation Element

The Circulation element contains a number of policies to mitigate the traffic impacts of the development allowed under the 2007 General Plan. These policies range from establishing performance standards to mechanisms to identify impacts and fund infrastructure improvements to requiring infrastructure for promoting the use of alternatives to the automobile. These policies are described below.

Circulation Element Policy 1.1sets a standard of LOS D on County roads establishing a minimum threshold beyond which mitigation measures are required. Policy1.2 sets standards for how to identify and implement transportation improvements to mitigate significant impacts, and Policy 1.3 requires developments that degrade roads beyond LOS D, or contribute traffic to roadways already exceeding LOS D, to establish a plan for improving those facilities.

Policy 1.4 requires circulation improvements that mitigate development impacts to be constructed concurrently with the development or for the development to pay a fair share towards the improvements. Policies C1.5 and 1.10 require transportation agencies to work together to improve congestion. This would occur through coordination of regional and countywide traffic impact fees, and development of the Regional Transportation Plan.

Policies 1.6 through1.9, and 1.11 address funding of transportation improvements by establishing impact fees, finding alternative funding sources, and prioritizing transportation funding. The County is currently preparing a countywide nexus study for establishing a Countywide Traffic Impact Mitigation Fee.

Policies 2.4 through 2.6 encourage reduction in personal automobile usage in favor of bicycle and transit usage to reduce the LOS impact caused by traffic generation. Policies 3.5, 4.3, 4.5, and 4.9 address the design of public facilities to accommodate pedestrians, bicycles, and transit to provide the necessary infrastructure to accommodate these modes and reduce traffic.

Public transit service, an important strategy in reducing traffic impacts, is addressed in Circulation Element Policies 6.1 through 6.9 by encouraging coordinated service between providers, regular

service for mobility-impaired people, and service to major traffic generating events or uses. Policies 8.1 through 8.4 encourage rail transportation to commercial centers and transit-oriented development to encourage use of public transportation, and to create mixed-use centers where walking and bicycling are viable modes of transportation. Policies 10.1through 10.7 promote bicycle as an alternative mode of travel by providing bike routes and bike parking along major roadways and visitor destinations.

Area Plan Policies

The Area Plans contain a number of policies related to LOS and mitigating traffic impacts. The Area Plan policies and mitigations would supplement those contained in the General Plan, consistent with the 2007 General Plan.

North County Area Plan

The North County Area Plan Policy 1.1 requires new commercial development in proximity to housing so that residents can minimize long distance travel and reduce traffic impacts. Policy 2.1 addresses providing a bypass of Highway 101 north of Salinas to provide additional highway capacity, and improve access to new development to minimize impacts to county and local roads.

Central Salinas Valley Area Plan

Central Salinas Valley Area Plan Policy 1.4 requires new development in the Spence/Potter/Encincal Road Area to analyze and mitigate its road capacity impacts.

Greater Monterey Peninsula Area Plan

The Greater Monterey Peninsula Area Plan Policies 2.1 through 2.5 and 2.7 encourage transit use to decrease peak hour traffic and LOS impacts. These policies also provide for roadway improvements to Highway 68 and its alternate routes to improve existing and future deficiencies.

Greater Salinas Area Plan

The Greater Salinas Area Plan Policy 1.7 requires new development in the Spence/Potter/Encinal Road Area to study and mitigate the impact on highway access and road capacity. Policies 2.1 and 2.2 address congestion on Highway 101 by encouraging the bypass to add capacity and improve access. These policies also specify the need to design and implement an additional bypass road around Salinas (Western Bypass).

Carmel Valley Master Plan

The Carmel Valley Master Plan Policies 2.1, 2.3 through 2.6, and 2.13 through 2.15 encourage alternate modes of transportation including transit, bicycle, and pedestrian access to provide viable alternatives to driving and to reduce traffic impacts. They also consider improvements to Carmel Valley Road which would mitigate existing deficiencies and future LOS impacts. Policy 2.12 provides recommendations for road improvements to Highway 1, Laureles Grade, and Carmel Valley Road to achieve LOS C or LOS D as specified in the plan. Policy 2.19 requires evaluation and monitoring of streets and highways to identify when to implement improvements to meet LOS standards.

Toro Area Plan

Toro Area Plan Policies 2.1 through 2.7 and 2.9 through 2.10. encourage roadway and transit improvements to relieve congestion and identify funding sources from new developments.

Cachagua Area Plan

Cachagua Area Plan Policy 2.6 requires LOS C as an acceptable LOS within the planning area. New development in this plan area is required to meet this standard and mitigate impacts to maintain the standard.

South County Area Plan

The South County Area Plan Policy 1.2 encourages clustered development, which contributes to the mitigation of LOS impacts by creating an environment where people can walk, bicycle, or use transit as an alternative to driving.

2007 General Plan Policies Related to Goods Movement

The 2007 General Plan policies summarized below set forth measures to address the impacts of goods movement on traffic level of service.

Circulation Element

Circulation Element Policies C 2.1 and 2.3 encourages establishing safety standards to guide land use for safe operation of the transportation system, including land uses that support freight movement, and for land uses requiring commodity movement to be given adequate access to transportation facilities. Policies C 4.10 and 4.11 encourage improvement and maintenance of roads that carry significant amounts of freight traffic and provide for off-street loading areas.

Agricultural Element

Agricultural Element Policy 6.1 encourages improvement of the regional transportation system to support the agricultural industry. This would include providing adequate capacity to accommodate increases in truck traffic.

Area Plan Policies Related to Goods Movement

A limited number of Area Plans contain policies related to goods movement. The Area Plan policies would supplement those contained in the General Plan, and are consistent with the 2007 General Plan policies.

Greater Monterey Peninsula Area Plan

The Greater Monterey Peninsula Area Plan Policy GMP 2.3 discourages heavy vehicles from using the Laureles Grade.

Greater Salinas Area Plan

The Greater Salinas Area Plan Policy 2.1 establishes a priority for the improvement of Highway 68 including the construction of alternate passing lanes, which would reduce the impacts of trucks on grades and narrow segments. Policy 2.3 identifies improvements to Laureles Grade such as shoulder widening, passing lanes, and paved turn-outs that increase safety for larger vehicles. At the same time, this policy also discourages use of heavy vehicles on Laureles Grade.

Carmel Valley Master Plan

Carmel Valley Master Plan Policy 2.15 supports consideration for a northbound climbing lane on Laureles Grade.

Cachagua Area Plan

The Cachagua Area Plan Policy CACH 2.5 requires projects that generate heavy vehicles to restore and maintain roads to their existing condition.

Agricultural and Winery Corridor Plan (AWCP)

Policy 3.7 requires that access to facilities in the AWCP shall be designed to meet safe sight distance standards as determined by the Monterey County Public Works department, particularly for uses that generate truck traffic.

Significance Determination

Development and land use allowed under the 2007 General Plan would increase traffic volumes on County roads, Regional roads, and regional roads external to the County. This added traffic would both cause roadway segments to exceed the County's LOS standard, and contribute traffic to roadways that exceed the LOS standard without development, and further degrade the performance measure.

The 2007 General Plan and Area Plans establish policies to mitigate or reduce these impacts. These policies encourage alternative modes of travel including public transit, bicycle, and pedestrian modes to reduce the use of automobiles. They encourage compact, mixed-use, and transit-oriented development in developed areas in patterns that have been demonstrated to reduce traffic. In combination, these policies serve to decrease the number of trips by vehicle and decrease the total length of trips, which in turn minimizes degradation of LOS. The policies in the general plan also provide a funding mechanism, through implementation of a countywide traffic impact fee, and coordination with a regional traffic impact fee. These resources are intended to provide funding for transportation improvements.

Despite development contributions to project-specific local impacts (through project-level mitigation), county impacts (through countywide traffic impact fee), and regional impacts (through regional traffic impact fee) there will remain a funding shortfall for the implementation of the financially constrained capital facilities in the Regional Transportation Plan. Implementation of the mitigation listed above in conjunction with the 2007 General Plan policies, and working collaboratively with cities and regional agencies would contribute to the mitigation of roadway LOS impacts. However, even with the adoption of county and regional impact fees, which fund a limited number of transportation facilities, traffic impacts to County and regional roadways will remain significant and unavoidable.

Mitigation Measures

No mitigation is feasible. Mitigation of the LOS impacts described above would require a substantial number of County and Regional roadway widening, and intersection modifications to provide enough capacity to achieve the County's LOS D standard on all impacted segments, some outside of Monterey County. Additionally, mitigation would include substantial increases in public transportation services.

Many of the mitigations for these roadways segments are infeasible due to physical, topographical, and environmental constraints, as well the social and economic impacts related to the acquisition of commercial and residential property, or loss of access, for roadway capacity-enhancing projects. The foremost constraint, however, is funding of transportation facilities. Federal, state and regional funding are limited, and most of these funds are used to maintain the transportation system. The County

and TAMC are planning to implement Traffic Impact Fees to fund improvement projects, but the amount of the fees are limited for affordability and total fee burden reasons.

The County and regional fee programs will continuously be updated, adding additional priority projects to the programs as initial projects are completed, but the rate of project completion will not be able to outpace the rate of development growth.

Significance Conclusion

Implementation of the 2007 General Plan would have a significant and unavoidable impact on County roads, and Regional roads both within and external to Monterey County. The County has developed a list of capital improvements to be included in a countywide traffic impact fee, as described above. In addition, TAMC has adopted a list of capital improvements to be funded by their adopted Regional Traffic Impact Fee. Neither the County nor TAMC projects fully mitigate the impacts of the 2007 General Plan, but provide significant improvement to County and Regional roadway segments beyond existing conditions and Existing plus Project Development to the Year 2030 conditions. Therefore, impacts remain significant and unavoidable.

Air Traffic

Impact TRAN 1-C: Growth in land uses allowed under the 2007 General Plan would increase demand for air travel at the County's four airports or increase development within the approach and departure pattern of airports.

Impact of Development with Policies

The 2007 General Plan increases the allowable amount of development within the County, which would cause an increase in demand for commercial passenger, general aviation, and freight-related air travel. Development of the Agricultural and Winery Corridor Plan (AWCP) will increase the area as a tourist destination, and therefore will contribute to increased commercial and private passenger air travel. Although the increase in air travel related to the AWCP will increase gradually through 2030 as new winery facilities develop over time. However, the General Plan does not require any changes to air traffic patterns.

Further, the 2007 General Plan includes development near airports. Specifically, Policy 2.12 in the Land Use Element allows for the Hwy 68/Monterey Peninsula Airport Affordable Housing Overlay which will increase housing and density in an 85 acre area adjacent to the Monterey

Peninsula Airport. The overlay area is to the south of the airport and not within the approach or departure flight paths of the runways.

2007 General Plan Policies

The 2007 General Plan policies summarized below set forth measures to minimize impacts of air traffic.

Circulation Element

Circulation Element Policies 7.1 through 7.5 promote safe, efficient air facilities. They provide for appropriate land uses around air facilities in order to mitigate noise and safety impacts on land use. The policies also provide for control of the impact of private air facilities on agricultural land use and surrounding areas.

Area Plan Policies

The Area Plans contain policies related to air traffic. The Area Plan policies and mitigations would supplement those contained in the General Plan, consistent with the 2007 General Plan.

Greater Monterey Peninsula Area Plan

The Greater Monterey Peninsula Area Plan Policies 2. 8 and 4.2 require that development under the runway approaches of the Monterey Peninsula and Marina Municipal Airports be low intensity and not interfere with airport operations. It encourages adoption of noise and land use compatibility standards.

Cachagua Area Plan

The Cachagua Area Plan Policy 2.3 requires private airstrips to obtain a use permit to ensure that they do not negatively impact neighboring areas or flight paths from existing airports.

Significance Determination

Development of the land uses allowed under the 2007 General Plan by the year 2030 would result in an increase in demand for air travel. Passenger travel in Monterey County peaked in 1978 with about 640,000 passengers annually. Since that time passenger travel has declined to nearly half of its peak (Monterey Airport District, 2008). Without adding additional capacity at airports, the current passenger level could increase to at least 640,000 passengers annually without impacting airport operations (a 96% increase).

Land use growth proposed in the general Plan and specifically the Hwy 68/Monterey Peninsula Airport Affordable Housing Overlay will not be located within airport flight paths, and will not be design in such a way as to

become an incompatible land use (i.e., high rise buildings). No change in airport location is being proposed in the 2007 General Plan. (Less than Significant Impact).

Mitigation Measures

Impacts would be less than significant, therefore no mitigation measures are necessary.

Significance Conclusion

The development of the General Plan would increase the demand for the air travel. The General Plan contains policies to encourage safe operations of air facilities and land uses surrounding the airports that are consistent with airport operations. Airport passenger demand is significantly less than it was in 1978 and therefore can accommodate substantial increases without increasing the capacity of airports. Impacts of the General Plan policies under Existing plus Project Development to the Year 2030 are less than significant.

Roadway Hazards

Impact TRAN 1-D: Growth in land uses allowed under the 2007 General Plan would result in non-standard or hazardous designs or land uses that are incompatible with public facilities and adjoining land uses. (Less Than Significant)

Impact of Development with Policies

The development of the 2007 General Plan would allow the development of land uses that create hazards to various modes of transportation. This impact would include the provision of access to development that does not meet County design standards (such as inadequate sight distance, roadway curvature failing to meet design speed standards, etc.). This impact also includes the development of land uses that generate types of traffic incompatible with surrounding land uses and transportation facilities (such as industrial uses adjacent to, and gaining access from, local residential streets or schools). Incompatible types of traffic include slow-moving farm vehicles using roadways in urban or urbanizing areas.

As Monterey County develops, residential and commercial development may occur adjacent to or within current rural agricultural areas, increasing the conflict between uses and types of traffic.

2007 General Plan Policies

The 2007 General Plan policies summarized below set forth measures to minimize potential impacts of non-standard roadway design or incompatible land uses.

Circulation Element

Circulation Element policies provide for safety of the transportation network by requiring safety standards, providing for protection against incompatible land uses, and designing or expanding new roads to current standards. Policy 1.2 requires development and adoption of a Capital Improvement and Financing Plan (CIFP) and implementing ordinances that identify mechanisms to improve County roadways to meet design standards and improve safety. Policy 2.3 requires the use of safety standards established by transportation-related agencies to guide new development and transportation improvements. Policy 4.2 ensures that new roads and internal circulation roads are constructed to County standards. Policy 4.8 maintains the County's roadway safety programs that identify and improve hazardous or non-standard roadway designs.

Related to compatibility of land uses, Policy 2.2 protects existing and proposed public transportation facilities from the encroachment of incompatible land uses that would create unsafe development access or traffic conditions, or disallows uses that generate incompatible types of traffic from accessing major streets (e.g., farm equipment accessing major arterial roadways). Policy 7.1 prohibits any land use activities that would interfere with safe operations of aircraft, such as multi-story buildings within flight paths. Policies 7.2 and 7.4 ensures that proposed land uses in the vicinity of public airports are compatible with the airport comprehensive land use plan, and Policy 7.5 requires regulation of private airfields so that they do not impact agricultural lands, existing airport operations, public facilities, or neighboring areas. Policy 9.1 requires land uses in the vicinity of harbors to be compatible with commercial and recreational harbor operations.

Agricultural Element

Policy 6.1 encourages and supports improvement of regional transportation systems to support the needs of the agricultural industry (including safety design features).

Safety Element

Safety Element Policy 4.9 requires that roadways be constructed and maintained in accordance with Monterey County Code or the California Fire Code, which establishes minimum clear widths to

accommodate fire fighting apparatus, large freight vehicles, and emergency service providers.

Area Plan Policies

The Area Plans contain a number of policies related to non-standard design or incompatible land uses. The Area Plan policies would supplement those contained in the 2007 General Plan.

Carmel Valley Master Plan

The Carmel Valley Master Plan Policies 2.10 and 2.11encourage improvements to existing roadways, such as shoulder improvements on sharp curves on Esquiline Road. They also provide for channelization and tapers at access points on Carmel Valley Road for safety improvements.

Toro Area Plan

The Toro Area Plan Policy 2.7 limits new direct access points for single family residences along Highway 68 and limits them along other routes in the planning area in order to mitigate the impact of incompatible land use access onto major traffic corridors.

Cachagua Area Plan

The Cachagua Area Plan Policy 2.1 requires the signing and marking of roadways to alert all users to unusual or dangerous conditions.

Agricultural and Winery Corridor Plan

The AWCP contains development standards to ensure new development provides safe transportation facilities in this rural corridor.

The AWCP development standards include a standard for access design that requires access to facilities where the general public is allowed to meet safe sight distance standards.

Significance Determination

Development of the land uses allowed under the 2007 General Plan by the year 2030 would result in non-standard or hazardous designs and incompatible facilities with adjoining land uses. The General Plan provides for policies to prevent or reduce these impacts by requiring roads to be designed to safety standards. These policies require new development to design facilities to County standards. They also provide for road safety programs (signing, marking, and improved sight distance) to improve overall safety. The 2007 General Plan also has policies to limit incompatible land

uses. Therefore, the impact of roadway hazards with implementation the 2007 General Plan is less than significant.

Mitigation Measures

No additional mitigation measures beyond the 2007 General Plan are necessary.

Significance Conclusion

The development under the General Plan would result in non-standard or hazardous transportation facility designs or land uses that are incompatible with public facilities. However, the 2007 General Plan contains policies to ensure that new development provides access and improvements to the county roadway system to meet County standards. It also contains policies to prevent incompatible land uses to avoid transportation conflicts and roadway hazards. Therefore, the impact is less than significant.

Emergency Access

Impact TRAN 1-E: Growth in land uses allowed under the 2007 General Plan would result in inadequate emergency access. (Significant and Unavoidable)

Impact of Development with Policies

The development under the 2007 General Plan would impact the response time for emergency vehicles on roadways projected to exceed the County standard LOS D. This impact would occur in the more developed areas of the County (i.e., North County, Greater Monterey Peninsula, Carmel Valley, and some Community Areas) which experience higher concentrations of roadways operating at LOS E or F.

The development of the Existing plus Project Development to the Year 2030 will cause 114 County and Regional roadway segments to exceed LOS D, which would have an impact on emergency vehicle response time.

2007 General Plan Policies

The 2007 General Plan policies summarized below set forth measures to minimize impacts on emergency vehicles.

The General Plan Land Use Element and Public Services Element support limiting growth outside of areas where infrastructure and services are available.

Circulation Element

The Circulation Element contains policies to identify and mitigate impacts to roadway level of service, as well as establish mechanisms to fund transportation projects to improve level of service. These policies are described under the Roadway Level of Service section above.

Land Use Element

Land Use Element Policy 1.4 focuses urban growth in areas where there are adequate levels of service for emergency response to avoid inadequate response because of lack of emergency provider facilities and long distances. Police 1.19 (Evaluation System) would result in a low ranking, if not a failing score, for new subdivisions in remote areas, since these would not comply with General Plan policies regarding water, sewer, and services. Development on existing lots of record are exempted from this policy and these new homes, if constructed in remote areas, would not be expected to receive services in the same timeframe as other new residential development. The General Plan policies include maximum response times that range from 5-8 minutes in urban areas to as high as 45 minutes in rural areas. Nevertheless, because of existing development and future development on lots of record in more remote areas and highway congestion, emergency response time less than the policy maximums may difficult to achieve.

Safety Element

Safety Element Policies 4.9 and 5.15 require roadways to be constructed according to the fire code, which establishes minimum clear widths to accommodate fire fighting apparatus and emergency service providers, and be designed for tsunami evacuation along developed coastal areas where appropriate. Policy 5.14 considers all public thoroughfares, private roads, and deeded emergency accesses as potential evacuation routes, and identifies “Pre-designated Emergency Evacuation Routes”. Policy 5.15 identifies Tsunami Evacuation Routes as any route in an incorporated or unincorporated area leading inland away from the coastline to higher elevations.

Area Plan Policies

The Area Plans contain policies related to emergency vehicle response. The Area Plan policies and mitigations would supplement those contained in the General Plan, consistent with the 2007 General Plan.

Carmel Valley Master Plan

The Carmel Valley Master Plan Policy 4.4 requires secondary emergency road connections for emergency access to mitigate impact of traffic congestion on emergency response.

Significance Determination

Development of the land uses allowed under the 2007 General Plan under Existing plus Project Development to the Year 2030 would result in inadequate emergency access due to increases in traffic that result in County and Regional roadways exceeding County LOS standards, and creating traffic congestion that slows emergency response time.

The General Plan policies discussed above address transportation related impacts to emergency response due to congestion, and design. However, even with the adoption of county and regional impact fees, and implementation of proposed transportation improvements at the County and Regional level, traffic impacts to County and Regional roadway level of service will remain significant and unavoidable, and thereby cause an impact to emergency response that significant and unavoidable.

Mitigation Measures

As stated in the Roadway Level of Service impacts discussion above, mitigation of LOS impacts would require a substantial number of County and Regional roadway widening and intersection modifications to provide enough capacity to achieve the County's LOS D standard on all impacted segments. Many of the mitigations for these roadways segments are infeasible due to physical, topographical, and environmental constraints, as well the social and economic impacts related to the acquisition of commercial and residential property, or loss of access, for roadway capacity-enhancing projects. The foremost constraint, however, is funding of transportation facilities. The County and TAMC are planning to implement Traffic Impact Fees to fund improvement projects, but the amount of the fees are limited for affordability, and total fee burden. Therefore, no mitigation that improves the LOS on all County and Regional roadways is feasible.

Mitigation Measure TRAN-1E: New Policy C-X.XX on increasing roadway connectivity to enhance emergency access.

C-X.XX: Emergency Response Routes and Street Connectivity Plans. The County shall review Community Area and Rural Center Plans, and new development proposals for roadway connectivity that provides multiple routes for emergency response vehicles. At the time of their update, Community Area and Rural Center Plans shall identify primary and secondary response routes. Secondary response routes shall be required to accommodate through traffic and may be existing roads, or

may be new roads required as part of development proposals. The emergency route and connectivity plans shall be coordinated with the appropriate Fire District.

Significance Conclusion

The development allowed in the 2007 General Plan would generate traffic that would cause County and Regional roadways to exceed the County's LOS D standard, and contribute to roadways that exceed the standard without development, causing traffic congestion that would impact emergency response time. This is a significant and unavoidable impact.

Alternative Transportation

Impact TRAN 1-F: Development allowed under the 2007 General Plan would conflict with adopted policies, plans, or programs supporting alternative transportation or generate pedestrian, bicycle, or transit travel demand that would not be accommodated by current pedestrian facilities, bicycle development plans, or long-range transit plans. (Less than Significant)

Impact of Development with Policies

Development under the 2007 General Plan would be concentrated in Community Areas, Rural Centers, and Affordable Housing Opportunity overlays. The land uses and the design of sites and neighborhoods in these areas would be compatible with alternatives to the automobile (e.g., walking, biking and transit) due to size and residential density.

Bicycling, walking, and transit are less attractive alternatives to the automobile when greater distances are involved. Further, lower density development spread over a larger area is effective to serve by transit than higher density, mixed-use communities. The 2007 General Plan allows for a combination of low density spread development patterns and higher density mixed-use development in central locations. Through the policies established in the General Plan, either type of development would design for, and encourage walking and bicycling, and transit use to the extent transit service is provided. This is a less than significant impact.

2007 General Plan Policies

The 2007 General Plan contains policies to encourage alternate modes of travel by providing transit service, pedestrian and bicycle infrastructure and compact, mixed-use development.

Circulation Element

Many of the policies in the circulation element "encourage" shifts to alternate modes of travel (Policies 2.1, 2.2, 2.5, 3.5, 4.3), but some policies require infrastructure and site design that supports transportation choice. Policy 2.7 requires that new development be located and designed with convenient access and efficient transportation for all intended users, and where possible consider alternative transportation modes. This policy ensures that new development provides multimodal facilities so that walking, bicycling and transit are viable options.

Additional infrastructure related policies include Policy 4.4 which considers abandonment of County roads for public uses of the rights-of-way, such as bikeways, or horseback riding and hiking trails. Policy 4.5 requires that new public local and collector roads be designed to discourage through auto traffic and provide for bicycle and pedestrian traffic within the right-of-way. Policy 4.7 requires, where appropriate and sufficient public right-of-way is available, that bicycle paths shall be separated from major roads and highways and be provided between adjacent communities. Policy 4.9 requires that the County to monitor key County-maintained roadways, intersections, bikeways, and pedestrian facilities to observe and analyze the functioning of these roadways, as well as to identify capacity and safety concerns. This policy is important in ensuring adequate multimodal facilities.

Provision of public transportation service is outside the authority of the County, but the provision of infrastructure and facilities, and transit-supportive land use patterns is established by the County. Policies 6.1, 6.2, 6.5, 6.7, 6.8, and 6.9 provide support and encouragement for public transportation services. Policy 6.3 supports the concentration of new development along major transportation corridors and near incorporated cities to make transit services to these areas more feasible. Policy 6.6 requires transit and bus parking facilities at major hotels, motels, convention centers, other tourist-serving areas and events.

The County's policies support rail transportation with the following. Policy 8.1 makes protection of future rail transportation a high priority. This policy would protect existing railroad right-of-way and support acquisition of railroad corridors for inter-city service. Policy 8.3 supports the planning and implementation of passenger rail, light rail, or bus rapid transit service to urban centers, and Policy 8.4 supports and encourages transit-oriented development around existing and future rail, light rail, or bus rapid transit stations.

Bicycle transportation is supported through the following policies. Policy 10.1 requires the establishment of an integrated system of

bicycle routes for Monterey, developed through a comprehensive bicycle plan coordinated private and public interests and agencies (Policy 10.2). Policy 10.3 requires consideration of bike routes in the construction or expansion of roadways within major transportation corridors. Policies 10.4 through 10.7 support bicycle transportation through multimodal and inter-modal integration, and for visitor serving areas.

Land Use Element

Land Use Element Policies 1.2 and 1.3, encourage managing growth in unincorporated areas and discouraging scattered development to minimize the duration of trips, which also supports alternative modes of transportation. Policies 1.4 and 1.7 requires development to occur only when adequate transportation facilities exist and to encourage phasing and clustering of development to provide for adequate long-range planning of infrastructure, including pedestrian, bicycle and transit facilities. Policies 2.15, 2.17, and 2.21 encourage directing growth to urban and community areas, which better supports transit use. These policies also encourage mixed-use development, which generates fewer vehicle trips by clustering uses together.

Open Space and Conservation Element

Open Space Element Policies10.2 and 10.5 encourages alternative modes of travel and encourage mixed land uses to reduce vehicular travel and minimize negative impact on LOS.

Area Plan Policies

The Area Plans contain policies related to alternative modes of travel and associated supportive land uses. The Area Plan policies and mitigations would supplement those contained in the General Plan, consistent with the 2007 General Plan.

Greater Monterey Master Plan

The Greater Monterey Master Plan Policies 2.7 and 2.9 encourage new development to incorporate designs and location for transit and bicycle and pedestrian connections and for new or expanded arterials or highways to accommodate separated bicycle paths.

Carmel Valley Master Plan

Carmel Valley Master Plan policies 2.1 through 2.5, and 2.15 promote alternative modes of transportation by requiring new development and new facilities to provide for transit stops, bicycle and pedestrian infrastructure.

Toro Area Plan

The Toro Area Plan policies 2.3, 2.4, 2.6, 2.9, and 2.10 provide for additional transit, bicycle and pedestrian infrastructure along new facilities and in new development. Policy 2.10 encourages a study to determine how to increase access to public transit in specific areas.

Cachagua Area Plan

The Cachagua Area Plan policy 2.1 promotes the safety of bicyclists and pedestrians by providing appropriate paving markings.

Significance Determination

Implementation of the policies in the General Plan and Area Plans for development of the land uses allowed under the Existing plus Project Development to the year 2030 would increase pedestrian, bicycle and transit-supportive facilities by both requiring and encouraging the construction of such facilities and land use patterns in new development. These policies provide support for, and do not conflict with, alternative modes of transportation. The transit-supportive land uses identified in the general Plan are consistent with MST's objective to provide transit-oriented development (Designing for Transit: A Manual for Integrating Public Transit and Land Use in Monterey County, MST, 2006).

The land uses allowed under the General Plan, if consistent with policy, would increase the need for transit service with concentrations of development in existing transit-served corridors, community areas, and near incorporated cities. The transit-supportive The increase in demand for transit service is consistent with MST's strategic goals of increasing transit ridership, expanding service, and introducing new services such as BRT in major corridors (Peninsula Area Service Study, 2006 and Business Plan and Short Range Transit Plan, FY 2008 through 2008). Therefore, this impact is less than significant.

Mitigation Measures

No mitigation measures are necessary.

Significance Conclusion

The policies contained in the General Plan provide both requirements and encouragement of alternative mode infrastructure and facilities, and promote transit-support land use patterns. These polices support and do not conflict with existing facilities, policies, plans and programs. The development allowed under the General Plan will generate demand for pedestrian and bicycle facilities, and demand for transit services. These demands can be accommodated by ensuring development conforms to County policies and

design standards, and are consistent with the goals and strategies of MST, the County's transit service provider. This is a less than significant impact.

Year 2030 Cumulative plus Project

Year 2030 Cumulative Conditions represent forecast year 2030 conditions with implementation of the 2007 General Plan development through 2030 plus development of incorporated Cities through 2030. Cumulative development also includes forecasts of development through the year 2030 in Santa Cruz, San Benito and portions of Santa Clara counties. The transportation network in this scenario includes the TAMC Regional Traffic Impact Fee Program projects and proposed County improvement projects described earlier.

This scenario identifies the impacts of development in unincorporated areas of the County cumulative with development in incorporated areas and adjacent counties by identifying changes in roadway level of service. This analysis of the 2007 General Plan is compared to No Project conditions under the 1982 General Plan.

Because there is no version of the AMBAG model that represents the year 2030 under the 1982 General Plan, the Project is compared to the No Project scenario by comparing the amount of housing, population and employment allowed under each scenario, and indicating whether the impacts of the 2007 General Plan would be greater than, less than, or equal to impacts under the 1982 General Plan.

Project-Specific Impacts of the Development under 2030 Cumulative plus Project Conditions

Impact TRAN-2A: Development allowed under the 2007 General Plan cumulatively with other development to the year 2030 would cause project-specific impacts on County roadways which would cause roadways to fall below the acceptable LOS standard D. (Less Than Significant Impact).

Impact of Development with Policies

Project-specific impacts of new development are described in Impact TRAN-1A. These are localized impacts that affect the immediate surrounding transportation system, including access and circulation necessary for the development to function properly and safely. Some project-specific impacts are exclusively attributable to the development such as access connections between the development site and public roadway system. Other project-specific impacts such as impacts to the public roadway system in the immediate vicinity of the development site are cumulative with other development in the area.

2007 General Plan Policies

The policies related to roadway level of service for development described in the Existing plus Project Development to the Year 2030 scenario apply to the Existing plus Project Buildout scenario.

Significance Determination

Project-specific impacts of new development will continue to occur through buildout of the General Plan. As long as General Plan policies remain in effect, new development will be required to prepare a project-level traffic study, or project-level Environmental Impact Report. Impacts to roadway LOS or project access would be identified in these studies and development would be fully responsible for the implementation of mitigation measures or would be responsible for its fair-share of the mitigation depending on the extent of the impact and the development's contribution to the impact along with other cumulative development. If a roadway already falls below the County's LOS standard, then the development is required to mitigate its impact so that the measure of performance (e.g., volume to capacity ratio, peak hour average delay, etc.) of the roadway does not degrade beyond the level without the development. This is a less than significant impact.

Mitigation Measures

Impacts are less than significant, therefore no mitigation is necessary.

Significance Conclusion

Implementation of the 2007 General Plan consistent with policies related to project-specific localized impacts (Policy C-1.4, new development is required to mitigate project-specific local impacts to maintain the County's LOS standard and to provide adequate access and circulation facilities. Policy C-1.3 restricts new development or requires the phasing of new development so that it is concurrent with transportation improvements) would have a less than significant impact and no mitigation is required.

County and Regional Roadway Level of Service Impacts (2030 Cumulative plus Project)

Impact TRAN-2B: Development of the land uses allowed under the 2007 General Plan cumulatively with development in incorporated cities and in adjacent counties would create *traffic increases on* County and Regional roadways which would cause the LOS to exceed the LOS D standard, or contribute traffic to County and Regional roads that exceed the LOS standard without development. (Significant and unavoidable impact)

Impact of Development with Policies

The LOS on study area roadways for the 2030 Cumulative plus Project scenario is illustrated graphically in Exhibit 4.6.8. A detailed analysis of roadway level of service by segment is included in the Appendix.

Table 4.6-16 shows the roadway segments operating at deficient level of service under this scenario and compares the segments to their LOS under existing conditions. As shown in Table 4.6-16, there are 5 segments that operate at LOS E and 29 segments that operate at LOS F in this scenario. There are 5 segments that operate at LOS D in Carmel Valley Area Plan where the standard has been established as a LOS C. In comparison, under existing conditions, 17 of the segments in Table 4.6-17 currently operate at LOS E or F. The development in the County up to the year 2030, cumulatively with other development, causes an additional 17 roadway segments to exceed the county's LOS threshold. In the CVMP area, the development in the County up to the year 2030, cumulatively with other development, causes an additional two roadway segments to exceed the county's LOS threshold as defined in the CVMP. Further discussion of impacts of the 2007 General Plan within the Carmel Valley Plan Area are discussed in the next section.

Table 4.6-17. County Roadway Segments Operating at LOS E or F under 2030 Cumulative plus Project Conditions Roadway Segment

		Existing Conditions (2008)		Cumulative + Project 2030	
		V/C Ratio	LOS	V/C Ratio	LOS
Roadway Segments Operating at LOS F in the 2030 Cumulative plus Project Conditions Scenario					
County Road G12 (Elkhorn Rd)	Salinas Rd to Hall Rd	1.339	F	1.155	F
County Road G12 (Hall Rd)	Elkhorn Rd to San Miguel Canyon Rd	1.879	F	2.575	F
County Road G12 (San Miguel Canyon	Hall Rd to Strawberry Rd	1.122	F	1.252	F

		Existing Conditions (2008)		Cumulative + Project 2030	
		V/C Ratio	LOS	V/C Ratio	LOS
Rd)					
County Road G12 (San Miguel Canyon Rd)	Strawberry Rd to Castroville Blvd	1.485	F	1.460	F
County Road G12(San Miguel Canyon Rd)	Castroville Blvd to US-101	1.486	F	1.362	F
County Road G14 (Jolon Rd/Interlake Rd)	US-101 to San Lucas Rd	0.582	D	1.075	F
Abbott St	SH 101 to Salinas City Line	0.896	E	1.350	F
Blanco Rd	Reservation Rd to Cooper Rd	2.033	F	2.667	F
Blanco Rd	Cooper Rd to Armstrong Rd	2.146	F	2.500	F
Blanco Rd	Armstrong Rd to Davis Rd	2.292	F	2.650	F
Carpenter St	Serra Ave to SR-1	1.354	F	1.383	F
Carpenteria Rd	San Juan Rd to County Border	0.462	C	1.079	F
Corral De Tierra	SH-68 to Robley Rd	0.682	D	1.010	F
Crazy Horse Canyon Rd	San Juan Grade Rd to US-101	0.449	C	1.077	F
Grant St	Payson Rd to Scott St	0.505	D	2.146	F
Grant St	Scott St to Clay St	0.547	D	2.323	F
Harris Rd	Spreckels Blvd to Abbott St	0.844	E	1.490	F
Hebert Rd	San Juan Grade Rd to Old Stage Rd	0.443	D	1.142	F
Ocean Ave	Carmel City Line to SR-1	1.229	F	1.375	F
Old Stage Rd	Hebert Rd to Natividad Rd	0.488	D	1.133	F
Old Stage Rd	Natividad Rd to Williams Rd	0.163	C	1.062	F
Pine Canyon Rd (King City)	Merrit St to Jolon Rd	0.583	D	1.615	F
Porter Dr	Salinas Rd to San Juan Rd	0.967	E	1.425	F
Porter Dr	San Juan Rd to Santa Cruz County Line	1.423	F	2.558	F
Prunedale North Rd	SR-156 to San Miguel Canyon	0.458	D	1.406	F
Rio Rd	Carmel City Line to SR-1	1.161	F	1.719	F
Russell Rd	SR-101 to San Juan Grade	0.661	D	1.302	F

		Existing Conditions (2008)		Cumulative + Project 2030	
		V/C Ratio	LOS	V/C Ratio	LOS
	Rd				
San Juan Grade Rd	Salinas City Line to Russell Rd	1.015	F	1.042	F
San Juan Grade Rd	Russell Rd to Rogge Rd	0.747	D	1.058	F
Roadway Segments Operating at LOS E in the 2030 Cumulative plus Project Conditions Scenario					
County Road G12 (Salinas)	Railroad Ave to Elkhorn Rd	0.584	D	0.964	E
Carpenter St	Carmel City Line to Serra Ave	0.828	E	0.906	E
Rogge Rd	San Juan Grade Rd to Natividad Rd	0.661	D	0.979	E
Salinas Rd	Fruitland Ave to Elkhorn Rd	0.499	C	0.967	E
San Miguel Canyon Rd	Tarpey Rd to Hall Rd	0.525	D	0.983	E
Roadway Segments Operating at Deficient LOS D in the 2030 Cumulative plus Project Conditions Scenario					
County Road G20 (Laureles Grade Rd)	Robley Rd to Carmel Valley Rd	0.582	D	0.788	D
Carmel Rancho Blvd	Carmel Valley Blvd to Carmel Rancho Ln	0.619	D	0.679	D
Carmel Rancho Blvd	Carmel Rancho Ln to Rio Rd	0.402	C	0.479	D
Rio Rd	SR-1 to Carmel Rancho Blvd	0.575	D	0.625	D

Source: Kimley-Horn and Associates, Inc.

Impact of Development in the Carmel Valley Area Plan

As described earlier in this chapter, the roadway level of service analysis for the Carmel Valley Master Plan (CVMP) area is based on peak hour (AM and PM peak) information. The reason that CVMP roadway facilities are analyzed in the peak hour as opposed to the daily analysis used for the rest of the County is because it is a more project-specific and accurate method of analysis, the CVMP policies establish LOS standards based on peak hour (CV 2.18(d)), and a recent peak hour draft traffic analysis of the CVMP and the Carmel Valley Transportation Improvement Program was available (CVMP Traffic Study, July 2007). At the project-specific or small planning area level of analysis, a peak hour operational analysis should be used to

overcome the inaccuracies and impact over-estimation characteristic of daily V/C Ratio analysis.

The Area Plan for Carmel Valley specifies an acceptable LOS of "C" or "D" for Carmel Valley Road depending on the roadway segment, as opposed to a LOS "C" that is proposed to be the acceptable level for other Carmel Valley roadways and LOS D in the remainder of the unincorporated County. Integration of this analysis into the 2007 General Plan EIR allows for consistency between documents. For Carmel Valley Road, the following LOS standards apply to its segments:

Segment 1: East of Holman Road (LOS C)

Segment 2: Holman Road to Esquiline Road (LOS C)

Segment 3: Esquiline Road to Ford Road (LOS D)

Segment 4: Ford Road to Laureles Grade (LOS D)

Segment 5: Laureles Grade to Robinson Canyon Road (LOS D)

Segment 6: Robinson Canyon Road to Schulte Road (LOS D)

Segment 7: Schulte Road to Rancho San Carlos Road (LOS D)

Segment 8: Rancho San Carlos Road to Rio Road (LOS C)

Segment 9: Rio Road to Carmel Rancho Boulevard (LOS C)

Segment 10: Carmel Rancho Boulevard to SR1 (LOS C)

Table 4.6-18 presents the peak hour level of service for roadways within the CVMP based on the analyses prepared for the traffic studies referenced above. The modeling for these traffic studies assumed a higher amount of development in the CVMP area in 2030 than the analysis of the rest of the County under the 2030 Cumulative plus Project scenario. The CVMP analysis assumes development of 1,188 housing units between 2000 and 2030, more units than assumed in the General Plan estimates to the year 2030. Although analyzed in Table 4.6-17 Highway 1 (SR 1) is not a part of the CVMP, but a regional road that connects to the CVMP and subject to the County's standard of LOS D. Three segments of Carmel Valley Road exceed their LOS D standard under this scenario.

The General Plan daily analysis in Table 4.6-16 shows three roads exceeding the CVMP LOS standard of "C", County Road G20 (Laureles Grade), Carmel Ranch Boulevard, and Rio Road. The General Plan analysis indicates that these roads are significantly impacted.

Table 4.6-18. Carmel Valley Roadway Level of Service under 2030 Cumulative plus Project Conditions

Roadway	Direction	Level of Service	
		AM Peak	PM Peak
Highway (SR) 1			
between Rio Rd & Carmel Valley Rd	NB	B	B
	SB	E	E
between Carmel Valley Rd & Ocean Ave	NB	C	C
	SB	F	F
between Ocean Ave & Carpenter St	NB	D	D
	SB	C	C
Carmel Valley Road			
East of Holman (Standard LOS C)	BOTH	C	C
Holman Road to Esquiline Road (Standard LOS C)	BOTH	C	C
Esquiline Road to Ford Road (Standard LOS D)	BOTH	D	D
Ford Road to Laureles Grade(Standard LOS D)	BOTH	D	D
Laureles Grade to Robinson Canyon Road(Standard LOS D)	BOTH	E	E
Robinson Canyon Road to Schulte Road (Standard LOS D)	BOTH	E	E
Schulte Road to Rancho San Carlos Road (Standard LOS D)	BOTH	E	E
Rancho San Carlos Road to Rio Road (Standard LOS C)	EB	A	B
	WB	B	B
Rio Road to Carmel Rancho Boulevard (Standard LOS C)	EB	B	C
	WB	C	C
Carmel Rancho Boulevard to Highway 1 (Standard LOS C)	EB	B	B
	WB	C	B

Source: Kimley-Horn & Associates, Inc. 2008 and DKS Associates, 2007.

Table 4.6-19 presents the Regional roadway segments operating at LOS E or LOS F under 2030 Cumulative plus Project conditions and compares the segments to their LOS under existing conditions. Exhibit 4.6.8 presents the segment LOS graphically. A detailed table showing the volume, the volume to capacity ratio and the resulting LOS for each Regional roadway segment is included in the Appendix.

There are six regional roadway segments that operate at LOS E and 64 segments that operate at LOS F under this scenario. Under existing conditions, 47 of these Regional roadway segments operate at LOS E or F, so development in the County up to the year 2030, cumulatively with other development, causes an additional 23 roadway segments to exceed the County's LOS threshold.

Table 4.6-19. Regional Roadway Segments Operating at LOS E or F under 2030 Cumulative plus Project Conditions

		Existing Conditions (2008)		2030 Cumulative plus Project Conditions	
Roadway Segment		V/C Ratio	LOS	V/C Ratio	LOS
Roadway Segments Operating at LOS F in the 2030 Cumulative plus Project Conditions Scenario					
US Highway 101	County Border to Crazy Horse Canyon Rd	1.044	F	1.067	F
US Highway 101	Crazy Horse Canyon Rd to San Miguel Canyon Rd	0.989	E	1.011	F
US Highway 101	San Miguel Canyon Rd to SR-156	1.441	F	1.657	F
US Highway 101	SR-156 to Pesante Rd	1.106	F	1.763	F
US Highway 101	Pesante Rd to Espinosa Rd	1.106	F	1.759	F
US Highway 101	Espinosa Rd to E Boronda Rd	1.098	F	1.503	F
US Highway 101	E Boronda Rd to W Laurel Dr	1.143	F	1.512	F
US Highway 101	W Laurel Dr to N Main St	1.107	F	1.702	F
US Highway 101	N Main St to E Market St	1.172	F	1.583	F
US Highway 101	E Market St to John St	1.114	F	1.566	F
US Highway 101	John St to S Sanborn Rd	0.897	D	1.344	F
US Highway 101	S Sanborn Rd to Airport Blvd	0.745	C	1.120	F
US Highway 101	Airport Blvd to Abbott St	0.615	C	1.190	F
US Highway 101	Chualar Rd to Old Stage Rd	0.654	D	1.312	F
US Highway 101	Old Stage Rd to 5th St	0.646	C	1.357	F
US Highway 101	5th St to S Alta St	0.600	C	1.224	F
US Highway 101	S Alta St to Camphora Rd	0.631	C	1.254	F
US Highway 101	Camphora Rd to Moranda Rd	0.623	C	1.259	F
US Highway 101	Moranda Rd to Front St	0.646	C	1.212	F
US Highway 101	Front St to Arroyo Seco Rd	0.662	C	1.206	F
US Highway 101	Arroyo Seco Rd to El Camino Real	0.592	C	1.069	F

Roadway Segment		Existing Conditions (2008) V/C Ratio	LOS	2030 Cumulative plus Project Conditions V/C Ratio	LOS
SR-1	County Border to Salinas Rd	0.769	D	1.275	F
SR-1	Salinas Rd to Struve Rd	1.546	F	2.137	F
SR-1	Struve Rd to Dolan Rd	1.667	F	2.309	F
SR-1	Dolan Rd to Molera Rd	1.496	F	2.108	F
SR-1	Molera Rd to SR-183	1.426	F	1.96	F
SR-1	Canyon del Rey Blvd to Del Monte Ave	1.071	F	1.155	F
SR-1	N Fremont St to Aguajito Rd	1.411	F	1.443	F
SR-68 (Holman Highway)	Forest Ave to 17 Mile Dr	1.448	F	1.681	F
SR-68 (Holman Highway)	17 Mile Dr to Skyline Forest Dr	1.638	F	1.908	F
SR-68 (Holman Highway)	Skyline Forest Dr to CHOMP Dwy	1.638	F	1.908	F
SR-68 (Monterey Salinas Highway)	SR-1 to Olmsted Rd	1.422	F	1.529	F
SR-68 (Monterey Salinas Highway)	Olmsted Rd to Canyon del Rey Blvd	1.422	F	1.575	F
SR-68 (Monterey Salinas Highway)	Canyon del Rey Blvd to Bit Rd	1.304	F	1.509	F
SR-68 (Monterey Salinas Highway)	Bit Rd to Laureles Grade Rd	1.304	F	1.515	F
SR-68 (Monterey Salinas Highway)	Laureles Grade Rd to Corral de Tierra	1.525	F	1.822	F
SR-68 (Monterey Salinas Highway)	Spreckels Blvd to E Blanco Rd	0.811	B	1.026	F
SR-146 (Front St)	US-101 to East St	0.507	D	1.048	F
SR-146 (East St)	Front St to Metz Rd	0.507	D	1.041	F
SR-183 (Castroville Rd)	Blackie Rd to Espinosa Rd	1.074	F	1.577	F
SR-183 (Castroville Rd)	Espinosa Rd to Cooper Rd	1.012	F	1.509	F
SR-218 (Canyon del Rey Blvd)	SR-1 to Del Monte Blvd	0.739	D	1.052	F
SR-218 (Canyon del Rey Blvd)	Fremont Blvd to Carlton Dr	1.099	F	1.295	F
SR-218 (Canyon del Rey Blvd)	Carlton Dr to SR-68	1.099	F	1.336	F
Foam St	Prescott Ave to Drake Ave	1.156	F	1.775	F
Foam St	Drake Ave to Lighthouse Ave	1.277	F	1.688	F
Lighthouse Ave	David Ave to Prescott Ave	1.022	F	1.003	F
Lighthouse Ave	Prescott Ave to Private Bolio Rd	1.637	F	1.785	F
Lighthouse Ave	Private Bolio Rd to Pacific St	1.270	F	1.252	F

Roadway Segment		Existing Conditions (2008) V/C Ratio	LOS	2030 Cumulative plus Project Conditions V/C Ratio	LOS
Lighthouse Ave	Pacific St to Washington St	1.124	F	1.126	F
Del Monte Ave	Washington St to Camino Aguajito	1.314	F	1.162	F
Del Monte Ave	Camino Aguajito to Casa Verde Wy	1.313	F	1.33	F
Del Monte Ave	Casa Verde Wy to SR-1	1.443	F	1.845	F
Fremont St	Abrego St to Camino Aguajito	1.065	F	1.168	F
Munras Ave/Abrego St	Soledad Dr to Via Zaragoza	1.226	F	1.425	F
Del Monte Blvd	SR-1 to Canyon del Rey Blvd	1.039	F	1.243	F
Del Monte Blvd	Canyon del Rey Blvd to Broadway Ave	1.058	F	1.136	F
Del Monte Blvd	SR-1 to Reindollar Ave	1.081	F	1.443	F
Del Monte Blvd	Reindollar Ave to Reservation Rd	1.929	F	2.498	F
N Fremont St	Casa Verde Wy to SR-218	0.971	E	1.058	F
E Boronda Rd	US-101 to N Main St	0.923	D	1.711	F
John St	Abbott St to US-101	1.069	F	1.071	F
Davis Rd	W Laurel Dr to SR-183	1.057	F	1.061	F
Blanco Rd	S Davis Rd to W Alisal St	0.698	D	1.019	F
Roadway Segments Operating at LOS E in the 2030 Cumulative plus Project Conditions Scenario					
US Highway 101	El Camino Real to Oak Ave	0.545	C	0.888	E
SR-1	Aguajito Rd to Munras Ave	0.854	D	0.916	E
SR-1	Holman Hwy to Carpenter St	0.890	D	0.991	E
SR-218 (Canyon del Rey Blvd)	Del Monte Blvd to Fremont Blvd	0.708	D	0.968	E
Fremont Blvd	N Del Monte Blvd to SR-1	0.854	D	0.997	E
Sanborn Rd	US-101 to Abbott St	0.983	E	0.961	E

Source: Kimley-Horn and Associates, Inc.

Table 4.6-20 compares existing and 2030 Cumulative plus Project roadway LOS on Regional roadways external to Monterey County. Traffic generated by the land uses allowed under the 2007 General Plan will produce inter-county travel between housing and jobs in Santa Cruz, San Benito, and Santa

Clara counties, and to a lesser extent San Luis Obispo County. With cumulative development in adjacent counties increases the demand for this inter-county travel. Development allowed under the General Plan, cumulatively with development in incorporated cities in Monterey County and development in adjacent counties, causes nearly every roadway segment to experience an increase in the volume to capacity ratio, and causes four segments to change from LOS D or better to a LOS E or F.

Table 4.6-20. Roadway Level of Service of Facilities External to Monterey County under 2030 Cumulative plus Project Conditions

		Existing Conditions (2008)		2030 Cumulative plus Project Conditions	
Roadway Segment		V/C Ratio	LOS	V/C Ratio	LOS
Santa Clara County					
US Highway 101	Cochrane Rd to E Dunne Ave	1.139	F	2.076	F
US Highway 101	Masten Ave to Leavesley Rd/SR-152 West	0.989	E	1.447	F
US Highway 101	Monterey Rd to SR-25	1.071	F	1.669	F
SR-152	SR-156 to Merced County	0.630	C	1.029	F
Santa Cruz County					
SR-1	Soquel Ave to 41st St	1.368	F	1.560	F
SR-1	Airport Blvd to SR-152	0.876	D	1.297	F
SR-1	Harkings Slough Rd to SR-129	0.608	C	1.042	F
SR-1	SR-129 to Monterey County	0.492	B	0.815	D
SR-17	Santa Clara County to Granite Creek Rd	0.958	E	0.849	D
SR-129 (Riverside Rd)	Lakeview Rd to Carlton Rd	0.847	D	1.190	F
San Benito County					
US Highway 101	Santa Clara County to SR-129	0.912	E	1.282	F
SR-25 (Bolsa Rd)	Santa Clara County to SR-156	1.196	F	1.883	F
SR-156	Salinas Rd to Union Rd	1.706	F	1.785	F
San Luis Obispo County					
US Highway 101	Monterey County to San Miguel Ave	0.300	A	0.512	B

Source: Kimley-Horn and Associates, Inc.

Impact of Goods Movement on Roadway Level of Service

As described earlier, the county's current truck traffic generation is expected to increase from 12,600 truck trips per day (2006) to 18,600 in 2030. This is a cumulative projection, not just trucks generated by land uses in unincorporated Monterey County. This increase in freight movement is not significant enough to cause widespread capacity-related impacts, but will contribute large vehicle traffic to roadways and highways that are currently, or are projected to fall below the County's acceptable LOS standard and may cause the localized impacts on heavily traveled freight routes (e.g., Highways 1, 101, 156, and 183) and within industrialized areas where truck traffic originates see Impact TRAN-1A).

2007 General Plan Policies

The 2007 General Plan policies establish measures to minimize adverse impacts of roadway level of service impacts of development both individually and cumulatively. The policies related to roadway level of service for development described in the Existing plus Project Development to the Year 2030 scenario apply to the Year 2030 Cumulative plus Project scenario.

Significance Determination

Development and land use allowed under the 2007 General Plan, cumulatively with development in incorporated cities and adjacent counties, would increase traffic volumes on County roads, Regional roads, and regional roads external to the County. This added traffic would both cause roadway segments to exceed the County's LOS standard, and contribute traffic to roadways that exceed the LOS standard without development, and further degrade the performance measure. Within the CVMP, three segments of Carmel Valley Road are projected to exceed LOS standards, but mitigation measures are proposed in the CVMP Traffic study to improve these impacts to less than significant.

Despite development contributions to county impacts (through countywide traffic impact fee), and regional impacts (through regional traffic impact fee) there will remain a funding shortfall for the improvement of County and Regional roads to achieve the County's LOS standard. Therefore this impact remains significant and unavoidable.

Mitigation Measures

Mitigation of the impacts described above to achieve a LOS D include:

- Widening County and Regional roadway from existing 2-lane facilities to4, 6, or 8-lanes facilities;
- Expand existing intersections to include additional through and turning lanes;

- Install traffic signals;
- Grade-separate intersections of the junction between major streets;
- Widen state highway to accommodate additional travel lanes, provide shoulders, and auxiliary lanes between on and off-ramps; and
- Increase public transportation services by expanding MST's fleet, expand fixed-route services, increase headways, provide park and ride facilities, and implement new services including Bus Rapid Transit, and inter-city rail service.

Many of the mitigations for roadways segments are likely infeasible due to physical, topographical, and environmental constraints, as well the social and economic impacts related to the acquisition of commercial and residential property, or loss of access, and lack of community consensus for roadway capacity-enhancing projects. This construction would result in impacts to other resources, such as biological resources, air quality, noise, aesthetics and agricultural lands. The foremost constraint, however, is funding of transportation facilities. Federal, state and regional funding are limited, and most of these funds are used to maintain the transportation system. The County and TAMC are planning to implement Traffic Impact Fees to fund improvement projects, but the amount of the fees are limited for affordability and total fee burden reasons. Further, another source of funding, voter initiatives to increase sales tax to fund transportation projects, have failed recently, but may be an option in the future.

The County and regional fee programs will continuously be updated, adding additional priority projects to the programs as initial projects are completed, but the rate of project completion will not be able to outpace the rate of development growth.

The following mitigation measures are recommended for implementation by the County to achieve LOS standards within the CVMP area.

Mitigation Measure TRAN-2B: Revise policies in the Carmel Valley Master Plan as follows:

Policy CV-2.10

The following are policies regarding improvements to specific portions of Carmel Valley Road:

a) Via Petra to Robinson Canyon Road

Every effort should be made to preserve its rural character by maintaining it as a 2-lane road with paved shoulders, passing lanes and left turn channelizations at intersections where warranted.

b) Robinson Canyon Road to Laureles Grade

Every effort should be made to preserve its rural character by maintaining it as a 2-lane road with paved shoulders, passing lanes and left turn channelizations at intersections where warranted.

c) Carmel Valley Road/Laureles Grade

A grade separation should be constructed at this location instead of a traffic signal. The grade separation needs to be constructed in a manner that minimizes impacts to the rural character of the road. An interim improvement of an all-way stop or stop signal is allowable during the period necessary to secure funding for the grade separation.

d) Laureles Grade to Ford Road

Shoulder improvements and widening should be undertaken here and extended to Pilot Road, and include left turn channelization at intersections as warranted.

e) East of Esquiline Road

Shoulder improvements should be undertaken at the sharper curves. Curves should be examined for spot realignment needs.

f) Laureles Grade improvements

Improvements to Laureles Grade should consist of the construction of shoulder widening, spot realignments, passing lanes and/or paved turn-outs. Heavy vehicles should be discouraged from using this route.

Policy CV-2.12:

To accommodate existing and future traffic, the following road improvements are recommended:

Add a northbound climbing lane between Rio Road and Carmel Valley Road:

a) Laureles Grade - undertake shoulder improvements, widening and spot realignment;
b) Carmel Valley Road, Robinson Canyon Road to Ford Road - add left turn channelization at all intersections. Shoulder improvements should be undertaken.

Policy CV-2.18 :

To implement traffic standards to provide adequate streets and highways in Carmel Valley, the County shall conduct and implement the following:

a) Twice yearly monitoring by Public Works (in June and October) of peak hour traffic at the following 12 locations:

Carmel Valley Road

1. East of Holman Road
2. Holman Road to Esquiline Road
3. Esquiline Road to Ford Road
4. Ford Road to Laureles Grade
5. Laureles Grade to Robinson Canyon Road
6. Robinson Canyon Road to Schulte Road
7. Schulte Road to Rancho San Carlos Road
8. Rancho San Carlos Road to Rio Road
9. Rio Road to Carmel Rancho Boulevard
10. Carmel Rancho Boulevard to SR1

Other Locations

11. Carmel Rancho Boulevard between Carmel Valley Road and Rio Road
12. Rio Road between its eastern terminus and SR1

b) A yearly evaluation report (December) shall be prepared jointly by the Public Works and Planning Departments and shall evaluate the peak-hour level of service (LOS) for these 12 locations to indicate segments approaching a traffic volume which would lower levels of service below the LOS standards established below under CV 2-18(d).

c) Public hearings shall be held in January immediately following a December report in (b) above in which only 100 or less peak hour trips remain before an unacceptable level of service (as defined by CV 2-18(d)) would be reached for any of the 12 segments described above.

d) The traffic LOS standards (measured for peak hour conditions) for the CVMP Area shall be as follows:

1. Signalized Intersections – LOS of "C" is the acceptable condition.
2. Unsignalized Intersections – LOS of "F" or meeting of any traffic signal warrant are defined as unacceptable conditions
3. Carmel Valley Road Segment Operations:
   a. LOS of "C" for Segments 1, 2, 8, 9, and 10 is an acceptable condition;
   b. LOS of "D" for Segments 3, 4, 5, 6, and 7 is an acceptable condition.

During review of development applications which require a discretionary permit, if traffic analysis of the proposed project indicates that the project would result in traffic conditions that would exceed the standards

described above in CV 2-18(d) after the analysis takes into consideration the Carmel Valley Traffic Improvement Program to be funded by the Carmel Valley Road Traffic Mitigation Fee, then approval of the project shall be conditioned on the prior (e.g., prior to project-generated traffic) construction of additional roadway improvements OR an Environmental Impact Report shall be prepared for the project. Such additional roadway improvements must be sufficient, when combined with the projects programmed in the Carmel Valley Traffic Improvement Program, to allow County to find that the affected roadway segments or intersections would meet the acceptable standard upon completion of the programmed plus additional improvements. This policy does not apply to the first single-family residence on a legal lot of record.

Policy CV-2.19:

Carmel Valley Traffic Improvement Program (CVTIP)

a) The CVTIP shall include the following projects (unless a subsequent traffic analysis identifies that different projects are necessary to maintain the LOS standards in Policy CV-2.18(d):

    1. Left-turn channelization on Carmel Valley Road west of Ford Road;
    2. Shoulder widening on Carmel Valley Road between Laureles Grade and Ford Road;
    3. Paved turnouts, new signage, shoulder improvements, and spot realignments on Laureles Grade;
    4. Grade separation at Laureles Grade and Carmel Valley Road (an interim improvement of an all-way stop or stop signal is allowable during the period necessary to secure funding for the grade separation);
    5. Sight Distance Improvement at Dorris Road;
    6. Passing lanes in front of the proposed September Ranch development;
    7. Passing lanes opposite Garland Park;
    8. Climbing Lane on Laureles Grade;
    9. Upgrade all new road improvements within Carmel Valley Road Corridor to Class 2 bike lanes;
    10. Passing lane (1/4 mile) between Schulte Road and Robinson Canyon Road; and
    11. Passing lane (1/4 mile) between Rancho San Carlos Rd and Schulte Road.

b) The County shall adopt an updated fee program to fund the CVTIP.

c) All projects within the CVMP area and within the "Expanded Area" that contribute to traffic within the CVMP area shall contribute fair-

share traffic impact fees to fund necessary improvements identified in the CVTIP, as updated at the time of building permit issuance.

d) Where conditions are projected to approach unacceptable conditions (as defined by the monitoring and standards described above under CV 2-18(d)), the CVTIP shall be updated to plan for and fund adequate improvements to maintain acceptable conditions.

Significance Conclusion

With buildout of the 2007 General Plan, and implementation of mitigation measures determined to be feasible, there would remain significant and unavoidable impacts on County roads, and Regional roads both within and external to Monterey County.

A traffic study of the CVMP has identified impacts and mitigation measures for Carmel Valley Road (described above). These mitigation measures result in impacts to Carmel Valley Road being less than significant except for the segment of Carmel Valley Road in the Carmel Valley Village where the conditions will drop from LOS C (the current standard) to LOS D (the proposed standard) due to the lack of feasible mitigation consistent with the rural character of Carmel Valley to maintain the higher standard.

A traffic study (Kimley-Horn 2008) of SR-1 operations between Rio Road and Ocean Blvd has identified significant existing and cumulative impacts that can only be fully mitigated with widening to 4-lanes along this segment. As this is mostly an existing problem, there are limitations on the use of new development fees to pay to correct an existing problem. Neither TAMC nor Caltrans is currently planning to fund SR-1 widening at this location. Further, there is no community consensus to complete a widening project. Thus, widening of this segment is considered infeasible due to the lack of available funding and a lack of community support and thus impacts to SR-1 between Rio Road and Ocean Boulevard to be significant and unavoidable.

Air Traffic

Impact TRAN-2C: Growth in land uses allowed under the 2007 General Plan, cumulatively with development in incorporated cities and adjacent counties, would increase demand for air travel at the County's four airports or increase development within the approach and departure pattern of airports.

Impact of Development with Policies

The discussion of air traffic impacts in the Existing plus Project Development to the year 2030 scenario remains applicable in this scenario.

2007 General Plan Policies

The policies related to roadway level of service for development described in the Existing plus Project Development to the Year 2030 scenario apply to the Year 2030 Cumulative plus Project scenario.

Significance Determination

Development of the land uses allowed under the 2007 General Plan by the year 2030 would result in an increase in demand for air travel. Passenger travel in Monterey County peaked in 1978 with about 640,000 passengers annually. Since that time passenger travel has declined to nearly half of its peak (Monterey Airport District, 2008). Without adding additional capacity at airports, the current passenger level could increase to at least 640,000 passengers annually without impacting airport operations (a 96% increase).

Land use growth proposed in the general Plan and specifically the Hwy 68/Monterey Peninsula Airport Affordable Housing Overlay will not be located within airport flight paths, and will not be design in such a way as to become an incompatible land use (i.e., high rise buildings). No change in airport location is being proposed in the 2007 General Plan. (Less than Significant Impact).

Mitigation Measures

Impacts would be less than significant, therefore no mitigation measures are necessary.

Significance Conclusion

The development of the General Plan would increase the demand for the air travel. The General Plan contains policies to encourage safe operations of air facilities and land uses surrounding the airports that are consistent with airport operations. Airport passenger demand is significantly less than it was in 1978 and therefore can accommodate substantial increases without increasing the capacity of airports. Impacts of the General Plan policies under 2030 Cumulative plus Project are less than significant.

Roadway Hazards

Impact TRAN-2D: Growth in land uses allowed under the 2007 General Plan, cumulatively with development in incorporated cities and adjacent counties, would result in non-standard or hazardous designs or land uses that are incompatible with public facilities and adjoining land uses. (Less Than Significant)

Impact of Development with Policies

The discussion of roadway hazard impacts in the Existing plus Project Development to the year 2030 scenario remains applicable in this scenario.

2007 General Plan Policies

The policies related to roadway level of service for development described in the Existing plus Project Development to the Year 2030 scenario apply to the Year 2030 Cumulative plus Project scenario.

Significance Determination

Development of the land uses allowed under the 2007 General Plan by the year 2030 would result in non-standard or hazardous designs and incompatible facilities with adjoining land uses. The General Plan provides for policies to prevent or reduce these impacts by requiring roads to be designed to safety standards. These policies require new development to design facilities to County standards. They also provide for road safety programs (signing, marking, and improved sight distance) to improve overall safety. The 2007 General Plan also has policies to limit incompatible land uses. Therefore, the impact of roadway hazards with implementation the 2007 General Plan is less than significant.

Mitigation Measures

No additional mitigation measures beyond the 2007 General Plan are necessary.

Significance Conclusion

The development under the General Plan would result in non-standard or hazardous transportation facility designs or land uses that are incompatible with public facilities. However, the 2007 General Plan contains policies to ensure that new development provides access and improvements to the county roadway system to meet County standards. It also contains policies to prevent incompatible land uses to avoid transportation conflicts and roadway hazards. Therefore, the impact is less than significant.

Emergency Access

Impact TRAN-2E: Growth in land uses allowed under the 2007 General Plan, cumulatively with development in incorporated cities and adjacent counties, would result in inadequate emergency access. (Significant and Unavoidable)

Impact of Development with Policies

The discussion of emergency access impacts in the Existing plus Project Development to the year 2030 scenario remains applicable in this scenario.

2007 General Plan Policies

The policies related to roadway level of service for development described in the Existing plus Project Development to the Year 2030 scenario apply to the Year 2030 Cumulative plus Project scenario.

Significance Determination

Development of the land uses allowed under the 2007 General Plan under 2030 Cumulative plus Project would result in inadequate emergency access due to increases in traffic that result in County and Regional roadways exceeding County LOS standards, and creating traffic congestion that slows emergency response time.

The General Plan policies discussed above address transportation related impacts to emergency response due to congestion, and design. However, even with the adoption of county and regional impact fees, and implementation of proposed transportation improvements at the County and Regional level, traffic impacts to County and Regional roadway level of service will remain significant and unavoidable, and thereby cause an impact to emergency response that significant and unavoidable.

Mitigation Measures

The mitigation measures described under the Existing plus Project Development to the Year 2030 (MM-2E) are applicable to this scenario.

Significance Conclusion

The development allowed in the 2007 General Plan would generate traffic that would cause County and Regional roadways to exceed the County's LOS D standard, and contribute to roadways that exceed the standard without development, causing traffic congestion that would impact emergency response time. Although mitigation is proposed to identify and expand emergency response routes and increased road connectivity within new

developments, this measure does not mitigate LOS impacts. This is a significant and unavoidable impact.

Alternative Transportation

Impact TRAN-2F: Development allowed under the 2007 General Plan, cumulatively with development in incorporated cities and adjacent counties, would conflict with adopted policies, plans, or programs supporting alternative transportation or generate pedestrian, bicycle, or transit travel demand that would not be accommodated by current pedestrian facilities, bicycle development plans, or long-range transit plans. (Less than Significant)

Impact of Development with Policies

The discussion of air traffic impacts in the Existing plus Project Development to the year 2030 scenario remains applicable in this scenario.

2007 General Plan Policies

The policies related to roadway level of service for development described in the Existing plus Project Development to the Year 2030 scenario apply to the Year 2030 Cumulative plus Project scenario.

Significance Determination

Implementation of the policies in the General Plan and Area Plans for development of the land uses allowed under the 2030 Cumulative plus Project scenario would increase pedestrian, bicycle and transit-supportive facilities by both requiring and encouraging the construction of such facilities and land use patterns in new development. These policies provide support for, and do not conflict with, alternative modes of transportation. The transit-supportive land uses identified in the general Plan are consistent with MST's objective to provide transit-oriented development (Designing for Transit - A Manual for Integrating Public Transit and Land Use in Monterey County, MST, 2006).

The land uses allowed under the General Plan, if consistent with policy, would increase the need for transit service with concentrations of development in existing transit-served corridors, community areas, and near incorporated cities. The increase in demand for transit service is consistent with MST's strategic goals of increasing transit ridership, expanding service, and introducing new services such as BRT in major corridors (Peninsula Area Service Study, 2006 and Business Plan and Short Range Transit Plan, FY 2008 through 2008). Therefore, this impact is less than significant.

Mitigation Measures

No mitigation measures are necessary.

Significance Conclusion

The policies contained in the General Plan provide both requirements and encouragement of alternative mode infrastructure and facilities, and promote transit-support land use patterns. These polices support and do not conflict with existing facilities, policies, plans and programs. The development allowed under the General Plan will generate demand for pedestrian and bicycle facilities, and demand for transit services. These demands can be accommodated by ensuring development conforms to County policies and design standards, and are consistent with the goals and strategies of MST, the County's transit service provider. This is a less than significant impact.

Existing plus Project (Buildout of the General Plan)

Buildout of the General Plan represents the combination of existing conditions and forecast 2007 General Plan buildout development within unincorporated Monterey County. The number of potential housing units to be added to unincorporated Monterey County was determined from the number of vacant residential lots and the assigned zoning within each planning area or community area. Employment was derived based on the rate of growth in housing units and population by maintaining the employee per housing unit ratio contained in the 2030 AMBAG model constant. At the annual rate of residential growth derived from the AMBAG 2004 forecasts, buildout of the 2007 General Plan is estimated to occur in the year 2092.

This scenario identifies the impacts of development in unincorporated areas of the County assuming no development in incorporated areas and adjacent counties.

Project-Specific Impacts of the Development under Existing plus Project Buildout

Impact TRAN-3A: Buildout of the 2007 General Plan would cause project-specific impacts on County roadways which would cause roadways to fall below the acceptable LOS standard D. (Less Than Significant Impact).

Impact of Development with Policies

Project-specific impacts of new development are described in Impact TRAN-1A. These are localized impacts that affect the immediate surrounding transportation system, including access and circulation necessary for the

development to function properly and safely. Some project-specific impacts are exclusively attributable to the development such as access connections between the development site and public roadway system. Other project-specific impacts such as impacts to the public roadway system in the immediate vicinity of the development site are cumulative with other development in the area.

2007 General Plan Policies

The policies related to roadway level of service for development described in the Existing plus Project Development to the Year 2030 scenario apply to the Existing plus Project Buildout scenario.

Significance Determination

Project-specific impacts of new development will continue to occur through buildout of the General Plan. As long as General Plan policies remain in effect, new development will be required to prepare a project-level traffic study, or project-level Environmental Impact Report. Impacts to roadway LOS or project access would be identified in these studies and development would be fully responsible for the implementation of mitigation measures or would be responsible for its fair-share of the mitigation depending on the extent of the impact and the development's contribution to the impact along with other cumulative development. If a roadway already falls below the County's LOS standard, then the development is required to mitigate its impact so that the measure of performance (e.g., volume to capacity ratio, peak hour average delay, etc.) of the roadway does not degrade beyond the level without the development. This is a less than significant impact.

Mitigation Measures

Impacts are less than significant, therefore no mitigation is necessary.

Significance Conclusion

Implementation of the 2007 General Plan consistent with policies related to project-specific localized impacts (Policy C-1.4, new development is required to mitigate project-specific local impacts to maintain the County's LOS standard and to provide adequate access and circulation facilities. Policy C-1.3 restricts new development or requires the phasing of new development so that it is concurrent with transportation improvements) would have a less than significant impact and no mitigation is required.

County and Regional Roadway Level of Service Impacts (Existing plus Project Buildout)

Impact TRAN-3B: Buildout of the 2007 General Plan would *increase traffic on* County and Regional roadways which would cause the LOS to exceed the LOS D standard, or contribute traffic to County and Regional roads that exceed the LOS standard without development. (Significant and unavoidable impact)

Impact of Development with Policies

The LOS on study area roadways for the Existing plus Project Buildout scenario is illustrated graphically in Exhibit 4.6.9. A detailed analysis of roadway level of service by segment is included in the Appendix.

Table 4.6-21 shows the roadway segments operating at deficient level of service under this scenario and compares the segments to their LOS under existing conditions. As shown in Table 4.6-21, there are 4 segments that operate at LOS E and 39 segments that operate at LOS F in this scenario. Segments of Carmel Valley Road between SR 1 and Ford Road in the CVMP area are projected to operate at LOS F at buildout of the General Plan. Carmel Valley Road segments between Ford Road and Via Los Tulares will operate at LOS D, exceeding the CVMP LOS standard of LOS C.

In comparison, under existing conditions, 28 of the segments in Table 4.6-21 currently operate at LOS E or F. The development in the County at buildout causes an additional 16 roadway segments to exceed the county's LOS threshold. In the CVMP area, the development in the County up to the year 2030, cumulatively with other development, causes an additional two roadway segments to exceed the county's LOS threshold as defined in the CVMP. Further discussion of impacts of the 2007 General Plan within the Carmel Valley Plan Area are discussed in the next section.

Table 4.6-21. County Roadway Segments Operating at LOS E or F under Existing plus Project Buildout Conditions

Roadway Segment		Existing Conditions		Existing plus Project Buildout Conditions	
		V/C Ratio	LOS	V/C Ratio	LOS
Roadway Segments Operating at LOS F in the Existing plus Project Buildout Scenario					
County Road G11 (San Juan Rd)	Salinas Rd to San Miguel Canyon Rd	0.942	E	1.447	F
County Road G11 (San Juan Rd)	Aromas Rd to Carpenteria Rd	0.938	E	1.173	F
County Road G12 (Salinas)	Porter Dr to Railroad Ave	1.236	F	1.514	F
County Road G12 (Elkhorn Rd)	Salinas Rd to Hall Rd	1.339	F	1.418	F
County Road G12 (Hall Rd)	Elkhorn Rd to San Miguel Canyon Rd	1.879	F	1.935	F
County Road G12 (San Miguel Canyon Rd)	Strawberry Rd to Castroville Blvd	1.485	F	1.404	F
County Road G12 (San Miguel Canyon Rd)	Castroville Blvd to US-101	1.486	F	1.267	F
County Road G14 (Jolon)	US-101 to San Lucas Rd	0.582	D	1.747	F
County Road G16 (Carmel Valley Road)	SR-1 to Carmel Rancho Blvd	0.833	D	1.084	F
County Road G16 (Carmel Valley Road)	Carmel Rancho Blvd to Rio Rd	0.782	D	1.081	F
County Road G16 (Carmel Valley Road)	Rio Rd to Rancho San Carlos Rd	1.305	F	1.89	F
County Road G16 (Carmel Valley Road)	Rancho San Carlos Rd to Valley Greens Dr	1.434	F	2.055	F
County Road G16 (Carmel Valley Road)	Valley Greens Dr to Robinson Canyon Rd	1.01	F	1.507	F
County Road G16 (Carmel Valley Road)	Robinson Canyon Rd to Miramonte Rd	1.006	F	1.473	F
County Road G16 (Carmel Valley Road)	Miramonte Rd to Laureles Grade	0.946	E	1.122	F
County Road G16 (Carmel Valley Road)	Laureles Grade to Ford Rd	0.933	E	1.43	F
County Road G16 (Carmel Valley Road)	Ford Rd to Esquiline Rd	0.745	D	0.882	D
County Road G17 (Reservation)	Davis Rd to SR-68	0.698	D	1.575	F

County Road G17 (River Rd)	SR-68 to Las Palmas Rd	0.481	C	1.042	F
County Road G17 (River Rd)	Las Palmas Rd to Las Palmas Pkwy	0.805	D	1.5	F
County Road G20 (Laureles Grade Rd)	SR-68 to Robley Rd	0.591	D	1.002	F
Blanco Rd	Reservation Rd to Cooper Rd	2.033	F	2.35	F
Blanco Rd	Cooper Rd to Armstrong Rd	2.146	F	2.408	F
Blanco Rd	Armstrong Rd to Davis Rd	2.292	F	2.592	F
Calle Del Adobe	Boranda Rd to Post Dr	0.359	C	1.125	F
Camino Del Monte	Carmel City Line to Serra Ave	0.531	D	1.542	F
Carpenter St	Serra Ave to SR-1	1.354	F	1.892	F
Crazy Horse Canyon Rd	San Juan Grade Rd to US-101	0.449	C	1.199	F
Davis Rd	Blanco Rd to Reservation Rd	0.958	E	1.135	F
Ocean Ave	Carmel City Line to SR-1	1.229	F	1.5	F
Pine Canyon Rd (King City)	Pine Meadow Dr to Merritt St	0.258	C	1.375	F
Porter Dr	Salinas Rd to San Juan Rd	0.967	E	1.142	F
Porter Dr	San Juan Rd to Santa Cruz County Line	1.423	F	1.846	F
Rio Rd	Carmel City Line to SR-1	1.161	F	1.375	F
Russell Rd	SR-101 to San Juan Grade Rd	0.661	D	1.042	F
Salinas Rd	SR-1 to Fruitland Ave	0.972	E	1.019	F
San Benancio Rd	Harper Canyon Rd to SH-68	0.568	D	1.177	F
San Juan Grade Rd	Salinas City Line to Russell Rd	1.015	F	1.378	F
San Juan Grade Rd	Russell Rd to Rogge Rd	0.747	D	1.37	F
San Juan Grade Rd	Hebert Rd to Crazy Horse Canyon Rd	0.402	C	1.259	F
Roadway Segments Operating at LOS E in the Existing plus Project Buildout Scenario					
County Road G17 (Reservation)	East Garrison Rd to Davis Rd	0.418	C	0.986	E
Corral De Tierra	SH-68 to Robley Rd	0.682	D	0.802	E
Espinosa Rd	SR-183 to US-101	0.896	E	0.979	E
Harris Rd	Spreckels Blvd to Abbott St	0.844	E	0.823	E
Roadway Segments Operating at Deficient LOS D in the Existing plus Project Buildout Scenario					
County Road G16 (Carmel Valley Road)	Holman Rd to Via Los Tulares	Refer to existing conditions analysis		0.548	D
County Road G16(Carmel Valley Road)	SR-1 to Carmel Rancho Blvd			1.084	F
County Road G16(Carmel Valley Road)	Carmel Rancho Blvd to Rio Rd			1.081	F
County Road G16(Carmel	Rio Rd to Rancho San Carlos Rd			1.89	F

Valley Road)					
County Road G20 (Laureles Grade Rd)	Robley Rd to Carmel Valley Rd	0.582	D	0.916	D
Carmel Rancho Blvd	Carmel Valley Blvd to Carmel Rancho Ln	0.619	D	0.758	D
Carmel Rancho Blvd	Carmel Rancho Ln to Rio Rd	0.402	C	0.475	D
Rio Rd	SR-1 to Carmel Rancho Blvd	0.575	D	0.679	D

Source: Kimley-Horn and Associates, Inc.

Table 4.6-22 presents the Regional roadway segments operating at LOS E or LOS F under Existing plus Project Buildout conditions and compares the segments to their LOS under existing conditions. Exhibit 4.6.9 presents the segment LOS graphically. A detailed table showing the volume, the volume to capacity ratio and the resulting LOS for each Regional roadway segment is included in the Appendix.

There are nine regional roadway segments that operate at LOS E and 55 segments that operate at LOS F under this scenario. Under existing conditions, 54 of these Regional roadway segments operate at LOS E or F, so development in the County at buildout causes an additional ten roadway segments to exceed the County's LOS threshold.

Table 4.6-22. Regional Roadway Segments Operating at LOS E or F under Existing plus Project Buildout Conditions

		Existing Conditions		Existing plus Project Buildout Conditions	
Roadway Segment		V/C Ratio	LOS	V/C Ratio	LOS
Roadway Segments Operating at LOS F in the Existing plus Project Buildout Scenario					
US Highway 101	County Border to Crazy Horse Canyon Rd	1.044	F	1.136	F
US Highway 101	Crazy Horse Canyon Rd to San Miguel Canyon Rd	0.989	E	1.076	F
US Highway 101	San Miguel Canyon Rd to SR-156	1.441	F	1.567	F
US Highway 101	SR-156 to Pesante Rd	1.106	F	1.202	F
US Highway 101	Pesante Rd to Espinosa Rd	1.106	F	1.202	F
US Highway 101	Espinosa Rd to E Boronda Rd	1.098	F	1.195	F
US Highway 101	E Boronda Rd to W Laurel Dr	1.143	F	1.243	F
US Highway 101	W Laurel Dr to N Main St	1.107	F	1.234	F

Roadway Segment		Existing Conditions		Existing plus Project Buildout Conditions	
		V/C Ratio	LOS	V/C Ratio	LOS
US Highway 101	N Main St to E Market St	1.172	F	1.275	F
US Highway 101	E Market St to John St	1.114	F	1.211	F
SR-1	Salinas Rd to Struve Rd	1.546	F	1.683	F
SR-1	Struve Rd to Dolan Rd	1.667	F	1.811	F
SR-1	Dolan Rd to Molera Rd	1.496	F	1.627	F
SR-1	Molera Rd to SR-183	1.426	F	1.550	F
SR-1	Fremont Blvd to Canyon del Rey Blvd	1.006	F	1.094	F
SR-1	Canyon del Rey Blvd to Del Monte Ave	1.071	F	1.165	F
SR-1	N Fremont St to Aguajito Rd	1.411	F	1.534	F
SR-1	Holman Hwy to Carpenter St	0.890	D	1.080	F
SR-1	Carpenter St to Ocean Ave	1.447	F	1.842	F
SR-1	Ocean Ave to Carmel Valley Rd	1.208	F	1.422	F
SR-68 (Holman Highway)	Forest Ave to 17 Mile Dr	1.448	F	1.644	F
SR-68 (Holman Highway)	17 Mile Dr to Skyline Forest Dr	1.638	F	1.877	F
SR-68 (Holman Highway)	Skyline Forest Dr to CHOMP Dwy	1.638	F	1.890	F
SR-68 (Holman Highway)	CHOMP Dwy to SR-1	1.638	F	1.865	F
SR-68 (Monterey Salinas Highway)	SR-1 to Olmsted Rd	1.422	F	1.641	F
SR-68 (Monterey Salinas Highway)	Olmsted Rd to Canyon del Rey Blvd	1.422	F	1.542	F
SR-68 (Monterey Salinas Highway)	Canyon del Rey Blvd to Bit Rd	1.304	F	1.540	F
SR-68 (Monterey Salinas Highway)	Bit Rd to Laureles Grade Rd	1.304	F	1.521	F
SR-68 (Monterey Salinas Highway)	Laureles Grade Rd to Corral de Tierra	1.525	F	1.834	F
SR-68 (Monterey Salinas Highway)	Corral de Tierra to Portola Dr	1.617	F	1.933	F
SR-68 (Monterey Salinas Highway)	Spreckels Blvd to E Blanco Rd	0.811	B	1.123	F
SR-156	Castroville Blvd to US-101	1.902	F	1.871	F
SR-183 (Merritt St)	SR-156 to Blackie Rd	1.184	F	1.442	F
SR-183 (Castroville Rd)	Blackie Rd to Espinosa Rd	1.074	F	1.233	F
SR-183 (Castroville Rd)	Espinosa Rd to Cooper Rd	1.012	F	1.172	F

Roadway Segment		Existing Conditions		Existing plus Project Buildout Conditions	
		V/C Ratio	LOS	V/C Ratio	LOS
SR-218 (Canyon del Rey Blvd)	Fremont Blvd to Carlton Dr	1.099	F	1.315	F
SR-218 (Canyon del Rey Blvd)	Carlton Dr to SR-68	1.099	F	1.425	F
Foam St	Prescott Ave to Drake Ave	1.156	F	2.725	F
Foam St	Drake Ave to Lighthouse Ave	1.277	F	2.858	F
Lighthouse Ave	Private Bolio Rd to Pacific St	1.27	F	1.191	F
Lighthouse Ave	Pacific St to Washington St	1.124	F	1.061	F
Del Monte Ave	Washington St to Camino Aguajito	1.314	F	1.314	F
Del Monte Ave	Camino Aguajito to Casa Verde Wy	1.313	F	1.337	F
Del Monte Ave	Casa Verde Wy to SR-1	1.443	F	1.469	F
Fremont St	Abrego St to Camino Aguajito	1.065	F	1.087	F
Munras Ave/Abrego St	Soledad Dr to Via Zaragoza	1.226	F	1.450	F
Del Monte Blvd	SR-1 to Canyon del Rey Blvd	1.039	F	1.039	F
Del Monte Blvd	Canyon del Rey Blvd to Broadway Ave	1.058	F	1.049	F
Del Monte Blvd	SR-1 to Reindollar Ave	1.081	F	1.113	F
Del Monte Blvd	Reindollar Ave to Reservation Rd	1.929	F	2.013	F
N Fremont St	Casa Verde Wy to SR-218	0.971	E	1.065	F
S Main St	Romie Ln to E Blanco Rd	0.817	D	1.079	F
John St	Abbott St to US-101	1.069	F	1.178	F
Davis Rd	W Laurel Dr to SR-183	1.057	F	1.233	F
Davis Rd	SR-183 to W Blanco Rd	2.428	F	2.870	F
Roadway Segments Operating at LOS E in the Existing plus Project Buildout Scenario					
US Highway 101	John St to S Sanborn Rd	0.897	D	0.975	E
SR-1	Del Monte Ave to N Fremont St	0.890	D	0.952	E
SR-1	Aguajito Rd to Munras Ave	0.854	D	0.929	E
Foam St	David Ave to Prescott Ave	0.661	D	0.783	E
Lighthouse Ave	Prescott Ave to Private Bolio Rd	1.637	F	0.951	E
Sanborn Rd	US-101 to Abbott St	0.983	E	0.994	E

Roadway Segment		Existing Conditions V/C Ratio	Existing Conditions LOS	Existing plus Project Buildout Conditions V/C Ratio	Existing plus Project Buildout Conditions LOS
N Main St	W Laurel Dr to E Bernal Dr	0.921	D	0.951	E
E Boronda Rd	US-101 to N Main St	0.923	D	0.970	E
S Main St	John St to Romie Ln	0.768	D	0.950	E

Source: Kimley-Horn and Associates, Inc.

Table 4.6-23 compares existing and Existing plus Project Buildout roadway LOS on Regional roadways external to Monterey County. Traffic generated by the land uses allowed under the 2007 General Plan will produce inter-county travel between housing and jobs in Santa Cruz, San Benito, and Santa Clara counties, and to a lesser extent San Luis Obispo County. With cumulative development in adjacent counties increases the demand for this inter-county travel. Development allowed under the General Plan, cumulatively with development in incorporated cities in Monterey County and development in adjacent counties, causes nearly every roadway segment to experience an increase in the volume to capacity ratio, and causes four segments to change from LOS D or better to a LOS E or F.

Table 4.6-23. Roadway Level of Service of Facilities External to Monterey County under Existing plus Project Buildout Conditions

Roadway Segment		Existing Conditions V/C Ratio	Existing Conditions LOS	Existing plus Project Buildout Conditions V/C Ratio	Existing plus Project Buildout Conditions LOS
Santa Clara County					
US Highway 101	Cochrane Rd to E Dunne Ave	1.139	F	0.820	D
US Highway 101	Masten Ave to Leavesley Rd/SR-152 West	0.989	E	0.824	D
US Highway 101	Monterey Rd to SR-25	1.071	F	0.964	E
SR-152	SR-156 to Merced County	0.630	C	0.634	C
Santa Cruz County					
SR-1	Soquel Ave to 41st St	1.368	F	1.071	F
SR-1	Airport Blvd to SR-152	0.876	D	0.731	C
SR-1	Harkings Slough Rd to SR-129	0.608	C	0.541	B
SR-1	SR-129 to Monterey County	0.492	B	0.423	B

Roadway Segment		Existing Conditions V/C Ratio	Existing Conditions LOS	Existing plus Project Buildout Conditions V/C Ratio	Existing plus Project Buildout Conditions LOS
SR-17	Santa Clara County to Granite Creek Rd	0.958	E	0.945	E
SR-129 (Riverside Rd)	Lakeview Rd to Carlton Rd	0.847	D	0.926	D
San Benito County					
US Highway 101	Santa Clara County to SR-129	0.912	E	0.809	D
SR-25(Bolsa Rd)	Santa Clara County to SR-156	1.196	F	1.049	F
SR-156	Salinas Rd to Union Rd	1.706	F	1.718	F
San Luis Obispo County					
US Highway 101	Monterey County to San Miguel Ave	0.300	A	0.314	A

Source: Kimley-Horn and Associates, Inc.

Impact of Goods Movement on Roadway Level of Service

There are no actual projections of truck traffic to buildout in the year 2092, but using employment growth as a proxy for growth in business that generates the need for freight movement, truck traffic would grow about 20% between 2030 and buildout. Therefore truck traffic would increase from 18,600 truck trips per day in 2030 to 22,200 at buildout.

As described earlier, this increase in freight movement is not significant enough to cause widespread capacity-related impacts, but will contribute large vehicle traffic to roadways and highways that are currently, or are projected to fall below the County's acceptable LOS standard and may cause the localized impacts on heavily traveled freight routes and within industrialized areas where truck traffic originates.

2007 General Plan Policies

The policies related to roadway level of service described in the Existing plus Project Development to the Year 2030 scenario apply to the Existing plus Project buildout scenario.

Significance Determination

Buildout the 2007 General Plan would increase traffic volumes on County roads, Regional roads, and regional roads external to the County. This added traffic would both cause roadway segments to exceed the County's LOS standard, and contribute traffic to roadways that exceed the LOS standard

without development, and further degrade the performance measure. Despite development contributions to county impacts (through countywide traffic impact fee), and regional impacts (through regional traffic impact fee) there will remain a funding shortfall for the improvement of County and Regional roads to achieve the County's LOS standard. Therefore this impact remains significant and unavoidable.

Mitigation Measures

Mitigation of the LOS impacts described above (see mitigation measure for Impact TRAN-2B) would require extensive County and Regional roadway widening, and intersection modifications to provide enough capacity to achieve the County's LOS D (or LOS C within Area Plans such as the CVMP) standard on all impacted segments, some outside of Monterey County. Additionally, mitigation would include substantial increases in public transportation services.

The mitigation measures recommended for implementation by the County to achieve LOS standards within the CVMP area under the 2030 Cumulative plus Project scenario are applicable to this scenario. However, segments of Carmel Valley Road and SR 1 in the CVMP area will exceed the CVMP level of standards, and no further mitigation of these facilities is feasible. Therefore this impact will be significant and unavoidable.

Significance Conclusion

Buildout of the 2007 General Plan would have a significant and unavoidable impact on County roads, and Regional roads both within and external to Monterey County. No mitigation is proposed for these facilities and they remain significant and unavoidable.

Air Traffic

Impact TRAN-3C: Buildout of the 2007 General Plan would increase demand for air travel at the County's four airports or increase development within the approach and departure pattern of airports. (Less Than Significant)

Impact of Development with Policies

The discussion of air traffic impacts in the Existing plus Project Development to the year 2030 scenario remains applicable in this scenario.

2007 General Plan Policies

The policies related to roadway level of service for development described in the Existing plus Project Development to the Year 2030 scenario apply to this scenario.

Significance Determination

As described earlier, development of the land uses allowed under the 2007 General Plan would result in an increase in demand for air travel. Passenger travel in Monterey County peaked in 1978 with about 640,000 passengers annually. Since that time passenger travel has declined to nearly half of its peak (Monterey Airport District, 2008). Without adding additional capacity at airports, the current passenger level could increase to at least 640,000 passengers annually without impacting airport operations (a 96% increase).

Land use growth proposed in the general Plan and specifically the Highway 68/Monterey Peninsula Airport Affordable Housing Overlay will not be located within airport flight paths, and will not be designed in such a way as to become an incompatible land use (i.e., high rise buildings). No change in airport location is being proposed in the 2007 General Plan. This is a less than significant impact.

Mitigation Measures

Impacts would be less than significant, therefore no mitigation measures are necessary.

Significance Conclusion

The development of the General Plan would increase the demand for the air travel. The General Plan contains policies to encourage safe operations of air facilities and land uses surrounding the airports that are consistent with airport operations. Airport passenger demand is significantly less than it was in 1978 and therefore can accommodate substantial increases without increasing the capacity of airports. Impacts of the General Plan policies under Existing plus Project Buildout are less than significant.

Roadway Hazards

Impact TRAN-3D: Buildout of the 2007 General Plan would result in non-standard or hazardous designs or land uses that are incompatible with public facilities and adjoining land uses. (Less Than Significant)

Impact of Development with Policies

The discussion of roadway hazard impacts in the Existing plus Project Development to the year 2030 scenario remains applicable in this scenario.

2007 General Plan Policies

The policies related to roadway level of service for development described in the Existing plus Project Development to the Year 2030 scenario apply to this scenario.

Significance Determination

Buildout of the 2007 General Plan would result in non-standard or hazardous designs and incompatible facilities with adjoining land uses. The General Plan policies described earlier to prevent or reduce these impacts or limit incompatible land uses. Therefore, the impact of roadway hazards at buildout of the 2007 General Plan is less than significant.

Mitigation Measures

No additional mitigation measures beyond the 2007 General Plan are necessary.

Significance Conclusion

Buildout of the General Plan would result in non-standard or hazardous transportation facility designs or land uses that are incompatible with public facilities. However, the 2007 General Plan contains policies to ensure that new development provides access and improvements to the county roadway system to meet County standards. It also contains policies to prevent incompatible land uses to avoid transportation conflicts and roadway hazards. Therefore, the impact is less than significant.

Emergency Access

Impact TRAN-3E: Buildout of the 2007 General Plan would result in inadequate emergency access. (Significant and Unavoidable)

Impact of Development with Policies

The discussion of emergency access impacts in the Existing plus Project Development to the year 2030 scenario remains applicable in this scenario.

2007 General Plan Policies

The policies related to roadway level of service for development described in the Existing plus Project Development to the Year 2030 scenario apply to this scenario.

Significance Determination

Buildout of the 2007 General Plan would result in inadequate emergency access due to increases in traffic that result in County and Regional roadways exceeding County LOS standards, and creating traffic congestion that slows emergency response time.

The General Plan policies discussed above address transportation related impacts to emergency response due to congestion, and design. However, even with the adoption of county and regional impact fees, and implementation of proposed transportation improvements at the County and Regional level, traffic impacts to County and Regional roadway level of service will remain significant and unavoidable, and thereby cause an impact to emergency response that significant and unavoidable.

Mitigation Measures

The mitigation measures described under the Existing plus Project Development to the Year 2030 are applicable to this scenario.

Significance Conclusion

Buildout of the 2007 General Plan would generate traffic that would cause County and Regional roadways to exceed the County's LOS D standard, and contribute to roadways that exceed the standard without development, causing traffic congestion that would impact emergency response time. This is a significant and unavoidable impact.

Alternative Transportation

Impact TRAN-3F: Buildout of the 2007 General Plan would conflict with adopted policies, plans, or programs supporting alternative transportation or generate pedestrian, bicycle, or transit travel demand that would not be accommodated by current pedestrian facilities, bicycle development plans, or long-range transit plans. (Less than Significant)

Impact of Development with Policies

The discussion of air traffic impacts in the Existing plus Project Development to the year 2030 scenario remains applicable in this scenario.

2007 General Plan Policies

The policies related to roadway level of service for development described in the Existing plus Project Development to the Year 2030 scenario apply to this scenario.

Significance Determination

As described earlier, implementation of the policies in the General Plan and Area Plans for buildout of the General Plan would increase pedestrian, bicycle and transit-supportive facilities by both requiring and encouraging the construction of such facilities and land use patterns in new development. These policies provide support for, and do not conflict with, alternative modes of transportation. The transit-supportive land uses identified in the general Plan are consistent with MST's objective to provide transit-oriented development (Designing for Transit - A Manual for Integrating Public Transit and Land Use in Monterey County, MST, 2006).

The land uses allowed under the General Plan, if consistent with policy, would increase the need for transit service with concentrations of development in existing transit-served corridors, community areas, and near incorporated cities. The increase in demand for transit service is consistent with MST's strategic goals of increasing transit ridership, expanding service, and introducing new services such as BRT in major corridors (Peninsula Area Service Study, 2006 and Business Plan and Short Range Transit Plan, FY 2008 through 2008). Therefore, this impact is less than significant.

Mitigation Measures

No mitigation measures are necessary.

Significance Conclusion

The policies contained in the General Plan provide both requirements and encouragement of alternative mode infrastructure and facilities, and promote transit-support land use patterns. These polices support and do not conflict with existing facilities, policies, plans and programs. The development allowed under the General Plan will generate demand for pedestrian and bicycle facilities, and demand for transit services. These demands can be accommodated by ensuring development conforms to County policies and design standards, and are consistent with the goals and strategies of MST, the County's transit service provider. This is a less than significant impact.

Buildout Cumulative plus Project

Buildout Cumulative plus Project conditions represent forecast year 2092 conditions with full implementation of the allowed land uses in the 2007 General Plan and projected growth in incorporated cities through the year 2092. This scenario includes development in adjacent counties (Santa Cruz, San Benito, and Santa Clara) to the year 2030 since growth projections to 2092 for those counties are not available.

This scenario identifies the impacts of development in unincorporated areas of the County cumulative with development in incorporated areas and adjacent counties by identifying changes in roadway level of service. This analysis of the 2007 General Plan is compared to No Project conditions under the 1982 General Plan.

Project-Specific Impacts of the Development under Buildout Cumulative plus Project Conditions

Impact TRAN-4A: Buildout of the 2007 General Plan cumulatively with development in incorporated cities and adjacent counties would cause project-specific impacts on County roadways which would cause roadways to fall below the acceptable LOS standard D. (Less Than Significant Impact).

Impact of Development with Policies

Project-specific impacts of new development are described in Impact TRAN-1A.

2007 General Plan Policies

The policies related to roadway level of service for development described in the Existing plus Project Development to the Year 2030 scenario apply to the Existing plus Project Buildout scenario.

Significance Determination

Project-specific impacts of new development will continue to occur through buildout of the General Plan. As long as General Plan policies remain in effect, new development will be required to prepare a project-level traffic study, or project-level Environmental Impact Report. Impacts to roadway LOS or project access would be identified in these studies and development would be fully responsible for the implementation of mitigation measures or would be responsible for its fair-share of the mitigation depending on the extent of the impact and the development's contribution to the impact along with other cumulative development. If a roadway already falls below the County's LOS standard, then the development is required to mitigate its impact so that the measure of performance (e.g., volume to capacity ratio, peak hour average delay, etc.) of the roadway does not degrade beyond the level without the development. This is a less than significant impact.

Mitigation Measures

Impacts are less than significant, therefore no mitigation is necessary.

Significance Conclusion

Implementation of the 2007 General Plan consistent with policies related to project-specific localized impacts (Policy C-1.4, new development is required to mitigate project-specific local impacts to maintain the County's LOS standard and to provide adequate access and circulation facilities. Policy C-1.3 restricts new development or requires the phasing of new development so that it is concurrent with transportation improvements) would have a less than significant impact and no mitigation is required.

County and Regional Roadway Level of Service Impacts (Buildout Cumulative plus Project)

Impact TRAN-4B: Buildout of the 2007 General Plan cumulatively with development in incorporated cities and in adjacent counties would create *traffic increases on* County and Regional roadways which would cause the LOS to exceed the LOS D standard, or contribute traffic to County and Regional roads that exceed the LOS standard without development. (Significant and unavoidable impact)

Impact of Development with Policies

The LOS on study area roadways for the Buildout Cumulative plus Project scenario is illustrated graphically in Exhibit 4.6.10. A detailed analysis of roadway level of service by segment is included in the Appendix.

Table 4.6-24 shows the roadway segments operating at deficient level of service under this scenario. As shown in Table 4.6-24, there are nine segments that operate at LOS E and 59 segments that operate at LOS F in this scenario. In comparison, under Existing plus Project Buildout conditions, 43 of the segments in Table 4.6-24 currently operate at LOS E or F. This indicates that buildout of the County, cumulatively with development in incorporated cities and adjacent counties cause an additional 25 roadway segments to exceed the County's LOS standard.

Table 4.6-24. County Roadway Segments Operating at LOS E or F under Buildout Cumulative plus Project Conditions

Roadway Segment		Buildout Cumulative plus Project Conditions V/C Ratio	LOS
Roadway Segments Operating at LOS F in the Buildout Cumulative Conditions Scenario			
County Road G11 (San Juan Rd)	Salinas Rd to San Miguel Canyon Rd	1.14	F
County Road G12 (Elkhorn Rd)	Salinas Rd to Hall Rd	1.29	F
County Road G12 (Hall Rd)	Elkhorn Rd to San Miguel Canyon Rd	2.97	F
County Road G12 (San Miguel Canyon Rd)	Hall Rd to Strawberry Rd	1.32	F
County Road G12 (San Miguel Canyon Rd)	Strawberry Rd to Castroville Blvd	1.55	F
County Road G12 (San Miguel Canyon Rd)	Castroville Blvd to US-101	1.46	F
County Road G14 (Jolon)	US-101 to San Lucas Rd	1.88	F
County Road G16 (Carmel Valley Road)	SR-1 to Carmel Rancho Blvd	1.30	F
County Road G16 (Carmel Valley Road)	Carmel Rancho Blvd to Rio Rd	1.35	F
County Road G16 (Carmel Valley Road)	Rio Rd to Rancho San Carlos Rd	2.45	F
County Road G16 (Carmel Valley Road)	Rancho San Carlos Rd to Valley Greens Dr	3.13	F
County Road G16 (Carmel Valley Road)	Valley Greens Dr to Robinson Canyon Rd	2.27	F
County Road G16 (Carmel Valley Road)	Robinson Canyon Rd to Miramonte Rd	2.35	F
County Road G16 (Carmel Valley Road)	Miramonte Rd to Laureles Grade	1.85	F
County Road G16 (Carmel Valley Road)	Laureles Grade to Ford Rd	1.94	F
County Road G16 (Carmel Valley Road)	Ford Rd to Esquiline Rd	1.13	F
County Road G16 (Carmel Valley Road)	Holman Rd to Via Los Tulares	1.08	F
County Road G17 (Reservation)	Blanco Rd to East Garrison Rd	1.96	F
County Road G17 (Reservation)	East Garrison Rd to Davis Rd	2.23	F
County Road G17 (Reservation)	Davis Rd to SR-68	1.47	F
County Road G17 (River Rd)	SR-68 to Las Palmas Rd	1.28	F
County Road G17 (River Rd)	Las Palmas Rd to Las Palmas Pkwy	1.01	F
County Road G17 (River Rd)	Las Palmas Pkwy to Pine Canyon Rd	1.21	F
County Road G17 (River Rd)	Pine Canyon Rd to Chualar River Rd	1.51	F
County Road G17 (River Rd)	Chualar River Rd to Gonzales River Rd	1.05	F
County Road G17 (River Rd)	Foothill Rd to Arroyo Seco Rd	1.25	F

Roadway Segment		Buildout Cumulative plus Project Conditions V/C Ratio	LOS
County Road G20 (Laureles Grade Rd)	Robley Rd to Carmel Valley Rd	1.37	F
Blanco Rd	W Alisal St to SR-68	1.29	F
Blanco Rd	SR-68 to Abbott St	1.67	F
Arroyo Seco Rd	Fort Romie Rd to US-101	1.56	F
Blanco Rd	Reservation Rd to Cooper Rd	3.34	F
Blanco Rd	Cooper Rd to Armstrong Rd	3.13	F
Blanco Rd	Armstrong Rd to Davis Rd	3.33	F
Camino Del Monte	Carmel City Line to Serra Ave	1.60	F
Carpenter St	Carmel City Line to Serra Ave	1.55	F
Carpenter St	Serra Ave to SR-1	2.43	F
Chualar Rd	US-101 to Old Stage Rd	1.60	F
Corral De Tierra	SH-68 to Robley Rd	1.33	F
Crazy Horse Canyon Rd	San Juan Grade Rd to US-101	1.71	F
Espinosa Rd	SR-183 to US-101	1.18	F
Grant St	Scott St to Clay St	1.07	F
Harris Rd	Spreckels Blvd to Abbott St	2.13	F
Nashua Rd	SR-1 to Cooper Rd	1.46	F
Ocean Ave	Carmel City Line to SR-1	2.00	F
Old Stage Rd	Hebert Rd to Natividad Rd	1.75	F
Old Stage Rd	Natividad Rd to Williams Rd	3.28	F
Pine Canyon Rd (King City)	Pine Meadow Dr to Merritt St	1.38	F
Pine Canyon Rd (King City)	Merrit St to Jolon Rd	1.14	F
Porter Dr	Salinas Rd to San Juan Rd	1.54	F
Porter Dr	San Juan Rd to Santa Cruz County Line	3.19	F
Prunedale North Rd	SR-156 to San Miguel Canyon	1.65	F
Rio Rd	Carmel City Line to SR-1	2.27	F
Rogge Rd	San Juan Grade Rd to Natividad Rd	1.29	F
Russell Rd	SR-101 to San Juan Grade Rd	2.39	F
Salinas Rd	Fruitland Ave to Elkhorn Rd	1.17	F
San Benancio Rd	Harper Canyon Rd to SH-68	1.27	F
San Juan Grade Rd	Salinas City Line to Russell Rd	2.11	F
San Juan Grade Rd	Russell Rd to Rogge Rd	2.15	F
San Juan Grade Rd	Hebert Rd to Crazy Horse Canyon Rd	1.33	F
Spreckels Blvd	SR-68 to Harkins Rd	1.21	F
Roadway Segments Operating at LOS E in the Buildout Cumulative Conditions Scenario			
County Road G12(Salinas Rd)	Railroad Ave to Elkhorn Rd	0.98	E

Roadway Segment		Buildout Cumulative plus Project Conditions V/C Ratio	LOS
County Road G20 (Laureles Grade Rd)	SR-68 to Robley Rd	0.96	E
Munras Ave/Abrego St	Fremont St to Soledad Dr	0.88	E
N Fremont St	SR-1 to Casa Verde Wy	0.96	E
Grant St	Payson Rd to Scott St	0.99	E
Pajaro St	SR-183 to Geil St	0.85	E
Portola Dr (Toro Park)	Reservation Rd to Creekside Ter	0.79	E
Portola Dr (Toro Park)	Anza Dr to Manolete Dr	0.89	E
San Miguel Canyon Rd	Tarpey Rd to Hall Rd	0.93	E
Roadway Segments Operating at Deficient LOS D in the Buildout Cumulative Conditions Scenario			
County Road G16 (Carmel Valley Road)	Esquiline Rd to Holman Rd	0.522	D
County Road G16 (Carmel Valley Road)	Holman Rd to Via Los Tulares	0.890	D
County Road G16 (Carmel Valley Road)	Via Los Tulares to Cachagua Rd	0.753	D
Carmel Rancho Blvd	Carmel Valley Blvd to Carmel Rancho Ln	0.775	D
Carmel Rancho Blvd	Carmel Rancho Ln to Rio Rd	0.625	D
Rio Rd	SR-1 to Carmel Rancho Blvd	0.754	D

Source: Kimley-Horn and Associates, Inc.

Impact of Development in the Carmel Valley Area Plan

The traffic analysis of the CVMP and the Carmel Valley Transportation Improvement Program used to present impacts of the General Plan on 2030 Cumulative Projects did not evaluate impacts of buildout of the General Plan to the year 2092. Therefore, roadway segments within the Carmel Valley Master Plan area are analyzed using the daily level of service methodology used to analyze other roadways in the County. These segments are included in Table 4.6-XX above and Table 4.6-YY below.

Table 4.6-25 presents the Regional roadway segments operating at LOS E or LOS F under 2030 Cumulative plus Project conditions. Exhibit 4.6.10 presents the segment LOS graphically. A detailed table showing the volume, the volume to capacity ratio and the resulting LOS for each Regional roadway segment is included in the Appendix.

There are eight regional roadway segments that operate at LOS E and 84 segments that operate at LOS F under this scenario. Under Existing plus Project Buildout conditions, 64 of these Regional roadway segments operate at LOS E or F, so buildout of the County cumulatively with development in

incorporated cities and adjacent counties causes an additional 20 roadway segments to exceed the County's LOS threshold.

Table 4.6-25. Regional Roadway Segments Operating at LOS E or F under Buildout Cumulative plus Project Conditions

Roadway Segment		Buildout Cumulative plus Project V/C Ratio	LOS
Roadway Segments Operating at LOS F in the Buildout Cumulative plus Project Scenario			
US Highway 101	County Border to Crazy Horse Canyon Rd	1.136	F
US Highway 101	Crazy Horse Canyon Rd to San Miguel Canyon Rd	1.076	F
US Highway 101	San Miguel Canyon Rd to SR-156	1.597	F
US Highway 101	SR-156 to Pesante Rd	2.000	F
US Highway 101	Pesante Rd to Espinosa Rd	2.002	F
US Highway 101	Espinosa Rd to E Boronda Rd	1.556	F
US Highway 101	E Boronda Rd to W Laurel Dr	1.615	F
US Highway 101	W Laurel Dr to N Main St	1.967	F
US Highway 101	N Main St to E Market St	1.796	F
US Highway 101	E Market St to John St	1.831	F
US Highway 101	John St to S Sanborn Rd	1.569	F
US Highway 101	S Sanborn Rd to Airport Blvd	1.402	F
US Highway 101	Airport Blvd to Abbott St	1.495	F
US Highway 101	Spence Rd to Chualar Rd	1.090	F
US Highway 101	Chualar Rd to Old Stage Rd	1.729	F
US Highway 101	Old Stage Rd to 5th St	1.640	F
US Highway 101	5th St to S Alta St	1.531	F
US Highway 101	S Alta St to Camphora Rd	1.576	F
US Highway 101	Camphora Rd to Moranda Rd	1.606	F
US Highway 101	Moranda Rd to Front St	1.442	F
US Highway 101	Front St to Arroyo Seco Rd	1.321	F
US Highway 101	Arroyo Seco Rd to El Camino Real	1.053	F
SR-1	County Border to Salinas Rd	1.374	F
SR-1	Salinas Rd to Struve Rd	2.044	F
SR-1	Struve Rd to Dolan Rd	2.209	F
SR-1	Dolan Rd to Molera Rd	2.040	F
SR-1	Molera Rd to SR-183	1.960	F
SR-1	Imjin Pkwy to Light Fighter Dr	1.094	F
SR-1	Light Fighter Dr to Fremont Blvd	1.091	F
SR-1	Canyon del Rey Blvd to Del Monte Ave	1.330	F
SR-1	Del Monte Ave to N Fremont St	1.023	F

Roadway Segment		Buildout Cumulative plus Project V/C Ratio	LOS
SR-1	N Fremont St to Aguajito Rd	1.534	F
SR-1	Aguajito Rd to Munras Ave	1.114	F
SR-1	Holman Hwy to Carpenter St	1.346	F
SR-1	Carpenter St to Ocean Ave	2.208	F
SR-1	Ocean Ave to Carmel Valley Rd	1.457	F
SR-68 (Holman Highway)	Forest Ave to 17 Mile Dr	2.092	F
SR-68 (Holman Highway)	17 Mile Dr to Skyline Forest Dr	2.411	F
SR-68 (Holman Highway)	Skyline Forest Dr to CHOMP Dwy	2.405	F
SR-68 (Holman Highway)	CHOMP Dwy to SR-1	1.184	F
SR-68 (Monterey Salinas Highway)	SR-1 to Olmsted Rd	2.01	F
SR-68 (Monterey Salinas Highway)	Olmsted Rd to Canyon del Rey Blvd	2.16	F
SR-68 (Monterey Salinas Highway)	Canyon del Rey Blvd to Bit Rd	2.11	F
SR-68 (Monterey Salinas Highway)	Bit Rd to Laureles Grade Rd	2.13	F
SR-68 (Monterey Salinas Highway)	Laureles Grade Rd to Corral de Tierra	2.55	F
SR-68 (Monterey Salinas Highway)	Corral de Tierra to Portola Dr	1.56	F
SR-68 (Monterey Salinas Highway)	Reservation Rd to Spreckels Blvd	1.01	F
SR-68 (Monterey Salinas Highway)	Spreckels Blvd to E Blanco Rd	1.78	F
SR-146 (Front St)	US-101 to East St (on Front St)	1.99	F
SR-146 (Metz Rd)	East St to County Rd G-15	1.05	F
SR-183 (Castroville Rd)	Blackie Rd to Espinosa Rd	1.945	F
SR-183 (Castroville Rd)	Espinosa Rd to Cooper Rd	1.828	F
SR-183 (Castroville Rd)	Cooper Rd to S Davis Rd	1.211	F
SR-218 (Canyon del Rey Blvd)	SR-1 to Del Monte Blvd	1.386	F
SR-218 (Canyon del Rey Blvd)	Del Monte Blvd to Fremont Blvd	1.101	F
SR-218 (Canyon del Rey Blvd)	Fremont Blvd to Carlton Dr	1.753	F
SR-218 (Canyon del Rey Blvd)	Carlton Dr to SR-68	1.822	F
Foam St	Prescott Ave to Drake Ave	2.945	F
Foam St	Drake Ave to Lighthouse Ave	2.864	F
Lighthouse Ave	David Ave to Prescott Ave	1.197	F
Lighthouse Ave	Prescott Ave to Private Bolio Rd	1.893	F
Lighthouse Ave	Private Bolio Rd to Pacific St	1.638	F
Lighthouse Ave	Pacific St to Washington St	1.618	F
Del Monte Ave	Washington St to Camino Aguajito	1.865	F
Del Monte Ave	Camino Aguajito to Casa Verde Wy	1.940	F
Del Monte Ave	Casa Verde Wy to SR-1	2.932	F
Fremont St	Abrego St to Camino Aguajito	1.657	F
Munras Ave/Abrego St	Soledad Dr to Via Zaragoza	2.396	F

Roadway Segment		Buildout Cumulative plus Project V/C Ratio	LOS
Del Monte Blvd	SR-1 to Canyon del Rey Blvd	2.120	F
Del Monte Blvd	Canyon del Rey Blvd to Broadway Ave	1.793	F
Fremont Blvd	N Del Monte Blvd to SR-1	1.621	F
Del Monte Blvd	SR-1 to Reindollar Ave	2.065	F
Del Monte Blvd	Reindollar Ave to Reservation Rd	3.715	F
N Fremont St	Casa Verde Wy to SR-218	2.136	F
Sanborn Rd	US-101 to Abbott St	1.524	F
N Main St	San Juan Grade Rd to W Laurel Dr	1.423	F
N Main St	W Laurel Dr to E Bernal Dr	1.508	F
E Boronda Rd	US-101 to N Main St	2.692	F
John St	Abbott St to US-101	1.469	F
Market St	Davis Rd to N Main St	1.150	F
Davis Rd	W Laurel Dr to SR-183	1.54	F
Blanco Rd	S Davis Rd to W Alisal St	1.997	F
Blanco Rd	W Alisal St to SR-68	1.294	F
Blanco Rd	SR-68 to Abbott St	1.673	F
Roadway Segments Operating at LOS E in the Buildout Cumulative plus Project Scenario			
US Highway 101	Central Ave to Jolon Rd	0.900	E
SR-1	Del Monte Blvd to Reservation Rd	0.932	E
SR-1	Reservation Rd to Del Monte Blvd	0.961	E
SR-1	Remont Blvd to Canyon del Rey Blvd	0.947	E
SR-68 (Monterey Salinas Highway)	Portola Dr to Reservation Rd	0.967	E
SR-146 (East St)	Front St to Metz Rd	0.993	E
Munras Ave/Abrego St	Fremont St to Soledad Dr	0.883	E
N Fremont St	SR-1 to Casa Verde Wy	0.955	E

Source: Kimley-Horn and Associates, Inc.

Table 4.6-26 presents Buildout Cumulative plus Project roadway LOS on Regional roadways external to Monterey County. Traffic generated by buildout of the 2007 General Plan will produce inter-county travel between housing and jobs in Santa Cruz, San Benito, and Santa Clara counties, and to a lesser extent San Luis Obispo County. Buildout of the General Plan, cumulatively with development in incorporated cities in Monterey County and development in adjacent counties, causes seven segments to change from LOS D or better to a LOS E or F.

Table 4.6-26. Roadway Level of Service of Facilities External to Monterey County under Cumulative plus Project Buildout Conditions

Roadway Segment		Existing plus Project Buildout Conditions		Buildout Cumulative plus Project Conditions	
		V/C Ratio	LOS	V/C Ratio	LOS
Santa Clara County					
US Highway 101	Cochrane Rd to E Dunne Ave	0.820	D	1.618	F
US Highway 101	Masten Ave to Leavesley Rd/SR-152 West	0.824	D	1.305	F
US Highway 101	Monterey Rd to SR-25	0.964	E	1.485	F
SR-152	SR-156 to Merced County	0.634	C	1.177	F
Santa Cruz County					
SR-1	Soquel Ave to 41st St	1.071	F	1.586	F
SR-1	Airport Blvd to SR-152	0.731	C	1.392	F
SR-1	Harkings Slough Rd to SR-129	0.541	B	1.171	F
SR-1	SR-129 to Monterey County	0.423	B	0.878	D
SR-17	Santa Clara County to Granite Creek Rd	0.945	E	0.670	C
SR-129 (Riverside Rd)	Lakeview Rd to Carlton Rd	0.926	D	0.957	E
San Benito County					
US Highway 101	Santa Clara County to SR-129	0.809	D	1.019	F
SR-25 (Bolsa Rd)	Santa Clara County to SR-156	1.049	F	2.074	F
SR-156	Salinas Rd to Union Rd	1.718	F	1.988	F
San Luis Obispo County					
US Highway 101	Monterey County to San Miguel Ave	0.314	A	0.585	C

Source: Kimley-Horn and Associates, Inc.

Impact of Goods Movement on Roadway Level of Service

As described earlier, the county's current truck traffic generation is expected to increase through buildout of the General Plan. While the increase in freight movement is not significant enough to cause widespread capacity-related impacts, it will contribute large vehicle traffic to roadways and highways that are currently, or are projected to fall below the County's acceptable LOS standard and may cause the localized impacts on heavily

traveled freight routes and within industrialized areas where truck traffic originates.

Comparison with No Project Scenario

The No Project scenario represents buildout of the County to the year 2092 under the General Plan currently in effect (1982). Table 4.6-24 earlier compared the housing, population and employment forecasts between the 1982 and 2007 General Plans. The comparison indicated that buildout of the 2007 General Plan would result in a net increase in daily trips greater than what would be generated at buildout of the 1982 General Plan. Therefore the LOS impacts of buildout of the 2007 General Plan would be greater than those of the 1982 General Plan.

2007 General Plan Policies

The 2007 General Plan policies establish measures to minimize adverse impacts of roadway level of service impacts of development both individually and cumulatively. The policies related to roadway level of service for development described in the Existing plus Project Development to the Year 2030 scenario apply to the Buildout Cumulative plus Project scenario.

Significance Determination

Buildout of the 2007 General Plan, cumulatively with development in incorporated cities and adjacent counties, would increase traffic volumes on County roads, Regional roads, and regional roads external to the County. This added traffic would both cause roadway segments to exceed the County's LOS standard, and contribute traffic to roadways that exceed the LOS standard without development, and further degrade the performance measure.

Despite development contributions to county impacts (through countywide traffic impact fee), and regional impacts (through regional traffic impact fee) there will remain a funding shortfall for the improvement of County and Regional roads to achieve the County's LOS standard. Therefore this impact remains significant and unavoidable.

Mitigation Measures

Mitigation of the impacts described above to achieve a LOS D include:

- Widening County and Regional roadway from existing 2-lane facilities to 4, 6, or 8-lanes facilities;
- Expand existing intersections to include additional through and turning lanes;
- Install traffic signals;

- Grade-separate intersections of the junction between major streets;
- Widen state highway to accommodate additional travel lanes, provide shoulders, and auxiliary lanes between on and off-ramps; and
- Increase public transportation services by expanding MST's fleet, expand fixed-route services, increase headways, provide park and ride facilities, and implement new services including Bus Rapid Transit, and inter-city rail service.

Many of the mitigations for roadways segments are likely infeasible due to physical, topographical, and environmental constraints, as well the social and economic impacts related to the acquisition of commercial and residential property, or loss of access, and lack of community consensus for roadway capacity-enhancing projects. This construction would result in impacts to other resources, such as biological resources, air quality, noise, aesthetics and agricultural lands. The foremost constraint, however, is funding of transportation facilities. Federal, state and regional funding are limited, and most of these funds are used to maintain the transportation system. The County and TAMC are planning to implement Traffic Impact Fees to fund improvement projects, but the amount of the fees are limited for affordability and total fee burden reasons. Further, another source of funding, voter initiatives to increase sales tax to fund transportation projects, have failed recently, but may be an option in the future.

The County and regional fee programs will continuously be updated, adding additional priority projects to the programs as initial projects are completed, but the rate of project completion will not be able to outpace the rate of development growth.

The mitigation measures identified for the CVMP are recommended under 2030 Cumulative plus Project Conditions remain applicable in this scenario

Significance Conclusion

With buildout of the 2007 General Plan, and implementation of mitigation measures determined to be feasible, there would remain significant and unavoidable impacts on County roads, and Regional roads both within and external to Monterey County.

Air Traffic

Impact TRAN-4C: Buildout of the 2007 General Plan, cumulatively with development in incorporated cities and adjacent counties, would increase demand for air travel at the County's four airports or increase development within the approach and departure pattern of airports. (Less than Significant)

Impact of Development with Policies

The discussion of air traffic impacts in the Existing plus Project Development to the year 2030 scenario remains applicable in this scenario.

2007 General Plan Policies

The policies related to roadway level of service for development described in the Existing plus Project Development to the Year 2030 scenario apply to the Year 2030 Cumulative plus Project scenario.

Significance Determination

Buildout of the 2007 General Plan would result in an increase in demand for air travel. As stated earlier, airport utilization can double in annual passengers over current conditions. Additionally, land use growth proposed in the general Plan and specifically the Highway 68/Monterey Peninsula Airport Affordable Housing Overlay will not be located within airport flight paths, and will not be design in such a way as to become an incompatible land use (i.e., high rise buildings). No change in airport location is being proposed in the 2007 General Plan. (Less than Significant Impact).

Mitigation Measures

Impacts would be less than significant, therefore no mitigation measures are necessary.

Significance Conclusion

Buildout of the General Plan would increase the demand for the air travel. The General Plan contains policies to encourage safe operations of air facilities and land uses surrounding the airports that are consistent with airport operations. Airport passenger demand is significantly less than it was in 1978 and therefore can accommodate substantial increases without increasing the capacity of airports. Impacts of the General Plan policies under Buildout Cumulative plus Project are less than significant.

Roadway Hazards

Impact TRAN-4D: Growth in land uses allowed under the 2007 General Plan, cumulatively with development in incorporated cities and adjacent counties, would result in non-standard or hazardous designs or land uses that are incompatible with public facilities and adjoining land uses. (Less Than Significant)

Impact of Development with Policies

The discussion of roadway hazard impacts in the Existing plus Project Development to the year 2030 scenario remains applicable in this scenario.

2007 General Plan Policies

The policies related to roadway level of service for development described in the Existing plus Project Development to the Year 2030 scenario apply to this scenario.

Significance Determination

Buildout of the 2007 General Plan by the year 2030 would result in non-standard or hazardous designs and incompatible facilities with adjoining land uses. The General Plan provides for policies to prevent or reduce these impacts by requiring roads to be designed to safety standards. These policies require new development to design facilities to County standards, and limit incompatible land uses. Therefore, the impact of roadway hazards with buildout of the 2007 General Plan is less than significant.

Mitigation Measures

No additional mitigation measures beyond the 2007 General Plan are necessary.

Significance Conclusion

Buildout of the General Plan would result in non-standard or hazardous transportation facility designs or land uses that are incompatible with public facilities. However, the 2007 General Plan contains policies to ensure that new development provides access and improvements to the county roadway system to meet County standards. It also contains policies to prevent incompatible land uses to avoid transportation conflicts and roadway hazards. Therefore, the impact is less than significant.

Emergency Access

Impact TRAN-4E: Buildout of the 2007 General Plan, cumulatively with development in incorporated cities and adjacent counties, would result in inadequate emergency access. (Significant and Unavoidable)

Impact of Development with Policies

The discussion of emergency access impacts in the Existing plus Project Development to the year 2030 scenario remains applicable in this scenario.

2007 General Plan Policies

The policies related to roadway level of service for development described in the Existing plus Project Development to the Year 2030 scenario apply to the this scenario.

Significance Determination

Buildout of the 2007 General Plan under Buildout Cumulative plus Project conditions would result in inadequate emergency access due to increases in traffic that result in County and Regional roadways exceeding County LOS standards, and creating traffic congestion that slows emergency response time.

The General Plan policies discussed above address transportation related impacts to emergency response due to congestion, and design. However, even with the adoption of county and regional impact fees, and implementation of proposed transportation improvements at the County and Regional level, traffic impacts to County and Regional roadway level of service will remain significant and unavoidable, and thereby cause an impact to emergency response that significant and unavoidable.

Mitigation Measures

The mitigation measures described under the Existing plus Project Development to the Year 2030 are applicable to this scenario.

Significance Conclusion

The development allowed in the 2007 General Plan would generate traffic that would cause County and Regional roadways to exceed the County's LOS D standard, and contribute to roadways that exceed the standard without development, causing traffic congestion that would impact emergency response time. Mitigation includes developing emergency response route and connectivity plans, and requiring new development to implement these

plans, but will not mitigate LOS impacts on County and Regional roads. This is a significant and unavoidable impact.

Alternative Transportation

Impact TRAN-4F: Buildout of the 2007 General Plan, cumulatively with development in incorporated cities and adjacent counties, would conflict with adopted policies, plans, or programs supporting alternative transportation or generate pedestrian, bicycle, or transit travel demand that would not be accommodated by current pedestrian facilities, bicycle development plans, or long-range transit plans. (Less than Significant)

Impact of Development with Policies

The discussion of air traffic impacts in the Existing plus Project Development to the year 2030 scenario remains applicable in this scenario.

2007 General Plan Policies

The policies related to roadway level of service for development described in the Existing plus Project Development to the Year 2030 scenario apply to this scenario.

Significance Determination

Policies in the General Plan and Area Plans increase pedestrian, bicycle and transit-supportive facilities by both requiring and encouraging the construction of such facilities and land use patterns in new development. These policies provide support for, and do not conflict with, alternative modes of transportation. The transit-supportive land uses identified in the General Plan are consistent with MST's objectives.

Buildout of the General Plan, if consistent with policy, would increase the need for transit service with concentrations of development in existing transit-served corridors, community areas, and near incorporated cities. The increase in demand for transit service is consistent with MST's strategic goals of increasing transit ridership, expanding service, and introducing new services such as BRT in major corridors. Therefore, this impact is less than significant.

Mitigation Measures

No mitigation measures are necessary.

Significance Conclusion

The policies contained in the General Plan provide both requirements and encouragement of alternative mode infrastructure and facilities, and promote transit-support land use patterns. These polices support and do not conflict with existing facilities, policies, plans and programs. The development allowed under the General Plan will generate demand for pedestrian and bicycle facilities, and demand for transit services. These demands can be accommodated by ensuring development conforms to County policies and design standards, and are consistent with the goals and strategies of MST, the County's transit service provider. This is a less than significant impact.

4.6.4 Agriculture and Wine Corridor Plan

4.6.4.1 Abstract

The 2007 General Plan includes an Agriculture and Winery Corridor Plan (AWCP) intended to strike a balance between the wine grape production and wine processing capabilities within the County and maintain the viability of this industry. In order to encourage the development of the area's wine industry, the plan designates three winery corridors along the Salinas Valley and establishes land use policies and standards for the development of new wine-related facilities within the region.

The full buildout scenario of the AWCP would allow the development of 40 artisan wineries, 10 full-scale wineries and 10 tasting rooms along three corridors that extend through three Planning Areas (Toro, Central Salinas Valley, and South County) and include more than 80 miles of Salinas Valley roadways. The AWCP identifies the following three winery corridors (as shown in Exhibit 4.6.11):

1. **River Road Segment** – Consisting generally of River Road from Highway 68 south excluding the west side of the road between a point 500 feet north of Las Palmas and 1000 feet south of Pine Canyon (Salinas), Chualar River Road, Gonzales River Road, Foothill Road, Fort Romie Road, Paraiso Springs Road, Los Coches Road, Thorn Road, the lower section of Arroyo Seco Road, Elm Road south of Highway 101, Central Avenue from Elm Avenue south to Highway 101, and Hobson Road.
2. **Metz Road Segment** – Consisting generally of Metz Road from the City of Soledad south to Elm Road, and Elm Road from Metz Road to the City of Greenfield.
3. **Jolon Road Segment** – Consisting generally of Jolon Road from Highway 101 near King City south to Highway 101 north of Bradley, Cross Road, Gillett Road, Lockwood-Jolon Road from Cross Road to Gillett Road, and Interlake Road.

The AWCP is designed to expand the tourism and agricultural industries, which will in turn cause an increase in traffic including seasonal employee trips as well as truck trips and visitor trips. Buildout of the 2007 General Plan with implementation of the AWCP would potentially result in significant impacts on transportation if new vehicle trips generated by growth anticipated by the 2007 General Plan results in deficient roadway performance for any County roads identified within the AWCP. This section focuses on that impact.

Since the AWCP is included in the other scenarios described above, all other impacts are addressed.

4.6.4.2 Methodology

To determine impacts of buildout of the 2007 General Plan on Monterey County roadways, existing and projected roadway volumes are compared to Monterey County roadway LOS standards. Because peak visitor traffic associated with wine-related facilities typically occurs on weekends, impacts to County roads within the designated Wine Corridor were analyzed for weekday and weekend conditions. Three different analysis scenarios were prepared and are listed below:

- Existing plus Project Development to the Year 2030. This analysis is based on the existing roadway network (2008).
- 2030 Cumulative plus Project Conditions. This analysis is based on the roadway network that includes the TAMC and countywide capacity enhancing projects.
- Existing plus Project Buildout. This analysis is based on the roadway network that includes the TAMC and countywide capacity enhancing projects.

Because the forecasting methodology based on the AMBAG Model only produces weekday traffic projections, a weekday-to-weekend conversion factor was derived based on data from an area with comparable land uses and characteristics.

SR-29 is a north-south highway that runs through agricultural and winery region of Napa County, California, which is known for its established wine industry. This corridor was selected as a comparable because upon implementation of the AWCP the roads within the Monterey County Wine Corridor are expected to experience weekend traffic patterns similar to those of SR-29. The weekday-to-weekend factor was determined by comparing existing weekend traffic volumes along SR-29 to existing weekday volumes, resulting in a calculated weekday-to-weekend ratio. This ratio was used to project weekend volumes from the AMBAG Model weekday forecasts for roads within the Agricultural and Winery Corridor.

For each analysis scenario, the projected roadway segment volumes are compared to the County LOS thresholds, resulting in LOS conditions for each segment.

4.6.4.3 Impact Analysis

Existing plus Project Development to the Year 2030

Impact TRAN-5A: Growth in land uses allowed under the 2007 General Plan to the year 2030 would create adverse impacts to County roads within the Agricultural and Winery Corridor. (Less Than Significant With Mitigation).

Impact of Development with Policies

The projected level of service (LOS) on Agriculture and Winery Corridor roadways for the Existing plus Project Development to the Year 2030 are shown in Table 4.6-27. This analysis is based on the existing 2008 roadway network. This table compares the 2030 to existing conditions. Two segments exceed the LOS D standard and operate at LOS F during both weekday and weekend conditions. Neither of these segments is deficient under existing conditions.

Table 4.6-27. County and Regional Roadway Segments Level of Service under Existing plus Project Development to the Year 2030 Conditions

	Existing Conditions				Existing plus Project Development to the Year 2030			
	Weekday		Weekend		Weekday		Weekend	
Roadway Segment	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS
CENTRAL / ARROYO SECO / RIVER ROAD SEGMENT								
SR-68 (Monterey Salinas Highway)								
Portola Dr to Reservation Rd	0.48	C	0.53	C	0.48	C	0.53	C
Reservation Rd to Spreckels Blvd	0.48	C	0.53	C	0.43	B	0.48	C
County Road G16 (Carmel Valley Road/Arroyo Seco Rd/Elm Ave)								
Carmel Valley Rd to Elm Ave	0.05	C	0.06	C	0.09	C	0.10	C
Arroyo Seco Rd to Central Ave	0.04	C	0.04	C	0.06	C	0.07	C
County Road G17 (Reservation Rd/River Rd/Ft Romie Rd/Arroyo Seco Rd)								
SR-68 to Las Palmas Rd	0.48	C	0.53	D	0.60	D	0.67	D

	Existing Conditions				Existing plus Project Development to the Year 2030			
	Weekday		Weekend		Weekday		Weekend	
Roadway Segment	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS
Las Palmas Rd to Las Palmas Pkwy	0.81	D	0.90	D	1.01	F	1.12	F
Las Palmas Pkwy to Pine Canyon Rd	0.43	C	0.48	C	0.51	D	0.56	D
Pine Canyon Rd to Chualar River Rd	0.42	C	0.46	C	0.49	D	0.54	D
Chualar River Rd to Gonzales River Rd	0.08	C	0.09	C	0.10	C	0.11	C
Gonzalez River Rd to Foothill Rd	0.06	C	0.07	C	0.07	C	0.08	C
Foothill Rd to Arroyo Seco Rd	0.19	C	0.21	C	0.27	C	0.30	C
Ft Romie Rd to Elm Ave	0.20	C	0.22	C	0.21	C	0.23	C
Alta St								
Old Stage Rd to Gonzales City Line	0.44	C	0.49	D	0.44	C	0.49	D
Arroyo Seco Rd								
Fort Romie Rd to US-101	0.28	C	0.31	C	0.37	C	0.41	C
Central Ave								
Elm Ave to US-101	0.05	C	0.05	C	0.07	C	0.07	C
Chualar River Rd								
River Rd to Foletta Rd	0.33	C	0.36	C	0.34	C	0.38	D
Gonzales River Rd								
River Rd to Alta St	0.20	C	0.22	C	0.21	C	0.24	C
Spreckels Blvd								
SR-68 to Harkins Rd	0.48	D	0.54	D	0.47	C	0.53	D
METZ ROAD SEGMENT								
SR-146								
East St to County Road G-15 (on Metz Rd)	0.22	C	0.24	C	0.23	C	0.25	C
County Road G-15 to Stonewall Canyon Rd	0.22	C	0.24	C	0.23	C	0.26	C
County Road G15 (Metz Rd)								
SR-146 to Elm Ave	0.07	C	0.08	C	0.08	C	0.08	C
Elm Ave to Spreckels Rd	0.05	C	0.06	C	0.07	C	0.08	C
County Road G16 (Carmel Valley Road/Arroyo Seco Rd/Elm Ave)								
US-101 to Metz Rd	0.10	C	0.11	C	0.11	C	0.12	C
JOLON ROAD SEGMENT								

	Existing Conditions				Existing plus Project Development to the Year 2030			
	Weekday		Weekend		Weekday		Weekend	
Roadway Segment	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS
County Road G14 (Jolon Rd/Interlake Rd)								
US-101 to San Lucas Rd	0.58	D	0.65	D	1.06	F	1.18	F
San Lucas Rd to Lockwood	0.10	C	0.11	C	0.13	C	0.15	C
Lockwood to County Border	0.02	C	0.02	C	0.02	C	0.02	C
County Road G18 (Jolon Rd)								
Lockwood to US-101	0.06	C	0.07	C	0.08	C	0.09	C
Lockwood-San Lucas Rd								
US-101 to Jolon Rd	0.03	C	0.04	C	0.04	C	0.05	C

Source: Kimley-Horn and Associates, Inc.

Impact of Goods Movement

The land uses allowed in the AWCP under the 2007 General Plan will generate the need to move agricultural products throughout the corridor and the region. This movement is primarily through the use of trucks, but also through the use of aircraft. According to the AWCP, currently 65-70% of the grape production is shipped out of Monterey County to wineries elsewhere, whereas only 5% of wines produced are produced as a Monterey appellation. This is because the Monterey wine growing region has a high ratio of vineyards to wineries (over 1,900 vineyard acres to the winery) and grows more grapes annually than can be produced into wine. Therefore, the grapes are sold to wineries in other California regions.

With buildout of the uses allowed in the AWCP, the area will see an increase in wineries and wine producing facilities without a significant increase in the acres of vineyards. The increase in wine producing facilities will increase the amount of trucking that remains internal to the corridor and traveling shorter distances, thus reducing the impact of trucking on regional roadways outside of the corridor. Truck trips are expected to increase within the corridor. This increase in trips is addressed in the roadway level of service analysis described above.

Impact of Special Events

The AWCP allows for special events within the corridor that would attract additional visitors and employees. These special events include industry-wide events that encompass all of the uses within the corridor and promote visitation to the corridor, winery-related events (with up to 150 people per event) such as

fund raising events, dinners and weddings, and private events such as corporate meetings or private parties.

Larger events that would attract 500 or more visitors within the corridor are required to obtain a separate permit that involves review of the event conditions by the Sheriff's Department, Fire and Public Works relative to public health and safety. If this review results in a determination that police officers will be required to maintain order and for traffic control, the event sponsor will be required to arrange and pay for police staff. The event sponsor is also required to submit plans to the county identifying proposed location(s) and availability for off-site parking to support the number of persons anticipated at events.

2030 Cumulative plus Project Conditions

Impact of Development with Policies

The projected level of service (LOS) on Agriculture and Winery Corridor roadways for the 2030 Cumulative plus Project are shown in **Table 4.6-28**. This analysis is based on the future roadway that includes the TAMC and countywide capacity enhancements. This scenario is compared to the Existing plus Project Development to the Year 2030 to determine impacts of the AWCP when combined with cumulative traffic.

There is one segment that operates at LOS E (Spreckels Boulevard) and one segment that operates at LOS F (County Road G14) during either weekday or weekend conditions under this scenario. Additionally, one of the impacted segments in the Existing plus Project scenario would meet the County's LOS standard in the Buildout scenario because this two-lane segment of roadway would be widened to four lanes under the County's future capacity enhancements, as described in the methodology section.

Table 4.6-28. County and Regional Roadway Segments Level of Service under 2030 Cumulative Conditions

	Existing plus Project Development to the Year 2030				2030 Cumulative plus Project			
	Weekday		Weekend		Weekday		Weekend	
Roadway Segment	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS
CENTRAL / ARROYO SECO / RIVER ROAD SEGMENT								
SR-68 (Monterey Salinas Highway)								
Portola Dr to Reservation Rd	0.48	C	0.53	C	0.59	C	0.66	C
Reservation Rd to Spreckels Blvd	0.43	B	0.48	C	0.61	C	0.67	C
County Road G16 (Carmel Valley Road/Arroyo Seco Rd/Elm Ave)								
Carmel Valley Rd to Elm Ave	0.09	C	0.10	C	0.08	C	0.09	C

Roadway Segment	Existing plus Project Development to the Year 2030				2030 Cumulative plus Project			
	Weekday		Weekend		Weekday		Weekend	
	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS
Arroyo Seco Rd to Central Ave	0.06	C	0.07	C	0.06	C	0.06	C
County Road G17 (Reservation Rd/River Rd/Ft Romie Rd/Arroyo Seco Rd)								
SR-68 to Las Palmas Rd	0.60	D	0.67	D	0.61	D	0.68	D
Las Palmas Rd to Las Palmas Pkwy	1.01	F	1.12	F	0.48	C	0.54	D
Las Palmas Pkwy to Pine Canyon Rd	0.51	D	0.56	D	0.51	D	0.56	D
Pine Canyon Rd to Chualar River Rd	0.49	D	0.54	D	0.46	C	0.51	D
Chualar River Rd to Gonzales River Rd	0.10	C	0.11	C	0.13	C	0.14	C
Gonzalez River Rd to Foothill Rd	0.07	C	0.08	C	0.08	C	0.09	C
Foothill Rd to Arroyo Seco Rd	0.27	C	0.30	C	0.28	C	0.31	C
Ft Romie Rd to Elm Ave	0.21	C	0.23	C	0.25	C	0.28	C
Alta St								
Old Stage Rd to Gonzales City Line	0.44	C	0.49	D	0.65	D	0.72	D
Arroyo Seco Rd								
Fort Romie Rd to US-101	0.37	C	0.41	C	0.40	C	0.44	C
Central Ave								
Elm Ave to US-101	0.07	C	0.07	C	0.05	C	0.06	C
Chualar River Rd								
River Rd to Foletta Rd	0.34	C	0.38	D	0.48	D	0.54	D
Gonzales River Rd								
River Rd to Alta St	0.21	C	0.24	C	0.20	C	0.22	C
Spreckels Blvd								
SR-68 to Harkins Rd	0.47	C	0.53	D	0.88	D	0.98	E
METZ ROAD SEGMENT								
SR-146								
East St to County Road G-15 (on Metz Rd)	0.23	C	0.25	C	0.68	D	0.75	D
County Road G-15 to Stonewall Canyon Rd	0.23	C	0.26	C	0.25	C	0.27	C
County Road G15 (Metz Rd)								
SR-146 to Elm Ave	0.08	C	0.08	C	0.10	C	0.11	C
Elm Ave to Spreckels Rd	0.07	C	0.08	C	0.17	C	0.19	C
County Road G16								

	Existing plus Project Development to the Year 2030				2030 Cumulative plus Project			
	Weekday		Weekend		Weekday		Weekend	
Roadway Segment	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS
(Carmel Valley Road/Arroyo Seco Rd/Elm Ave)								
US-101 to Metz Rd	0.11	C	0.12	C	0.12	C	0.14	C
JOLON ROAD SEGMENT								
County Road G14 (Jolon Rd/Interlake Rd)								
US-101 to San Lucas Rd	1.06	F	1.18	F	1.08	F	1.20	F
San Lucas Rd to Lockwood	0.13	C	0.15	C	0.16	C	0.18	C
Lockwood to County Border	0.02	C	0.02	C	0.05	C	0.05	C
County Road G18 (Jolon Rd)								
Lockwood to US-101	0.08	C	0.09	C	0.13	C	0.15	C
Lockwood-San Lucas Rd								
US-101 to Jolon Rd	0.04	C	0.05	C	0.06	C	0.07	C

Source: Kimley-Horn and Associates, Inc.

Area Plan Policies

The Agriculture and Winery Corridor Plan (AWCP) policies and design standards summarized below set forth measures to avoid and minimize adverse impacts to roads located in the Winery Corridor.

Agricultural Winery Corridor Plan

The AWCP requires that road improvements within the corridor be designed to retain the rural character of the area and should be limited to enhancing the scenic corridor and promoting safe circulation. AWCP Section 3.5 (parking regulations) establishes parking standards for developments in the planning area, while AWCP Section 3.7 requires that access to facilities shall be designed to meet safe sight distance standards as determined by the Monterey County Public Works department. Development guidelines in Section 3.6 require permits for special events to address off-site parking and traffic control. Section 4.5 (financing plan) includes the establishment of Area Capital Improvement and Financing Plans (CIFP) to fund roadway improvements to enhance safety and to maintain the LOS standard established in the County General Plan.

Significance Determination

Cumulative development and land use activities in the proposed 2007 General Plan within the 2030 planning horizon would result in two roadway segments exceeding the LOS D standard, or adding traffic to roadway segments that are already exceeding the standard. This is considered a significant impact.

Mitigation Measures

Mitigation Measure TRAN-5A: The roadway segments exceeding LOS standards are two-lane rural roads that provide left turn lanes at some intersections. These segments include County Road G14 between US 101 and San Lucas Road, and Spreckels Boulevard between SR-68 and Harkins Road. Improvement of these segments would be funded through a combination of project-specific mitigation for individual developments, and through a Capital Improvement and Financing Plan fair-share funding mechanism established for the Corridor by the Public Works Department. These improvements would be implemented when:

1. A proposed development's project-specific assessment identifies a direct impact to the facility in terms of either LOS or safety.
2. A proposed development gains access from an intersection within the segment.
3. A corridor-wide nexus study prepared for the required Capital Improvement and Financing Plan identifies the level of development that can occur before triggering the improvements.

To maintain the rural character of the area, there are no plans to widen these roadways to four lane facilities. Therefore, the capacity of these segments will be increased by:

1. Providing left turn lanes at intersections without left turn lanes and where the frequency of turning vehicles affects through vehicle movement; and/or
2. Increasing the width of the roadway shoulder at intersections to allow vehicles to pass turning vehicles; and/or
3. Constructing passing lanes as determined in the Capital Improvement and Financing Plan.

Significance Conclusion

Development of the 2007 General Plan through the year 2030 is projected to result in adverse impacts to county roads within the Wine Corridor. The impacts can be mitigated through implementation of rural highway capacity and safety improvements focused at intersections without the need to widen roadways. These mitigations will be implemented through a combination of project-specific mitigation for individual developments, and through a

Capital Improvement and Financing Plan fair-share funding mechanism. Therefore, this impact is less than significant.

Existing plus Project Buildout of the General Plan

Impact TRAN-5B: Buildout of the 2007 General Plan would create adverse impacts to County roads within the Agricultural Winery Corridor. (Less than Significant).

Impact of Development with Policies

The resulting level of service for each corridor segment is presented in Table 4.6-29. Two segments operate at LOS E on weekdays or weekends and two segments operate at LOS F on weekdays or weekends under this scenario. Under existing conditions, all of these segments operate at LOS D or better, so buildout of the General Plan and AWCP in the year 2092 causes four roadway segments along the corridor to exceed the county's LOS standard. This scenario includes the TAMC and County capacity enhancements described earlier, one of which affects the Wine Corridor. Implementation of these projects would improve the LOS at one of the deficient roadway segments.

Table 4.6-29. County and Regional Roadway Segments Level of Service under Existing plus Project Buildout Conditions

	Existing Conditions				Existing plus Project Buildout			
	Weekday		Weekend		Weekday		Weekend	
Roadway Segment	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS
CENTRAL / ARROYO SECO / RIVER ROAD SEGMENT								
SR-68 (Monterey Salinas Highway)								
Portola Dr to Reservation Rd	0.48	C	0.53	C	0.6	C	0.64	C
Reservation Rd to Spreckels Blvd	0.48	C	0.53	C	0.6	C	0.62	C
County Road G16 (Arroyo Seco Rd/Elm Ave)								
Carmel Valley Rd to Elm Ave	0.05	C	0.06	C	0.1	C	0.15	C
Arroyo Seco Rd to Central Ave	0.04	C	0.04	C	0.1	C	0.11	C
County Road G17 (River Rd/Ft Romie Rd/Arroyo Seco Rd)								
SR-68 to Las Palmas Rd	0.48	C	0.53	D	1.0	F	1.16	F

	Existing Conditions				Existing plus Project Buildout			
	Weekday		Weekend		Weekday		Weekend	
Roadway Segment	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS
Las Palmas Rd to Las Palmas Pkwy	0.81	D	0.90	D	0.55	C	0.64	D
Las Palmas Pkwy to Pine Canyon Rd	0.43	C	0.48	C	0.9	D	0.99	E
Pine Canyon Rd to Chualar River Rd	0.42	C	0.46	C	0.9	D	1.00	E
Chualar River Rd to Gonzales River Rd	0.08	C	0.09	C	0.2	C	0.18	C
Gonzalez River Rd to Foothill Rd	0.06	C	0.07	C	0.1	C	0.11	C
Foothill Rd to Arroyo Seco Rd	0.19	C	0.21	C	0.4	C	0.40	C
Ft Romie Rd to Elm Ave	0.20	C	0.22	C	0.2	C	0.26	C
Alta St								
Old Stage Rd to Gonzales City Line	0.44	C	0.49	D	0.5	C	0.51	D
Arroyo Seco Rd								
Fort Romie Rd to US-101	0.28	C	0.31	C	0.5	D	0.55	D
Central Ave								
Elm Ave to US-101	0.05	C	0.05	C	0.1	C	0.09	C
Chualar River Rd								
River Rd to Foletta Rd	0.33	C	0.36	C	0.4	D	0.43	D
Gonzales River Rd								
River Rd to Alta St	0.20	C	0.22	C	0.2	C	0.27	C
Spreckels Blvd								
SR-68 to Harkins Rd	0.48	D	0.54	D	0.5	D	0.56	D
METZ ROAD SEGMENT								
SR-146								
East St to County Road G-15 (on Metz Rd)	0.22	C	0.24	C	0.2	C	0.26	C
County Road G-15 to Stonewall Canyon Rd	0.22	C	0.24	C	0.3	C	0.29	C
County Road G15 (Metz Rd)								
SR-146 to Elm Ave	0.07	C	0.08	C	0.1	C	0.09	C
Elm Ave to Spreckels Rd	0.05	C	0.06	C	0.1	C	0.09	C

	Existing Conditions				Existing plus Project Buildout			
	Weekday		Weekend		Weekday		Weekend	
Roadway Segment	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS
County Road G16 (Elm Ave)								
US-101 to Metz Rd	0.10	C	0.11	C	0.1	C	0.13	C
JOLON ROAD SEGMENT								
County Road G14 (Jolon Rd/Interlake Rd)								
US-101 to San Lucas Rd	0.58	D	0.65	D	1.7	F	1.94	F
San Lucas Rd to Lockwood	0.10	C	0.11	C	0.1	C	0.14	C
Lockwood to County Border	0.02	C	0.02	C	0.0	C	0.04	C
County Road G18 (Jolon Rd)								
Lockwood to US-101	0.06	C	0.07	C	0.1	C	0.11	C
Lockwood-San Lucas Rd								
US-101 to Jolon Rd	0.03	C	0.04	C	0.1	C	0.06	C

Source: Kimley-Horn and Associates, Inc.

Area Plan Policies

The Agriculture Winery Corridor Plan policies mentioned above are applicable to this scenario.

Significance Determination

Buildout by 2092 would result in LOS E/F for four roadway segments within the Winery Corridor. These roads would experience increased congestion due to the changes in land uses and the intensity of land uses. Implementation of the planned County capacity enhancement improve one segment to a LOS D (widening Road G17 from Las Palmas Road to Las Palmas Parkway), but the policies of the AWCP discourage widening roadways to preserve their rural character.

Mitigation Measures

Mitigation measure TRAN-5A is applicable to this scenario.

Significance Conclusion

Buildout of the 2007 General Plan is projected to result in adverse impacts to county roads within the Wine Corridor. The impacts can be mitigated through implementation of rural highway capacity and safety improvements focused at intersections without the need to widen roadways, thus preserving the corridor's rural character. These mitigations will be implemented

through a combination of project-specific mitigation for individual developments, and through a Capital Improvement and Financing Plan fair-share funding mechanism. Therefore, this impact is less than significant.

4.7 Air Quality

4.7.1 Abstract

This section describes the setting and impacts of the proposed project with regard to air quality. Specifically, this section focuses on the relationship between topography and climate, discusses federal and state ambient air quality standards and existing air quality conditions in the project study area, identifies land uses that could be sensitive to decreased air quality, and describes the overall regulatory framework for air quality management in California and the region. It then identifies the potential air quality impacts that would result from implementation of the 2007 General Plan and proposes mitigation measures to reduce any significant impacts to less-than-significant levels. Climate change is a related topic that is discussed in Section 4.16 of this EIR.

4.7.2 Environmental Setting

4.7.2.1 Climate and Meteorology

The project study area is located within the County of Monterey, which is in the North Central Coast Air Basin (NCCAB), where the Monterey Bay Unified Air Pollution Control District (MBUAPCD) is charged with maintaining air quality.

The NCCAB comprises 5,159 square miles along California's central coast and includes Monterey, Santa Cruz, and San Benito Counties. The northwest sector of the basin is dominated by the Santa Cruz Mountains. The Diablo Range marks the northeastern boundary and, together with the southern extent of the Santa Cruz Mountains, forms the Santa Clara Valley, which extends into the northeastern tip of the basin. Farther south, the Santa Clara Valley evolves into the San Benito Valley, which extends northwest–southeast and has the Gabilan Range as its western boundary. To the west of the Gabilan Range is the Salinas Valley, which extends from Salinas at the northwest end to King City at the southeast end. The western side of the Salinas Valley is formed by the Sierra de Salinas, which also forms the eastern side of the smaller Carmel Valley; the coastal Santa Lucia Range defines the western side of the valley.

The semi-permanent high-pressure cell in the eastern Pacific is the basic controlling factor in the climate of the air basin. In the summer, the high-pressure cell is dominant and causes persistent west and northwest winds over the entire California coast. Air descends in the Pacific High forming a stable temperature inversion of hot air over a cool coastal layer of air. The onshore air currents pass over cool ocean waters to bring fog and relatively cool air into the coastal valleys. The warmer air aloft acts as a lid to inhibit vertical air movement.

The generally northwest–southeast orientation of mountain ridges tends to restrict and channel the summer onshore air currents. Surface heating in the interior portion of the Salinas and San Benito Valleys creates a weak low pressure, which intensifies the onshore airflow during the afternoon and evening.

In the fall, the surface winds become weak, and the marine layer grows shallow, dissipating altogether on some days. The airflow is occasionally reversed in a weak offshore movement, and the relatively stationary air mass is held in place by the Pacific high-pressure cell, which allows pollutants to build up over a period of a few days. It is most often during this season that the north or east winds develop to transport pollutants from either the San Francisco Bay area or the Central Valley into the NCCAB.

During the winter, the Pacific High migrates southward and has less influence on the air basin. Air frequently flows in a southeasterly direction out of the Salinas and San Benito Valleys, especially during night and morning hours. Northwest winds are nevertheless still dominant in winter, but easterly flow is more frequent. The general absence of deep, persistent inversions and the occasional storm systems usually result in good air quality for the basin as a whole in winter and early spring.

4.7.2.2 Air Pollutants

The federal and state governments have established ambient air quality standards (AAQS) for six criteria pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter smaller than or equal to 10 microns in diameter (PM_{10}), and lead. Ozone and PM_{10} are generally considered to be regional pollutants, as these or their precursors affect air quality on a regional scale. Pollutants such as CO, NO_2, SO_2, and lead are considered "local" pollutants that tend to accumulate in the air locally. PM_{10} is considered both a localized and regional pollutant. In the project study area, CO, PM_{10} and ozone (and the ozone precursors, nitrogen oxides [NO_X] and reactive organic gases [ROG]) are of particular concern. A complete summary of state and national AAQS is provided in Table 4.7-1.

Ozone

Ozone occurs in two layers of the atmosphere. The layer nearest Earth's surface is the troposphere and extends approximately 10 miles above ground level, where it meets the stratosphere. The stratosphere extends upward to approximately 30 miles above ground level and protects life on earth from the sun's harmful ultraviolet rays (UV-B).

Ozone is a photochemical pollutant and needs volatile organic compounds (VOCs), NO_X, and sunlight to form. Therefore, VOCs and NO_X are ozone precursors. The primary sources of VOC within the planning area are on- and off-road motor vehicles, cleaning and surface coatings, solvent evaporation, landfills, petroleum production and marketing, and prescribed burning. The primary sources of NO_x are on- and off-road motor vehicles, stationary source

fuel combustion, and industrial processes (MBUAPCD 2008). According to the MBUAPCD Air Quality Management Plan, rough estimates of current NCCAB VOC emissions are in the range of 100 to 125 tons per day (MBUAPCD 2008). The majority of these are thought to be produced in Monterey County's oak woodlands and coastal chaparral environments. Rough estimates of NO_x are in the range of 1 to 5 tons per day, and are the highest during wildfire events. Significant ozone formation generally requires an adequate amount of precursors in the atmosphere and several hours in a stable atmosphere with abundant sunlight. They are emitted from various sources throughout the Basin, and to reduce ozone concentrations, their emission needs to be controlled. However, high ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their places of origin. Although ozone in the stratosphere protects the earth from harmful ultraviolet radiation, high concentrations of ground-level ozone in the troposphere can adversely affect the human respiratory system and other tissues. Many respiratory ailments, as well as cardiovascular disease, are aggravated by exposure to high ozone levels. Ozone also damages natural ecosystems such as forests and foothill plant communities, as well as agricultural crops and human-made materials such as rubber, paint, and plastics. Societal costs from ozone damage include increased healthcare costs, the loss of human and animal life, accelerated replacement of industrial equipment, and reduced crop yields.

On April 15, 2004, the Environmental Protection Agency (EPA) formally replaced the 1979 federal 1-hour ozone standard with a more stringent 8-hour standard (0.08 ppm, not to be exceeded) as part of the Clean Air Rules of 2004. To remain consistent with the stricter federal standards, the California Air Resources Board (CARB) approved a new 8-hour ozone standard (0.07 ppm, not to be exceeded) for ozone on April 28, 2005. Additionally, CARB retained the current 1-hour-average standard for ozone (0.09 ppm) and its current ultraviolet (uv) photometry monitoring method.

Carbon Monoxide

Carbon Monoxide is an odorless, colorless, toxic gas that is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons and other carbon-based fuels. In urban areas, automobile exhaust can cause as much as 95% of all CO emissions. At high concentrations, CO can reduce the oxygen-carrying capacity of blood and cause headaches, dizziness, unconsciousness, and death. State and federal standards for CO were not exceeded in the North Central Coast Air Basin between 2000 and 2005.

Nitrogen Oxide

Nitrogen oxides are a family of highly reactive gasses that are a primary precursor to the formation of ground-level ozone, and react in the atmosphere to form acid rain. Nitrogen dioxide, often used interchangeably with NO_X, is a reddish-brown gas that can cause breathing difficulties at high concentrations. Peak readings of NO_2 occur in areas that have a high concentration of

combustion sources (e.g., motor vehicles, power plants, refineries, and other industrial operations).

NO_X can irritate and damage the lungs and lower resistance to respiratory infections such as influenza. The health effects of short-term exposure are still uncertain. However, frequent or prolonged exposure to NO_X concentrations that are typically much higher than concentrations normally found in the ambient air may increase acute respiratory illness in children and the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO_2 may aggravate eyes and mucus membranes and cause pulmonary dysfunction.

Particulate Matter

Particulate matter pollution consists of very small liquid and solid particles floating in the air. Particulate matter is a mixture of materials that can include smoke, soot, dust, salt, acids, and metals. Particulate matter also forms when gases emitted from motor vehicles and industrial sources undergo chemical reactions in the atmosphere. Natural sources of particulates include sea spray, forest fires, volcanic debris, etc. Human-made sources include fuel combustion and industrial processes, industrial and nonindustrial fugitive sources and transportation. PM_{10} particles are less than or equal to 10 microns in aerodynamic diameter. $PM_{2.5}$ particles are less than or equal to 2.5 microns in aerodynamic diameter and are a subset, or portion of PM_{10}.

PM_{10} and $PM_{2.5}$ are classified as primary or secondary depending on their origin. Primary particles are unchanged after being directly emitted (e.g., road dust). Secondary particulates are formed in the atmosphere largely by chemical reactions involving gases, e.g., sulfate from directly emitted sulfur oxides.

PM_{10} and $PM_{2.5}$ particles are small enough to be inhaled into, and lodge in, the deepest parts of the human lung. Health problems begin as the body reacts to these foreign particles. Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases, heart and lung disease, coughing, bronchitis, and respiratory illnesses in children. Recent mortality studies have shown a statistically significant direct association between mortality and daily concentrations of particulate matter in the air. Non-health related effects include reduced visibility and the soiling of buildings.

Reactive Organic Gases and Volatile Organic Compounds

Hydrocarbons are organic gases that are made up of hydrogen and carbon atoms. There are several subsets of organic gases including ROGs and VOCs. ROGs are defined by state rules and regulations; VOCs are defined by federal rules and regulations. Both ROGs and VOCs are emitted from the incomplete combustion of hydrocarbons or other carbon-based fuels, or as a product of chemical processes. The major sources of hydrocarbons are combustion engine exhaust, oil refineries, and oil-fueled power plants; other common sources are petroleum fuels, solvents, dry cleaning solutions, and paint (via evaporation). Wineries also contribute hydrocarbons through their fermentation activities.

In very brief terms, the wine making process involves several steps including fermentation. Fermentation is the chemical process by which the natural sugars in the wine grapes are converted to alcohol through the action of yeast (either from the grape skins, or more commonly, cultured yeasts) introduced into the fermentation tank. Grapes are brought to the winery where they are passed through a destemmer-crusher that separates the grapes from their stems and breaks them open to release their juice. For white wine production, the resultant crushed grapes are then transferred to a press that separates the juice from the skins. The juice will then be transferred to fermentation tanks. For red wine, the crushed grapes (juice and skins, or "must") are sent directly to the fermentation tanks.

Fermentation occurs under temperature-controlled conditions in either stainless steel or wooden tanks. Temperature is important to the development of flavor and character. In general, white wine is fermented at a lower temperature than red wine. Red wines are generally allowed to ferment for up to 14 days. During fermentation, the nascent red wine will be circulated from time to time to prevent the skins from simply floating on top. White wine will be allowed to ferment for a week to two months.

During fermentation, the grape juice is converted to ethyl alcohol and carbon dioxide. This process also releases a number of organic compounds, including (but not limited to) volatile compounds such as aldehydes, hydrogen sulfide, and mercaptans, that will affect the flavor and aroma of the wine.

After the primary fermentation process is done, the wine may, depending on the variety of grapes, the results of the primary fermentation, and the objectives of the winemaker, be put through secondary or "malolactic" fermentation. In malolactic fermentation, bacteria are released into the wine to soften its character (removing bitterness or tartness).

At the end of the fermentation process, the resultant wine is removed from the tanks. Solids are removed from the liquid by a variety of processes. Then, the wine is transferred to barrels or other containers for aging. (Encarta 2008)

Although we tend to think of winemaking as taking place in one spot—the winery—its steps may actually take place in different facilities. Grapes may be crushed in one facility and the juice sold to wineries. Fermented wine may be exported for blending and aging elsewhere. Wineries may also transport fermented, aged wines to off-site bottling plants,

Winemaking is a complex chemical process that is as much an art as a science. Winemakers must balance innumerable natural and process-related factors to result in a wine that meets their expectations for color, aroma, and taste.

Ethanol and carbon dioxide are the primary compounds emitted during the fermentation step in the production of wines and brandy. Acetaldehyde, methyl alcohol (methanol), n-propyl alcohol, n-butyl alcohol, sec-butyl alcohol, isobutyl alcohol, isoamyl alcohol, and hydrogen sulfide also are emitted but in much

smaller quantities compared to ethanol emissions. In addition, a large number of other compounds are formed during the fermentation and aging process. Selected examples of other types of compounds formed and potentially emitted during the fermentation process include a variety of acetates, monoterpenes, higher alcohols, higher acids, aldehydes and ketones, and organosulfides (United States Environmental Protection Agency 1995).

During the fermentation step, large quantities of CO_2 are also formed and emitted. Fugitive ethanol emissions also occur during the screening of the red wine, pressing of the pomace cap, and later during aging in oak cooperage and the bottling process. In addition, small amounts of liquified SO_2 are often added to the grapes after harvest, to the "must" prior to fermentation, or to the wine after the fermentation is completed, as a preservative. As a result, small amounts of SO_2 emissions can occur during these steps. There is little potential for VOC emissions before the fermentation step in wine production. Except for harvesting the grapes and possibly unloading the grapes at the winery, there is essentially no potential for particulate (PM) emissions from this industry (United States Environmental Protection Agency 1995).

The harvest and crush of wine grapes is seasonal. In general, percentages of harvest take place as follows:

Table 4.7-1. Statewide Wine Fermentation Emissions Distribution (percentage)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
3.6%	1.4%	0.8%	0.5%	0.7%	0.7%	0.6%	4.8%	28.5%	32.1%	12.3%	14.0%

The health effects of hydrocarbons result from the formation of ozone and its related health effects. High levels of hydrocarbons in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen though displacement. Carcinogenic forms of hydrocarbons are considered toxic air contaminants (air toxics). There are no separate health standards for VOCs, although some are also toxic; an example is benzene, which is both a VOC and a carcinogen.

Toxic Air Contaminants

Toxic Air Contaminants (TACs) are another group of pollutants of concern in California. There are hundreds of different types of TACs, with varying degrees of toxicity. Sources of TACS include industrial processes such as petroleum refining and chrome plating, commercial operations such as gasoline stations and dry cleaners, and motor vehicle engine exhaust. Public exposure to TACs can result from emissions from normal operations, as well as accidental releases of hazardous materials during upset spill conditions. Adverse human health effects of TACs include cancer, birth defects, neurological damage, and death.

California regulates toxic air contaminants through its Air Toxics Program. CARB, working in conjunction with the State Office of Environmental Health Hazard Assessment, identifies TACs. Air toxic control measures may then be adopted to reduce ambient concentrations of the identified TAC to below a specific threshold, based on its effects on health, or to the lowest concentration achievable through the use of Best Available Control Technology for toxics (T-BACT). The program is administered by CARB. Air quality control agencies, including MBUAPCD, must incorporate air toxic control measures into their regulatory programs or adopt equally stringent control measures, such as rules, within six months of adoption by CARB.

In 1998, CARB identified diesel engine particulate matter as a TAC. Mobile sources—including trucks, buses, automobiles, trains, ships, construction equipment, and farm equipment—are the largest sources of diesel emissions. Studies show that diesel particulate matter concentrations are much higher near heavily traveled highways and intersections. The exhaust from diesel engines includes hundreds of different gaseous and particulate components, many of which are toxic. Many of these toxic compounds adhere to the particles, and because diesel particles are very small, they penetrate deeply into the lungs. Diesel engine particulate matter is a human carcinogen. The cancer risk from exposure to diesel exhaust may be much higher than the risk associated with any other toxic air pollutant routinely measured in the region.

Prior to the listing of particulate matter as a TAC, CARB had already adopted various regulations mandating a reduction in diesel emissions. These regulations include new standards for diesel engine fuel; exhaust emissions standards for new diesel trucks, buses, autos, and utility equipment; and inspection and maintenance requirements for heavy-duty vehicles. Since the listing of particulate matter as a TAC, CARB has been evaluating what additional regulatory action is needed to reduce public exposure. Future actions by CARB may include more stringent emissions requirements for diesel fuel and engines, as well as other measures to reduce public exposure.

4.7.2.3 Local Air Quality

Attainment Status

The State of California has designated the NCCAB as being in moderate nonattainment for ozone. The California Clean Air Act states that an ozone nonattainment area becomes nonattainment transitional if the state AAQS are not exceeded more than three times at any monitoring station in the air basin. The NCCAB is designated nonattainment for PM_{10} and unclassified/attainment for CO.

The EPA has designated the NCCAB as being a moderate maintenance area for ozone. The NCCAB was redesignated from a moderate nonattainment area to a maintenance area in 1997 after meeting the federal 1-hour ozone standard in 1990. The NCCAB is designated unclassified for PM_{10} and unclassified/attainment for CO.

Air Quality Monitoring Data

The existing air quality conditions in the project study area can be characterized by monitoring data collected in the region. PM_{10}, CO, and ozone concentrations are the pollutants of greatest concentration within the MBUAPCD and, therefore, are the pollutants of most concern from the proposed project. Air quality monitoring data for the last three years is presented in Table 4.7-2. The monitoring station in Monterey County is the Salinas #3 station, located at 855 E Laurel Drive in Salinas.

As shown in Table 4.7-2, the Salinas #3 monitoring station has experienced no violations of the state 1- and 8-hour ozone standard and one violation of the state PM_{10} standard during the three most recent years for which data are available. In addition, there have been no violations of the state or federal CO or $PM_{2.5}$ standard for this time period.

Sensitive Land Uses

Sensitive receptors include land uses such as residences, schools, and hospitals where building occupants are considered to be sensitive to air pollution, such as residents, recreationists, school children, hospital patients, and the elderly. Sensitive receptors are located throughout Monterey County.

4.7.3 Regulatory Framework

4.7.3.1 Air Quality Management

Federal, state, and local agencies have jurisdiction over air quality management in the North Central Coast Air Basin. Below is a summary of their activities:

Environmental Protection Agency

The EPA Region IX office oversees compliance with the Federal Clean Air Act (FCAA) and the 1990 amendments to the FCAA. The FCAA established National Ambient Air Quality Standards (NAAQS) that set levels of criteria pollutants that are considered the maximum safe levels of ambient (background) pollutant concentration, allowing an adequate margin of safety to protect human health. The current criteria pollutants are O_3, CO, NO_2, sulfur dioxide, PM_{10}, $PM_{2.5}$, and lead. Note that sulfur dioxide and lead are present only in trace quantities in the North Central Coast Air Basin because no substantial emitters of these pollutants exist within the air basin.

The EPA has exclusive air quality jurisdiction over certain types of interstate commerce including aircraft, railroads, and interstate trucking.

California Air Resources Board

CARB, part of the California EPA, monitors compliance with the California Clean Air Act (CCAA) and the 1989 amendments to the CCAA. Similar to the federal legislation, the CCAA sets forth ambient air quality standards and legal mandates to achieve these standards by the earliest practicable date. These standards apply to the same criteria pollutants as the FCAA, and include sulfate, visibility, hydrogen sulfide, and vinyl chloride.

Regulation for In-Use Off-Road Diesel Vehicles

CARB adopted a final regulation for in-use, off-road diesel vehicles, effective June 15, 2008. The purpose of this regulation is to reduce diesel particulate matter and criteria pollutant emissions from in-use, off-road diesel-fueled vehicles. The regulation applies to any person, business or government agency who owns or operates within California any diesel-fueled or alternative diesel fueled off-road, compression ignition vehicle engine with maximum power of 24 horsepower (hp) or greater that is used to provide motive power in a workover rig or to provide motive power in any other motor vehicle that: (1) cannot be registered and driven safely on-road or was not designed to be driven on-road, and (2) is not an implement of husbandry or recreational off-highway vehicle (CARB 2008). This regulation includes various requirements for retrofits and/or repowers for heavy duty diesel emissions.

Monterey Bay Unified Air Pollution Control District

The MBUAPCD has developed an extensive PM_{10} mitigation program for construction activities. MBUAPCD CEQA guidelines state that regional impacts from ozone precursor emissions in equipment exhaust (NOx and ROG) have been incorporated into the regional emissions budget. The MBUAPCD sets forth the following mitigation measures for construction:

- Water all active construction areas at least twice daily. Frequency should be based on type of operation, soil, and wind exposure.
- Prohibit all grading activities occurring during periods of high winds (over 15 mph).
- Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days).
- Apply non-toxic binders (e.g., latex acrylic copolymer) to exposed areas after cut and fill operations and hydroseed area.
- Require Haul trucks to maintain at least 2 feet, 0 inches of freeboard.
- Cover all trucks hauling dirt, sand, or loose materials.
- Plant tree windbreaks on the windward perimeter of construction projects if adjacent to open land.
- Plant vegetative ground cover in disturbed areas as soon as possible.

- Cover inactive storage piles.
- Install wheel washers at the entrance to construction sites for all exiting trucks.
- Pave all roads at construction sites.
- Sweep streets if visible soil material is carried out from the construction site.
- Post a publicly visible sign that specifies the telephone number and person to contact regarding dust complaints. This person shall respond to complaints and take corrective action within 48 hours. The phone number of the Monterey Bay Unified Air Pollution Control District shall be visible to ensure compliance with Rule 402 (Nuisance).
- Limit the area under construction at any one time to as small as practical.

The MBUAPCD sets forth the following mitigation measures for heavy duty equipment:

- Limit the pieces of equipment used at any one time.
- Minimize the use of diesel-powered equipment (i.e., wheeled tractor, wheeled loader, roller) by using gasoline-powered equipment.
- Limit the hours of operation for heavy-duty equipment.
- Undertake project during non-zone season.
- Off-site mitigation.
- Use PuriNOx emulsified diesel fuel in existing engines.
- Modify engine with ARB verified retrofit.
- Repower with current standard diesel technology.
- Repower with CNG/ LNG technology.

The MBUAPCD sets forth the following mitigation measures for retrofits and/or repowers for heavy duty diesel engines:

- Retrofit engine models from 1993–2002 and certain 4-stroke diesel engines with DPF from Lubrizol, Cleaire, Donaldson.
- Retrofit engine models from 1993–2003 and certain 4-stroke diesel engines with an ARB Level 3 verified DPF from ECS-Lubrizol.
- Retrofit engine models from 1993–2002 and Caterpillars with PSA bi-fuel systems with ARB Level 3 verified DPF from Clean Air Power.
- Retrofit engine models from 1993–2002 and some 4-stroke diesel engines used as emergency generators with ARB Level 3 verified DPF retrofit from Clean Air systems.

- Retrofit engines from 1991–2002 and some 4-stroke diesel engines over 150 Bhp with an ARB Level 1 verified DOC from Cleaire, Donaldson, or Lubrizol.
- Repower heavy duty diesel engines with current Tier 1 or 2 diesel engines.

MBUAPCD Air Quality Management Plan

MBUAPCD is one of 35 air pollution management districts that have prepared an Air Quality Management Plan (AQMP). The MBUAPCD adopted the 2008 AQMP for the Monterey Bay region in June 2008. The 2008 AQMP relies on a multi-level partnership of federal, state, regional, and local agencies, and proposes policies and measures to achieve federal and state air quality standards for improved air quality in its jurisdictional area.

The 2008 AQMP also addresses several federal and state planning requirements, and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The 2008 AQMP is consistent and builds upon the approaches taken in previous AQMPs for the attainment of the state ozone and PM_{10} standards. The AQMP outlines strategies to maintain the state 1-hour AAQS and achieve the state 8-hour AAQS for ozone.

The AQMP inventories and forecasts the emissions of ozone precursors, such as VOCs, from hundreds of man-made mobile and stationary sources on a typical weekday during the May through October ozone season. This inventory is used to assess the region's progress toward attaining California's ambient air quality standard.

The present and forecasted VOC emissions from wine production are shown below in Table 4.7-2. The total 2030 VOC emissions (1.1134 tons/day or about 2,227 pounds/day) represents the amount of emissions projected to come from the fermentation and ageing of wine in Monterey County during the summer ozone season at the planning horizon.

Table 4.7-2. MBUAPCD Air Quality Management Plan VOC Emissions from Wine Fermenting and Ageing

	2008(tons/day)	2008 (lbs/day)	2030(tons/day)	2030(lbs/day)
Wine Fermentation	0.1608	322	0.2877	575
Wine Ageing	0.3648	730	16510.8257	1651
Total	0.5256	1,051	1.1134	2,227

Source: Monterey Bay Unified Air Pollution Control District. 2008b.

Rules 201 (Sources Not Requiring Permits) and 417 (Storage of Organic Liquids)

According to the MBUAPCD's Rule 201-Sources Not Requiring Permits, the following wine-making facilities do not require air district permits in order to operate:

- Wineries in operation as of May 14, 1997 with an annual production rate less than 1.25 million gallons (4.7 megaliters), and
- New or reconstructed, as defined in District Rule 207 (Review of New or Modified Sources, wineries with an annual production rate of less than 150,000 gallons (570 kiloliters).

If the winery does not fit into Rule 201, it is subject to the MBUAPCD's Rule 417-Storage of Organic Liquids. Rule 417 lists the requirements and standards for the storage of organic liquids, seals, record keeping, and vapor controls.

4.7.4 Project Impacts

4.7.4.1 Thresholds of Significance

According to Appendix G of the State CEQA Guidelines, a project would normally have a significant effect on the environment if it would

- conflict with or obstruct implementation of the applicable air quality plan,
- violate any air quality standard or contribute substantially to an existing or projected air quality violation,
- result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state AAQS,
- expose sensitive receptors to substantial pollutant concentrations, or create objectionable odors affecting a substantial number of people.

The Guidelines further state that the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the determinations above. The MBUAPCD has specified significance thresholds within its CEQA Air Quality Guidelines (2008) to determine whether mitigation is needed for project-related air quality impacts. Based on consultation with MBUAPCD staff (Brennan pers. comm.) and the MBUAPCD's CEQA air quality guidelines, the following thresholds should be used in the analysis of significant air quality impacts:

Construction-Related Emissions (pounds per day)

- NO_X = 137
- PM_{10} = 82

Operation-Related Emissions (pounds per day)

- ROG = 137
- NO_X = 137
- CO = 550
- PM_{10} = 82

Based on the construction threshold of 82 pounds per day of PM_{10}, the MBUAPCD has identified levels of construction activity that could result in a significant impact. For construction involving grading, excavation, and other earthmoving activities, the MBUAPCD identified construction sites that disturb more than 2.2 acres per day as having the potential to exceed the 82 pounds-per-day threshold.

The MBUAPCD does not have significance thresholds for construction-related ozone precursors because they are accommodated in the emission inventories of state- and federally required air plans.

4.7.4.2 Impact Analysis

Buildout of the 2007 General Plan could result in impacts on air quality. New development would require the use of construction equipment and diesel vehicles. Increased population would result in an overall increase in vehicle trips and vehicle miles traveled (VMT). Impacts include the potential to conflict with air quality plans and standards, expose sensitive receptors to substantial pollutant concentrations, and create objectionable odors.

Consistency with Air Quality Plans

Impact AQ-1: Buildout of the 2007 General Plan would conflict with applicable Air Quality Management Plans and Standards. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Buildout of the 2007 General Plan would result in new urban development in undeveloped areas. New development facilitates increased population growth and would result in increased vehicle trips and VMT.

2007 General Plan Policies

The 2007 General Plan and Area Plan goals and policies summarized below set forth comprehensive measures to avoid and minimize adverse impacts on air quality to the maximum extent practicable.

Open Space and Conservation Element

Open Space and Conservation Element Goal OS-10 provides for the protection and enhancement of Monterey County's air quality without constraining routine and ongoing agricultural activities. Policies OS 10.1-10.5 encourage land use and transit strategies to reduce air pollution. Policies OS-10.6 (support for MBUAPCD air pollution control strategies, air quality monitoring, and enforcement activities) and OS-10.9 (future development required to implement applicable MBUAPCD control measures) support this goal and reduce air quality impacts by standardizing air quality measures in the County.

Area Plan Policies

The North County Area Plan

North County Area Plan Policy NC-1.2 (mushroom operations) reduces air quality impacts by requiring new development to install environmental control methods for air quality.

Greater Salinas Area Plan

There are no applicable policies related to air quality in the Greater Salinas Area Plan.

Central Salinas Valley Area Plan

Central Salinas Valley Area Plan Policy CSV-3.2 (development of renewable energy sources) encourages the development and utilization of renewable energy sources such as solar, wind power generation, and biomass technologies in the Central Salinas Valley. This policy would help reduce air quality impacts by supporting nonpolluting energy sources.

Greater Monterey Peninsula Area Plan

Greater Monterey Peninsula Area Plan Policy GMP-2.7 (public transit) would help reduce air quality impacts by encouraging new development to incorporate alternate modes of transportation (buses, bicycles, walking).

Carmel Valley Master Plan

Carmel Valley Master Plan Policy CV-2.1 (circulation) emphasizes the use of public transit and stresses the importance of pedestrian access in the village, which would allow for reduced air quality impacts through reduction of traffic.

Toro Area Plan

Toro Area Plan Policies T-2.9 and T-2.10 (circulation) would reduce air quality impacts by encouraging new development to incorporate designs to allow for alternate modes of transportation, and also by encouraging increased accessibility for residents to mass transit.

Cachagua Area Plan

There are no policies applicable to air quality in the Cachagua Area Plan.

South County Area Plan

There are no policies applicable to air quality in the South County Area Plan.

Agricultural Winery Corridor Plan

The AWCP overlays the Toro, Central Salinas Valley, and South County Area Plans, and policies relating to air quality are applicable to the AWCP under this plan. Implementation of these policies would reduce air quality impacts in the AWCP area.

Significance Determination

Population growth under the 2007 General Plan is consistent with the growth projected in the MBUAPCD Clean Air Plan. Table 4.7-3 shows the housing, population, employment, and VMT data for 2000, 2030, and 2092 buildout conditions under the 2007 General Plan.

Table 4.7-3. Projected population and VMT growth in Monterey County

Scenario	Housing Units	Population	Employment	VMT
2000	129,571	-	222,471	8,162,834
2000 With Project	168,904	509,692	304,388	9,846,752
2030 With Project	143,009	437,665	253,060	8,532,513
2030 Cumulative	187,022	602,790	335,362	14,290,852
Cumulative 2092 Buildout	290,631	937,373	520,531	18,822,215

Source: Kimley-Horn (2008)

As shown in Table 4.7-3, an increase in County population from 2000 to buildout is anticipated to be accompanied by a concurrent increase in VMT. However, the population increase is consistent with the MBUAPCD Clean Air Plan population projections. The MBUAPCD Clean Air Plan projects that the Monterey County population will be 602,371 in 2030. Therefore, air quality would comply with the Clean Air Plan and not be significantly impacted by the buildout of the 2007 General Plan,.
New wineries would result in increased VOC emission from wine fermenting and ageing. Table 4.7-4 summarizes VOC emissions under 2030 project conditions. The estimate of gallons per year is based on per-winery production from 10 full-scale and 40 artisan wineries of varying sizes.

Table 4.7-4. VOC Emissions for 2030 Conditions of 10 Full-Scale and 40 Artisan Wineries

	Emission Factor (lbs/1000 gallons)[1]	**Gallons per Year[2] (in 1,000s)**	**VOC Emissions (lbs/ year)**	**VOC Emissions (lbs/ day)**
Fermentation-Red	6.2	4,141.2	25,675.4	187.4
Fermentation-White	2.5	6,211.8	15,529.5	113.4
Pomace Screening-Red	0.5	4,141.2	2,070.5	15.1
Pomace Press-Red	0.1	4,141.2	414.12	3.0
Storage/Ageing-Red	0.02782[3]	4,141.2	115,250	315.8
Storage/Ageing-White	0.02583[3]	6,211.8	160,451	439.6
Total			**318,390.5**	**905.3**
MBUAPCD Threshold				**137 pounds per day**

[1] Source: United States Environmental Protection Agency 2001

[2] 1 case = 2.38 gallons

[3] Source: SBCAPCD 2008.

As shown in Table 4.7-4, VOC emissions under 2030 project conditions would be within the MBUAPCD's forecast VOC emissions inventory for 2030 (2,227 pounds per day). As such, this level of emissions would be consistent with the 2008 AQMP. Therefore, the 2007 General Plan is consistent with the MBUAPCD's 2008 AQMP, and this impact is considered less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

In summary, the 2007 General Plan would not conflict with the MBUAPCD Clean Air Plan. Impacts in this regard would be less than significant.

Buildout

Impact of Development with Policies

Buildout of the 2007 General Plan to the 2092 planning horizon would result in new urban development in undeveloped areas beyond 2030 levels. New development could facilitate growth, which would in turn increase vehicle trips and VMT. This could result in significant adverse affects on air quality.

2007 General Plan Policies

The same 2007 General Plan and Area Plan policies summarized above under 2030 would apply.

Significance Determination

Buildout by 2092 would result in adverse impacts on air quality due to increased population, vehicle trips, and VMT. However, the 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts on air quality to the maximum extent practicable. These policies are summarized above. They include measures to promote sustainable land use decisions, improve and encourage the use of public transit and alternate modes of transportation. Therefore, air quality would not be significantly impacted by buildout of the 2007 General Plan. Impacts in this regard would be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

In summary, buildout by 2092 would result in adverse impacts on air quality. However, the 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts on air quality to the maximum extent practicable. Therefore, air quality would not be significantly impacted by buildout of the 2007 General Plan. Impacts in this regard would be less than significant.

Construction-Related Emissions

Impact AQ-2: Generation of significant quantities of construction-related emissions would result in greater levels of air pollution. (Less-Than-Significant With Mitigation Impact.)

2030 Planning Horizon

Impact of Development with Policies

Implementation of the 2007 General Plan would result in increased construction activity. This would impact air quality by increasing ozone precursor and particulate matter emissions for an area that already exceeds ambient air quality standards. Construction activities such as demolition, grading, deliveries, hauling, and worker trips to and from project sites would generate pollutant emissions. Construction projects may also generate exhaust emissions from primarily diesel fueled equipment. Particulate matter is the pollutant of greatest concern that is emitted from construction, particularly during site preparation and grading. Particulate matter emissions can vary daily, depending on various factors, such as the level of activity, type of construction activity taking place, type of equipment in operation, and weather conditions. Off-road construction equipment is also a large source of NO_X and diesel particulate matter. While construction projects are often linear and last for a limited time, localized emissions may be substantial.

2007 General Plan Policies

The 2007 General Plan and Area Plan goals and policies summarized below set forth comprehensive measures to avoid and minimize adverse construction impacts on air quality to the maximum extent practicable.

Open Space and Conservation Element

Open Space and Conservation Element Goal OS-10 provides for the protection and enhancement of Monterey County's air quality without constraining routine and ongoing agricultural activities. Policy OS-10.8 (air quality shall be protected from naturally occurring asbestos by requiring mitigation measures to control dust and emissions during construction, grading, quarrying, or surface mining operations) reduces air quality impacts by controlling asbestos exposure during various activities that may result in natural asbestos release. Policies OS-10.6 (support for MBUAPCD air pollution control strategies, air quality monitoring, and enforcement activities) and OS-10.9 (future development required to implement applicable MBUAPCD control measures) support this goal and reduce air quality impacts by standardizing air quality measures in the County.

Area Plan Policies

The North County Area Plan

North County Area Plan Policy NC-1.2 (mushroom operations) reduces air quality impacts by requiring new development to install environmental control methods for air quality.

Greater Salinas Area Plan

There are no policies applicable to construction-related emissions in the Greater Salinas Area Plan.

Central Salinas Valley Area Plan

There are no policies applicable to construction-related emissions in the Central Salinas Valley Area Plan.

Greater Monterey Peninsula Area Plan

There are no policies applicable to construction-related emissions in the Greater Monterey Peninsula Area Plan.

Carmel Valley Master Plan

There are no policies applicable to construction-related emissions in the Carmel Valley Master Plan.

Toro Area Plan

There are no policies applicable to construction-related emissions in the Toro Area Plan.

Cachagua Area Plan

There are no policies applicable to air quality in the Cachagua Area Plan.

South County Area Plan

There are no policies applicable to air quality in the South County Area Plan.

Agricultural Winery Corridor Plan

The AWCP overlays the Toro, Central Salinas Valley, and South County Area Plans, and policies relating to air quality are applicable to the AWCP under this plan. Implementation of these policies would reduce air quality impacts in the AWCP area.

Significance Determination

Buildout of the 2007 General Plan within the planning horizon includes increased development and roadway improvements. Construction emissions could potentially result in adverse impacts to air quality. The 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts on air quality to the maximum extent practicable. The 2007 General Plan and Area Plan goals and policies summarized above include measures to comply with MBUAPCD's standards and regulations regarding construction emissions.

As described above in the Regulatory Setting section, the MBUAPCD has developed an extensive PM_{10} mitigation program for construction activities. MBUAPCD CEQA guidelines state that regional impacts from ozone precursor emissions in equipment exhaust (NO_X and ROG) have been incorporated into the regional emissions budget. This is a potentially significant impact because PM_{10} emissions could violate air quality thresholds. Mitigation is required to reduce this impact to a level of less than significant.

Mitigation Measure AQ-1:
The County of Monterey will update General Plan policy OS-10.5 as follows:

OS-10.5 The County of Monterey will require that future construction in accordance with the 2007 implement MBUAPCD PM_{10} control measures.

Mitigation Measure AQ-2:
Implement MBUAPCD Mitigation Measures for Off-Road Mobile Source and Heavy Duty Equipment Emissions.

General Plan Policy OS-10.6 will be revised as follows:

The County shall implement MBUAPCD measures to address off-road mobile source and heavy duty equipment emissions as conditions of approval for future development.

Significance Conclusion

In summary, buildout of the 2007 General Plan would result in new development, and increased emissions would result from construction activities. Mitigation Measures AQ-1 through AQ-3 would reduce this impact to a less than significant level.

Buildout

Impact of Development with Policies

Implementation of the 2007 General Plan to the 2092 planning horizon would result in increased construction activity, which would impact air quality by increasing ozone precursor and particulate matter emissions for an area that already exceeds ambient air quality standards. Construction projects may also generate exhaust emissions from primarily diesel fueled equipment. While construction projects are often linear and last for a limited time, localized emissions may be substantial.

2007 General Plan Policies

The same 2007 General Plan and Area Plan goals and policies summarized above under the 2030 planning horizon would also apply to buildout in 2092.

Significance Determination

Buildout of the 2007 General Plan includes increased development and roadway improvements. Construction emissions could potentially result in adverse impacts on air quality. The 2007 General Plan and Area Plan policies include measures to comply with MBUAPCD's standards and regulations regarding construction emissions. Mitigation Measures AQ-1 through AQ-3 are required to reduce this impact to a level of less than significant.

Mitigation Measures

Implement Mitigation Measures AQ-1 and AQ-2..

Significance Conclusion

In summary, buildout of the 2007 General Plan would result in new development, and increased emissions would result from construction activities. Mitigation Measures AQ-1 and AQ-2 are required to reduce this impact to less than significant.

Criteria Pollutants

Impact AQ-3: Net Change in Ozone Precursor (ROG and NOx) and Particulate Matter. (Significant and Unavoidable.)

2030 Planning Horizon

Impact of Development with Policies

Mobile sources are sources of emissions associated with vehicle trips, and include employees, deliveries, and maintenance activities. The primary

operational emissions associated with the proposed project are ozone precursors, CO, particulate matter (PM_{10} and $PM_{2.5}$), and carbon dioxide (CO_2), emitted as vehicle exhaust. Emission of ozone precursors, CO, and particulate matter for existing year (2007) and future year (2030) project conditions were calculated using the EMFAC 2007 model and traffic data provided by the 2007 General Plan traffic engineers. Appendix A describes the methodology and model inputs for existing year, future year, and buildout of the 2007 General Plan. Emissions of CO_2 are analyzed in Section 4.16, Climate Change.

Table 4.7-5 summarizes emissions associated with each project condition. Table 4.7-6 summarizes the differences in emissions between project conditions. As Table 4.7-6 indicates, implementation of the 2007 General Plan would result in net decreases in ROG, NO_X, CO, and $PM_{2.5}$ emissions, while PM_{10} emissions would increase. Vehicular emission rates are anticipated to lessen in future years due to continuing improvements in engine technology and the phasing out of older, higher-emitting vehicles. These decreases in emission rates are sufficient to offset the increases in VMT between existing and 2030 project conditions. PM_{10} emissions are shown to increase slightly with implementation of the proposed project due to increased VMT outpacing the reductions in emission rates that would occur for future conditions relative to existing conditions. However, these increases are below the MBUAPCD threshold of 82 pounds per day.

Table 4.7-5. Criteria Pollutant Emissions from Mobile Sources (pounds per day)

Condition	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
2000	13,875	37,737	225,144	1,656	1,296
2000 With Project	16,737	45,522	271,589	1,997	1,563
2030 With Project	1,223	4,872	26,053	1,072	734
2030 Cumulative	2,048	8,160	43,635	1,796	1,229
2030 Cumulative Buildout	2,697	10,747	57,471	2,365	1,618

Table 4.7-6. Differences in Criteria Pollutant Emissions from Mobile Sources (pounds per day)

Project Condition	Yearly VMT	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Existing	8,162,834	13,875	37,737	225,144	1,656	1,296
2030 Project Increase (2030 With Project - 2000)	369,679	-12,652	-32,865	-199,091	-583	-562
2030 Cumulative	14,290,852	2,048	8,160	43,635	1,796	1,229
Buildout Project Increase (2000 With Project - 2000)	1,683,918	2,862	7,785	46,445	342	267
Cumulative Buildout	18,822,215	2,697	10,747	57,471	2,365	1,618
MBUAPCD Thresholds		137	137	550	82	N/A

In addition to mobile sources, wineries proposed under the AWCP component of the 2007 General Plan would be sources of criteria emissions. According to the EPA, ethanol and carbon dioxide are the primary compounds emitted during the wine making fermentation process (Environmental Protection Agency 2001). Ethanol is a volatile organic compound and is subject to the MBUAPCD's ROG thresholds, while carbon dioxide has no thresholds of significance. Discussions with industry representatives indicate that the harvest in Monterey County generally runs 137 days from August 1 through December 15. 2030 Buildout conditions are described in Table 4.7-2, above. Emissions from a typical single artisan and a typical single full-scale winery are depicted below in Table 4.7-7. Emission factors are available for the fermentation (both red and white wines), pomace screening (red wine only), and pomace press processes. Emission factors for other processes such as storage are not available. The estimate of gallons per year is based on a maximum production of 25,000 cases per year for a typical artisan winery, and 1,500,000 cases per year for a typical full-scale winery.

Table 4.7-7. VOC Emissions for Typical Single Full-Scale and Single Artisan Wineries)

	Emission Factor (lbs/1000 gallons)[1]	Gallons per Year[2]	VOC Emissions (lbs/year)	VOC Emissions (lbs/ day)
Single Artisan Winery				
Fermentation-Red	6.2	23,800	147.56	1.1
Fermentation-White	2.5	35,700	89.25	0.65
Storage/Ageing-Red	0.02783	23,800	662	1.81
Storage/Ageing-White	0.02583	35,700	922	2.53
Pomace Screening-Red	0.5	23,800	11.9	0.09
Pomace Press-Red	0.1	23,800	2.38	0.02
Total			**1,835.09**	**6.2**
Single Full-Scale Winery				
Fermentation-Red	6.2	1,428,000	8,853.6	64.6
Fermentation-White	2.5	2,142,000	5,355	39.1
Storage/Ageing-Red	0.02783	1,428,000	39,741	108.88
Storage/Ageing-White	0.02583	2,142,000	55,328	151.58
Pomace Screening-Red	0.5	1,428,000	714	5.2
Pomace Press-Red	0.1	1,428,000	142.8	1.04
Total			**110,134.4**	**370.37**
MBUAPCD Threshold				**137 lbs/day**

[1]Source: United States Environmental Protection Agency 2001
[2]case = 2.38 gallons

2007 General Plan Policies

The 2007 General Plan and Area Plan goals and policies summarized below set forth comprehensive measures to avoid and minimize adverse impacts on air quality to the maximum extent practicable.

Open Space and Conservation Element

Open Space and Conservation Element Goal OS-10 provides for the protection and enhancement of Monterey County's air quality without constraining routine and ongoing agricultural activities. Policies OS-10.1 through OS10.11 (land use decisions, mass transit, conservation of vegetated and forested areas, industrial and

commercial development, mixed land use, support of MBUAPCD strategies, use of technology, asbestos, future development) contain measures to improve the County's air quality and encourage sustainable development that utilizes mass transit and energy efficiency, which would result in a reduction in air quality impacts.

Circulation Element

Circulation Element Goal C-2 is to optimize the County's transportation facilities. Policies C-2.1 through C-2.7 include measures to concentrate land-use and reduce overall VMT. Circulation Element Goal C-3 encourages the minimization of negative impacts of transportation on the County. Policies C-3.1 through C-3.5 include measures to protect air quality, reduce fossil fuels, and promote alternate transportation. Circulation Element Goal C-6 entails promoting alternative transportation. Policies C-6.1 through C.6-9 include measures to promote public transportation and infrastructure for public transportation. Goal C-10 and Policies C-10.1 through C-10.7 promote improving the bicycle transportation system, which will reduce impacts to air quality.

Area Plan Policies

The North County Area Plan

North County Area Plan Policy NC-1.2 (mushroom operations) reduces air quality impacts by requiring new development to install environmental control methods for air quality.

Greater Salinas Area Plan

There are no policies applicable to air quality in the Greater Salinas Area Plan.

Central Salinas Valley Area Plan

Central Salinas Valley Area Plan Policy CSV-3.2 (development of renewable energy sources) encourages the development and utilization of renewable energy sources such as solar, wind power generation, and biomass technologies in the Central Salinas Valley. This policy would help reduce air quality impacts by supporting non-polluting energy sources.

Greater Monterey Peninsula Area Plan

Greater Monterey Peninsula Area Plan Policy GMP-2.7 (public transit) would help reduce air quality impacts by encouraging new development to incorporate alternate modes of transportation (buses, bicycles, walking).

Carmel Valley Master Plan

Carmel Valley Master Plan Policy CV-2.1 (circulation) emphasizes the use of public transit, and stresses the importance of pedestrian access in the village, which would allow for reduced air quality impacts through reduction of traffic.

Toro Area Plan

Toro Area Plan Policies T-2.9 and T-2.10 (circulation) would reduce air quality impacts by encouraging new development to incorporate designs to allow for alternate modes of transportation; it also encourages increasing mass transit accessibility for residents.

Cachagua Area Plan

There are no policies applicable to air quality in the Cachagua Area Plan.

South County Area Plan

There are no policies applicable to air quality in the South County Area Plan.

Agricultural Winery Corridor Plan

The AWCP overlays the Toro, Central Salinas Valley, and South County Area Plans, and policies relating to air quality are applicable to the AWCP under this plan. Implementation of these policies would reduce air quality impacts in the AWCP area.

Significance Determination

Implementation of the 2007 General Plan would result in increased emissions of criteria pollutants and VOCs. Implementation of the 2007 General Plan would result in increased mobile and area source emissions due to increased vehicle trips and VMT, and increased development.

As indicated in Table 4.7-5, 2030 conditions (2030 With Project - 2000 conditions) would result in a net decrease in ROG, NO_X, CO, $PM_{2.5}$, and PM_{10} emissions. Vehicular emission rates are anticipated to lessen in future years due to continuing improvements in engine technology and the phasing out of older, higher-emitting vehicles. These decreases in emission rates are sufficient to offset the increases in VMT seen between 2000 and 2030 project conditions, resulting in the decreased ROG, NO_X, CO, $PM_{2.5}$, and PM_{10} emissions observed in Table 4.7-5. Additionally, the 2007 General Plan and Area Plan goals and policies set forth comprehensive measures to avoid and minimize adverse impacts on air quality to the maximum extent practicable.

The 2007 General Plan and Area Plan policies summarized above include measures to increase the use of public transit and alternate modes of transportation, and to promote sustainable development. The 2007 General Plan also encourages concepts such as sustainable development and preservation of natural areas that would further reduce single passenger vehicle trips. In addition, the MBUAPCD has developed mitigation for commercial, industrial, institutional, and residential land uses, and for alternative fuels. Criteria pollutant impacts (with the exception of VOC emissions from wineries) are considered less than significant with implementation of Mitigation Measures AQ-3 through AQ-5 below. Also, please refer Mitigation Measures CC-2, and CC-3. These policies will add new general plan policies OS-10.12 and OS-10.13, which involve adopting a green building ordinance and promoting alternative energy development. Mitigation Measures CC-2 and CC-3 would further reduce this impact.

As shown above in Table 4.7-7, estimated project-level VOC emissions from individual artisan wineries would be under the MBUAPCD threshold of 137 lbs/day, while emissions from individual full-scale wineries would exceed the threshold. In addition to wine fermentation, emissions occur from wine ageing.

Although the combined VOC production of the wineries would not exceed the 2008 AQMP's forecast emissions inventory, typical full-scale wineries would individually exceed the daily VOC standard (137 pounds per day) and, taken together the 50 new wineries would produce more than 137 lbs/day of VOC emissions, and cumulatively exceed the MBUAPCD's thresholds. To be conservative, this impact is considered considerable.

Substantial amounts of grape juice and must from wine grapes harvested in Monterey County are currently being shipped to Napa County for fermentation and ageing. In concept, implementation of the AWCP would allow much of those products to remain in Monterey County for fermentation and ageing, thereby avoiding the mobile emissions from truck trips to and from Napa County. However, the amount of this offset and its permanence cannot be determined. The San Joaquin Valley is another of California's major wine grape producing areas. There is no way to ensure that the Napa County truck trips avoided by the AWCP would not be replaced by truck trips between the San Joaquin Valley and future Monterey County wineries, should winery capacity and market forces make that economically viable. Because the avoided emissions cannot be quantified with reasonable accuracy, this offset is not considered in the analysis of VOC emissions.

Mitigation Measures

Mitigation Measure AQ-3: Implement MBUAPCD Mitigation Measures for Commercial, Industrial, and Institutional Land Uses (MBUAPCD 2008).

The following measures will be added to General Plan Policy OS-10.10:

- Provide preferential carpool/vanpool parking spaces
- Implement a parking surcharge for single occupant vehicles
- Provide for shuttle/mini bus service
- Provide bicycle storage/parking facilities and shower/locker facilities
- Provide onsite child care centers
- Provide transit design features within the development
- Develop park-and-ride lots
- Employ a transportation/rideshare coordinator
- Implement a rideshare program
- Provide incentives to employees to rideshare or take public transportation
- Implement compressed work schedules
- Implement telecommuting program

Mitigation Measure AQ-4: Implement MBUAPCD Mitigation Measures for Residential Land Uses (MBUAPCD 2008).

General Plan Policy OS-10.10 will be revised to include the following measures to address residential land use:

- Provide bicycle paths within major subdivisions that link to an external network
- Provide pedestrian facilities within major subdivisions

Mitigation Measure AQ-5: Implement MBUAPCD Mitigation Measures for Alternative Fuels (MBUAPCD 2008).

The following measures will be added to General Plan Policy OS-10.2 to address alternative fuels:

- Utilize electric fleet vehicles
- Utilize Ultra Low-Emission fleet vehicles
- Utilize methanol fleet vehicles
- Utilize liquid propane gas fleet vehicles
- Utilize compressed natural gas fleet vehicles

Significance Conclusion

In summary, implementation of the 2007 General Plan would result in a decrease in ROG, NO_X, CO, $PM_{2.5}$, and PM_{10} emissions. The 2007 General Plan and Area Plan goals and policies set forth comprehensive measures to

avoid and minimize adverse impacts on air quality to the maximum extent practicable, and the MBUAPCD has established mitigation measures for operational emissions. Therefore, with the implementation of Mitigation Measures AQ-3 through AQ-5, the impact from criteria pollutants is considered less than significant for most sources.

As seen from Table 4.7-5, the VOC emissions that would occur under 2030 project conditions would exceed the District's threshold of 137 pounds per day. Consequently, VOC impacts from winery operations are considered significant and unavoidable.

There is no feasible mitigation that would reduce these emissions. As noted above, wine making is as much art as science. The San Joaquin Valley Air Pollution Control District (SJVAPCD) established Rule 4694 in December 2005 to regulate VOC emissions from wine fermentation and storage tanks through temperature controls, emissions controls, and process restrictions. (San Joaquin Valley Air Pollution Control District. 2006) However, during preparation of its 2007 Ozone Plan, the SJVAPCD further evaluated whether there is a Reasonably Available Control Technology (RACT) for wine fermentation and storage and found that there is none. Upon research, the SJVAPCD found that Rule 4694 is the only one of its kind in the world. After extensive research into a number of potential approaches, the SJVAPCD concluded that for a variety of reasons, technologically feasible control options are not economically feasible. Accordingly, Rule 4694 is not eligible for inclusion in the State Implementation Plan. (San Joaquin Valley Air Pollution Control District 2007)

Buildout

Impact of Development with Policies

Emission factors are not currently available for future year 2092, and as such a qualitative analysis is required for this condition. As indicated above, buildout of the 2007 General Plan would result in net decreases in ROG, NO_X, CO, $PM_{2.5}$, and PM_{10} emissions. Vehicular emission rates are anticipated to lessen in future years due to continuing improvements in engine technology and the phasing out of older, higher-emitting vehicles. These decreases in emission rates would likely offset the increases in VMT between existing and 2092 project conditions.

2007 General Plan Policies

The same 2007 General Plan and Area Plan goals and policies summarized above under 2030 would also apply to 2092.

Significance Determination

The 2007 General Plan and Area Plan goals and policies set forth comprehensive measures to avoid and minimize adverse impacts on air

quality to the maximum extent practicable. The 2007 General Plan and Area Plan goals and policies summarized above include measures to increase the use of public transit and alternate modes of transportation, and to promote sustainable development. The 2007 General Plan also encourages concepts such as sustainable development and preservation of natural areas that would further reduce single passenger vehicle trips. However, because emission factors are not available for future year 2092, emission levels for 2092 are purely speculative. Therefore, this impact is considered potentially significant and Mitigation Measures AQ-3 through AQ-5 are required.

Mitigation Measures

Implement Mitigation Measures AQ-3, AQ-4, and AQ-5.

Significance Conclusion

In summary, the 2007 General Plan and Area Plan goals and policies set forth comprehensive measures to avoid and minimize adverse impacts on air quality to the maximum extent practicable. However, there is not sufficient information to determine whether emission levels would exceed thresholds in 2092. Therefore, this impact is considered potentially significant.

Diesel Exposure Health Risk

Impact AQ-4: Buildout of the 2007 General Plan would expose sensitive receptors to increased diesel exhaust. (Less-Than-Significant With Mitigation)

2030 Planning Horizon

Impact of Development with Policies

Within the last decade, health effects studies have demonstrated that toxic air contaminants for which there is no safe exposure level are an equally critical concern. The bulk of this concern is related to diesel particulate matter (DPM) generated by heavy equipment during facility construction and by heavy truck traffic during transportation system operations. DPMs are released in their already toxic form near the source, and then cumulatively disperse throughout the region. They are both a local and a regional issue.

CARB has identified diesel exhaust particulate matter as a toxic air contaminant. However, the assessment of diesel-related cancer risks is typically based upon a 70-year exposure period. Roadway construction activities, especially linear projects, expose receptors to possible diesel exhaust for a very limited number of days out of the “70-year, 365 day per year, 24-hour per day, outside of one’s residence” assumption in the overall risk assignment. Because exposure to diesel exhaust will be well below the 70-year exposure period, and exposure will be minimal due to types of proposed projects, construction of any individual project is not anticipated to result in an elevated cancer risk to exposed persons. Consequently, the local

diesel exposure risks associated with construction activities is considered to be less than significant. CARB adopted a new regulation for in-use off-road diesel vehicles in 2008 that applies to off-road diesel fleets and includes measures such as retrofits (CARB 2008).

Local operational DPM impacts around any individual transportation source depend upon the number of diesel sources and the setback distance between the source and the nearest sensitive receivers. Recently developed state and federal guidelines have identified operational characteristics that would be a possible concern. The CARB's recent land use recommendation is that sensitive receptors should not be located any closer than 500 feet of a freeway carrying more than 100,000 vehicles per day. This policy is not included in the 2007 General Plan. EPA/FHWA guidelines do not require a $PM_{2.5}$-diesel hot spot analysis for any roadway that carries less than 10,000 diesel-fueled vehicles per day. These levels of traffic and diesel exhaust are not realized in Monterey County. Transportation projects envisioned with buildout of the 2007 General Plan would reduce idling and queuing at congestion points. Their implementation will reduce diesel exposure by improving system efficiency at existing bottlenecks. While maximizing the setback distances and minimizing truck impacts to any sensitive receptors should be incorporated into the final design of all planned improvements, plan implementation is not expected to worsen air toxics exposures near any plan elements.

Diesel particulate matter exposure is, however, also a regional issue. Exposure in Monterey County is much less than in heavily developed areas of the state with generally poorer dispersion meteorology. Nevertheless, prudent avoidance to cumulative long-term regional diesel exhaust exposure is recommended because there is no absolute safe exposure level to this pollutant. This is a potentially significant impact. Mitigation is required to reduce this impact to a level of less than significant.

2007 General Plan Policies

The 2007 General Plan and Area Plan goals and policies summarized below set forth comprehensive measures to avoid and minimize adverse impacts on air quality to the maximum extent practicable.

Open Space and Conservation Element

Open Space and Conservation Element Goal OS-10 provides for the protection and enhancement of Monterey County's air quality without constraining routine and ongoing agricultural activities. Policies OS-10.6 (support for MBUAPCD air pollution control strategies, air quality monitoring, and enforcement activities) and OS-10.9 (future development required to implement applicable MBUAPCD control measures) support this goal and reduce air quality impacts by standardizing air quality measures in the County.

Area Plan Policies

The North County Area Plan

North County Area Plan Policy NC-1.2 (mushroom operations) reduces air quality impacts by requiring new development to install environmental control methods for air quality.

Greater Salinas Area Plan

There are no policies applicable to air quality in the Greater Salinas Area Plan.

Central Salinas Valley Area Plan

Central Salinas Valley Area Plan Policy CSV-3.2 (development of renewable energy sources) encourages the development and utilization of renewable energy sources such as solar, wind power generation, and biomass technologies in the Central Salinas Valley. This policy would help reduce air quality impacts by supporting non-polluting energy sources.

Greater Monterey Peninsula Area Plan

Greater Monterey Peninsula Area Plan Policy GMP-2.7 (public transit) would help reduce air quality impacts by encouraging new development to incorporate alternate modes of transportation (buses, bicycles, walking).

Carmel Valley Master Plan

Carmel Valley Master Plan Policy CV-2.1 (circulation) emphasizes the use of public transit, and stresses the importance of pedestrian access in the village, which would allow for reduced air quality impacts through reduction of traffic.

Toro Area Plan

Toro Area Plan Policies T-2.9 and T-2.10 (circulation) would reduce air quality impacts by encouraging new development to incorporate designs to allow for alternate modes of transportation, and also by encouraging increased accessibility for residents to mass transit.

Cachagua Area Plan

There are no policies applicable to air quality in the Cachagua Area Plan.

South County Area Plan

There are no policies applicable to air quality in the South County Area Plan.

Agricultural Winery Corridor Plan

The AWCP overlays the Toro, Central Salinas Valley, and South County Area Plans, and policies relating to air quality are applicable to the AWCP under this plan. Implementation of these policies would reduce air quality impacts in the AWCP area.

Significance Determination

Implementation of the 2007 General Plan within the 2030 planning horizon could potentially result in health risks due to diesel exhaust. Mitigation Measure AQ-6 and AQ-7 would be consistent with the 2008 CARB regulation for in-use off-road diesel fueled fleets, and would reduce this impact to a less than significant level. The 2007 General Plan contains no specific proposals for sensitive land uses near highways carrying 100,000 cars per day or other air pollution sources listed in the *Air Quality and Land Use Handbook: A Community Health Perspective* prepared by the California Air Resources Board in April 2005. Buffers between non-agricultural developments and agricultural fields that might be sources of dust will be required under Policy AG-1.2. Policy LU-2.2 will limit residential development in areas that are unsuited for more intensive development due to physical hazards and development constraints. Therefore, there would be no significant impacts from this quarter.

Mitigation Measure AQ-6: The County of Monterey shall require that construction contracts be given to those contractors who show evidence of the use of soot traps, ultra-low sulfur fuels, and other diesel engine emissions upgrades that reduce PM_{10} emissions to less than 50% of the statewide PM_{10} emissions average for comparable equipment.

Mitigation Measure AQ-7: The following language should be included in General Plan policy OS-10.10:

- Development of new sensitive land uses (schools, hospitals, facilities for the elderly) should not be located any closer than 500 feet of a freeway carrying more than 100,000 vehicles per day.

Significance Conclusion

In summary, buildout of the 2007 General Plan would result in health risks from diesel exhaust. In addition to the above General Plan goals and policies, Mitigation Measures AQ-6 and AQ-7 are required to reduce this impact to less than significant.

Buildout

Impact of Development with Policies

Buildout of the 2007 General Plan to the 2092 planning horizon would result in similar health risk impacts due to diesel exhaust as those described for the 2030 planning horizon.

2007 General Plan Policies

The same 2007 General Plan and Area Plan goals and policies summarized above for 2030 would also apply to 2092.

Significance Determination

Buildout of the 2007 General Plan within the planning horizon would result in health risks due to diesel exhaust. Implementation of Mitigation Measures AQ-6 and AQ-7 will reduce this impact to less than significant.

Mitigation Measures

Implement Mitigation Measure AQ-6 and AQ-7.

Significance Conclusion

In summary, buildout of the 2007 General Plan would result in health risks from diesel exhaust. In addition to the above General Plan goals and policies, Mitigation Measures AQ-6 and AQ-7 are required to reduce this impact to less than significant.

Carbon Monoxide Concentrations

Impact AQ-5: Future traffic growth would cause increases in CO levels along County roadways. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Air quality impacts may occur locally in close proximity to a transportation source from air pollutants that are released in their already unhealthy form. CO exposure in close proximity to major intersections or freeways has traditionally been a local air quality concern. With much cleaner cars and low local background levels, CO hot spot potential has all but disappeared in Monterey County.

2007 General Plan Policies

The 2007 General Plan and Area Plan goals and policies summarized below set forth comprehensive measures to avoid and minimize adverse impacts on air quality to the maximum extent practicable.

Open Space and Conservation Element

Open Space and Conservation Element Goal OS-10 provides for the protection and enhancement of Monterey County's air quality without constraining routine and ongoing agricultural activities. Policies OS-10.2, 10.4, 10.5, 10.9, and 10.11 all encourage mass transit or alternate modes of transportation, which would help alleviate congestion and delay, both of which lead to CO concentrations. These policies would, therefore, result in a reduction of air quality impacts from CO concentrations.

Area Plan Policies

The North County Area Plan

North County Area Plan Policy NC-1.2 (mushroom operations) reduces air quality impacts by requiring new development to install environmental control methods for air quality.

Greater Salinas Area Plan

There are no policies applicable to air quality in the Greater Salinas Area Plan.

Central Salinas Valley Area Plan

Central Salinas Valley Area Plan Policy CSV-3.2 (development of renewable energy sources) encourages the development and utilization of renewable energy sources such as solar, wind power generation, and biomass technologies in the Central Salinas Valley. This policy would help reduce air quality impacts by supporting non-polluting energy sources.

Greater Monterey Peninsula Area Plan

Greater Monterey Peninsula Area Plan Policy GMP-2.7 (public transit) would help reduce air quality impacts by encouraging new development to incorporate alternate modes of transportation (buses, bicycles, walking).

Carmel Valley Master Plan

Carmel Valley Master Plan Policy CV-2.1 (circulation) emphasizes the use of public transit, and stresses the importance of pedestrian

access in the village, which would allow for reduced air quality impacts through reduction of traffic.

Toro Area Plan

Toro Area Plan Policies T-2.9 and T-2.10 (circulation) would reduce air quality impacts by encouraging new development to incorporate designs to allow for alternate modes of transportation, and also by encouraging increased accessibility for residents to mass transit.

Cachagua Area Plan

There are no policies applicable to air quality in the Cachagua Area Plan.

South County Area Plan

There are no policies applicable to air quality in the South County Area Plan.

Agricultural Winery Corridor Plan

The AWCP overlays the Toro, Central Salinas Valley, and South County Area Plans, and policies relating to air quality are applicable to the AWCP under this plan. Implementation of these policies would reduce air quality impacts in the AWCP area.

Significance Determination

Areas of CO concentration are typically associated with areas of significant traffic congestion. CO emission rates from motor vehicles have been declining and are expected to continue to decline in the future because of CARB's Mobile Source Program, which supports replacement of older, higher emitting vehicles with newer vehicles, and increasingly stringent inspection and maintenance programs. For this analysis, the effects of CO "hot spot" emissions were evaluated through CO dispersion modeling for existing year (2008) and 2030 project conditions using the EMFAC 2007 and CALINE models and traffic data provided by the project traffic engineer.

Table 4.7-8. Projected Carbon Monoxide Levels

Receptor	2008		2030 With Project		2030 Cumulative		Buildout	
	1-hour Average (ppm)	8-hour Average (ppm)	1-hour Average (ppm)	8-hour Average (ppm)	1-hour Average (ppm)	8-hour Average (ppm)	1-hour Average (ppm)	8-hour Average (ppm)
1	20.3	13.8	3.9	3.9	6.7	5.6	7.5	6.1
2	19.5	13.3	3.7	3.8	6.4	5.4	7.2	5.9
3	20.3	13.8	3.9	3.9	6.7	5.6	7.5	6.1
4	20.3	13.8	3.9	3.9	6.7	5.6	7.5	6.1
5	19.5	13.3	3.7	3.8	6.4	5.4	7.2	5.9
6	20.3	13.8	3.9	3.9	6.7	5.6	7.5	6.1
7	22.4	15.0	4.7	4.4	5.8	5.1	7.0	5.8
8	21.5	14.5	4.5	4.3	5.6	5.0	6.8	5.7
9	22.4	15.0	4.7	4.4	5.8	5.1	7.0	5.8
10	22.4	15.0	4.7	4.4	5.8	5.1	7.0	5.8
11	21.5	14.5	4.5	4.3	5.6	5.0	6.8	5.7
12	22.4	15.0	4.7	4.4	5.8	5.1	7.0	5.8
13	25.1	16.7	5.0	4.6	5.8	5.1	7.0	5.8
14	24.1	16.1	4.9	4.5	5.6	5.0	6.8	5.7
15	25.1	16.7	5.0	4.6	5.8	5.1	7.0	5.8
16	25.1	16.7	5.0	4.6	5.8	5.1	7.0	5.8
17	24.1	16.1	4.9	4.5	5.6	5.0	6.8	5.7
18	25.1	16.7	5.0	4.6	5.8	5.1	7.0	5.8
CAAQS Threshold	20	9.0	20	9.0	20	9.0	20	9.0

Table 4.7-8 presents the results of the CO "hotspot" modeling, and indicates that implementation of the 2007 General Plan would reduce CO emissions over existing conditions. Implementation of the 2007 General Plan would not result in violations of the state or the federal 1- or 8-hour CO standards. Consequently, the impact of the 2007 General Plan traffic conditions on ambient CO levels in the Project Area is considered less-than-significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

In summary, implementation of the 2007 General Plan would result in increased concentrations of CO but not above MBUAPCD thresholds. Therefore, this impact is considered less than significant.

Buildout

Impact of Development with Policies

Buildout of the 2007 General Plan to the 2092 planning horizon would result in similar CO concentrations as those described above under the 2030 planning horizon.

2007 General Plan Policies

The same 2007 General Plan and Area Plan goals and policies summarized for 2030 would also apply to 2092.

Significance Determination

As shown above in Table 4.7-8, CO levels would not exceed MBUAPCD thresholds under the buildout of the 2007 General Plan. Although the 2007 General Plan will cause an increase in VMT, the marked increase in system efficiency would offset the relatively minor VMT increase. In addition, vehicles excessively idling at congestion points or traveling at slow, inefficient travel speeds are fuel wasters and create possible air pollution hotspots. The 2007 General Plan buildout will create a substantial reduction in delay idling times and in level of service (LOS) F travel segments. Accordingly, impacts in this regard would be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

In summary, buildout of the 2007 General Plan would result in increased concentrations of CO but not above MBUAPCD thresholds. Therefore, this impact is considered less than significant.

Odor Impacts

Impact AQ-6: Buildout of the 2007 General Plan would result in the emission of objectionable odors. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Buildout of the 2007 General Plan would introduce multiple odor issues. Urban uses would occur in areas currently used for agriculture. Accordingly, it is expected that odors associated with agricultural operations (e.g., chemicals, fertilizers, manure) would be considered objectionable by residents and tenants of new urban development in these areas. In addition, the AWCP would allow up to 10 full scale and 40 artisan wineries along the Winery Corridor. The greatest potential for odor generation could result from anaerobic decomposition of grape waste (pomace). Furthermore, odor impacts from landfills could affect future development.

2007 General Plan Policies

The 2007 General Plan and Area Plan goals and policies summarized below set forth comprehensive measures to avoid and minimize adverse impacts on air quality to the maximum extent practicable.

Open Space and Conservation Element

Open Space and Conservation Element Goal OS-10 provides for the protection and enhancement of Monterey County's air quality without constraining routine and ongoing agricultural activities. Policy OS-10.1 (land use policy and development decisions shall be consistent with the natural limitations of the County's air basins) supports this goal and reduces air quality impacts by protecting the County's air basin.

Public Services Element

The Public Services Element Goal PS-6 is to ensure the disposal of solid waste in a safe and efficient manner. Policy PS-6.2 restricts new and expanded solid waste facilities to areas where potential environmental impacts can be mitigated and where the facilities will be compatible with surrounding land uses. Policy PS-6.3 and PS 6.4 require buffer zones within the vicinity of new, current, and closed landfills, and restricts development within buffer zones to protect public health.

Area Plan Policies

The North County Area Plan

North County Area Plan Policy NC-1.2 (mushroom operations) reduces air quality impacts by requiring new development to install environmental control methods for air quality.

Greater Salinas Area Plan

There are no policies applicable to air quality in the Greater Salinas Area Plan.

Central Salinas Valley Area Plan

Central Salinas Valley Area Plan Policy CSV-3.2 (development of renewable energy sources) encourages the development and utilization of renewable energy sources such as solar, wind power generation, and biomass technologies in the Central Salinas Valley. This policy would help reduce air quality impacts by supporting non-polluting energy sources.

Greater Monterey Peninsula Area Plan

Greater Monterey Peninsula Area Plan Policy GMP-2.7 (public transit) would help reduce air quality impacts by encouraging new development to incorporate alternate modes of transportation (buses, bicycles, walking).

Carmel Valley Master Plan

Carmel Valley Master Plan Policy CV-2.1 (circulation) emphasizes the use of public transit, and stresses the importance of pedestrian access in the village, which would allow for reduced air quality impacts through reduction of traffic.

Toro Area Plan

Toro Area Plan Policies T-2.9 and T-2.10 (circulation) would reduce air quality impacts by encouraging new development to incorporate designs to allow for alternate modes of transportation, and also by encouraging increased accessibility for residents to mass transit.

Cachagua Area Plan

There are no policies applicable to air quality in the Cachagua Area Plan.

South County Area Plan

There are no policies applicable to air quality in the South County Area Plan.

Agricultural Winery Corridor Plan

The AWCP overlays the Toro, Central Salinas Valley, and South County Area Plans, and policies relating to air quality are applicable to the AWCP under this plan. Implementation of these policies would reduce air quality impacts in the AWCP area.

Significance Determination

Odor impacts from landfills could affect future development. However general plan policies require new solid waste facilities to be located in areas where potential impacts can be mitigated. Existing and closed facilities will have buffer zones to prevent incompatible land uses, such as residential development. Odor impacts from landfills are considered less than significant.

Odor impacts from agriculture could also affect future development. The County's "Right to Farm" ordinance requires disclosure of the presence of objectionable agricultural odors and exempts agricultural operations from nuisance lawsuits based on alleged harm from such odors. Enforcement of the Right to Farm ordinance would ensure that the presence of agricultural odors is fully disclosed to perspective residents and tenants. Odors arising from the storage of grape waste from the crushing process (pomace) and from the fermentation process do have the potential to result in significant odor impacts.

The following mitigation is required to reduce odor impacts to less-than-significant levels.

Mitigation Measures

Mitigation Measure AQ-8: The following measures should be added as General Plan Policy OS-10.12:

OS-10.12. Provide for the proper storage and disposal of pomace resulting from winery operations.

- To minimize odors resulting from the storage of pomace, all residue shall be removed from the site or spread in the vineyards as a soil amendment by the winery.
- To prevent complaints resulting from burning of pomace, burning of pomace as a disposal method shall be prohibited.

- All wineries shall incorporate best management practices and technologies to prevent fugitive emissions and odors from escaping the winery during production.

Significance Conclusion

In summary, odors associated with agricultural operations under the 2030 planning horizons would be considered objectionable by residents and tenants of new urban development in these areas. Mitigation measure AQ-8 is required to reduce this impact to less than significant.

Buildout

Impact of Development with Policies

Buildout of the 2007 General Plan to the 2092 planning horizon would result in similar odor impacts as those described above under the 2030 planning horizon.

2007 General Plan Policies

The same 2007 General Plan and Area Plan goals and policies summarized above for 2030 would also apply to 2092.

Significance Determination

Under the 2092 planning horizon, odors associated with agricultural operations under the 2030 planning horizons would be considered objectionable by residents and tenants of new urban development in these areas. Mitigation measures AQ-8is required to reduce this impact to less-than-significant levels.

Mitigation Measures

See Mitigation Measure AQ-9 above.

Significance Conclusion

In summary, odors associated with agricultural operations under the 2092 planning horizon would be considered less than significant with implementation of Mitigation Measure AQ-8.

4.8 Noise

4.8.1 Abstract

Existing sources of noise in Monterey County include highways, airports, railroads, industrial areas, agricultural areas and recreational venues. The predominant source of noise in the county is vehicular traffic on roads and highways. Aviation noise is emitted from the four general aviation airports, two military airstrips, and numerous private airstrips and helipads in the county. Motor sports events at Laguna Seca Raceway also produce substantial noise.

Development and land use activities associated with the 2007 General Plan would expose noise-sensitive land uses to noise from the following sources:

- **Mobile source noise**—Noise from mobile sources (traffic) would potentially exceed established noise thresholds. Implementation of 2007 General Plan policies would reduce this impact to a less than significant level.
- **Vibration**—Ground-borne vibration created by construction activities associated with the 2007 General Plan would potentially adversely affect nearby land uses. Implementation of 2007 General Plan policies would reduce this impact to a less than significant level.
- **Construction-related noise**—Noise emitted during construction activities associated with the 2007 General Plan would potentially exceed established noise thresholds. Implementation of 2007 General Plan policies would reduce this impact to a less than significant level.
- **Aviation noise**—Noise from aviation activities would potentially exceed established noise thresholds. Implementation of 2007 General Plan policies, as well as state and federal regulations, would reduce this impact to a less than significant level.
- **Stationary Source Noise**—Noise from stationary sources (e.g., industrial, agricultural, and recreational) would potentially exceed established noise thresholds. Implementation of 2007 General Plan policies would reduce this impact to a less than significant level.

All impacts would be less than significant with implementation of the 2007 General Plan, Area Plan, and Community Area policies and would not require mitigation.

4.8.2 Introduction

This section identifies and evaluates issues related to noise in the 2007 General Plan action area. The "Environmental Setting" discussion below describes the current setting of the 2007 General Plan action area. The purpose of this

information is to establish the existing environmental context by which the reader can then understand the environmental changes caused by the proposed action. The environmental setting information is intended to be relevant to the subsequent discussion of impacts.

The environmental changes associated with the implementation of the 2007 General Plan are discussed under "Impact Analysis." This section identifies impacts, describes how they would occur, and prescribes mitigation measures to reduce significant impacts, if necessary.

4.8.3 Concepts and Terminology

4.8.3.1 Noise Defined

"Sound" is mechanical energy transmitted by pressure waves in a compressible medium such as air. "Noise" is generally defined as unwanted sound. Sound is characterized by various parameters that describe the rate of oscillation of sound waves, the distance between successive troughs or crests, the speed of propagation, and the pressure level or energy content of a given sound wave. The rate of oscillation of sound waves is the frequency of the wave. High pitched sounds are high frequency and low pitched sounds are low in frequency. In particular, the sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. The unit of sound pressure measured to the faintest sound detectable by a keen human ear is called a "decibel" (dB).

Because sound or noise levels can vary in intensity by over one million times in the range of human hearing, a logarithmic loudness scale, similar to the Richter scale used for earthquake magnitude, is used to keep sound intensity numbers at a convenient and manageable level. Because human hearing is less sensitive to low frequency sound energy than to high frequency sound energy sound levels used in environmental noise analysis are typically measured using the A-weighted scale. The A-weighted scale de-emphasizes low frequency sound energy in the overall sound level measurement. A-weighted sound levels are written as "dBA." Any further reference to decibels in this report written as "dB" should be understood to be A-weighted values.

Time variations in noise exposure are typically expressed in terms of a steady-state energy level equal to the energy content of the time varying period (called L_{eq}), or, alternately, as a statistical description of the sound pressure level that is exceeded over some fraction of a given observation period. Finally, because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, state law requires that, for planning purposes, an artificial dB increment be added to quiet time noise levels in a 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL).

4.8.3.2 Measuring Noise

Many methods have been developed for evaluating community noise to account for, among other things:

- Variation in noise levels over time;
- Influence of periodic individual loud events; and
- Community response to changes in the community noise environment.

Numerous methods have been developed to measure sound over a specified period of time. These methods include:

- Equivalent Sound Level (L_{eq});
- Community Noise Equivalent Level (CNEL);
- Day/Night Average Sound Level (L_{dn})

These methods are described and defined below.

Equivalent Noise Level

L_{eq} is the measurement of sound energy over a specified time (usually 1 hour) and represents the amount of variable sound energy received by a receptor over a timed interval in a single numerical value. For example, a 1-hour L_{eq} noise level measurement represents the average amount of acoustical energy that occurred in 1 hour. In addition, variations in sound levels may be addressed by statistical methods. The simplest of these are the maximum (L_{max}) and minimum (L_{min}) noise levels, which are the highest and lowest levels observed. Other variations include L_{50}, which identifies the percentage of time that the noise level standard is exceeded during 50% of 1 hour (i.e., 30 minutes) or $L_{25,}$ identifies the percentage of time that the noise level standard is exceeded during 25% of 1 hour (i.e., 15 minutes), etc.

Community Noise Equivalent Level

The CNEL noise metric is based on 24 hours of measurement. It applies a time-weighted factor designed to emphasize noise events that occur during evening

hours (7 p.m. to 10 p.m.) and nighttime hours (10 p.m. to 7 a.m.). Noise produced during evening hours is penalized by 5 dBA while noise that occurs during nighttime hours is penalized by 10 dBA.

Day Night Average

L_{dn} is a measure of the 24-hour average noise level at a given location. It was adopted by the U.S. Environmental Protection Agency (EPA) for developing criteria for the evaluation of community noise exposure. It is based on a measure of L_{eq}. L_{dn} is calculated by averaging L_{eq} for each hour of the day at a given location after penalizing noise occurring during nighttime hours by 10 dBA to account for the increased sensitivity of people to noises that occur at night.

People tend to respond to changes in sound pressure in a logarithmic manner. In general, a 3 dB change in sound pressure level is considered a "just detectable" difference in most situations. A 5 dB change is readily noticeable and a 10 dB change is considered a doubling (or halving) of the subjective loudness. A 3 dB increase or decrease in the average traffic noise level is realized by a doubling or halving of the traffic volume, or by about a 7 mile per hour increase or decrease in speed.

With each doubling of distance from a point source of noise (i.e., a stationary compressor, a stationary loudspeaker, etc.), the sound level will decrease by 6 dB. In other words, if a person is 100 feet from a machine and moves 200 feet from that source, sound levels will drop by approximately 6 dB. Moving 400 feet away, sound levels will drop approximately another 6 dB. For each doubling of distance from a linear source, such as a roadway, noise levels are reduced 3 to 5 dB depending on the ground cover between the source and the receiver.

4.8.3.3 Noise Exposure

An interior CNEL of 45 dB is mandated by the State of California Noise Insulation Standards (California Code of Regulations, Title 24, Part 6, Section T25 28) for multiple-family dwellings and hotel and motel rooms. In 1988, the State Building Standards Commission expanded that standard to include all habitable rooms in residential use, including single-family dwelling units. Since normal noise attenuation within residential structures with closed windows is about 20 dB, an exterior noise exposure of 65 dB CNEL allows the interior standard to be met without any specialized structural attenuation (e.g., dual paned windows). A noise level of 65 dB is also the level at which ambient noise begins to interfere with one's ability to carry on a normal conversation at reasonable separation without raising one's voice. Table 4.8-1 summarizes typical noise sources and noise levels.

Table 4.8-1. Typical Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 110 —	Rock band
Jet fly-over at 300 meters (1000 feet)		
	— 100 —	
Gas lawn mower at 1 meter (3 feet)		
	— 90 —	
Diesel truck at 15 meters (50 feet) at 80 kph (50 mph)		Food blender at 1 meter (3 feet)
	— 80 —	Garbage disposal at 1 meter (3 feet)
Noisy urban area, daytime		
Gas lawn mower, 30 meters (100 feet)	**— 70 —**	Vacuum cleaner at 3 meters (10 feet)
Commercial area		Normal speech at 1 meter (3 feet)
Heavy traffic at 90 meters (300 feet)	**— 60 —**	
		Large business office
Quiet urban daytime	**— 50 —**	Dishwasher next room
Quiet urban nighttime	**— 40 —**	Theater, large conference room (background)
Quiet suburban nighttime		
	— 30 —	Library
Quiet rural nighttime		Bedroom at night
	— 20 —	
		Broadcast/recording studio
	— 10 —	
Lowest threshold of human hearing	**— 0 —**	Lowest threshold of human hearing

Source: California Department of Transportation 1998.

4.8.3.4 Noise Attenuation

A solid barrier, such as a concrete masonry wall, located between a noise source and a receiver will typically provide about 5 dB of noise reduction; additional reduction may be achieved by increasing the length and/or height of the barrier. A row of buildings located between a source and a receiver may provide up to 5 dB of noise reduction with up to a 1.5-dB reduction for each additional row up to a maximum reduction of approximately 10 dB. The exact degree of noise

attenuation depends on the nature and orientation of the structure and intervening barriers.

4.8.3.5 Changes in Noise

In community noise assessments, changes in noise levels greater than 3 dB are typically treated as the threshold of a perceptible change, while changes less than 1 dB will typically not be discernible to most people. In the range of 1 to 3 dB, residents who are very sensitive to noise may perceive a slight change. In laboratory testing situations, humans are able to detect noise level changes of slightly less than 1 dB. In a community noise situation, however, noise exposures are over a long period and changes in noise levels occur over years. The level at which changes in community noise levels become discernible is likely to be some value greater than 1 dB; 3 dB appears to be appropriate for most people.

4.8.4 Environmental Setting

4.8.4.1 Existing Noise Sources and Conditions

Major sources of noise in the county include roadways, aviation facilities, railroads, industrial/agricultural land uses, and recreational venues, such as the Laguna Seca Raceway. Noise from each of the sources is discussed below.

Roadways

The predominant source of noise in the county is vehicular traffic on roads and highways. Roadway noise is a function of traffic levels, vehicle mix, and traffic speeds. High traffic volumes generate more noise than low volumes. A vehicle mix with a high percentage of trucks is noisier than a mix composed of mostly passenger automobiles. Higher traffic speeds generate more noise that lower speeds. These variables indicate that roads with high volumes of mixed traffic traveling at high speeds are prime sources of roadway noise.

The roadways with the highest noise levels in the county include:

- U.S. 101
- Highway 1
- Highway 68
- Highway 156
- Blanco Road
- Davis Road

Noise contours greater than 60 dB CNEL extend beyond these roadways onto adjacent land uses. Residential land uses adversely affected by roadway noise of 60 dB CNEL or greater are located along:

- U.S. 101
- Highway 68
- Highway 156
- Laureles Grade Road

Other sensitive land uses exposed to roadway noise in excess of 60 dB CNEL include Toro Regional Park and open space areas along U.S. 101 and Highway 68.

The following exhibits represent existing traffic noise contours in the County. These contours are from the 2006 GP EIR (Monterey County 2006) and are representative of 2008 conditions:

- Exhibit 4.8.3a, Existing Noise Contours Roadways, South County
- Exhibit 4.8.3b, Existing Noise Contours Roadways, North County
- Exhibit 4.8.3c, Existing Noise Contours Roadways, Greater Salinas
- Exhibit 4.8.3d, Existing Noise Contours Roadways, Greater Monterey Peninsula, Carmel Valley and Toro
- Exhibit 4.8.3e, Existing Noise Contours Roadways, Central Salinas Valley

In additional traffic noise modeling along selected roadway segments in the County has been conducted based on updated existing (2008) traffic data. Refer to Table 4.8-3 and the related discussion for a summary of the modeling results.

Aviation Facilities

Four general aviation and commercial airports, two military airstrips, and numerous private airstrips and helipads are located in the county. Below is a description of these facilities.

Monterey Peninsula Airport, located in Monterey, is the largest and busiest commercial airport in the county. The most recent information from the Federal Aviation Administration (FAA) indicates that 91,911 aircraft operations occur annually at the airport. The 65 CNEL runway contour extends into residential areas in Monterey and Del Rey Oaks on the west sides of the airport and commercial areas of Del Rey Oaks on the east side of the airport. These impacts do not extend to unincorporated residential areas.

Salinas Municipal Airport is the second busiest airport in the county and serves commercial and general aviation aircraft. The most recent information from the FAA indicates that 86,657 aircraft operations occur annually at the airport. The

60 CNEL runway contours extend into two residential areas in Salinas on the north and west sides of the airport. These impacts do not extend to unincorporated residential areas.

Marina Municipal Airport is a former Army airfield located near Fort Ord that primarily serves general aviation aircraft. The most recent information from the FAA indicates that 40,000 aircraft operations occur annually at the airport. The 60 CNEL runway contour is mostly contained within the airport's boundaries and does not affect any nearby residential areas.

Mesa del Rey Airport, located near King City, primarily serves general aviation aircraft. The most recent information from the FAA indicates that 3,500 aircraft operations occur annually at the airport. The 60 CNEL runway contour is mostly contained within the airport's boundaries and does not affect any nearby residential areas.

The Schoonver Tactical Air Strip at Fort Hunter Liggett is capable of supporting C-130 Hercules and C-12 Huron operations. Fort Hunter Liggett also contains the Tusi Helipad and the Doolittle Aircraft Training Area, which is used for Close Air Support training by Navy aircraft from Naval Air Station Lemoore in Kings County.

McMillan Airfield at Camp Roberts is capable of supporting C-130 operations. McMillan Airfield is currently used for Unmanned Aerial Vehicle operations and testing.

There are also more than 30 private airstrips, agricultural landing fields, and helipads in the county. Locations of these aviation facilities include Salinas Valley State Prison; the San Ardo oil fields; and hospitals in Monterey, Salinas, and King City.

Exhibit 4.8.1 represents existing aircraft noise contours in the County for Monterey Municipal Airport, Mesa Del Rey Airport, Marina Municipal Airport, Salinas Municipal Airport. These contours are from the 2006 GP EIR (Monterey County 2006) and remain representative of 2008 conditions.

Railroads

The Union Pacific Railroad's Coast Line spans the length of the county, north to south. The Coast Line traverses the unincorporated communities of Aromas, Pajaro, Castroville, Chualar, San Lucas, San Ardo, and Bradley and the cities of Salinas, Gonzales, Soledad, Greenfield, and King City. This line is used primarily for freight traffic, though Amtrak operates a daily train in each direction.

The 14-mile Monterey Branch Line diverges from the Coast Line in Castroville and serves the Monterey Peninsula. This line is currently inactive. A branch line

also diverges off the Coast Line north of Castroville to serve the industrial uses in the Moss Landing area.

Industrial/Agricultural Land Uses

Industrial and/or agricultural processing areas in the unincorporated county include Castroville, Moss Landing, and Pajaro; incorporated cities with industrial areas include Marina, Salinas, Seaside, Soledad, and King City. These areas include a mix of industrial uses and agricultural processing plants. Nearby residential areas and other noise-sensitive uses in these communities may currently experience noise impacts from industrial activities including associated truck traffic. Isolated agricultural processing plants also exist in the Salinas Valley. The San Ardo oil field is also a source of noise. Other potential noise sources include the four landfills in the county, which are located near Marina, Prunedale, Soledad, and King City. The relatively isolated locations of the oil field and the landfills currently limit their impacts on surrounding land uses.

Exhibits 4.8.2a and 4.8.2b provide noise contours for several major stationary noise sources in the County (Monterey County 2006). These contours remain representative of existing 2008 conditions.

Recreational Venues

Laguna Seca Raceway, located near Fort Ord on Highway 68, is an internationally renowned motor sports venue that hosts a number of major racing events on an annual basis. Racing events involve competition between high performance vehicles that emit substantial noise. In addition, these events can attract more than 150,000 spectators and participants over the course of a typical 3-day event, with a corresponding level of spectator and vehicular noise. Exhibit 4.8.2a provides noise contours for Laguna Seca Raceway (Monterey County 2006). These contours are representative of existing 2008 conditions.

The Pebble Beach Resorts, located in the Del Monte Forest, is a world-renowned golf venue that hosts a number of major golf tournaments annually. The Pebble Beach Resorts consist of four 18-hole golf courses: Pebble Beach, Spanish Bay, Spyglass Hill, and Del Monte. Major golf events at Pebble Beach can attract more than 100,000 spectators and participants over a 4-day tournament, with a corresponding level of spectator and vehicular noise.

Regulatory Framework

Monterey County Noise Standards

The County requires that all residential dwelling units, as well as hotels and motels, be designed to meet 45 dB CNEL interior noise standards, as specified in the California Noise Insulation standards.

The existing 1982 General Plan established exterior noise standards for land use compatibility. These standards are summarized in Table 4.8-2.

Table 4.8-2. Existing 1982 General Plan Land Use Compatibility for Exterior Community Noise

	Noise Ranges (Ldn or CNEL), dB			
Land Use Category	I	II	III	IV
Passively used open spaces	50	50-55	55-70	70+
Auditoriums, concert halls	45-50	50-65	65-70	70+
Residential: low-density single family	50-55	55-70	70-75	75+
Residential: multi-family	50-60	60-70	70-75	75+
Transient lodging	50-60	60-70	70-80	80+
Schools, libraries, churches, hospitals	50-60	60-70	70-80	80+
Actively used open spaces: playgrounds, parks	50-67	—	67-73	73+
Golf courses, riding stables, water recreation	50-70	—	70-80	80+
Office buildings, business commercial, professional	50-67	67-75	75+	—
Industrial, manufacturing, utilities, agriculture	50-70	70-75	75+	—

Noise Range I: Normally Acceptable—Specified land use is satisfactory, based on the assumption that any buildings are of normal conventional construction.

Noise Range II: Conditionally Acceptable—New construction or development should be undertaken only after a detailed analysis of noise reduction is made and noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

Noise Range III: Normally Unacceptable—New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of noise reduction must be made and noise insulation features must be included in the design

Noise Range IV: Clearly Unacceptable—New construction or development should generally not be undertaken.

Source: County of Monterey 1982.

Section 10.60.030 of the Monterey County Municipal Code relates to the operation of noise-producing devices. This codes section limits noise from any machine, mechanism, device, or contrivance to 85 dBA as measured at a distance of 50 feet. This limit does apply to aircraft or to equipment that is operated in excess of 2,500 feet from any occupied dwelling unit.

4.8.5 Project Impacts

This section describes the CEQA impact analysis relating to noise for the 2007 General Plan. It describes the methods used to determine project impacts and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion. The analysis will address implementation of the 2007 General Plan to the 2030 planning horizon, as well as build out in 2092. Development under these two scenarios is described in the Project Description.

4.8.5.1 Thresholds of Significance

The State CEQA Guidelines provide guidance that can be used in determining the significant of noise impacts. The guidelines state that a project would result in a significant noise impact is it would result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels;
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- Exposure of persons living or working the project area to excessive noise levels (for a project located within an airport land use plan, or where such a plan has not been adopted, within 2 miles of a public airport); or
- Exposure of persons living or working in the project area to excessive noise levels for a project within the vicinity of a private airstrip.

For this impact assessment the following specific thresholds of significance were used.

- Noise from construction activity is considered significant if it would:
  - exceed 85 dBA as measured at 50 feet where the activity is located within 2,500 feet of an occupied dwelling unit.
  - Result in a 10 dB increase at an occupied dwelling unit during daytime hours (7:00 a.m. to 10:00 p.m.)
  - Result in any increase at an occupied dwelling unit during nighttime hours (10:00 p.m. to 7:00 a.m.)
- Where new sources of noise (i.e., new freeway or new industrial facility) are proposed or where new noise sensitive uses (i.e., new residential subdivision)

are proposed , noise from permanent sources of noise such as transportation and industrial sources is considered significant if it would exceeds the "normally acceptable" land use compatibility noise standards in Table 4.8-2.

- A project-related increase in noise are considered significant if project-related increase in noise greater than 3 dB where the with-project noise level is in excess of a "normally acceptable" land use compatibility noise standards in Table 4.8-2. Project-related increases in noise are determined by comparing project conditions to no-project conditions in the same time frame.

4.8.5.2 Impact Analysis

Implementation of the 2007 General Plan to the 2030 and 2092 planning horizons would result in the exposure of noise-sensitive land uses (i.e., noise-sensitive receptors) to new sources of noise from mobile, aviation, construction, and stationary sources. Sensitive receptors would also be exposed to ground-borne vibration from construction activities.

New development associated with the 2007 General Plan would also place noise-sensitive receptors in new locations where noise from the sources listed above would exceed County compatibility standards for noise. New development associated with the 2007 General Plan would also generate increased automobile and truck traffic that would result in substantial increases in noise at noise-sensitive locations.

Mobile Source Noise

Impact N-1: Future development activities associated with the 2007 General Plan would result in exposure of noise sensitive land uses (persons) to traffic noise in excess of County noise standards, or substantial increases in traffic noise. (Less-than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Implementation of the 2007 General Plan to the 2030 planning horizon would result in new urban development in some undeveloped areas. The areas that would be affected include the Community Areas and Rural Centers due to the anticipated intensification of land uses in these areas. The increased traffic associated with this new development would increase traffic noise along roadways with adjacent noise-sensitive land uses.

Traffic noise has been evaluated using the FHWA Highway Traffic Noise Prediction Model, (Federal Highway Administration FHWA-RD-77-108, 1978) and traffic data provided by the project traffic consultant. The model

uses the number of daily vehicles, vehicle speed, the percentage of traffic that is medium truck and heavy, and the day, evening, night distribution for the calculation of predicted traffic noise levels. Highway 101 and SR1 were assumed to have 5% trucks. All other roadways were assumed to have 2.5% trucks.

Although the date of origin of the FHWA Highway Traffic Noise Prediction Model is 1978, the model is still valid. The more recent FHWA Traffic Noise Model (2002) is only mandated for use on federally funded highway projects. Many in the professional community, including ICF Jones & Stokes' acoustical engineer, consider the older model to be more appropriate for this type of analysis. In addition, the older model was used in the 2006 EIR upon which the existing contours are based.

Table 4.8-3 provides a summary of traffic noise modeling results for a representative set of roadway segments in the county under existing (2008) conditions and 2030 conditions with and without implementation of the 2007 General Plan. Table 4.8-3 compares 2030 no-project conditions and 2030 with-project to existing conditions. It also compares 2030 with-project conditions to 2030 no-project conditions. As can be seen in the comparison of 2030 no-project conditions to 2030 with-project conditions traffic noise is predicted to increase from up to 4 dB without implementation of the project. These increases are the result of background growth that is unrelated to implementation of the project. The comparison of 2030 with-project conditions to existing conditions is a measure of this background growth in combination with the proposed project. The comparison of 2030 with-project conditions to 2030 no-project is the true measure of how implementation of the proposed project will change noise conditions.

The comparison of 2030 with-project conditions to 2030 no-project conditions indicates that implementation of the 2007 General Plan would not increase traffic noise by more than 3 dB along any of the roadway segments evaluated. Accordingly, implementation of the 2007 General Plan is not predicted to result in the exposure of noise sensitive land uses(persons) to substantial increases in noise. Note that traffic noise analysis is different than the typical analysis applied to on-the-ground resources. The direct effect of the project can only be measured by comparing conditions in the same time frame. This is the same approach taken in the 2006 EIR. Existing conditions are illustrated in Exhibits 4.8.1, 4.8.2a and 4.8.2b, and Table 4.8-3 below, allowing the reader to make a comparison, but the significance conclusion is be based on a comparison of project vs. no-project in the same time frame.

The results in Table 4.8-3 also indicate that under the 2007 General Plan new noise-sensitive land uses (persons) would be exposed to traffic noise that exceeds the County's "normally acceptable" land use compatibility standards for noise specified in Table 4.8-2.

Table 4.8-3. Traffic Noise Modeling Results

Segment	Existing L_{dn}	2030 No Project L_{dn}	2030 Cumulative (with Project) L_{dn}	2030 No Project minus Existing	2030 Cumulative with Project minus Existing	2030 Cumulative with Project minus No Project	Buildout L_{dn}	Buildout minus Existing	Buildout Minus 2030 Cumulative with Project
Espinosa Rd to E Boronda Rd	74	75	76	1	2	1	76	2	0
Chualar Rd to Old Stage Rd	72	75	75	3	3	0	77	5	2
SR-183 to SR-156	69	69	71	0	2	2	71	2	0
Del Monte Blvd to Imjin Pkwy	75	75	75	0	0	0	77	2	2
17 Mile Dr to Skyline Forest Dr	67	67	67	0	0	0	68	1	1
Canyon del Rey Blvd to Bit Rd	63	64	64	1	1	0	65	2	1
Spreckels Blvd to E Blanco Rd	67	69	68	2	1	-1	71	4	3
County Road G-15 to Stonewall Canyon Rd	53	54	54	1	1	0	57	4	3
Castroville Blvd to US-101	70	70	70	0	0	0	71	1	1
Cooper Rd to S Davis Rd	67	70	70	3	3	0	71	4	1
US-101 to Cattlemen Rd	45	49	48	4	3	-1	50	5	2
Carlton Dr to SR-68	61	62	62	1	1	0	63	2	1
Salinas Rd to San Miguel Canyon Rd	54	58	58	4	4	0	59	5	1
Strawberry Rd to Castroville Blvd	63	65	67	2	4	2	67	4	0
US-101 to San Lucas Rd	52	55	55	3	3	0	57	5	2
Carmel Rancho Blvd to Rio Rd	64	65	65	1	1	0	66	2	1
Robinson Canyon Rd to Miramonte Rd	61	62	62	1	1	0	64	3	2
Las Palmas Rd to Las Palmas Pkwy	60	60	61	0	1	1	64	4	3
Drake Ave to Lighthouse Ave	62	65	65	3	3	0	67	5	2
Pacific Ave to Forest Ave	56	57	57	1	1	0	59	3	2
Forest Ave to David Ave	56	54	54	-2	-2	0	55	-1	1
Washington St to Camino Aguajito	66	67	67	1	1	0	69	3	2
Abrego St to Camino Aguajito	64	65	65	1	1	0	66	2	1
Soledad Dr to Via Zaragoza	64	64	65	0	1	1	67	3	2
Playa Ave to Fremont Blvd	61	63	62	2	1	-1	65	4	3

Segment	Existing L_{dn}	2030 No Project L_{dn}	2030 Cumulative (with Project) L_{dn}	2030 No Project minus Existing	2030 Cumulative with Project minus Existing	2030 Cumulative with Project minus No Project	Buildout L_{dn}	Buildout minus Existing	Buildout Minus 2030 Cumulative with Project
N Del Monte Blvd to SR-1	59	60	59	1	0	-1	62	3	3
Reindollar Ave to Reservation Rd	67	68	68	1	1	0	70	3	2
Casa Verde Wy to SR-218	65	66	66	1	1	0	69	4	3
US-101 to Abbott St	65	65	65	0	0	0	67	2	2
San Juan Grade Rd to W Laurel Dr	65	66	66	1	1	0	68	3	2
US-101 to N Main St	60	63	63	3	3	0	65	5	2
Romie Ln to E Blanco Rd	62	62	62	0	0	0	64	2	2
Abbott St to US-101	65	66	65	1	0	-1	67	2	2
Davis Rd to N Main St	62	62	62	0	0	0	64	2	2
W Laurel Dr to SR-183	62	62	62	0	0	0	63	1	1
W Alisal St to SR-68	57	57	57	0	0	0	60	3	3
SH 101 to Salinas City Line	67	68	68	1	1	0	70	3	2
SR-183 to Commercial Pkwy E	60	61	61	1	1	0	61	1	0
Reservation Rd to Cooper Rd	68	69	69	1	1	0	70	2	1
Carmel Rancho Ln to Rio Rd	53	54	53	1	0	-1	55	2	2
Serra Ave to SR-1	58	58	58	0	0	0	61	3	3
Blanco Rd to Reservation Rd	65	69	68	4	3	-1	68	3	0
Spreckels Blvd to Abbott St	61	63	63	2	2	0	65	4	2
Carmel City Line to SR-1	57	57	57	0	0	0	59	2	2
San Juan Rd to Santa Cruz County Line	65	67	67	2	2	0	68	3	1
Carmel City Line to SR-1	57	58	58	1	1	0	60	3	2
SR-1 to Fruitland Ave	60	62	63	2	3	1	64	4	1
Salinas City Line to Russell Rd	57	62	62	5	5	0	65	8	3
SR-68 to Harkins Rd	57	60	60	3	3	0	61	4	1

The 2007 General Plan, Area Plan, and Community Area policies summarized below set forth comprehensive measures to avoid and minimize adverse impacts from traffic noise.

2007 General Plan Policies

Safety Element

Safety Element Policy S-7.1 (new noise-sensitive land uses) limits new noise-sensitive land uses to areas where existing and projected noise levels are "acceptable" as defined by the County. A graphic interpretation of acceptable noise levels is presented in S-7.1, Table S-2 (labeled Figure 2). It also states that a Community Noise Ordinance will be established consistent with the associated table that addresses capacity related roadway improvement projects, construction-related noise impacts, site planning, and design elements to control traffic noise.

Policy S-7.2 that proposed development shall incorporate design elements necessary to minimize noise impacts on surrounding land uses and to reduce noise in indoor spaces to an acceptable level.

Safety Element Policy S-7.3 (noise reduction measures) states that development may occur in areas identified as "normally unacceptable" provided that effective measures are taken to reduce both indoor and outdoor noise levels to acceptable levels.

Safety Element Policy S-7.6 (acoustical analysis) states that an acoustical analysis shall be part of the environmental review process for projects when noise-sensitive receptors are proposed in areas exposed to existing or projected noise levels that are "normally unacceptable" as defined by the County.

Safety Element Policy S-7.7 (noise analysis) states that all proposed discretionary residential projects that are within roadway noise contours of 60 dB CNEL or greater will include a finding of consistency with the provisions of the Noise Hazards section of the Safety Element. If roadway noise exceeds the 60 dB CNEL within the project site, a project-specific noise impact analysis will be required and mitigation identified.

Implementation of the Safety Element policies summarized above would limit the exposure of noise-sensitive land uses to traffic noise associated with the implementation of the 2007 General Plan.

Area Plan Policies

There are no policies related to traffic noise in the area plans.

Community Area Policies

Fort Ord Master Plan

The Fort Ord Master Plan Noise Element contains objectives and policies for controlling noise in the Fort Ord Planning Area. Objective A of the Noise Element ensures that the application of land use compatibility criteria for noise, and enforcement of noise regulations are consistent throughout the Fort Ord Planning Area. Objective B of the Noise Element ensures that noise environments are appropriate for and compatible with existing and proposed land uses based on noise guidelines provided in the Noise Element.

Noise Program A-1.1 of Noise Policy A-1 (compatibility criteria) establishes land use compatibility criteria for exterior community noise. Program B-1.1 of Noise Policy B-1 (noise mitigation) states that the County will develop a program to identify developed areas that are adversely affected by noise impacts and implement measures to reduce these impacts by constructing noise barriers and limiting hours of operation of noise sources. Noise Policy B-3 (acoustic studies) requires that acoustical studies be conducted for all new development that could be exposed to noise above the normally acceptable range as defined by the County to ensure that existing and proposed land uses will not be adversely affected. Noise Policy B-4 (noise insulation) requires enforcement of state noise insulation standards and requires that interior sound levels of 45 dB Ldn be achieved for all new multi-family dwellings, condominiums, hotels, and motels. Noise Policy B-5 (noise barriers) states that noise barriers be provided for new development to ensure that noise guidelines are met and that interior noise levels be reduced to 45 dB Ldn if site planning or architectural layout of buildings is not feasible for compliance with noise guidelines. Noise Policies B-6 (ambient noise/single-family), B-7 (ambient noise/industrial), and B-8 (ambient noise/institutional) place limits on increases in noise allowed by new development.

Implementation of the policies summarized above would limit the exposure of noise-sensitive land uses to traffic noise associated with the 2007 General Plan.

Significance Determination

As indicated in Table 4.8-3 implementation of the 2007 General Plan through the 2030 planning horizon would result in exposure of persons to traffic noise in excess of County noise standards. However, the 2007 General Plan and the Fort Ord Master Plan policies, summarized above, set forth comprehensive measures to avoid and minimize these impacts. Therefore, traffic noise resulting from implementation of the 2007 General Plan through

the 2030 planning horizon would have a less-than-significant impact on existing and planned noise-sensitive land uses.

Mitigation Measures

No mitigation required

Significance Conclusion

Traffic noise resulting from implementation of the 2007 General Plan through the 2030 planning horizon would have a less-than-significant impact on existing and planned noise-sensitive land uses.

Buildout

Impact of Development with Policies

Buildout of the 2007 General Plan through 2092 would result in new urban development in undeveloped areas of the county beyond 2030 levels. Table 4.8-3 summarizes traffic noise modeling results for buildout conditions and compares buildout conditions to existing conditions and 2030 cumulative conditions. Overall traffic volumes across the county are forecast to be about 45% greater than volumes under 2030 conditions. This generally corresponds to a 1 to 2 dB increase in traffic noise. The areas that would be affected by new development include the Community Areas and Rural Centers due to the anticipated intensification of land uses in these areas. Therefore, new development would result in the exposure of noise-sensitive land uses (persons) to traffic noise exceeding County land use compatibility guidelines for noise.

The 2007 General Plan and Fort Ord Master Plan policies summarized above would limit the exposure of existing and planned noise-sensitive land uses to traffic noise and comply with County land use compatibility guidelines for traffic noise.

Significance Determination

Buildout of the 2007 General Plan through 2092 would potentially result in adverse impacts from traffic noise. However, the 2007 General Plan and Fort Ord Master Plan policies set forth comprehensive measures to avoid and minimize these impacts. Therefore, traffic noise resulting from buildout of the 2007 General Plan through the 2092 planning horizon would have a less-than-significant impact on existing and planned noise-sensitive land uses (persons).

Mitigation Measures

No mitigation is required.

Significance Conclusion

Traffic noise resulting from buildout of the 2007 General Plan through the 2092 would have less-than-significant impacts on existing and planned noise-sensitive land uses.

Ground-borne Vibration

Impact N-2: Development activities associated with implementation of the 2007 General Plan would result in exposure of persons to excessive ground-borne vibration. (Less-than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Implementation of the 2007 General Plan to the 2030 planning horizon would result in new urban development in undeveloped areas of the county. New development would result in additional construction activities in some areas of the county. Operation of heavy equipment during construction would result in minor amounts of ground-borne vibration. Typical ground-borne vibration levels and their effects at 50 feet from the source are summarized in Exhibit 4.8.4.

Roadway operations, particularly for well-maintained roads, have minimal impact potential. Any possible vibration impacts would normally only occur during construction. Nonetheless, there is still the potential for ground-borne vibration levels to exceed typical levels as noted in Exhibit 4.8.4.

The 2007 General Plan, policies summarized below set forth comprehensive measures to avoid and minimize adverse ground-borne vibration impacts.

2007 General Plan Policies

Safety Element

Safety Element Policy S-7.8 (vibration studies) states that all discretionary projects proposing to use heavy construction equipment that has the potential to create vibrations that could cause structural damage to adjacent structures within 100 feet would be required to submit a pre-construction vibration study prior to the approval of a building permit. Specified measures and monitoring identified to reduce impacts would be incorporated into construction contracts. Implementation of this policy would limit ground-borne vibration to acceptable levels for all new discretionary projects.

Area Plan Policies

There are no policies related to ground-borne vibration in the area plans.

Community Area Policies

Fort Ord Master Plan

The Fort Ord Master Plan contains no policies related to ground-borne vibration.

Significance Determination

Implementation of the 2007 General Plan within the 2030 planning horizon would potentially result in adverse ground-borne vibration impacts associated with new construction and development. However, 2007 General Plan Safety Element Policy S-7.8 would avoid and minimize adverse ground-borne vibration impacts from proposed discretionary projects. Therefore, ground-borne vibration resulting from implementation of the 2007 General Plan through the 2030 planning horizon would have a less-than-significant impact on existing and planned vibration-sensitive land uses.

Mitigation Measures

No mitigation required.

Significance Conclusion

Ground-borne vibration resulting from implementation of the 2007 General Plan through the 2030 planning horizon would have a less-than-significant impact on existing and planned vibration-sensitive land uses.

Buildout

Impact of Development with Policies

Buildout of the 2007 General Plan through 2092 would result in new urban development in undeveloped areas beyond 2030 levels. New development would result in the exposure of vibration-sensitive land uses (persons)to excessive ground-borne vibration from construction activities.

2007 General Plan Policies

Safety Element Policy S-7.8, summarized above, would limit the exposure of existing and planned vibration-sensitive land uses to excessive ground-borne vibration.

Significance Determination

Buildout of the 2007 General Plan through 2092 would result in adverse ground-borne vibration impacts associated with new development and construction. However, Safety Element Policy S-7.8 would avoid and minimize adverse ground-borne vibration impacts from new development and construction to acceptable levels. Therefore, ground-borne vibration resulting from buildout of the 2007 General Plan through the 2092 planning horizon would have a less-than-significant impact on existing and planned vibration-sensitive land uses.

Mitigation Measures

No mitigation required.

Significance Conclusion

Ground-borne vibration resulting from buildout of the 2007 General Plan through 2092 would have a less-than-significant impact on existing and planned vibration-sensitive land uses.

Short-Term Construction Noise

Impact N-3: Implementation of the 2007 General Plan would create temporary, short-term noise impacts during associated construction activities. (Less-than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Implementation of the 2007 General Plan to the 2030 planning horizon would result in new development and construction in undeveloped areas of the county. This construction wouldgenerate new sources of short-term construction noise.

Table 4.8-4 shows typically maximum noise levels for various types of construction equipment that are typically used during construction (FTA 2006). This table indicates that noise from construction equipment has the potential to exceed that County's noise standard of 85 dBA as measured at 50 feet. Construction noise typically attenuates at a rate of about 6 dB per doubling of distance. Given this, the table also indicates that construction noise could increase the existing noise by at least 10 dBA within several hundred feet of an active construction site. Accordingly, there is potential for construction noise to result in significant temporary noise impacts.

Table 4.8-4. Noise Emission Levels Typical for Construction Equipment

Equipment	Typical Noise Level (dBA) 50 Feet from Source
Backhoe	80
Bulldozer	85
Grader	85
Loader	85
Roller	74
Scraper	89
Truck	88

Source: Federal Transit Administration 2006.

2007 General Plan Policies

The 2007 General Plan policies summarized below establish comprehensive measures to avoid and minimize adverse impacts from construction noise.

Safety Element

Safety Element Policy S-7.9 (construction noise) limits construction noise levels and the hours that construction can occur within 500 feet of noise-sensitive land uses. It also identifies specific measures than can be used to reduce construction noise, such as constructing temporary noise barriers and using quieter construction equipment.

Safety Element Policy S-7.10 (noise protection measures) identifies standard noise protection measures that must be incorporated into all construction contracts. These measures include the following: 1) allowing construction only during times allowed by ordinance/code unless such limits are waived for public convenience 2) requiring all construction equipment to have mufflers and 3) requiring lay-down yards and semi-stationary equipment such as pumps or generators to be located as far from noise-sensitive land uses as practicable.

Implementation of these Safety Element policies would reduce temporary construction noise to a less-than-significant level.

Area Plan Policies

There are no policies related to construction noise in the area plans.

Community Area Policies

Fort Ord Master Plan

There are no policies related to construction noise in this plan.

Significance Determination

Implementation of the 2007 General Plan within the 2030 planning horizon would result in adverse impacts from construction noise. However, the 2007 General Plan Safety Element policies establish comprehensive measures to avoid and minimize adverse construction noise impacts. Therefore, construction noise resulting from implementation of the 2007 General Plan over the 2030 planning horizon would have a less-than-significant impact on existing and planned noise-sensitive receptors.

Mitigation Measures

No mitigation required.

Significance Conclusion

Therefore, construction noise resulting from implementation of the 2007 General Plan over the 2030 planning horizon would have a less-than-significant impact on existing and planned noise-sensitive receptors.

Buildout

Impact of Development with Policies

Buildout of the 2007 General Plan through 2092 would result in new urban development in undeveloped areas beyond 2030 levels. New development would result in the exposure of noise-sensitive receptors to construction noise.

The 2007 General Plan Safety Element policies, summarized above, identify measures that would limit the exposure of existing and planned noise-sensitive receptors to construction noise.

Significance Determination

Buildout of the 2007 General Plan through 2092 would result in adverse impacts from construction noise. However, 2007 General Plan Safety Element policies establish comprehensive measures to avoid and minimize adverse construction noise impacts. Therefore, construction noise resulting from buildout of the 2007 General Plan through the 2092 planning horizon would have a less-than-significant impact on existing and planned noise-sensitive land uses.

Mitigation Measures

No mitigation required.

Significance Conclusion

Construction noise resulting from buildout of the 2007 General Plan through the 2092 planning horizon would have a less-than-significant impact on existing and planned noise-sensitive land uses.

Aviation Noise

Impact N-4: Implementation of the 2007 General Plan would potentially expose people residing or working near an airport to excessive noise levels. (Less-than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Implementation of the2007 General Plan would result in new urban development in some areas of the county, including new development in the vicinity of airports, private airstrips, and helipads. New development near aviation facilities would expose residents and workers to noise from aviation facilities that exceeds County noise standards. This is of most concern in the unincorporated areas near Monterey Peninsula Airport, Salinas Municipal Airport, Marina Airport, and Mesa del Rey (King City) Airport.

2007 General Plan Policies

The Safety Element policies of the 2007 General Plan summarized below establish comprehensive measures to avoid and minimize adverse aviation noise impacts.

Safety Element Policy S-7.1 (new noise-sensitive land uses) limits new noise-sensitive land uses to areas where existing and projected noise level are “acceptable” as defined by the County. It also states that a Community Noise Ordinance will be established consistent with the table that addresses new residential land uses exposed to aircraft operations at any airport or airbase.

Safety Element Policy S-7.3 (noise reduction measures) states that development may occur in areas identified as “normally unacceptable” provided that effective measures are taken to reduce both the indoor and outdoor noise levels to acceptable levels.

Policy S-7.6 (acoustical analysis) states that an acoustical analysis will be part of the environmental review process for projects when noise-

sensitive receptors are proposed in areas exposed to existing or projected noise levels that are "normally unacceptable" as defined by the County.

Implementation of these policies would limit the exposure of noise-sensitive land uses to aviation noise.

Area Plan Policies

The North County Area Plan

There are no policies related to aviation noise in this area plan.

Greater Salinas Area Plan

There are no policies related to aviation noise in this area plan.

Central Salinas Valley Area Plan

There are no policies related to aviation noise in this area plan.

Greater Monterey Peninsula Area Plan

Greater Monterey Peninsula Area Plan GMP-4.2 (Airports) states that development in the vicinity of the Monterey Peninsula Airport and the Marina Municipal Airport should be sited, designed, and/or constructed to minimize noise hazards from aircraft and other sources and that the County should adopt the Airport Noise Control and Land Use Compatibility (ANCLUC) standards for the areas in the vicinity of the Monterey Peninsula Airport. Implementation of these policies would limit the exposure of new noise-sensitive land uses to aircraft noise within the Greater Monterey Peninsula Area.

Carmel Valley Master Plan

There are no policies related to aviation noise in this area plan.

Toro Area Plan

There are no policies related to aviation noise in this area plan.

Cachagua Area Plan

There are no policies related to aviation noise in this area plan.

South County Area Plan

There are no policies related to aviation noise in this area plan.

Agricultural Winery Corridor Plan

There are no policies related to aviation noise in this area plan.

Community Area Policies

Fort Ord Master Plan

The Monterey County Fort Ord Master Plan Noise Element contains objectives and policies for controlling noise in the plan area.

Noise Program A-1.1 of Noise Policy A-1 (compatibility criteria) establishes land use compatibility criteria for exterior community noise. Program B-1.1 of Noise Policy B-1(noise mitigation) states that the County will develop a program to identify developed areas that experience adverse impacts from excessive noise levels and implement measures to reduce these impacts by constructing barriers and limiting hours of operation of noise sources. Noise Policy B-3 (acoustic studies) requires that acoustical studies be conducted for all new development that could be exposed to noise above the "normally acceptable" range as defined by the County to ensure that existing and proposed use will not be adversely affected. Noise Policy B-4 (noise insulation) requires enforcement of state noise insulation standards and requires that interior sound levels of 45 dB L_{dn} be achieved for new multi-family dwellings, condominium, hotel, and motel uses. Noise Policy B-5 (noise barriers) states that noise barriers will be provided for new development to ensure that noise guidelines are met and that interior noise levels will be reduced to 45 dB L_{dn} if site planning or architectural layout of buildings is not feasible for compliance with noise guidelines. Noise Policies B-6 (ambient noise/single-family), B-7 (ambient noise/industrial), and B-8 (ambient noise/institutional) place limits on increases in noise allowed by new development. Implementation of these policies will limit exposure of noise-sensitive land uses to noise.

Implementation of the Fort Ord Noise Element policies summarized above would limit the exposure of noise-sensitive land uses to traffic noise associated with the 2007 General Plan.

State and Federal Aviation Safety Regulations

State Airport Land Use Commission law and Federal Aviation Administration Part 77 regulations place additional restrictions on developments in the vicinity of airports that limit placement of noise-sensitive land uses in the vicinity of airports.

Significance Determination

Implementation of the 2007 General Plan through the 2030 planning horizon would result in adverse impacts from aviation noise. However, the 2007 General Plan, Area Plan, and Community Area policies, and state and federal aviation regulations, listed above, establish comprehensive measures to avoid and minimize adverse impacts from aviation noise. Therefore, aviation noise resulting from implementation of the 2007 General Plan through the 2030 planning horizon would have a less-than-significant impact on existing and planned noise-sensitive receptors.

Mitigation Measures

No mitigation required.

Significance Conclusion

Aviation noise resulting from implementation of the 2007 General Plan through the 2030 planning horizon would have a less-than-significant impact on existing and planned noise-sensitive receptors.

Buildout

Impact of Development with Policies

Buildout of the 2007 General Plan through 2092 would result in new urban development in undeveloped areas of the County beyond 2030 levels. New development would potentially be exposed to aviation noise exceeding County noise standards.

The 2007 General Plan, Area Plan, and Community Area policies, as well as and state and federal aviation regulations, summarized above, identify measures that limit the exposure of existing and planned noise-sensitive receptors to aviation noise.

Significance Determination

Buildout of the 2007 General Plan through the 2092 planning horizon would potentially result in adverse impacts from aviation noise, especially near existing municipal and general aviation airports. However, the 2007 General Plan, Area Plan, and Community Area policies establish comprehensive measures to avoid and minimize adverse impacts from aviation noise. Therefore, aviation noise resulting from buildout of the 2007 General Plan through 2092 would have a less-than-significant impact on existing and planned noise-sensitive receptors.

Mitigation Measures

No mitigation required.

Significance Conclusion

Aviation noise resulting from buildout of the 2007 General Plan through the 2092 planning horizon would have a less-than-significant impact on existing and planned noise-sensitive receptors.

Stationary Source Noise

Impact N-5: Implementation of the 2007 General Plan would expose people residing or working near industrial/agricultural land uses and recreational venues to excessive noise levels. (Less-than-Significant Impact)

2030 Planning Horizon

Impact of Development with Policies

Implementation of the 2007 General Plan would result in new urban development in the vicinity of industrial/agricultural land uses and recreation venues in the county.

Industrial and/or agricultural processing areas in the unincorporated county area include Castroville, Moss Landing, and Pajaro; incorporated cities with industrial areas include Marina, Salinas, Seaside, Soledad, and King City. These areas include a mix of industrial uses and agricultural processing plants. Isolated agricultural processing plants also exist in the Salinas Valley. The San Ardo oil field is also a source of noise. Other potential noise sources include the four landfills in the County, which are located near Marina, Prunedale, Soledad, and King City. Laguna Seca Raceway is located near Fort Ord on Highway 68. Racing events involve competition between high performance vehicles that emit substantial levels of noise.

New development near these facilities would expose residents and workers to noise levels that exceed County noise standards.

The 2007 General Plan, Area Plan, and Community Area policies summarized below establish comprehensive measures to avoid and minimize adverse noise impacts from industrial, agricultural, and recreational sources.

2007 General Plan Policies

Safety Element Policy S-7.1 (new noise-sensitive land uses) limits new noise-sensitive land uses to areas where existing and projected noise level are “acceptable” as defined by the County.

Safety Element Policy S-7.2 (new development) states that proposed development shall incorporate design elements necessary to minimize

noise impacts on surrounding land uses and reduce noise in indoor spaces to an acceptable level.

Safety Element Policy S-7.3 (noise reduction measures) states that development may occur in areas identified as "normally unacceptable" provided that effective measures to reduce both the indoor and outdoor noise levels to acceptable levels are taken.

Safety Element Policy S-7.4 (new noise generators) states that new noise generators may be allowed in areas where projected noise levels are "conditionally acceptable" only after a detailed analysis of the noise reduction requirements is made, and necessary noise mitigation features are included in project design.

Safety Element Policy S-7.5 (new noise generators, cntd.) states that new noise generators should generally be discouraged in areas identified as "normally acceptable." Where such new noise generators are permitted, mitigation to reduce both the indoor and outdoor noise levels would be required.

Policy S-7.6 (acoustical analysis) states that an acoustical analysis shall be part of the environmental review process for projects when noise-sensitive receptors are proposed in areas exposed to existing or projected noise levels that are "normally unacceptable" as defined by the County.

Implementation of these policies would limit the exposure of noise-sensitive land uses to noise from industrial, agricultural, and recreational sources.

Area Plan Policies

The North County Area Plan

North County Area Plan Policy NC-1.1 (noise minimization) states that proposed commercial development shall be designed to minimize noise impacts on the surrounding area to the greatest extent feasible. Policy NC-1.2 (industrial/commercial noise) states that potential noise impacts from industrial and commercial facilities shall be minimized to the maximum extent feasible and that installation of environmental control methods for noise impact brought by regulatory agencies will require review and approval by the Director of Planning and Building Inspection. Implementation of these policies would limit noise produced by new commercial and industrial noise sources. Implementation of these policies would also limit the exposure of noise-sensitive land uses to noise from industrial and commercial facilities within this planning area.

Greater Salinas Area Plan

There are no policies related to stationary noise sources in this area plan.

Central Salinas Valley Area Plan

There are no policies related to stationary noise sources in this area plan.

Greater Monterey Peninsula Area Plan

There are no policies related to stationary noise sources in this area plan.

Carmel Valley Master Plan

Carmel Valley Master Plan Policy CV-1.14 (service centers) limits service centers in Carmel Valley to urbanized areas such as the mouth of the Valley, Carmel Valley Village or mid-Valley area and states that these sites shall be designed to result in low noise impact on surrounding uses. Implementation of this policy would limit the exposure of noise-sensitive land uses to noise from these facilities within this planning area.

Toro Area Plan

There are no policies related to stationary source noise in this area plan.

Cachagua Area Plan

Cachagua Area Plan Policy CACH-1.1 (service centers) states that provision should be made for service centers in Cachagua to result in low noise impact on surrounding uses. Policy CACH-3.2 (ambient noise abatement) states that stronger ambient noise abatement requirements should be considered in this planning area. Policy CACH-3.5 (resource production operation) states that mining or commercial timber or other resource production operations that include methods to control noise impacts may be considered in the planning area. Implementation of these policies would limit exposure of noise-sensitive land use to noise from these facilities and operations within this planning area.

South County Area Plan

There are no policies related to stationary source noise in this area plan.

Agricultural Winery Corridor Plan

AWCP Development Standard 3.5F (noise standards) states that all winery structures and outdoor uses will comply with the County's adopted Noise Codes. Development Standard 3.6 E (development conditions) states that agencies are authorized to attach such conditions as deemed necessary to protect the health, safety, and general welfare of the community and the persons attending special winery related events. These conditions include specific limits on outdoor amplified music. Implementation of these development standards would limit the exposure of noise-sensitive land uses to noise from wineries within the AWCP corridor.

Community Area Policies

Fort Ord Master Plan

Noise Program A-1.1 of Noise Policy A-1 (compatibility criteria) establishes land use compatibility criteria for exterior community noise. Program A-1.2 of Policy A-1 states that the County will adopt a noise ordinance to control noise from non-transportation sources and construction. Program B-1.1 of Noise Policy B-1 (noise mitigation) states that the County will develop a program to identify developed areas that are adversely affected by excessive noise levels, and implement measures to reduce these impacts by constructing noise barriers and limiting hours of operation of noise sources. Noise Policy B-3 (acoustic studies) requires that acoustical studies be conducted for all new development that could be exposed to noise above the "normally acceptable" range as defined by the County to ensure that existing and proposed use will not be adversely affected. Noise Policy B-4 (noise insulation) requires enforcement of state noise insulation standards and requires that interior sound levels of 45 dB L_{dn} be achieved for new multi-family dwellings, condominium, hotel, and motel uses. Noise Policy B-5 (noise barriers) states that noise barriers be provided for new development to ensure that noise guidelines are met and that interior noise level be reduced to 45 dB L_{dn} if site planning or architectural layout of buildings is not feasible for compliance with noise guidelines. Noise Policies B-6 (ambient/single-family), B-7 (ambient noise/industrial), and B-8 (ambient noise/institutional) place limits on increases in noise allowed by new development. Implementation of these policies would limit exposure of noise-sensitive receptors within the Fort Ord Master Plan area.

Significance Determination

Implementation of the 2007 General Plan through the 2030 planning horizon would result in adverse noise impacts from stationary sources. However, the 2007 General Plan, Area Plan, and Community Area policies summarized

above establish comprehensive measures to avoid and minimize adverse noise impacts from stationary sources. Therefore, noise from stationary sources resulting from implementation of the 2007 General Plan through the 2030 planning horizon would have a less-than-significant impact on existing and planned noise-sensitive land uses.

Mitigation Measures

No mitigation is required.

Significance Conclusion

Noise from stationary sources resulting from implementation of the 2007 General Plan through the 2030 planning horizon would have a less-than-significant impact on existing and planned noise-sensitive land uses.

Buildout

Impact of Development with Policies

Buildout of the 2007 General Plan through 2092 would result in new urban development in undeveloped areas of the county beyond 2030 levels. New development would result in the exposure of noise-sensitive land uses to excessive noise levels from stationary sources.

The 2007 General Plan, Area Plan, and Community Area policies summarized above identify policies that limit the exposure of existing and planned noise-sensitive land uses to excessive noise levels from stationary sources.

Significance Determination

Buildout of the 2007 General Plan through the 2092 planning horizon would potentially result in adverse impacts from stationary noise sources. However, the 2007 General Plan, Area Plan, and Community Area policies summarized above establish comprehensive measures to avoid and minimize adverse noise impacts from stationary sources. Therefore, noise from stationary sources resulting from implementation of the 2007 General Plan through the 2030 planning horizon would have a less-than-significant impact on existing and planned noise-sensitive land uses.

Mitigation Measures

No mitigation required.

Significance Conclusion

Noise from stationary sources resulting from implementation of the 2007 General Plan through the 2030 planning horizon would have a less-than-significant impact on.

4.8.6 Level of Significance after Mitigation

Development of new noise-sensitive land uses and noise sources associated with implementation of the 2007 General Plan would result in significant noise impacts. However, all noise impacts would be less than significant with implementation of General Plan, Area Plan, and Community Area policies described herein and would not require mitigation.

4.9 Biological Resources

4.9.1 Abstract

Monterey County contains a diverse array of natural communities, ranging from oak woodlands in the Salinas Valley, to beach dunes near Fort Ord, to Elkhorn Slough in North County. Natural vegetation throughout the County is typical of that occurring in the coastal ranges and interior valleys of central California. The two most common types of natural habitat are oak woodland on middle and upper elevations and grassland in lower elevations such as valleys. There are numerous federally listed endangered and threatened species and other CEQA-defined special-status species in the County. More than 70,000 acres in the County are designated as critical habitat by the U.S. Fish and Wildlife Service (USFWS).

Development and land use activities (including agriculture) allowed by the 2007 General Plan in designated growth areas (Community Areas, Rural Centers, and AHOs) as well as in other unincorporated areas would result in the following significant impacts on biological resources:

- **Special Status Species:** Future development anticipated by the 2007 General Plan would result in loss of CEQA-defined "special-status species" habitat and individuals.

  [Note: The 2007 General Plan Glossary defines "special-status species" as species that are listed and protected by the federal and California endangered species acts. This EIR defines "CEQA-defined special-status species" more broadly For this EIR, CEQA-defined special-status species are defined to include both listed and non-listed species that are candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS or that otherwise meet the definitions of rare or endangered under CEQA based on substantial evidence (State CEQA Guidelines Section 15380). Note that this definition is broader than that in the 2007 General Plan, which only includes listed special-status species. Unless otherwise specified, all references in this document are to the broad list of CEQA-defined special-status species, whether listed or not. All CEQA findings in this document refer to both listed and non-listed special status species].

  Mitigation is available that would reduce impacts to less than significant for the 2030 Planning Horizon and for buildout. However, there are uncertainties as to the threats that special-status species may face beyond 2030 and the means to address these new threats. Thus the 2007 General Plan is considered to result in a significant and unavoidable impact to CEQA-defined special-status species for buildout.

- **Sensitive Natural Communities, Riparian Habitat and Wetlands:** Future development anticipated by the 2007 General Plan would result in a net loss

of sensitive natural communities, riparian habitat, and wetlands. Mitigation is available that would, reduce impacts to less than significant for the 2030 Planning Horizon and for buildout. However, there are uncertainties as to the threats that sensitive natural communities, riparian habitat, and wetlands may face beyond 2030 and the means to address these new threats. Thus the 2007 General Plan is considered to result in a significant and unavoidable impact to sensitive natural communities, riparian habitat, and wetlands for buildout.

- **Wildlife Movement Corridors:** Future development anticipated by the 2007 General Plan could result in the creation of impediments to wildlife movement along key river and land wildlife corridors. Mitigation is available that would reduce impacts to less than significant for the 2030 Planning Horizon and for buildout.
- **Consistency with Biological Protection Policies and Adopted Conservation Plans:** Future development anticipated by the 2007 General Plan would be consistent with local tree ordinances. There are no adopted habitat conservation plans (HCPs) or natural communities conservation plans (NCCPs) within the areas covered by the 2007 General Plan. The county is a participant in the development of the HCP for the former Fort Ord and future development permitted by the County within the Fort Ord Master Plan area will be consistent with the HCP (when adopted). This impact is less than significant.

4.9.2 Introduction

In this chapter, the County's biological resources and potential impacts on them arising from development under the 2007 General Plan are described at a program level. The impact analysis is quantitative (where data is reasonably available) and qualitative (otherwise) and is not site-specific because of the wide geographical area covered. This impact analysis assumes that biological resources would be affected directly or indirectly by development under the 2007 General Plan. As part of subsequent, project-specific environmental analysis, the County shall analyze impacts to biological resources at an appropriate level of details, as required under Public Resources Code Section 2100 et seq.

4.9.3 Environmental Setting

Information is presented in this section about the existing biological setting of Monterey County in general.

The sensitive and common plant communities (habitats) present in Monterey are described below; a map of their general distribution is presented in Exhibit 4.9.1. The actual distribution of plant communities is much more detailed than presented in this exhibit. Project-specific environmental reviews that are tiered from this EIR would need to conduct site-specific evaluation to determine the

presence or absence of sensitive and common plant communities within a specific project area.

Exhibit 4.9.1 provides a basis for a general discussion of potential environmental impacts and the location of sensitive communities and CEQA-defined special-status species. Exhibits 4.9.2, 4.9.3, and 4.9.4 identify the common plant communities found within the 2007 General Plan focused developed areas (community areas, rural centers, affordable housing overlays, and the agricultural wine corridors). Table 4.9-2 shows the approximate acres of different vegetation types found within the County (including cities and the coastal area). Table 4.9-3 shows the approximate acres of different vegetation types found within the 2007 General Plan focused development areas.

Monterey County occurs within one of the richest biological regions in North America (Ricketts et al 1999; Abell et al 2000). Monterey County is especially rich in biological resources, primarily because of the diversity of unique physical characteristics: highly varied terrain, large elevation range, extensive coastline, broad range of microclimates, and diverse substrate materials. This variability is reflected in the large array of plant communities and resident plant and animal species. For example, there are almost 3,000 species of plants that occur in Monterey County according to Calflora (2008), a database of California plants. Of these, 101 plant species are considered to be rare or sensitive by the CNPS and are listed in the CNDDB (2007).

Table 4.9-1. Monterey County Vegetation Communities (Estimated for 2006) (Includes Cities and Coastal Areas)

Vegetation Community	Acres
Annual Grassland	726,632
Oak Woodland	426,334
Agriculture	**254,491**
Baccharis Scrub	205,060
Oak Savanna	201,662
Gabilan Scrub	115,146
Urban/Non-Veg	43,579
Sparse Vegetation/Bare Soil	34,098
Mixed Conifer	29,477
Riparian/Wetland	25,970
Redwood Forest	21,738
Maritime Chaparral	12,597
Coastal prairie	6,434
Blue Oak Woodland	5,606
Saltwater Marsh	2,883
Dune Scrub	2,235
Baccharis Chaparral	2,165
Monterey Pine Forest	1,260
Eucalyptus	1,224
Golf Course	584
Coastal Scrub	572
Valley Needlegrass Grassland	392
Dune	326
Freshwater Marsh	317
Coastal Terrace Prairie	212
Native Grassland	85
Total	**2,121,079**

Methodology: No existing mapping for current vegetation coverage for the County was identified. Vegetation community acreages for 2006 were identified by comparing a 1982 base vegetation map to the 2006 FMMP maps for County using GIS. The FMMP covereage was used to identify urban land and important farmland (prime, statewide importance, unique). Where the FMMP maps show grazing land, land is not presumed to be urban or to be intensive agriculture, but is presumed to be original 1982 land cover. A minimum mapping unit of 2.5 acres was used for conversions. See Figure 4.9-1 for 1982 land cover, and Figures 4.9-3 through 4.9-6 for habitat conversions between 1982 and 2006.

Table 4.9-2. Monterey County GP 2007 Natural Communities by New Plan Areas (Estimated Extant as of 2006)

	Annual Grassland	Baccharis and Other Scrub	Coastal Prairie	Baccharis and Maritime Chaparral	Mixed Conifer	Monterey Pine Forest/ Redwood Forest	Native Grassland	Oak Woodland and Savanna	Riparian/ Wetland	Total
Community Areas										
Chualar CA										0
Fort Ord CA	3,320	356		9,805	1		460	4,005	273	18,219
Boronda CA										0
Pajaro CA	0								1	1
Castroville CA	29									29
Community Areas Subtotal	3,349	356	0	9,805	1		460	4,005	273	18,249
Rural Centers										
Pine Canyon RC	427	110			2			28		567
San Lucas RC	15									15
Bradley RC	34								0	34
Lockwood RC	92	6								97
Pleyto RC	359	33								393
San Ardo RC										0
River Road RC	171	25			14			35	26	272
Rural Centers Subtotal	1,098	173	0	0	16		0	63	26	1,377
AHOs										
Carmel Mid-Valley AHO	1									1
Hwy 68/Airport AHO	1		58					12		71
Hwy 68/Reservation AHO	6			1						6
AHOs Subtotal	8	0	58	1	0		0	12	0	79
Total of Focused Growth Areas	4,455	529	58	9,806	18		460	4,080	299	19,706

	Annual Grassland	Baccharis and Other Scrub	Coastal Prairie	Baccharis and Maritime Chaparral	Mixed Conifer	Monterey Pine Forest/ Redwood Forest	Native Grassland	Oak Woodland and Savanna	Riparian/ Wetland	Total
Planning Areas outside the Focused Growth Areas Designated for Development										
Areas designated for Development in Rest of Unincorporated County	93,975	63,620	1,493	377	4,267	317	17	90,613	3,258	257,937
Agricultural Wine Corridors (Note: these areas overlap with some of the Development areas in the Planning Areas)										
Central/Arroyo Seco/River Road Segment	4,364	420			45			93	1,590	6,512
Jolon Road Segment	10,400	3,394			134			1,432	281	15,642
Metz Road Segment	1,877	5			8			11	206	2,106
Agricultural Wine Corridor Subtotal	16,641	3,819	0	0	187		0	1,536	2,077	24,260

Methodology: No existing mapping for current vegetation coverage for the County was identified. Vegetation community acreages for 2006 were identified by comparing a 1982 base vegetation map to the 2006 FMMP maps for County using GIS. The FMMP coverage was used to identify urban land and important farmland (prime, statewide importance, unique). Where the FMMP maps show grazing land, land is not presumed to be urban or to be intensive agriculture, but is presumed to be original 1982 land cover. A minimum mapping unit of 2.5 acres was used for conversions. See Figures 4.9-7 through 4.9-10 for habitats by plan area.

Table 4.9-3. Relationship of natural communities discussed in the 2008 Monterey County General Plan Update to sensitive communities designated by the California Department of Fish and Game's California Natural Diversity Database and CDFG's Vegetation Classification and Mapping Program (VCMP)

	CNDDB Plant Communities[a]		VCMP Vegetation Alliance[b]	
GPU SEIR Mapping Units	CNDDB Community Name	Rarity Rank (Globally and in California)[c]	CDFG Alliance Name	Rarity Rank (Globally and in California)[c]
Dune*	Central Foredunes	G1S1	*Abronia latifolia-Ambrosia chamissonis*	G3S3
	Active Coastal Dunes	G3S2	*Ambrosia chamissonis*	G4S3
Dune Scrub*	Central Dune Scrub	G2S2	*Lupinus chamissonis-Ericameria ericoides*	G3S3
Maritime Chaparral*	Central Maritime Chaparral	G2S2	*Arctostaphylos pajaroensis*	G1S1
			Arctostaphylos pumila	G1S1
Saltwater Marsh*	Northern Coastal Salt Marsh	G3S3	*Salicornia virginica*	G4S4
	Coastal Brackish Marsh	G2S2		
Freshwater Marsh*	Coastal and Valley Freshwater Marsh	G3S2	*Typha* (*angustifolia, domingensis*)	G4S3
			Schoenoplectus spp.–*Typha* spp.	G5S3?
			Schoenoplectus spp.	G4S3 to G5S4
Riparian/Wetland*	Sycamore Alluvial Woodland	G1S1	*Platanus racemosa*	G4S3
	Coastal and Valley Freshwater Marsh	G3S2	*Acer macrophyllum*	G4S3
Native Grassland*	Native Grassland	G3S3	*Nasella pulchra*	G4S3
Valley Needlegrass Grassland*	Valley Needlegrass Grassland	G1S3	*Nasella pulchra*	G4S3
Oak Savanna*	Valley Oak Woodland	G3S2	*Quercus lobata*	G3S3
Mixed Conifer*	Monterey Cypress Forest	G1S1	*Cupressus macrocarpa*	G1S1
	Monterey Pygmy Cypress Forest	G1S1	*Cupressus goviniana*	G1S1
	Northern Bishop Pine Forest	G2S2	*Pinus muricata*	G4S3
Monterey Pine Forest*	Monterey Pine Forest	G1S1	*Pinus radiata*	G3S2
Coastal Terrace Prairie*	Valley Needlegrass Grassland	G1S3	*Danthonia californica*	G4S3
			Festuca idahoensis	G4S3
Oak Woodland*	Blue Oak Woodland	G3S3	*Quercus douglasii*	G4S4
	Black Oak Woodland	G3S3	*Quercus kelloggii*	G4S4
	Valley Oak Woodland	G3S2	*Quercus lobata*	G3S3

	CNDDB Plant Communities[a]		VCMP Vegetation Alliance[b]	
GPU SEIR Mapping Units	CNDDB Community Name	Rarity Rank (Globally and in California)[c]	CDFG Alliance Name	Rarity Rank (Globally and in California)[c]
Blue Oak Woodland*	Blue Oak Woodland	G3S3	*Quercus douglasii*	G4S4
Redwood Forest*	Not listed	—	*Sequoia sempervirens*	G3S3
Agriculture	N/A—not considered a sensitive community			
Annual grassland	N/A—not considered a sensitive community			
Baccharis Chaparral	N/A—not considered a sensitive community			
Baccharis Scrub	N/A—not considered a sensitive community			
Gabilan Scrub	N/A—not considered a sensitive community			
Eucalyptus	N/A—not considered a sensitive community			
Golf Course	N/A—not considered a sensitive community			
Sparse Vegetation/Bare Soil	N/A—not considered a sensitive community			
Urban/Non-Veg	N/A—not considered a sensitive community			

Notes:

= sensitive communities in the 2008 Monterey General Plan Update EIR

[a] Based on California Department of Fish and Game, California Natural Diversity Database (CNDDB) (Version 3.1.0, accessed on January 22, 2008)

[b] Based on the most current California Department of Fish and Game classification approach: *Vegetation Classification and Mapping Program List of California Vegetation Alliances*, October 22, 2007. This classification is currently in development and is a long-term update and refinement of the classification used by the CNDDB. This will bring the California vegetation classification system in line with the National Vegetation Classification System. This system is based on the dominant species and is organized hierarchically; alliances are listed here, at a finer-scale is the association.

[c] Rarity ranking: Global (G) and State (S) rankings are analogous to those given to species in the CNDDB. The ranking is between 1 and 5 using NatureServe's standard heritage program conservation status methodology (http://www.natureserve.org/explorer/ranking.htm#interpret). The ranking presented in this table is for the alliance; it is possible that an association within any alliance may have a rarer ranking than the alliance; additionally, some communities in California are considered rare although the alliance is not. The rankings are interpreted as

1 = **critically imperiled**; at very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.

2 = **imperiled**; at high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.

3 = **vulnerable to extirpation or extinction**; at moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.

4 = **apparently secure**; uncommon but not rare; some cause for long-term concern due to declines or other factors

5 = **secure**; demonstrably widespread, abundant, and secure; common; widespread and abundant.

4.9.3.1 Sensitive Vegetation Communities

The vegetation types, or plant communities, described in this section are known to occur within Monterey County and are considered to be "sensitive natural communities" under CEQA. Sensitive plant communities are intrinsically rare (i.e., uncommon plant associations that are of limited distribution) and/or they are habitat for CEQA-defined special-status plant or wildlife species.

There are two state lists of sensitive plant communities; both of which are maintained by CDFG: the CNDDB and the Vegetation Classification and Mapping Program (VCMP). The two lists are closely related to each other; the differences between them are essentially a matter of classification and naming conventions. The VCMP is currently updating the entire vegetation classification system (including rare and common communities) in California to meet the standards set by the National Vegetation Classification (Grossman et al. 1998). The plant community names presented below and in the map in Exhibit 4.9.1 are based on previous draft General Plan Updates and associated environmental review documents, in order to facilitate comparison. However, to make a clear connection between these communities and those listed as sensitive or rare by the CNDDB and the VCMP, a crosswalk is provided in Table 4.9-3.

A general mapping of the distribution of sensitive plant communities within Monterey County is provided in Exhibit 4.9.1 and approximate acreages are presented in Table 4.9-1. Project-specific environmental reviews that are tiered from this EIR would need to conduct site-specific evaluation to determine the presence or absence of sensitive plant communities within a specific project area.

The following sensitive vegetation communities are found within the inland areas covered by the 2007 General Plan (many of these communities are also found within the coastal areas, which are not covered by the 2007 General Plan.

Freshwater Marsh

Freshwater marsh occurs in low-flow water bodies such as ponds, lakes, and estuaries with strong freshwater through-flow. Common dominant species include cattail (*Typha latifolia, T. angustifolia*), tall cyperus (*Cyperus eragrostis*), bulrush and tule species (Sc*hoenoplectus* spp.), rushes (*Juncus* spp.), sedges (*Carex* spp.) and spike rushes (*Eleocharis* spp.). Freshwater marshes support many of the same species as salt marsh, above. In addition, these freshwater wetlands support CEQA-defined special-status species such as the California tiger salamander (*Ambystoma californiense*), California red-legged frog (*Rana aurora draytonii*), and Santa Cruz long toed salamander (*Ambystoma macrodactylum croceum*) in Monterey County.

Riparian/Wetland

Riparian communities occur along rivers, streams and creeks, while wetlands generally refer to plant communities growing in standing water or in areas that are frequently inundated. The marsh communities described above are all types of wetlands. Other types of wetlands include seasonal wetlands in meadows, ditches and areas that retain water in the rainy winter months; and vernal pools which are seasonally wet depressions in meadows with clay soils.

Riparian communities generally grow alongside rivers and streams and are dominated by winter-deciduous trees and shrubs that are adapted to high amounts of water. Common riparian dominant species include willow species (*Salix* spp.), alder (*Alnus rhombifolia, A. rubra*), cottonwood (*Populus* spp.), box elder (*Acer negundo* var. *californicum*), big-leaf maple (*Acer macrophyllum*), and sycamore (*Platanus racemosa*). The understory often consists of dense thickets of poison oak or non-native invasive species such as Himalayan blackberry (*Rubus armeniacus*).

Because the vegetation is diverse and well developed, riparian forest provides high-value habitat for wildlife, including several CEQA-defined special-status species. Riparian forest habitat provides food, water, and migration and dispersal corridors, as well as escape, nesting and thermal cover for many wildlife species (Mayer and Laudenslayer 1988). Invertebrates, amphibians, and aquatic reptiles live in aquatic and adjacent upland habitats. Raptors, herons, egrets, and many songbirds nest in riparian forest habitat. These areas also important stopover sites during bird migration along the Pacific Flyway and generally serve as important routes for daily movements and dispersal of many species of mammals.

Seasonal wetlands occur in areas with some amount of inundation each year adequate to support plant species adapted to wet conditions. These plants are generally indicative of wetlands, and may include longer-lived perennial species such as cattail and tule, as well as annual species like those found in marshes (listed above). Other species common in seasonal wetlands include iris-leaved rush (*Juncus xiphioides*), toad rush (*Juncus bufonius*), curly dock (*Rumex crispus*), rabbit's foot grass (*Polypogon monspeliensis*), English plantain (*Plantago major*), and bristly ox-tongue (*Picris echioides*). Many of the common seasonal wetland species are non-native and, to some degree, considered invasive.

Vernal pools are seasonally flooded landscape depressions underlain by a subsurface which limits drainage. Vernal Pools are typically formed during winter rains. They result from an unusual combination of soil conditions, summer-dry Mediterreanean climate, topography, and hydrology. These pools dry from the perimeter inward as the summer heat approaches, and characteristic concentric rings of wildflowers and grasses form. Because vernal pools are quite rare, many of the associated plants are also rare. Vernal pool species include Vasey's coyote thistle (*Eryngium vaseyi*), water starwort (*Callitriche* spp.), downingia (*Downingia* spp.), meadowfoam (*Limnanthes* spp.), brass buttons

(*Cotula coronopifolia*), goldfields (*Lasthenia* spp.), water buttercup (*Ranunculus aquatilis* var. *capillaceus*), and flowering quillwort (*Lilaea scilloides*).

Riparian/wetlands are important breeding habitat for CEQA-defined special-status species such as the California tiger salamander, California red-legged frog, western spadefoot (*Scaphiopus hamondii*), and many common species of songbirds and waterbirds. Riparian/wetland areas serve as important stopover sites during long distance migrations for many bird species and provide foraging and roosting habitat for many bat species.

Native Grassland/Valley Needlegrass Grassland

The primary native grassland types that remain in Monterey County are coastal prairie (described below) and valley needlegrass grassland. Valley needlegrass grassland occurs primarily on fine-textured (usually clay) soils that are very moist, even waterlogged, in winter but extremely dry in the summer months. Valley needlegrass has not been comprehensively mapped although Fort Ord is known to contain area of this community. It is dominated by purple needlegrass (*Nasella pulchra*), which is a clump-forming, perennial species that grows to about two feet high. A large number of species may be associated with the purple needlegrass, a very few include nodding needlegrass (*Stipa cernua*), golden stars (B*loomeria crocea*), golden brodiaea (*Triteleia ixiodes*), and soap plant (*Chlorogalum pomeridianum* var. *pomeridianum*).

Perennial native grasslands are threatened throughout their range due to conversion to annual grasses and then loss to development and agricultural uses. Because grasslands in the United Sates have been so thoroughly and rapidly taken over by annual non-native grasses, the details of the original extent and species composition of native grasslands are not known.

Native grasslands are used by many wildlife species for foraging. Some of these species also breed in native grassland if special habitat features such as cliffs, caves, ponds, or woody plants are available for breeding, resting, or as escape cover. Many songbirds only nest in grasslands. Common reptiles that breed in grassland habitats include western fence lizards (*Sceloporus occidentalis*), common garter snake (*Thamnophis sirtalis*), and western rattlesnake (*Crotalus tigris*). Grasslands provide foraging habitat for wide-ranging species such as red-tailed hawk (*Buteo jamaicesis*), turkey vulture (*Cathartes aura*), American kestrel (*Falco sparverius*), and northern harrier (*Circus cyaneus*). Mammals typically found in this habitat include California vole (*Microtus californicus*), western harvest mouse (*Reithrodontomys megalotis*), California ground squirrel (*Spermophilus beecheyi*), coyote (*Canis latrans*), and American badger (*Taxidea taxus*) (Mayer and Laudenslayer 1988). Many species that nest or roost in adjacent habitats forage in grasslands, including western bluebird (*Sialia mexicana*), western kingbird (*Tyrannus verticalis*), and some species of bats.

After fire, cover, density, and seedling establishment of purple needlegrass often increase as a result of increased soil temperature, light intensity, and nutrient

release, and decreased standing litter. Even though fire during periods of rapid growth can be detrimental to purple needlegrass, it is generally more damaging to nonnative annuals. Some studies, however, have found fire and/or grazing effects on cover, density, or seedling establishment of purple needlegrass were highly variable or insignificant, suggesting a large influence of climate on purple needlegrass' response to fire (Dyer et al. 1996; Heady et al. 1977).

Coastal Prairie/Coastal Terrace Prairie

The coastal prairie community is dominated by annual and perennial grasses, and by a wide variety of herbaceous species. Dominant species include perennial grasses such as California oatgrass (*Danthonia californica*), Idaho fescue (*Festuca idahoensis*), creeping red fescue (*F. rubra*), purple needelgrass (*Nasella pulchra*), and meadow barley (*Hordeum brachyantherum*). Common herbaceous plant species include Douglas iris *(Iris douglasiana),* blue dicks *(Dichelostemma capitatum),* blue-eyed grass *(Sisyrinchium bellum),* checkerbloom (*Sidalcea malvaeflora*), and suncups (*Cammisonia ovata*).

CEQA-defined special-status species that have been documented in coastal prairie in Monterey County include the federally threatened and state endangered plant, Santa Cruz Tarweed *(Holocarpha macradenia)* and Santa Cruz clover (*Trifolium buckwestiorum*). Wildlife species that occur in Coastal Prairie/Coastal Terrace Prairie are the same as those discussed under *Native Grassland*. This vegetation type is important for CEQA-defined special-status wildlife such as the Smith's blue butterfly along the Big Sur Coast and north toward Fort Ord.

Maritime Chaparral

The vast majority of maritime chaparral within the inland portion of Monterey County covered by the 2007 General Plan is on Fort Ord.

Maritime chaparral occurs on stabilized, ancient sand dunes in coastally-influenced areas with summer fog and strong winds. While maritime chaparral is a drought-tolerant and fire-adapted plant community, it occurs in generally cooler, more humid regions than other forms of chaparral and is likely adapted to less frequent fire cycles and more moisture than other chaparral types. The soil conditions are harsh; sand has low nutrient levels and moisture-retention. Low soil moisture is apparently compensated for by higher humidity levels. Maritime chaparral is dominated by low-growing, evergreen shrubs, many of which are considered rare. These include Monterey manzanita (*Arctostaphylos montereyensis*), sandmat manzanita (*Arctostaphylos pumila*), Pajaro manzanita (*Arctostaphylos pajaroensis*), and Monterey ceanothus (*Ceanothus cuneatus* var. *ridgidus*). Other special-status herbaceous species found in maritime chaparral in Monterey County include Monterey spineflower (*Chorizanthe pungens* var. *pungens*), Yadon's rein-orchid (*Piperia yadonii*), sand gilia (*Gilia tenuiflora* ssp. *arenaria*) and Kellogg's horkelia (*Horkelia cuneata* ssp. *sericea*).

Many CEQA-defined special-status wildlife species occur in chaparral habitats including, California horned lizard (*Phrynosoma coronatum frontale*), silvery legless lizard (*Anniella pulchra pulchra*), and big-eared kangaroo rat (*Dipodomys elephantinus*).

Oak Woodland

The nature and composition of oak woodland varies throughout its range. The overstory generally includes deciduous and evergreen hardwoods with a large percentage of oak species, and occasionally some coniferous species. In mesic sites, trees tend to be closely spaced, creating a closed canopy, while in drier sites trees are often widely spaced and form an open woodland (also referred to as oak savannah). Composition of the understory also varies widely depending on the nature of the overstory (open or closed), soil characteristics, microclimate, and other ecological factors. Coast live oak (*Quercus agrifolia*) is often the dominate tree in oak woodlands within Monterey County; additional species vary depending on the specific site conditions. In mesic areas, other trees include California bay (*Umbellularia californica*), madrone (*Arbutus menziesii*), tanbark oak (*Lithocarpus densiflora*), black oak (*Quercus kelloggii*) and canyon live oak (*Quercus chrysolepis*) are common. On drier sites, valley oak (*Quercus lobata*), blue oak (*Quercus douglasii*), and foothill pine (*Pinus sabiniana*) are often associated with coast live oak. Oak woodland often intergrades with chaparral and coastal scrub in which case shrubs from these communities often occur in the understory. In mesic areas characterized by dense coast live oak forest, shade tolerant shrubs tend to dominate the understory while in drier open sites, grassland species and herbaceous species are more likely to occur.

Oak woodlands are important habitats because of their high value to wildlife in the form of nesting sites, cover, and food (Mayer and Laudenslayer 1988). Birds associated with oak woodlands include acorn woodpeckers (*Melanerpes formicivorus*), Nuttall's woodpeckers (*Picoides nuttallii)*, western scrub jay (*Aphelocoma californica)*, and many warblers and flycatchers. Cavities in oak trees are important nesting sites for American kestrel, tree swallow (*Tachycineta bicolor*), oak titmouse (*Baeolophus inornatus*), house wren (*Troglodytes aedon*), white-breasted nuthatch (*Sitta carolinensis*), and western bluebird. Oak woodlands provide nesting sites for raptors, such as red-tailed hawks, red-shouldered hawks (*Buteo lineatus*), and great-horned owls (*Bubo virginianus*) (Zeiner et al. 1990a.). Mammals associated with woodlands include western gray squirrel (*Sciurus griseus*), pallid bat (*Antrozous pallidus*), bobcat (*Lynx rufus*), blacktail deer (*Odocoileus hemionus*), and gray fox (*Urocyon cinereoargenteus*) (Zeiner et al. 1990b). Acorns are an important food source for species such as California quail (*Callipepla californica*), wild turkey (*Meleagris gallopavo*), western gray squirrel, and black-tailed deer (Mayer and Laudenslayer 1988).

Blue Oak Woodland

In Monterey County, blue oak woodland occurs in association with mixed chaparral, coastal scrub, annual grassland, and coastal oak woodland. It is often found on rocky, well-drained, infertile soils due to their high tolerance for drought. In this habitat type, blue oak (*Quercus douglasii*) is the dominant species and is typically characterized by an overstory of scattered trees and an understory of annual grassland on dry ridges and moderate slopes. This habitat type may have a minor shrub component, especially on rock outcrops. Blue oaks may also occur in denser stands on better quality habitat. Frequently associated arboreal species of this habitat type are coast live oak and valley oak. Some stands of blue oak and foothill pine occur on drier interior hills of California, particularly in the inner coast ranges in the eastern part of the County. Common shrub associates with blue oak woodland include poison-oak (*Toxicodendron diversilobum*), coffeeberry (*Rhamnus californica*), buckbrush (*Ceanothus* spp.), California buckeye (*Aesculus californica*), and manzanita (*Arctostaphylos* spp.).

Blue oak woodland supports the same wildlife species described above under *Oak Woodland*.

Oak Savannah

Valley oaks dominate oak savannah, which is a community of widely spaced trees spread across a grass-dominate landscape. They tend to occur on gently sloping hills and valley bottoms with deep, well developed soils. There are no understory shrubs in oak savannah, and the grassland understory includes a variety of herbaceous flowering species, the diversity of which depends on microsite factors such as the degree of non-native annual grass invasion, soils conditions and geographic location. In general, the valley oaks are not regenerating across California. This community is, therefore, of particularly high priority for preservation. Due to the unique combination of oak woodland and grassland community types found in oak savannah it supports a wide array of wildlife species. Oak savannah includes all of the species discussed above under *Native Grasslands* and *Oak Woodland*. Wildlife species most common in this habitat include, but are not limited to, common garter snake, western rattlesnake, California, western harvest mouse (*Reithrodontomys megalotis*), California ground squirrel, coyote, and American badger (Mayer and Laudenslayer 1988). Oak savannahs are particularly important to many species of songbirds and raptors since they provide both nesting and foraging habitat.

Mixed Conifer

Mixed conifer includes forests dominated by a combination of conifers and hardwood species, and generally occurs at higher elevations in the coast and inner coast ranges. This forest generally requires moist conditions and tends to occur on north facing slopes and steep valleys. It is a diverse forest with a range of species, age classes, and canopy gaps interspersed with closed canopy. The

gaps generally provide areas of ongoing regeneration as saplings can establish in these areas when they are formed by tree-falls and other events. The understory of this forest consists primarily of tree saplings; there is little shrub or herbaceous growth here. In Monterey County, mixed conifer dominant species include Douglas-fir (*Pseudotsuga menziesii*), madrone, coast live oak, big leaf maple (*Acer macrophyllum*), tanoak (*Lithocarpus densiflora*), and coast redwood (*Sequoiadendron sempervirens*). Additional species might include Bishop pine (*P. muricata*), knobcone pine (*P. attenuata*), Coulter pine (*Pinus coulteri*) and ponderosa pine (*Pinus ponderosa*).

Birds associated with conifer woodlands include acorn woodpeckers, Nuttall's woodpeckers, western scrub jay, and many warblers and flycatchers. Conifer woodlands provide nesting sites for raptors, such as red-tailed hawks, red-shouldered hawks, and great-horned owls (Zeiner et al. 1990a.). Mammals associated with woodlands include western gray squirrel (*Sciurus griseus*), bobcat, black-tailed deer, and many species bats (Zeiner et al. 1990b).

Monterey Pine Forest

The Monterey Peninsula is well known for its Monterey pine forest. Although widely planted, there are only three native stands of Monterey pine: at Point Ano Nuevo, Cambria, and on the Monterey Peninsula. These forests occur in rich loamy soils that support an understory of diverse plants. Ferns such as sword fern (*Polystichum munitum*), bracken fern (*Pteridium aquilinum* var. *pubescens*) and wood fern (*Dryopteris arguta*) proliferate and herbaceous flowering species include milkmaids (*Cardamine californica* var. *californica*), yarrow (*Achillea millefolium*), and Douglas iris (*Iris douglasiana*).

Monterey pines are closed cone pines: the cones remain closed protecting the seeds until fire or hot weather expands the cones and throws seeds out away from the parent tree. This is an adaptation to fire that occurs in a number of pine and cypress tree species that have evolved in fire-prone environments.

Monterey pine forest intergrades with Monterey cypress forest, Monterey pygmy forest and northern Bishop forest, all of which are sensitive communities in the CNDDB. Several rare plants occur in the Monterey pine forest, including Monterey manzanita, Yadon's rein orchid, Gowen cypress (*Cupressus goveniana* ssp. *goveniana)*, Monterey cypress (*Cupressus macrocarpa*) and Monterey Pine itself.

Wildlife that occurs in Monterey Pine forest is generally the same as oak woodland and mixed conifer, above.

Redwood Forest

Redwood forest occurs along the coast in Monterey County. Very little of this community is located in areas designated for development.

This community requires moist conditions where temperatures are relatively mild and stable, and require a strong influence of coastal fog and marine air flows. In Monterey County, redwood forest is often found in association with coastal oak woodland and it occurs at elevations as high as 3,000 feet. Redwood forest is dominated by coast redwood, and also can includes several coniferous species including Douglas-fir, tan oak, and madrone (*Arbutus menziesii*). Other species that may occur are Bishop pine (*Pinus muricata*), Monterey pine (*P. radiata*), California bay (*Umbellularia californica*), and big-leaf maple. In second growth redwood stands, there is generally little understory vegetation and an open park-like appearance. Old growth stands tend to have a much denser understory component (Mayer and Laudenslayer 1988).

Many species of amphibians, reptiles, birds, and mammals occupy redwood forests, which provide food, cover, and special habitat components such as tree cavities for nesting. Several CEQA-defined special-status wildlife species occupy redwood habitat such as California red-legged frog, osprey (*Pandion haliaetus*), marbled murrelet (*Brachyramphus marmoratus*), ringtail (*Bassariscus astutus*), and Pacific fisher (*Martes pennanti pacifica*) (Mayer and Laudenslayer 1988). Some wildlife species (e.g., marbled murrelet and spotted owl [*Strix occidentalis*]) are dependent on old growth redwood forests or show a strong preference for them as breeding habitat (Zeiner et al. 1990a).

Sensitive Vegetation Communities in Coastal Areas

Although the 2007 General Plan does not cover the coastal areas, the following vegetation types are discussed for cumulative impact context.

Dune and Dune Scrub

The sand dunes located at many beach areas of Monterey County include two distinct plant communities: **dune**, located on the beach and foredune areas, and **dune scrub**, which occurs on backdunes just beyond direct influence of the ocean.

Dune communities have limited values for wildlife due to the lack of cover. Dune habitat is important for CEQA-defined special-status species such as the Smith's blue butterfly (*Euphilote enoptes smithi*) and the globnosed dune beetle (*Coelus globosus*). The western snowy plover (*Charadrius alexandrinus nivosus*) nests in the foredune and forages, along with several other shorebird species along the wrack line in the adjacent tidal areas. Other common species that occur in dune habitats include the common raven (*Corvus corax*), raccoon (*Procyon lotor*), and red fox (*Vulpes vulpes*).

Dune scrub occurs landward of the dune community, on inland dunes beyond the reach of storm waves and direct impact of ocean forces. This community is dominated by shrubs interspersed with open sand and herbaceous species Dominant species in the dune scrub include mock heather (*Ericameria ericoides)*, dune lupine (*Lupinus chamissonis)* and lizard tail (*Eriophyllum*

staechadifolium). Dune scrub is included in the CNDDB (2007) as Central Dune Scrub, with four documented locations in the County

Saltwater Marsh and Tidal mudflats

Salt marshes are tidally influenced plant communities that occur along wave-sheltered margins of bays, lagoons and estuaries where they occupy the upper intertidal zone. Most salt marshes in Monterey County are in the sloughs adjacent to Monterey Bay (e.g., Elkhorn Slough, Bennet Slough, etc.). The dominant species in salt marshes is generally pickleweed (*Salicornia virginica*), and sub-dominants include salt grass (*Distichlis spicata*), jaumea (*Jaumea carnosa*) and alkali heath (*Frankenia salina*).

Another type of marsh found in Monterey County and considered rare by the CNDDB is brackish marsh. This marsh type is generally located in areas that have some infrequent tidal influence, enough to cause elevated salinity levels over freshwater marshes. One documented occurrence in Monterey County is near Castroville, in Moro Cojo slough. Brackish marshes are generally dominated by tule (*Scirpus acutus*) and alkali bulrush (*Scirpus robustus*). Both of these communities support CEQA-defined special-status species such as the California clapper rail (*Rallus longirostris obsoletus*), California black rail (*Laterallus jamaicensis*), and many other water and shorebirds that move through the Pacific flyway.

Tidal flat habitat includes mudflats, sandflats, and shell flats, and is usually comprised of less than 10% vascular vegetation. This habitat occurs from below Mean Lower Low Tide to Mean Tide Level. Tidal mudflats have a substrate consisting of fine-grained silts and clays that is exposed twice daily during low tide and extend to the extreme low water elevation. Narrow bands of mudflat are also found at the same elevations along the margins of subtidal channels in tidal marshes. In Monterey County, the only substantial areas of tidal mudflat are in Elkhorn Slough and its associated tidal channels.

Tidal mudflats are highly productive and support large populations of benthic organisms, including aquatic worms, crustaceans, and mollusks that are important elements of the estuarine food web. When exposed or covered by shallow water, mudflats provide important foraging areas for migrant and wintering shorebirds, wading birds, and gulls. Some shorebird species that utilize Bay tidal mudflats for feeding include semipalmated plover (*Charadrius semipalmatus)*, black-bellied plover (*Pluvialis squatarola*), American avocet (*Recurvirostra americana*), long-billed curlew (*Numenius americanus*), willet (*Catoptrophorus semipalmatus*), marbeled godwit (*Limosa fedoa*), western sandpiper (*Calidris mauri*), dunlin (*Calidris alpine*), whimbrel (*Numenius phaeopus*), sanderling (*Calidris alba*), greater yellowlegs (*Tringa melanoleuca*), and least sandpiper (*Calidris minutilla*).

4.9.3.2 Other Plant Communities (Habitats)

The following vegetation communities are found in inland areas covered by the 2007 General Plan (as well as in coastal areas not covered by the 2007 General Plan)

Coastal Scrub

The structure and species composition of coastal scrub communities vary along the California coast from north to south. In Monterey County, the primary form is called central coast scrub (also known as coastal sage scrub) and is dominated by drought-tolerant low shrubs, generally less than six feet tall. The understory herbaceous species can vary from slightly dense to non-existent, depending on site conditions. In general, coastal scrub occurs on steep, south-facing slopes with relatively dry, shallow soils where conditions are harsh for most plants. The dominant species in central coast scrub may include coastal sage scrub (*Artemesia californica*), coyote brush (*Baccharis pilularis*), bush monkey flower (*Mimulus aurantiacus*), black sage (*Salvia mellifera*), coffeeberry (*Rhamnus californica*, and coast buckwheat (*Eriogonum latifolium*). Other common species include poison oak (*Toxicodendron diversilobum*) and bush monkey flower (*Mimulus aurantiacus*).

Denser shrub habitats provide suitable breeding habitat and/or cover for several species of birds, including California thrasher (*Toxostoma redivivum*), spotted towhee (*Piplio maculatus*), wrentit (*Chamaea fasciata*), and golden-crowned sparrow (*Zonotrichia atricapilla*). Less dense shrub areas provide suitable breeding habitat and/or cover for northern mockingbird (*Mimus polyglottos*), Brewer's blackbird (*Euphagus cyanocephalus*), Anna's hummingbird (*Calypte anna*), and American robin (*Turdus migratorius*) (Zeiner et al. 1990a.). These more open areas are also suitable for western fence lizards and jackrabbits, which use the area beneath shrub vegetation for cover (Zeiner et al. 1988, 1990b).

Baccharis Chaparral/Baccharis Scrub/Gabilan Scrub/Mixed Chaparral (Interior Scrub and Chaparral)

Interior scrub and chaparral communities include baccharis chaparral, baccharis scrub and Gabilan scrub, as well as mixed chaparral. These communities generally occur east of the summit of the coastal Santa Lucia mountains and in the interior Gabilan Range and Cholame Hills. They are dominated by various combinations of drought- and fire-adapted shrub species with evergreen leaves, including coyote bush (*Baccharis pilularis*), chamise (*Adenostoma fasciculatum*), manzanita species (*Arctostaphylos* spp), and ceanothus species (*Ceanothus* spp.). Chaparral and interior scrub occupies challenging sites in generally steep terrain with low soil accumulation relative to grassland and woodlands. The plants in these communities are adapted to harsh conditions of low nutrient availability, low soil water and intense seasonal drought. Associated species may include

scrub oak (*Quercus berberidifolia*), toyon (*Heteromeles arbutifolia*), coffeeberry (*Rhamnus californica*), birchleaf mountain-mahogany (*Cercocarpus betuloides*), hollyleaf cherry (*Prunus ilicifolia*), and California yerba santa (*Eriodictyon californicum*), poison oak, and bush monkey flower.

Mixed chaparral provides habitat for a variety of birds and mammals. Numerous rodents, deer, and other herbivores are common in chaparral communities. Rabbits and hares will eat twigs, evergreen leaves, and bark from chaparral in fall and winter when there isn't an abundance of grasses. Shrubby vegetation provides mammals with cover and shade during hot weather and protection from wind in the winter. Chaparral provides seeds, fruits, insects, and protection from predators and the weather, in addition to singing, roosting, and nesting sites for many species of birds (Mayer and Laudenslayer 1988.) California quail, Bewick's wren (*Thryomanes bewickii*), wrentit, California thrasher, brush mouse (*Peromyscus boylii*), dusky-footed woodrat (*Neotoma fuscipes*), and deer are common in chaparral habitats (Zeiner et al. 1990a, 1990b).

Eucalyptus

Eucalyptus groves are generally single species stands of eucalyptus trees (*Eucalytpus globulus*). All species of eucalyptus are non-native in California. These stands are scattered throughout the County and often are expanding. Where they grow, other species are generally unable to co-exist because they eucalyptus leaves and branches contain a chemical that is toxic to most other species. Eucalyptus forests can be strongly invasive where they grow. Eucalyptus is often concentrated near highly populated areas and on agricultural lands where they were planted for windbreaks.

Eucalyptus groves typically support common wildlife species since the often occur in semi-natural or urbanized habitats. These groves can be important stopover sites for migratory songbirds and are the winter roost sites for thousands of Monarch butterflies (*Danaus plexippus*) along the Monterey coast.

Annual Grassland

Annual grassland is found throughout Monterey County; it intermingles with coastal oak woodland, coastal scrub, montane hardwood, and several other communities. Annual grassland is an herbaceous plant community dominated by annual grasses and herbs. Most annual grasses in California's grasslands are nonnative grasses from the Mediterranean basin. Perennial grasses such as purple needlegrass (*Nassella pulchra*) and Idaho fescue (*Festuca idahoensis*), are occasionally found in annual grassland.

Annual grasslands support the same suite of species discussed above under *Native Grassland*. Important species for this habitat include the San Joaquin kit fox (a listed species), California ground squirrel (important to create burrow

habitat for California tiger salamanders and western burrowing owl and other species), and many species of raptors that forage in grassland habitat.

Agriculture

Agriculture refers to areas where the native vegetation has been cleared for both irrigated and non-irrigated agricultural use. It is defined by areas having less than 2% total cover by non-wildland vegetation grown for food, fiber, or landscaping, and does not meet criteria for any wildland habitat (DFG *California Interagency Wildlife Task Group* 2005). This can include dryland grain crops, irrigated grain crops, irrigated hayfields, irrigated row and field crops, rice, orchards, and vineyards (Mayer and Laudenslayer 1988).

The quality of habitat for wildlife is diminished when the land is converted to agricultural uses and is intensively managed. Many species of rodents and birds have adapted to agricultural lands, but they are often affected by fencing, trapping, and poisoning to prevent excessive crop losses.

Certain agricultural lands have become important habitats for wintering waterfowl and breeding and wintering raptors. In the plan area, wildlife species associated with agricultural lands include mourning dove (*Zenaida macroura*), American crow (*Corvus brachyrhynchos*), Brewer's blackbird, sandhill crane (*Grus canadensis*), various raptor species, egrets, and many species of rodents (Mayer and Laudenslayer 1988). Agricultural areas are also important foraging sites for many species of raptors and several mammals, such as the California ground squirrel, San Joaquin kit fox, and coyote use the edges of agricultural fields for hunting and local migrations.

Golf Course

Golf courses are prevelant in certain areas of Monterey County. Golf courses have nesting habitat for several species on migratory songbirds and some waterfowl and typically support dense deer populations. Since golf courses are generally landscaped and heavily managed they are typically devoid of CEQA-defined special-status wildlife.

Sparse Vegetation/Bare Soil

Some areas are characterized by a lack of vegetation. This includes areas having less than 2 percent total coverage of herbaceous, desert, or non-wildland species, and less than 10 percent tree or shrub cover (Mayer and Laudenslayer 1988). Along rivers, this includes vertical riverbanks and canyon walls.

Because of the lack of vegetation, barren ground has a limited use by wildlife. However, some species, such as western burrowing owl (*Athene cunicularia*

hypugea) and California horned lark (*Eremophila alpestris actia*); prefer areas with limited or very low growing vegetation.

Urban/Non-Vegetated

Urban habitat is a developed habitat type; it includes all areas that are planted and maintained as landscaped areas. These habitats are often host to a wide array of invasive species.

Urban areas have marginal value for wildlife because of human disturbance and a lack of vegetation. Wildlife species that use these areas are typically adapted to human disturbance. Wildlife species associated with urban residential and suburban areas include western scrub jay, northern mockingbird, house finch (*Carpodacus mexicanus*), rock pigeon (*Columba livia*), raccoon, opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), western fence lizard, and gopher snake (*Pituophis melanoleucus*) (Mayer and Laudenslayer 1988).

Water/Aquatic

Water/aquatic habitat is defined as areas with more than 98 percent total cover by open water and less than 2 percent total cover by vegetation in the continually exposed shore zone (DFG *California Interagency Wildlife Task Group* 2005). Open water habitat in the county is found in the rivers and creeks in the county (including the Carmel River, the Salinas River, Arroyo Seco, the Pajaro River and their tributaries) as well as in reservoirs in the County.

Wildlife use of this habitat type is dependent on the extent of emergent and submergent vegetation, and adjacent streamside (riparian) vegetation. Creek channels with well-vegetated areas provide food, water, and migration and dispersal corridors, as well as escape, nesting and thermal cover for many wildlife species (Mayer and Laudenslayer 1988). Wildlife species associated with stream and riparian habitats include western toad (*Bufo boreas*), California newt (*Taricha torosa*), black phoebe (*Sayornis nigricans*), Anna's hummingbird, great egret (*Ardea alba*), belted kingfisher (*Ceryle alcyon*), raccoon, and striped skunk. (Zeiner et al. 1988, 1990a, 1990b) as well as California red-legged frog and California tiger salamander. In less-vegetated areas, aquatic species (e.g., fish, invertebrates, and amphibians), are found in the creek channel, and the banks of the channel are often used by species that require less cover, such as California ground squirrel, western fence lizard, gopher snake, and their predators (e.g., coyotes, raptors).

4.9.3.3 CEQA-Defined Special-Status Species

For this EIR, CEQA-defined special-status species are defined to include both listed and non-listed species that are candidate, sensitive, or special-status species

in local or regional plans, policies, or regulations, or by the CDFG or USFWS or that otherwise meet the definitions of rare or endangered under CEQA based on substantial evidence (State CEQA Guidelines Section 15380). Note that this definition is broader than that in the 2007 General Plan, which only includes listed special-status species. Unless other specified all references in this document are to the broad list of CEQA-defined special-status species, whether listed or not.

Listed CEQA-defined special-status species are plants and animals that are legally protected under the California Endangered Species Act (CESA) and federal Endangered Species Act (FESA) and include the following:

- Species listed or proposed for listing as threatened or endangered under the FESA (50 CFR 17.12 [listed plants], 50 CFR 17.11 [listed animals], and various notices in the Federal Register [FR] [proposed species]).
- Species listed or proposed for listing by the State of California as threatened or endangered under CESA (14 California Code of Regulations 670.5).

CEQA-defined special-status species are plants and animals that are not listed under CESA or FESA but which meet the CEQA definition of a rare, threatened, or endangered species (State CEQA Guidelines Section 15380). Non-listed special-status plants and animals included as CEQA-defined special-status species include the following:

- Species that are candidates for possible future listing as threatened or endangered under the FESA (67 FR 40657, June 13, 2002).
- Plants listed as rare under the California Native Plant Protection Act (California Fish and Game Code Section 1900 et seq.).
- Plants considered by the CNPS to be "rare, threatened, or endangered in California" (Lists 1B and 2 in California Native Plant Society 2001).
- Plants listed by CNPS as plants about which more information is needed to determine their status and plants of limited distribution (Lists 3 and 4 in California Native Plant Society 2001), which may be included as special-status species on the basis of local significance or recent biological information.
- Animal species of special concern to DFG (California Department of Fish and Game 2006, Remsen 1978 [birds], Williams 1986 [mammals], and Jennings and Hayes 1994 [amphibians and reptiles]).
- Animals fully protected in California (California Fish and Game Code Sections 3511 [birds], 4700 [mammals], 5050 [amphibians and reptiles], and 5515 [fish]).
- Species that otherwise meet the definitions of rare or endangered under CEQA based on substantial evidence (State CEQA Guidelines Section 15380).

Other laws that protect wildlife species include the following.

- California Fish and Game Code Sections 3503 and 3503.5, which protect nesting raptors, their nests, and eggs.
- The federal Migratory Bird Treaty Act (MBTA), which protects migratory birds, their nests, and eggs.
- The Bald and Golden Eagle Protection Act, which prohibits, except under certain specified conditions, the taking, possession, transportation, export or import, barter, or offers to sell, a bald or golden eagle, alive or dead, or any part, nest, or eagle egg.
- Fish species that are considered commercially valuable under essential fish habitat protection established by the Sustainable Fisheries Act of 1996, which amended the Magnuson-Stevens Fishery Conservation and Management Act.

CEQA-Defined Special-Status Plant Species

There are 100 CEQA-defined special-status plant species known to occur in Monterey County. These are presented in Table 4.9-4 in a table which summarizes the legal status, period of identification, distribution, and habitat for each species. The table was compiled based on the following sources:

- A records search of the CNDDB for Monterey County (California Natural Diversity Database 2008),
- USFWS species list for Monterey County (USFWS 2008), and
- CNPS *Inventory of Rare and Endangered Plants of California* online edition (2008), records search for Monterey County.

The species listed in Table 4.9-4 have been selected based on a search for occurrences in Monterey County only.

CEQA-Defined Special-Status Fish and Wildlife Species

There are 47 CEQA-defined special-status fish and wildlife species known to occur in Monterey County. These are presented in Table 4.9-5 which summarizes the legal status, distribution, and habitat for each species. The table was compiled based on the following sources:

- A records search of the CNDDB for Monterey County (California Natural Diversity Database 2008),
- USFWS species list for Monterey County (USFWS 2008) and

The species listed in Table 4.9-5 have been selected based on a search for occurrences in Monterey County only.

Table 4.9-4. Special-Status Plants with Potential to Occur in Monterey County

Common and Scientific Name	Status[1] Federal/ State/CNPS	California Distribution	Habitats	Blooming Period
Abbott's bush mallow *Malacothamnus abbottii*	SC/–/1B.1	Monterey County	Riparian scrub	Jun–Oct
Adobe sanicle *Sanicula maritima*	–/R/1B.1	Coastal Monterey and San Luis Obispo Counties. Historically known from the San Francisco Bay area: Alameda* and San Francisco* Counties	Moist clay or ultramafic soils, in meadows and grassland	Feb–May
Alkali milk–vetch *Astragalus tener* var. *tener*	–/–/1B.2	Southern Sacramento Valley, northern San Joaquin Valley, east San Francisco Bay Area	Grassy flats and vernal pool margins, on alkali soils, below 200'	Mar–Jun
Arroyo de la Cruz manzanita *Arctostaphylos cruzensis*	SC/–/1B.2	Coastal Monterey and San Luis Obispo Counties	Sandy soils, in coastal scrub, chaparral and oak woodland, valley and foothill grassland, below 500'	Dec–Mar
Arroyo Seco bush mallow *Malacothamnus palmeri* var. *lucianus*	SC/–/1B.2	Monterey County	Chaparral, meadows	May–Aug
Beach layia *Layia carnosa*	E/E/1B.1	Scattered occurrences along coastal California from Humboldt County to Santa Barbara County	Coastal dunes, coastal scrub on sandy soil	Mar–Jul
Brewer's spineflower *Chorizanthe breweri*	–/–/1B.3	South Coast Ranges, San Luis Obispo County	Rocky or gravelly areas in Sargent cypress forest, chaparral, oak woodland, coastal scrub in open areas on serpentinite soil	May–Jun
Bristlecone fir *Abies bracteata*	–/–/1B.3	Endemic to the Santa Lucia Range: Monterey and San Luis Obispo Counties	Lower montane coniferous forest on steep, rocky, fire–resistant slopes at 700–5,250'	n/a
Butterworth's buckwheat *Eriogonum butterworthianum*	SC/R/1B.3	Monterey County	Chaparral on sandstone	Jun–Jul
California screw–moss *Tortula californica*	–/–/1B.2	Known from Kern and Riverside Counties	Chenopod scrub, valley and foothill grassland/ sandy soil, 10–100 meters	N/A

Common and Scientific Name	Status[1] Federal/ State/CNPS	California Distribution	Habitats	Blooming Period
Calycadenia micrantha *Small-flowered calycadenia*	–/–1B.2	Colusa, Lake, Monterey, Napa, and Trinity Counties	Chaparral, Meadows and seeps(volcanic), Valley and foothill grassland/ roadsides, rocky, talus, scree, sometimes serpentinite, sparsely vegetated areas	Jun-Sep
Caper–fruited Tropidocarpum *Tropidocarpum capparideum*	–/–/1B.1	Historically known from the northwest San Joaquin Valley and adjacent Coast Range foothills	Grasslands in alkaline hills below 1,500'	Mar–Apr
Carmel Valley bush mallow *Malacothamnus palmeri* var. *involucratus*	SC/–/1B.2	Monterey and San Luis Obispo Counties	Chaparral, oak woodland, talus hilltops and slopes, 1,200–2,200'	May–Aug
Carmel Valley cliff–aster *Malacothrix saxatilis* var. *arachnoidea*	SC/–/1B.2	Monterey and Santa Barbara Counties	Rocky areas in chaparral	Jun–Dec
Coast wallflower *Erysimum ammophilum*	–/–/1B.2	Coastal San Mateo, Santa Cruz, and Monterey Counties	Sandy soils and openings in maritime chaparral, coastal dunes, coastal scrub	Feb–Jun
Coastal dunes milk–vetch *Astragalus tener* var. *titi*	E/E/1B.1	Central coast, southern coast, including portions of Los Angeles*, Monterey, and San Diego Counties	Sandy soils of coastal bluff scrub, coastal dunes, coastal prairie on mesic or sandy depressions near the coast	Mar–May
Compact cobwebby thistle *Cirsium occidentale* var. *compactum*	–/–/1B.2	San Francisco and San Luis Obispo Counties	Chaparral, coastal dunes, coastal prairie, coastal scrub	Apr–Jun
Cone Peak bedstraw *Galium californicum* ssp. *luciense*	SC/–/1B.3	Monterey County	Broadleaved upland forest, cismontane woodland, lower montane coniferous forest	Mar–Jul
Congdon's tarplant *Centromadia parryi* ssp. *congdonii* (formerly *Hemizonia*)	–/–/1B.2	East San Francisco Bay Area, Salinas Valley, Los Osos Valley	Annual grassland, on lower slopes, flats, and swales, sometimes on alkaline or saline soils, below 700'	Jun–Nov

Common and Scientific Name	Status[1] Federal/ State/CNPS	California Distribution	Habitats	Blooming Period
Contra Costa goldfields *Lasthenia conjugens*	E/–/1B.1	Scattered occurrences in Coast Range valleys and southwest edge of Sacramento Valley, Alameda, Contra Costa, Mendocino, Monterey, Napa, Santa Barbara*, Santa Clara*, and Solano Counites.	Alkaline or saline vernal pools and swales, below 700'	Mar–Jun
Cook's Triteleia *Triteleia ixioides* ssp. *cookii*	–/–/1B.3	San Luis Obispo County	Closed–cone coniferous forest, cismontane woodland, on serpentinite seeps	May–Jun
Davidson's bush mallow *Malacothamnus davidsonii*	–/–/1B.2	Los Angeles, Monterey, and San Luis Obispo Counties	Coastal scrub, chaparral, and riparian woodland in sandy washes, 900–2,800'	Jun–Sep
Delicate bluecup *Githopsis tenella*	1B.1	Kern, Monterey, and Tulare Counties	Chaparral, Cismontane woodland/mesic	May-Jun
Dudley's lousewort *Pedicularis dudleyi*	–/R/1B.2	Monterey, Santa Cruz*, San Luis Obispo, and San Mateo Counties	Maritime chaparral, North Coast coniferous forest, valley and foothill grassland	Apr–Jun
Dwarf Calycadenia *Calycadenia villosa*	–/–/1B.1	Known from 20 occurrences in interior foothills of South Coast Ranges, in San Luis Obispo and Monterey Counties. Historically in Kern County	Rocky sites in chaparral, oak woodland, juniper woodland, grasslands, open dry flats and hillsides, and alluvial fans, below 4,200'	May–Oct
Eastwood's buckwheat *Eriogonum eastwoodianum*	–/–/1B.3	Fresno and Monterey Counties	Sandy or clay soils in cismontane woodland	Jun–Jul
Eastwood's goldenbush *Ericameria fasciculata*	SC/–/1B.1	Monterey County	Sandy soils and openings in closed–cone coniferous forest, maritime chaparral, coastal dunes, coastal scrub	Jul–Oct
Fragrant fritillary *Fritillaria liliacea*	–/–/1B.2	Coast Ranges from Marin County to San Benito County	Adobe soils of interior foothills, coastal prairie, coastal scrub, annual grassland, often on serpentinite, below 1,350'	Feb–Apr
Gabilan Mountains manzanita *Arctostaphylos gabilanensis*	—/—/1B.2	Monterey and San Benito Counties	Chaparral, Cismontane woodland/granitic	Jan

Common and Scientific Name	Status[1] Federal/ State/CNPS	California Distribution	Habitats	Blooming Period
Gowen cypress *Cupressus goveniana* ssp. *goveniana*	T/–/1B.2	Monterey County	Closed–cone coniferous forest, maritime chaparral	
Hall's tarplant *Deinandra halliana*	–/–/1B.1	Interior foothills of South Coast Ranges, in San Benito, Monterey, and San Luis Obispo counties	Oak woodland, grassland; in clay soil on flood plains	Apr–May
Hardham's bedstraw *Galium hardhamiae*	–/–/1B.3	Monterey and San Luis Obispo Counties	Closed–cone coniferous forest on serpentinite substrate	Apr–Oct
Hardham's evening–primrose *Camissonia hardhamiae*	SC/–/1B.2	South coast ranges, Monterey and San Luis Obispo Counties	Chaparral, oak woodland on decomposed carbonate substrate	May
Hickman's checkerbloom *Sidalcea hickmanii* ssp. *hickmanii*	–/–/1B.3	Monterey County	Chaparral	Jun–Jul
Hickman's cinquefoil *Potentilla hickmanii*	E/E/1B.1	Monterey, San Mateo, and Sonoma* Counties	Freshwater marshes, seeps, and small streams in open areas in coastal scrub or coniferous forest	Apr–Aug
Hickman's onion *Allium hickmanii*	SC/–/1B.2	Central coast: Monterey and San Luis Obispo Counties, especially Monterey Peninsula and Arroyo de la Cruz.	Closed–cone coniferous forest, maritime chaparral, coastal prairie, coastal scrub, valley and foothill grassland, generally +/– 150'	Apr–May
Hooked popcorn–flower *Plagiobothrys uncinatus*	–/–/1B.2	Monterey, San Benito, Santa Clara, and San Luis Obispo Counties	Chaparral, cismontane woodland, valley and foothill grassland, in sandy areas	Apr–May
Hooker's Manzanita *Arctostaphylos hookeri* ssp. *hookeri*	–/–/1B.2	Central coast, western San Francisco Bay region, Santa Cruz mountains and south to Carmel. Monterey and Santa Cruz Counties	Closed–cone coniferous forest, chaparral, cismontane woodland, coastal scrub on sandy substrate	Feb–Jun
Hutchinson's larkspur *Delphinium hutchinsoniae*	SC/–/1B.2	Monterey County	Broadleaved upland forest, chaparral, coastal prairie, coastal scrub	Mar–Jun
Indian Valley bush mallow *Malacothamnus aboriginum*	–/–/1B.2	Inner South Coast Ranges: San Benito, Fresno, and Monterey Counties	Rocky areas in chaparral and oak woodland, often in burned areas	Apr–Oct

Common and Scientific Name	Status[1] Federal/ State/CNPS	California Distribution	Habitats	Blooming Period
Indian Valley spineflower *Aristocapsa insignis*	–/–/4 B.2	Inner south Coast Range, Monterey and San Luis Obispo Counties	Cismontane woodland on sandy substrate	May–Sep
Jolon clarkia *Clarkia jolonensis*	–/–/1B.2	Northern outer south coast ranges, Monterey County	Cismontane woodland	Jun
Kellman's bristle-moss *Orthotrichum kellmanii*	–/–/1B.2	Monterey, Santa Cruz, and San Mateo Counties	Chaparral, Cismontane woodland/sandstone, carbonate	Jan-Feb
Kellogg's Horkelia *Horkelia cuneata* ssp. *sericea*	SC/–/1B.1	Coastal California from Marin to Santa Barbara Counties	Openings in closed–cone coniferous forest, coastal scrub, maritime chaparral, on sandy or gravelly soils	Apr–Sep
Late–flowered mariposa lily *Calochortus weedii* var. *vestus*	SC/–/1B.2	Outer south Coast Ranges, Western Transverse Range, Monterey, Santa Barbara, San Luis Obispo, and Ventura Counties	Chaparral, cismontane woodland, often on serpentinite	Jun–Aug
Lemmon's jewelflower *Caulanthus coulteri* var. *lemmonii*	–/–/1B.2	Southeast San Francisco Bay Area, south through the South Coast Ranges and adjacent San Joaquin Valley	Dry exposed slopes in grasslands and pinyon–juniper woodland, between 260–4,000 feet; blooms March–May	Mar–May
Little Sur Manzanita *Arctostaphylos edmundsii*	SC/–/1B.2	Central coast, Monterey County	Coastal bluff scrub, chaparral on sandy substrate	Nov–Apr
Maple–leaved checkerbloom *Sidalcea malachroides*	–/–/1B.3	North Coast and northern Central Coast: from Humboldt to Monterey County	Openings in coastal scrub, perennial grassland, Redwood forest, Douglas–fir forest, often in disturbed areas, 5–2,300'	May–Aug
Marsh microseris *Microseris paludosa*	–/–/1B.2	Coastal California from Mendocino County to San Luis Obispo County	Grassland, coastal scrub, closed–cone–coniferous forest, cismontane woodland	
Mason neststraw *Stylocline masonii*	–/–/1B.1	Scattered locations from Monterey County to Los Angeles County	Chenopod scrub, pinyon–juniper woodland, in sandy washes, 300–3,900'	Mar–Apr
Menzies's wallflower *Erysimum menziesii* ssp. *menziesii*	E/E/1B.1	North and Central coast: Fort Bragg, Monterey Bay, and Point Pinos areas in Mendocino and Monterey Counties	Localized on coastal dunes, on coastal strand areas in coastal scrub below 115'	Mar–Jun
Monterey clover *Trifolium trichocalyx*	E/E/1B.1	Monterey County	Closed–cone coniferous forest, openings, burned areas	Apr–Jun

Common and Scientific Name	Status[1] Federal/ State/CNPS	California Distribution	Habitats	Blooming Period
Monterey cypress *Cupressus macrocarpa*	SC/–/1B.2	Monterey County	Closed–cone coniferous forest	
Monterey Manzanita *Arctostaphylos montereyensis*	SC/–/1B.2	Central coast, Fort Ord, northern outer south Coast Range, Toro Mountain, northwestern Monterey County	Maritime chaparral, cismontane woodland, coastal scrub, sandy soils	Feb–Mar
Monterey pine *Pinus radiata*	SC/–/1B.1	Monterey, Santa Cruz, San Luis Obispo, and San Mateo Counties, Baja California, Guadalupe Island (Mexico)	Closed–cone coniferous forest, cismontane woodland	N/A
Monterey spineflower *Chorizanthe pungens*	T/–/1B.2	Monterey and Santa Cruz Counties	Coastal dunes	April–June
Moss (Norris' Beard–moss) *Didymodon norrisii*	–/–/2.2	Humboldt, Lake, Madera, and Tuolumne Counties	Cismontane woodland, lower montane coniferous forest/ intermittently mesic, rock, 600–1700 meters	N/A
Most beautiful jewel–flower *Streptanthus albidus* ssp. *peramoenus*	–/–/1B.2	Eastern San Francisco Bay area, Central south coastal outer ranges. Alameda, Contra Costa, Monterey, and Santa Clara Counties	Chaparral, annual grassland, on ridges and slopes on serpentinite outcrops, 450–3,200'	Apr–Jun
Muir's tarplant *Carlquistia muirii*	–/–/1B.3	Fresno, Kern, Monterey, and Tulare Counties	Chaparral (montane), lower montane coniferous forest, upper montane coniferous forest.	Jul-Aug
Napa false indigo *Amorpha californica* var. *napensis*	–/–/1B.2	Monterey, Marin, Napa, and Sonoma counties	Openings in broadleaved upland forest, cismontane woodland, chaparral, between 500–6.580 feet	April–July
Oval–leaved snapdragon *Antirrhinum ovatum*	–/–/4.2	Inner Coast Ranges from San Benito County to Kern and Ventura Counties	Clay or gypsum substrates (often alkaline) in chaparral, cismontane woodland, pinyon–juniper woodland, valley and foothill grassland, between 650–3,300'	May–Nov
Pacific Grove clover *Trifolium polyodon*	–/R/1B.1	Monterey County	Closed–cone coniferous forest, coastal prairie, meadows, valley and foothill grassland, in mesic areas	Apr–Jun

Common and Scientific Name	Status[1] Federal/ State/CNPS	California Distribution	Habitats	Blooming Period
Pajaro Manzanita *Arctostaphylos pajaroensis*	–/–/1B.1	Pajaro Hills, Monterey County	Chaparral, in sandy areas	Dec–Mar
Pale–yellow layia *Layia heterotricha*	SC/–/1B.1	Interior foothills of the South Coast Ranges, Transverse Ranges, and Tehachapi mountains: Fresno, Kings*, Kern*, Monterey*, Santa Barbara, San Luis Obispo*, Ventura, and possibly San Benito Counties	Cismontane woodland, pinyon– juniper woodland, grassland in open areas on alkaline or clay soils, below 5,250'	Mar–Jun
Palmer's Monardella *Monardella palmeri*	–/–/1B.2	Monterey and San Luis Obispo Counties	Chaparral, cismontane woodland on serpentinite	Jun–Aug
Pine rose *Rosa pinetorum*	–/–/1B.2	Monterey and San Mateo Counties	Closed–cone coniferous forest, up to 985'	May–July
Pinnacles buckwheat *Eriogonum nortonii*	–/–/1B.3	Monterey and San Benito Counties	Sandy soils in chaparral, valley and foothill grassland; often on recent burns	May–Jun
Prostrate navarettia *Navarretia prostrata*	–/–/1B.1	Western San Joaquin Valley, interior South Coast Ranges, central South Coast, Peninsular Ranges: Los Angeles, Merced, Monterey, Orange, Riverside, San Bernardino, and San Diego Counties	Vernal pools and mesic areas in coastal scrub and alkali grasslands	Apr–Jul
Purple amole *Chlorogalum purpureum* var. *purpureum*	T/–/1B.1	Northeastern outer south Coast Ranges, eastern Santa Lucia Mountains, Monterey County	Cismontane woodland, valley and foothill grassland	May–Jun
Rayless ragwort *Senecio aphanactis*	–/–/2.2	Scattered locations in central western and southwestern California, from Alameda County to San Diego County	Oak woodland, coastal scrub, open sandy or rocky areas, on alkaline soils; 15–800 meters	Jan–Apr
Recurved larkspur *Delphinium recurvatum*	–/–/1B.2	San Joaquin Valley and central valley of the South Coast Ranges, Contra Costa County to Kern County	Subalkaline soils in annual grassland, saltbush scrub, cismontane woodland, and vernal pools	Mar–May
Robust spineflower *Chorizanthe robusta* var. *robusta*	E/–/1B.1	Coastal central California, from San Mateo to Monterey County	Coastal bluff scrub, coastal dunes openings in cismontane woodland, on sandy soil	May–Sep

Common and Scientific Name	Status[1] Federal/ State/CNPS	California Distribution	Habitats	Blooming Period
Saline clover *Trifolium depauperatum* var. *hydrophilum*	–/–/1B.2	Sacramento Valley, central western California	Salt marsh, mesic alkaline areas in grasslands, vernal pools	Apr–Jun
San Antonio collinsia *Collinsia antonina*	–/–/1B.2	Monterey County	Chaparral, Cismontane woodland	Mar-May
San Benito fritillary *Fritillaria viridea*	–/–/1B.2	Central Coast Ranges in San Benito, Monterey, and San Luis Obispo counties	Serpentinite outcrops, on slopes, in chaparral, 650–5,000'	Mar–May
San Benito spineflower *Chorizanthe biloba* var. *immemora*	SC/–/1B.2	Eastern inner south coast ranges, Fresno, Monterey, and San Benito Counties	Chaparral, cismontane woodland	May–Sep
San Francisco collinsia *Collinsia multicolor*	–/–/1B.2	Coastal California from San Francisco to Monterey County	Closed–cone coniferous forest, coastal scrub	Mar–May
San Luis Obispo sedge *Carex obispoensis*	–/–/1B.2	Outer South Coast Ranges in San Luis Obispo County	Sargent cypress forest, chaparral, coastal prairie, coastal scrub, valley and foothill grassland; often on serpentinite seeps	Apr–Jun
San Simeon Baccharis *Baccharis plummerae* ssp. *glabrata*	–/–/1B.2	Central coast, San Luis Obispo County	Coastal scrub	Jun
Sand gilia *Gilia tenuiflora* ssp. *arenaria*	E/T/1B.2	Monterey County	Sandy soils in maritime chaparral, cismontane woodland, coastal dunes, coastal scrub	Apr–Jun
Sandmat manzanita *Arctostaphylos pumila*	SC/–/1B.2	Central coast, especially Monterey Bay, Monterey County	Openings in closed–cone coniferous forest, maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub, in sandy areas	Feb–May
Santa Cruz clover *Trifolium buckwestiorum*	–/–/1B.1	San Francisco Bay area and central coastal California, Endemic to Santa Cruz County, also known from Monterey and Sonoma Counties	Moist grassy areas on margins of broadleaved upland forest, cismontane woodland, and coastal prairie, sometimes in disturbed areas, 200–1,800'	May–Oct
Santa Cruz Microseris *Stebbinsoseris decipiens*	–/–/1B.2	Coastal California: scattered occurrences from Marin County to Monterey County	Grasslands, coastal prairie, and open grassy areas in other habitat types	Apr–May

Common and Scientific Name	Status[1] Federal/ State/CNPS	California Distribution	Habitats	Blooming Period
Santa Cruz tarplant *Holocarpha macradenia*	T/E/1B.1	Coastal slope of the Santa Cruz Mountains, Monterey and Santa Cruz Counties	Coastal terrace grasslands on light sandy to sandy clay soils, below 300 feet	Jun–Oct
Santa Lucia bedstraw *Galium clementis*	–/–/1B.3	Monterey County	Lower and upper montane coniferous forest on granitic or serpentinite, rocky substrates	May–Jul
Santa Lucia bush mallow *Malacothamnus palmeri* var. *palmeri*	–/–/1B.2	San Luis Obispo and possibly Monterey Counties	Rocky places in chaparral	May–Jul
Santa Lucia mint *Pogogyne clareana*	–/E/1B.2	Monterey County	Riparian woodland	May–Jun
Seaside bird's–beak *Cordylanthus rigidus* ssp. *littoralis*	SC/E/1B.1	Central and southern central coast, Monterey and Santa Barbara Counties	Closed–cone coniferous forest, maritime chaparral, cismontane woodland, coastal dunes, coastal scrub; on sandy soils, often disturbed sites	May–Oct
Shining Navarretia *Navarretia nigelliformis* ssp. *radians*	–/–/1B.2	Interior foothills of South Coast Ranges from Merced County to San Luis Obispo County	Mesic areas with heavy clay soils, in swales and clay flats; in oak woodland, grassland	May–Jun
Showy madia *Madia radiata*	–/–/1B.1	Scattered populations in the interior foothills of the south Coast Ranges: Contra Costa, Fresno, Kings, Kern, Monterey, Santa Barbara, San Benito, San Joaquin, and San Luis Obispo Counties	Oak woodland, grassland, slopes below 3,000'	Mar–May
Slender Pentachaeta *Pentachaeta exilis* ssp. *aeolica*	SC/–/1B.2	Monterey and San Benito Counties	Cismontane woodland, valley and foothill grassland	Apr–May
Straight–awned spineflower *Chorizanthe rectispina*	–/–/1B.3	Outer south coast ranges: Monterey, Santa Barbara, and San Luis Obispo Counties	Chaparral, coastal scrub, oak woodland; often on granitic soils, between 1,165–3,400 feet	Jun–Jul
Talus fritillary *Fritillaria falcata*	–/–/1B.2	South inner coast ranges. Alameda, Monterey, San Benito, Santa Clara, and Stanislaus Counties	Chaparral, oak woodland, closed–cone coniferous forest, on serpentinite talus	Mar–May

Common and Scientific Name	Status[1] Federal/ State/CNPS	California Distribution	Habitats	Blooming Period
Tear Drop moss *Dacryophyllum falcifolium*	–/–/1B.3	Monterey, Santa Cruz	North Coast coniferous forest/carbonate	N/A
Temblor buckwheat *Eriogonum temblorense*	SC/–/1B.2	Kern, Monterey, and San Luis Obispo Counties	Valley and foothill grassland on clay or sandstone substrate	May–Sep
Tidestrom's lupine *Lupinus tidestromii*	E/E/1B.1	Coastal Monterey, Marin, and Sonoma Counties	Coastal dunes, coastal dune scrub	May–Jun
Umbrella larkspur *Delphinium umbraculorum*	–/–/1B.3	Monterey, Santa Barbara, San Luis Obispo, and Ventura Counties	Moist areas in cismontane woodland	April–Jun
Yadon's rein orchid *Piperia yadonii*	E/–/1B.1	Monterey County	Coastal bluff scrub, closed–cone coniferous forest, maritime chaparral, on sandy soils	May–Aug
Yadon's wallflower *Erysimum menziesii* ssp. *yadonii*	E/E/1B.1	Monterey County	Coastal dunes	Jun–Aug
Yellow–flowered Eriastrum *Eriastrum luteum*	–/–/1B.2	Monterey and San Luis Obispo Counties	Broadleaved upland forest, chaparral, cismontane woodland	May–Jun

Notes:
[1] Status explanations:

Federal
- E = listed as endangered under the federal Endangered Species Act.
- T = listed as threatened under the federal Endangered Species Act.
- SC = considered a species of concern by the Fish and Wildlife Service
- – = no listing.

State
- E = listed as endangered under the California Endangered Species Act.
- T = listed as threatened under the California Endangered Species Act.
- R = listed as rare under the California Endangered Species Act.
- – = no listing.

California Native Plant Society (CNPS)
- 1B = List 1B species: rare, threatened, or endangered in California and elsewhere.
- 2 = List 2 species: rare, threatened, or endangered in California but more common elsewhere.
- 3 = List 3 species: more information is needed for this plant.
- – = no listing.
- .1 = seriously endangered in California
- .2 = fairly endangered in California
- .3 = not very endangered in California
- * Populations uncertain or extirpated in the county indicated

Table 4.9-5. Special-Status Wildlife Species with Potential to Occur in Monterey County

Common and Scientific Names	Status Fed/State	Geographic Distribution	Habitat Requirements
INVERTEBRATES			
Bay checkerspot butterfly *Euphydryas editha bayensis*	T/–	Vicinity of San Francisco Bay including San Francisco peninsula in San Mateo Co., and mountains near San Jose, Santa Clara County	Native grasslands on outcrops of serpentine soil; California plantain and owl's clover are host plants
Dolloff Cave spider *Meta dolloff*	–/–	Empire Cave and other caves in area, Santa Cruz County	Cave dwelling
Globose dune beetle *Coelus globosus*	–/–	Sporadically distributed from central and southern California and the Channel Islands; from Bodega Bay, Sonoma County, south to Ensenada, Baja California	Foredunes and sand hummocks, burrows beneath sand surface under shrubs or herbaceous plants
Pinnacles optioservus riffle beetle *Optioservus canus*	–/–	San Benito county	Aquatic, in gravel in warm to cool springs
Redwood shoulderband *Helminthoglypta sequoicola consors*	–/–	Southern slope of San Juan Grade, Monterey County	Under decaying logs and in bramble patches
Smith's blue *Euphilotes (=Shijimiaeoides) enoptes smithi*	E/–	Localized populations along the immediate coast and in coastal canyons of Monterey County; single populations reported in Santa Cruz and San Mateo Counties	Coastal dunes and hillsides that support seacliff buckwheat (Eriogonum parvifolium) or coast buck-wheat (Eriogonum latifolium); these plants used as a nectar source for adults and host plant for larvae
Vernal pool fairy shrimp *Branchinecta lynchi*	T/–	Central Valley, central and south Coast Ranges from Tehama County to Santa Barbara County. Isolated populations also in Riverside County	Common in vernal pools; also found in sandstone rock outcrop pools
AMPHIBIANS AND REPTILES			
Arroyo toad *Bufo californicus*	E/SSC	Along the coast and foothills from San Luis Obispo County to San Diego County and inland to San Bernardino County	Prefers sandy arroyos and river bottoms with open riparian vegetation in inland valleys and foothills
Black California legless lizard *Anniella pulchra nigra*	–/SSC	Monterey Bay region	Coastal dunes with native vegetation or chaparral, pine-oak woodland, or riparian areas with loose soil for burrowing

Common and Scientific Names	Status Fed/State	Geographic Distribution	Habitat Requirements
California horned lizard *Phrynosoma coronatum frontale*	–/SSC	Sacramento Valley, including foothills, south to southern California; Coast Ranges south of Sonoma County; below 4,000 feet in northern California	Grasslands, brushlands, woodlands, and open coniferous forest with sandy or loose soil; requires abundant ant colonies for foraging
California red-legged frog *Rana aurora draytonii*	T/SSC	Found along the coast and coastal mountain ranges of California from Marin County to San Diego County and in the Sierra Nevada from Tehama County to Fresno County	Permanent and semi-permanent aquatic habitats, such as creeks and cold-water ponds, with emergent and submergent vegetation. May aestivate in rodent burrows or cracks during dry periods.
California tiger salamander *Ambystoma californiense (=A. tigrinum c.)*	T/SSC	Central Valley, including Sierra Nevada foothills, up to approximately 1,000 feet, and coastal region from Butte County south to northeastern San Luis Obispo County.	Small ponds, lakes, or vernal pools in grass-lands and oak woodlands for larvae; rodent burrows, rock crevices, or fallen logs for cover for adults and for summer dormancy
Coast Range newt *Taricha torosa torosa*	–/SSC	Coastal drainages from Mendocino county south to Boulder creek, San Diego county. Populations highly fragmented. Elevation range near sea level to 1830 meters	Frequent terrestrial habitats, but breed in ponds, reservoirs, and slow moving streams
Foothill yellow-legged frog *Rana boylii*	–/SSC	Occurs in the Klamath, Cascade, north Coast, south Coast, Transverse, and Sierra Nevada Ranges up to approximately 6,000 feet	Creeks or rivers in woodland, forest, mixed chaparral, and wet meadow habitats with rock and gravel substrate and low overhanging vegetation along the edge. Usually found near riffles with rocks and sunny banks nearby.
San Joaquin whipsnake *Masticophis flagellum ruddocki*	–/SSC	From Colusa county in the Sacramento Valley southward to the grapevine in the San Joaquin Valley and westward into the inner coast ranges. An isolated population occurs at Sutter Buttes. Known elevation range from 20 to 900 meters	Occurs in open, dry, vegetative associations with little or no tree cover. It occurs in valley grassland and saltbush scrub associations. Often occurs in association with mammal burrows
Santa Cruz long-toed salamander *Ambystoma macrodactylum croceum*	E/E	Three metapopulations and breeding sites in coastal areas of southern Santa Cruz County and northern Monterey County	Lifetime spent mostly underground in willow groves, coastal scrub, coast live oak, or riparian habitats; migrates to breeding ponds in early to late winter, and juveniles disperse from the pond in September

Common and Scientific Names	Status Fed/State	Geographic Distribution	Habitat Requirements
Southwestern pond turtle *Clemmys marmorata pallida*	–/SSC	Occurs along the central coast of California east to the Sierra Nevada and along the southern California coast inland to the Mojave and Sonora Deserts; range overlaps with that of the northwestern pond turtle throughout the Delta and in the Central Valley	Woodlands, grasslands, and open forests; aquatic habitats, such as ponds, marshes, or streams, with rocky or muddy bottoms and vegetation for cover and food
Silvery legless lizard *Anniella pulchra pulchra*	–/SSC	Along the Coast, Transverse, and Peninsular Ranges from Contra Costa County to San Diego County with spotty occurrences in the San Joaquin Valley	Habitats with loose soil for burrowing or thick duff or leaf litter; often forages in leaf litter at plant bases; may be found on beaches, sandy washes, and in woodland, chaparral, and riparian areas
Two-striped garter snake *Thamnophis hammondii*	–/SSC	Known range extends through the south coast and peninsular ranges west of the San Joaquin valley from the Salinas Valley and the southeastern slopes of the Diablo range, south to the Mexican border	Perennial and intermittent streams having rocky beds bordered by willow thickets or other dense vegetation. Also inhabits large sandy riverbeds, such as the Santa Clara river, if a strip of riparian vegetation is present, and stock ponds if riparian vegetation and fish and amphibian prey are present
Western spadefoot Scaphiopus hammondii	–/SSC, P	Sierra Nevada foothills, Central Valley, Coast Ranges, coastal counties in southern California	Shallow streams with riffles and seasonal wetlands, such as vernal pools in annual grasslands and oak woodlands.
FISHES			
South central California coast steelhead *Oncorhynchus mykiss*	T/SSC	Includes populations from the Pajaro River south to, but not including, the Santa Maria River.	Cold, clear water with clean gravel of appropriate size for spawning. Most spawning occurs in headwater streams. Steelhead migrate to the ocean to feed and grow until sexually mature.
Tidewater goby *Eucyclogobius newberryi*	E/SSC	Occur in lagoons of coastal streams from the Smith River (Del Norte County), to the south in Agua Hedionda Lagoon (San Diego County). Extirpated from San Francisco Bay (Moyle 2002).	Coastal lagoons along California. Prefer water with high dissolved oxygen levels and salinities less than 10 parts per thousand (ppt) (Moyle 2002).

Common and Scientific Names	Status Fed/State	Geographic Distribution	Habitat Requirements
BIRDS			
Bald eagle *Haliaeetus leucocephalus*	D, PR/E, FP	Nests in Siskiyou, Modoc, Trinity, Shasta, Lassen, Plumas, Butte, Tehama, Lake, and Mendocino Counties and in the Lake Tahoe Basin. Winter range includes the rest of California, except the southeastern deserts, very high altitudes in the Sierra Nevada, and east of the Sierra Nevada south of Mono County	In western North America, nests and roosts in coniferous forests within 1 mile of a lake, reservoir, stream, or the ocean
Bank swallow *Riparia riparia*	–/T	Occurs along the Sacramento River from Tehama County to Sacramento County, along the Feather and lower American Rivers, in the Owens Valley; and in the plains east of the Cascade Range in Modoc, Lassen, and northern Siskiyou Counties. Small populations near the coast from San Francisco County to Monterey County	Nests in bluffs or banks, usually adjacent to water, where the soil consists of sand or sandy loam
Black swift *Cypseloides niger (nesting)*	–/SSC	Breeds very locally in the Sierra Nevada and Cascade Range, the San Gabriel, San Bernardino, and San Jacinto mountains, and in coastal bluffs from San Mateo county south to near San Luis Obispo county	Nests in moist crevice or cave on sea cliffs above the surf, or on cliffs behind, or adjacent to, waterfalls in deep canyons
California brown pelican *Pelecanus occidentalis californicus*	E/E	Present along the entire coastline, but does not breed north of Monterey County	Typically in littoral ocean zones, just outside the surf line; nests on offshore islands
California clapper rail *Rallus longirostris obsoletus*	E/E	Marshes around the San Francisco Bay and east through the Delta to Suisun Marsh	Restricted to salt marshes and tidal sloughs; usually associated with heavy growth of pickle-weed; feeds on mollusks removed from the mud in sloughs
California horned lark *Eremophila alpestris actia*	–/SSC	Found throughout much of the state, less common in mountainous areas of the north coast and in coniferous or chaparral habitats	Common to abundant resident in a variety of open habitats, usually where large trees and shrubs are absent. Grasslands and deserts to dwarf shrub habitats above tree line
Cooper's hawk *Accipiter cooperii*	–/SSC	Throughout California except high altitudes in the Sierra Nevada. Winters in the Central Valley, southeastern desert regions, and plains east of the Cascade Range	Nests in a wide variety of habitat types, from riparian woodlands and digger pine-oak woodlands through mixed conifer forests

Common and Scientific Names	Status Fed/State	Geographic Distribution	Habitat Requirements
Double-crested cormorant *Phalacrocorax auritus (rookery site)*	–/SSC	Winters along the entire California coast and inland over the Coast Ranges into the Central Valley from Tehama County to Fresno County; a permanent resident along the coast from Monterey County to San Diego County, along the Colorado River, Imperial, Riverside, Kern and King Co.s, and the islands off San Francisco	Rocky coastlines, beaches, inland ponds, and lakes; needs open water for foraging, and nests in riparian forests or on protected islands, usually in snags
Ferruginous hawk *Buteo regalis*	–/SSC	Does not nest in California; winter visitor along the coast from Sonoma County to San Diego County, east-ward to the Sierra Nevada foothills and south-eastern deserts, the Inyo-White Mountains, the plains east of the Cascade Range, and Siskiyou County	Open terrain in plains and foothills where ground squirrels and other prey are available
Golden eagle *Aquila chrysaetos*	PR/SSC, FP	Foothills and mountains throughout California. Uncommon nonbreeding visitor to lowlands such as the Central Valley	Nest on cliffs and escarpments or in tall trees overlooking open country. Forages in annual grasslands, chaparral, and oak woodlands with plentiful medium and large-sized mammals
Least Bell's vireo *Vireo bellii pusillus*	E/E	Small populations remain in southern Inyo, southern San Bernardino, Riverside, San Diego, Orange, Los Angeles, Ventura, and Santa Barbara Counties	Riparian thickets either near water or in dry portions of river bottoms; nests along margins of bushes and forages low to the ground; may also be found using mesquite and arrow weed in desert canyons
Northern harrier *Circus cyaneus*	–/SSC	Occurs throughout lowland California. Has been recorded in fall at high elevations	Grasslands, meadows, marshes, and seasonal and agricultural wetlands
Prairie falcon *Falco mexicanus*	–/SSC	Permanent resident in the south Coast, Transverse, Peninsular, and northern Cascade Ranges, the southeastern deserts, Inyo-White Mountains, foothills surrounding the Central Valley, and in the Sierra Nevada in Modoc, Lassen, and Plumas Counties. Winters in the Central Valley, along the coast from Santa Barbara County to San Diego County, and in Marin, Sonoma, Humboldt, Del Norte, and Inyo Counties	Nests on cliffs or escarpments, usually overlooking dry, open terrain or uplands

Common and Scientific Names	Status Fed/State	Geographic Distribution	Habitat Requirements
Short-eared owl *Asio flammeus*	–/SSC	Permanent resident along the coast from Del Norte County to Monterey County although very rare in summer north of San Francisco Bay, in the Sierra Nevada north of Nevada County, in the plains east of the Cascades, and in Mono County; small, isolated populations	Freshwater and salt marshes, lowland meadows, and irrigated alfalfa fields; needs dense tules or tall grass for nesting and daytime roosts
Tricolored blackbird *Agelaius tricolor*	–/SSC	Permanent resident in the Central Valley from Butte County to Kern County. Breeds at scattered coastal locations from Marin County south to San Diego County; and at scattered locations in Lake, Sonoma, and Solano Counties. Rare nester in Siskiyou, Modoc, and Lassen Counties	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grainfields. Habitat must be large enough to support 50 pairs. Probably requires water at or near the nesting colony
Tufted puffin *Fratercula cirrhata (nesting colony)*	–/SSC	Occurs sparsely along the California coast from Prince Island in Del Norte County to the northern end of Big Sur. The majority of the colonies in California breed mainly on Castle Rock and a few other islands off Del Norte and Humboldt Counties and on the Farallon Islands. No longer nests in southern California, and the northern California population has declined substantially since 1900	Nests on islands and, less commonly, on coastal cliffs. Requires islands free from human disturbance, with soil suitable for digging burrows, or with natural rock cavities. Perches on rocky outcroppings on islands, not necessarily near the nest. Requires large schools of pelagic fish, such as smelt or herring for food
Western burrowing owl *Athene cunicularia hypugea*	–/SSC	Lowlands throughout California, including the Central Valley, northeastern plateau, southeastern deserts, and coastal areas. Rare along south coast	Level, open, dry, heavily grazed or low stature grassland or desert vegetation with available burrows
Western snowy plover (coastal populations) *Charadrius alexandrinus nivosus*	T/SSC	Population defined as those birds that nest adjacent to or near tidal waters, including all nests along the mainland coast, peninsulas, offshore islands, and adjacent bays and estuaries. Twenty breeding sites are known in California from Del Norte to Diego County	Coastal beaches above the normal high tide limit in flat, open areas with sandy or saline substrates; vegetation and driftwood are usually sparse or absent
White-tailed kite *Elanus leucurus*	–/FP	Lowland areas west of Sierra Nevada from the head of the Sacramento Valley south, including coastal valleys and foothills to western San Diego County at the Mexico border	Low foothills or valley areas with valley or live oaks, riparian areas, and marshes near open grasslands for foraging
Yellow warbler *Dendroica petechia*	–/SSC	Nests in all of California except the Central Valley, the Mojave Desert region, and high altitudes in the Sierra Nevada.	Nests in riparian areas dominated by willows, cottonwoods, sycamores, or alders or in mature chaparral; may also use oaks, conifers, and urban areas near stream courses

Common and Scientific Names	Status Fed/State	Geographic Distribution	Habitat Requirements
MAMMALS			
Big-eared kangaroo rat *Dipodomys elephantinus*	–/SSC	Restricted to the southern Gabilan Range near the Pinnacles National Monument, San Benito and Monterey Counties	Grassland and sparse chaparral habitats where it forages in open areas and nests in underground burrows
Monterey dusky-footed woodrat *Neotoma fuscipes luciana*	–/SSC	Occurs throughout Monterey and northern San Luis Obispo Counties where appropriate habitat is available	Coast live oak woodland and chaparral habitats with moderate canopy cover and moderate to dense understory and abundant deadwood for nest construction
Pallid bat *Antrozous pallidus*	–/SSC	Occurs throughout California except the high Sierra from Shasta to Kern County and the northwest coast, primarily at lower and mid elevations	Occurs in a variety of habitats from desert to coniferous forest. Most closely associated with oak, yellow pine, redwood, and giant sequoia habitats in northern California and oak woodland, grassland, and desert scrub in southern California. Relies heavily on trees for roosts
Salinas pocket mouse *Perognathus inornatus psammophilus*	–/SSC	The known range extends from near Soledad to Hog Canyon in the Salinas Valley, Monterey County	Dry, open grasslands with sandy soils
San Joaquin kit fox *Vulpes macrotis mutica*	E/T	Principally occurs in the San Joaquin Valley and adjacent open foothills to the west; recent records from 17 counties extending from Kern County north to Contra Costa County	Saltbush scrub, grassland, oak, savanna, and freshwater scrub

Notes:

Status explanations:

Federal

E = listed as endangered under the federal Endangered Species Act.
T = listed as threatened under the federal Endangered Species Act.
PR = protected by the Bald and Golden Eagle Protection Act.
D = species that has been delisted under the Endangered Species Act.
— = no listing.

State

E = listed as endangered under the California Endangered Species Act.
T = listed as threatened under the California Endangered Species Act.
FP = fully protected under the California Fish and Game Code.
SSC = species of special concern in California.
— = no listing.

Critical Habitat

Critical habitat is defined in the Federal Endangered Species Act (ESA) as specific areas in which physical or biological features essential to the conservation of a protected species are present. The ESA requires that Federal agencies ensure that actions they fund, authorize, or carry out do not destroy, or adversely modify critical habitat. Individuals, organizations, states, local governments, and other non-Federal entities are affected by the designation of critical habitat only if their actions occur on Federal lands, require a Federal permit, license or other authorization, or involve Federal funding. If these conditions apply, the applicant must consult with the USFWS or NOAA Fisheries about any action that is likely to jeopardize the continued existence of a protected species or result in destruction or adverse modification of proposed critical habitat. As a condition of approval, the applicant may be required to implement USFWS or NOAA Fisheries recommendations regarding conservation of critical habitat.

The USFWS has designated critical habitat for the western snowy plover, California red-legged frog, California tiger salamander, Monterey spineflower, Santa Cruz tarplant, and purple amole in Monterey County. NOAA Fisheries has designated several rivers and stream in Monterey County as critical habitat (FR 70: 52488) for the South-Central California Coast Distinct Population Segment (DPS) of steelhead (*Oncorhynchus mykiss*). These streams and rivers include those found in the Carmel River and Salinas River watersheds, along with several coastal rivers, such as the Big Sur and Little Sur Rivers (Exhibit 4.9.5).

Habitat Conservation Plans

There are no adopted project-level Habitat Conservation Plans (HCPs) that intersect with the inland areas covered by the 2007 General Plan. However, the Fort Ord Multispecies Habitat Conservation Plan is currently being developed and will likely be adopted in the next few years and thus be operational during the life of the 2007 General Plan.

Adopted Habitat Conservation Plans

Permits have been issued for HCPs for the Post-Ranch Inn (Big Sur), Sarment (Carmel Highlands), and Wildcat Line LP (Carmel Highlands). All three of these areas are within coastal areas not covered by the 2007 General Plan.

Installation-Wide Multispecies Habitat Conservation Plan at Former Fort Ord (in development).

The former Fort Ord military base occupies approximately 27,686 acres (approximately 45 square miles) along the Pacific Ocean in northern Monterey County. About 3,968 acres of the former base were originally developed for military facilities with approximately 23,718 acres left as relatively natural habitat used for military training and other purposes. An installation-wide

multispecies HCP is currently being developed to provide the framework for ensuring conservation, enhancement and recovery of 19 CEQA-defined special-status plant and wildlife species and the natural communities that support them on former Fort Ord.

All base reuse (i.e., post-transfer) activities that are conducted within the plan area pursuant to the HCP are considered "covered activities." To accommodate growth and development, about 5,956 acres of existing habitat within the plan area will be removed for a total of approximately 9,924 acres in development on the former base at full build out. Impacts to HCP species and natural communities resulting from base redevelopment will be minimized and fully mitigated through the preservation and management of habitat on approximately 17,762 acres (over 64%) of the former base.

Participating in the HCP are 12 Permittees and the Bureau of Land Management.

Habitat Connectivity/Wildlife Movement

In 1991, Hay defined a corridor as "a landscape linkage designed to connect open spaces to form protected [areas] that follow natural and man-made features and embrace ecological, cultural and recreational amenities where applicable" (Hay 1991). The term corridor is used to refer to contiguous areas of habitat that connect larger areas of habitat and facilitate genetic exchange within a population or between subpopulations by allowing for movement within or between habitat patches. Because reduction and fragmentation of habitat are among the principal causes of species decline, identifying and preserving key corridors is important to retaining native populations in the county.

Habitat connectivity can be assessed at many levels. On a landscape or regional scale connectivity typically refers to how mobile mammals (e.g., deer) are able to move between prominent landscape features such as mountain ranges. The type of natural habitats between those features combined with the distance would be used to determine the connectedness or permeability of the landscape. At a smaller scale habitat connectivity is often important for seasonal migrations (e.g., steelhead) or local (daily) movements by some wildlife species between nesting and foraging habitat (e.g., golden eagles). The built environment further alters the connectivity of a landscape by removing natural habitat and restricting the opportunities for species movement. In the present day, built environment habitat corridors are recognized as a means to retain some connectivity across a landscape.

A preliminary assessment (the Missing Linkages assessment by California Wilderness Coalition, 2001) identified connectivity between habitats in four key areas within the county. These habitat linkages are considered to be critical to retaining the viability of local wildlife populations.

- **Santa Cruz Mountains to Gabilan Range—**Due to development and agriculture along the edge of Monterey Bay, wildlife movement between the

Gabilan Range to the Santa Cruz Mountains facilitates interaction between populations in these ranges. Key areas of concern relative to maintaining connectedness is development along Highway 101 and Highway 101 itself.

- **Santa Lucia Mountains to Fort Ord—**A north-south corridor exists between the Santa Lucia Mountains and Fort Ord crossing Carmel Valley, the Toro Plan Area and Highway 68. Retaining the connectedness in this area is contingent on managing development along Highway 68 and in Carmel Valley, the Toro Area, and Cachagua as well as managing connections across Highway 68.
- **Salinas Valley (east–west)—**A general east-west corridor exists across Salinas Valley that connects the Gabilan Range to the east with the Santa Lucia Range to the west in the north part of the valley and connects the Fort Hunter Liggett and Camp Roberts Areas to the Diablo Range and Cholame Hills to the east. Without retaining some connectedness across the valley, the habitat blocks between the valley and the coast are subject to isolation from the mountains and prairies of eastern Monterey County.
- **Salinas River (north-south) —**The Salinas River provides a migration corridor from Monterey Bay upstream for steelhead into the Arroyo Seco River (where spawning occurs) as well as a general north-south movement corridor along the river corridor. Wildlife movement also occurs through upland and agricultural areas west and east of the river.

In addition to the four linkages identified by the California Wilderness Coalition, Two other wildlife corridors are also identified for the purposes of this analysis, particularly as they relate to steelhead migration:

- **Carmel River—**The Carmel River provides a wildlife movement corridor for steelhead, California red-legged frogs, and a variety of other wildlife species in a generally east-west direction in Carmel River. Conditions along the river corridor vary from undeveloped to developed depending on location.
- **Pajaro River—**The Pajaro River is a steelhead migration corridor from Monterey Bay to spawning and nursery habitat in the upper watershed reaches in Santa Clara County and back. Other wildlife moves along the river as well.

Protected Marine Environments

The 2007 General Plan only covers inland portions of Monterey County. However, development in the inland areas would indirectly affect marine resources due to impacts on water quality downstream.

Monterey Bay National Marine Sanctuary

The Monterey Bay National Marine Sanctuary (MBNMS), designated in 1992, is a federally protected marine area offshore of California's central coast. Stretching from Marin County to San Luis Obispo County, the MBNMS

encompasses a shoreline length of 276 miles, including the entire length of Monterey County, and 5,322 square miles of ocean, extending an average distance of 30 miles from shore It is home to one of the most diverse marine ecosystems in the world.

Essential Fish Habitat

Monterey Bay is also designated as Essential Fish Habitat (EFH) for the Pacific Coast Salmon, the Pacific Groundfish, and the Coastal Pelagic species, pursuant to the Magnuson-Stevens Fishery Conservation and Management Act. Activities that have the potential to adversely affect EFH include dredging, filling, excavation, mining, discharge, water diversions, thermal additions, non-point source pollution, sedimentation, introduction of exotic species, and the conversion of aquatic habitats that may diminish or disrupt the functions of EFH.

4.9.3.4 Noxious Weeds

A noxious weed is defined as a plant that could displace native plants and natural habitats, affect the quality of forage on rangelands, or affect cropland productivity. One organization and one agency track, list and rate the noxious weeds of California: The California Invasive Plant Council (Cal-IPC) and the California Department of Food and Agriculture (CDFA).

The CDFA lists weeds and assigns ratings (A–C) to each species on the list. The ratings reflect this organization's assessment of the statewide economic importance of the pest, the likelihood that eradication or control efforts would be successful, and the present distribution of the pest in the state. These ratings are guidelines that indicate the most appropriate action to take against a pest under general circumstances.

Noxious weeds in Monterey County were not inventoried for this analysis because target weeds will differ widely from project to project, depending on the sensitivity of the site to infestation, the nature of the proposed project, and the type of weeds in the immediate area.

4.9.3.5 Historical Conversion of Habitat 1982 to 2006

In order to better comprehend the pattern and extent of natural habitat conversion that might occur with implementation of the 2007 General Plan, GIS mapping was used to roughly estimate the historical conversion of habitat that has occurred to date under the 1982 General Plan due to urban development and due to agricultural conversion of previously uncultivated areas.

No current map of vegetation cover in Monterey County was located with sufficient accuracy to support this analysis. Thus, an alternative methodology was developed using a 1982 map of vegetation cover and the Farmland Monitoring and Mapping Program (FMMP) mapping from 1982 to 2006

(Department of Conservation 1982 to 2006). The FMMP maps identify urban land, important farmland (defined as prime, unique, and of state importance), grazing land and other land. The 2006 FMMP mapping was overlayed on the 1982 vegetation map to identify conversion areas as follows:

- Where the FMMP 2006 data identified important farmland cover and the 1982 vegetation cover was agriculture, no conversion was presumed. Where the FMMP 2006 data identified important farmland cover and the 1982 vegetation cover was not agriculture or urban, these areas were identified as a habitat to farmland conversion.
- Where the FMMP 2006 data identified urban cover and the 1982 vegetation cover was agriculture, a farmland to urban conversion was identified.
- Where the FMMP 2006 data identified urban cover and the 1982 vegetation cover was not agriculture or urban, these areas were identified as a habitat to urban conversion.

A similar process was used using the 1996 FMMP data to identify conversions between 1982 and 1996 and between 1996 and 2006. A 2.5-acre minimum mapping unit was utilized for this analysis (i.e., changes in land cover less than 2.5-acres were not included in the analysis) to avoid topology (i.e., alignment) errors in identifying areas of conversion.

Exhibits 4.9.6, 4.9.7, 4.9.8, and 4.9.9 show the results of this analysis and identify areas of land cover change between 1982 and 2006 in different parts of Monterey County. Table 4.9-6 summarizes the acreages of change of different land covers in the County.

It should be noted that the 1982 vegetation map and the FMMP maps used in this analysis have different mapping conventions and methodologies. In addition, the FMMP maps over time have changed in terms of the aerial imagery used, and the soil conventions used to identify important farmland, and thus comparison of farmland maps over different years separated by decades reduces the accuracy of any results. Thus, the results should be considered only as grossly representative both geographically and in terms of the acreages in Table 4.9-6. Nevertheless, the results are considered roughly representative for the programmatic analysis in this document.

Wine industry data (Monterey County Agricultural Commission 2008) was also reviewed to identify historic trends in vineyard acreage. In 1982 there were about 33,771 acres of vineyards and overall acreage had not changed by 1996 when 33,319 acres were in vineyard. Acreage rose to 45,043 acres in 2001 and then declined to 37, 116 acres by 2003 with a slight increase to 41,309 acres by 2006. The overall 25-year trend is an average increase of about 300 acres per year, but between 1996 and 2006, there was an annual average increase of about 800 acres per year in vineyard acreage.

The analysis above of habitat conversion is used as the basis for impact analysis below of potential future agricultural conversions of habitat. Specifically, the 25-year trend of habitat conversion from 1982 to 2006 (approximately 450 acres per

year on average) is used to estimate potential future habitat conversion in the impact analysis as more representative of long-term conditions than the last 10 years.

Table 4.9-6. Monterey County Habitat Conversions, 1982 to 2006 (Includes Cities and Coastal Areas)

Conversion Type	Acres Converted 1982–2006	Acres Converted 1982–1996	Acres Converted 1996–2006
Habitat to Urban	**14,692**	**9,830**	**4,862**
Annual Grassland	5,370	3,179	2,191
Oak Woodland	4,896	3,538	1,358
Mixed Conifer	1,453	1,096	357
Monterey Pine Forest	566	515	51
Maritime Chaparral	474	379	95
Coastal Prairie	460	342	118
Baccharis Scrub	415	201	214
Riparian/Wetland	315	203	112
Dune	178	44	134
Oak Savanna	151	67	84
Baccharis Chaparral	111	77	34
Dune Scrub	97	60	37
Coastal Terrace Prairie	85	56	29
Coastal Scrub	60	33	27
Saltwater Marsh	33	32	1
Freshwater Marsh	16	8	8
Gabilan Scrub	4	0	4
Native Grassland	4	0	4
Redwood Forest	4	0	4
Habitat to Farmland	**11,185**	**2,976**	**8,209**
Annual Grassland	8,564	1,484	7,080
Oak Woodland	653	473	180
Riparian/Wetland	641	251	390
Coastal Prairie	428	219	209
Mixed Conifer	388	349	39
Baccharis Scrub	269	93	176
Gabilan Scrub	93	22	71
Oak Savanna	49	49	0
Saltwater Marsh	38	0	38
Baccharis Chaparral	33	15	18
Freshwater Marsh	21	21	0
Maritime Chaparral	8	0	8

Conversion Type	Acres Converted 1982–2006	Acres Converted 1982–1996	Acres Converted 1996–2006
Methodology: Conversion acreages were identified by comparing 1982 base vegetation map to 1996 and 2006 FMMP maps for County using GIS. Where the FMMP maps show urban land, conversion is presumed from 1982 land type. Where the FMMP maps show important farmland (prime, statewide importance, Unique), then conversion is presumed if 1982 land cover was not agricultural. Where the FMMP maps show grazing land, land is not presumed to be urban or to be intensive agriculture, but is presumed to be original 1982 land cover. A minimum mapping unit of 2.5 acres. FMMP and vegetation maps used different methods and conventions and FMMP mapping methodologies and conventions have changed over time and this may diminish the accuracy of the mapping and estimation of acreages noted above. See Figures 4.9-6 through 9 for areas of conversion. Forecast for 2030 and buildout based on 1982 to 2006 averages.			

4.9.4 Regulatory Framework

This section describes the federal, state, and local plans, policies, and regulations that are relevant to biological resources within the county.

4.9.4.1 Federal Regulations

This discussion focuses on the federal requirements associated with subsequent CEQA compliance for the proposed plan. Additional federal requirements would apply to project-specific components of the 2007 General Plan that receive federal funding or otherwise affect federal lands and decision-making. The additional federal requirements do not apply to projects under the 2007 General Plan or this program EIR, but they would need to be addressed if federal funding or another federal action (e.g., if federal lands were crossed or a federal permit were required) were triggered at the time of consideration and approval of a specific project.

Endangered Species Act

The ESA protects fish and wildlife species, and their habitats that have been identified by USFWS or National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS) as threatened or endangered. *Endangered* refers to species, subspecies, or distinct population segments that are in danger of extinction through all or a significant portion of their range; *threatened* refers to species, subspecies, or distinct population segments that are likely to become endangered in the near future.

The ESA is administered by USFWS and NMFS. In general, NMFS is responsible for protection of ESA-listed marine species and anadromous fishes, whereas listed, proposed, and candidate wildlife and plant species and commercial fish species are under USFWS jurisdiction. *Take* of listed species can be authorized through either the Section 7 consultation process for actions by

federal agencies or the Section 10 permit process for actions by nonfederal agencies. Federal agency actions include activities that are:

- on federal land,
- conducted by a federal agency,
- funded by a federal agency, or
- authorized by a federal agency (including issuance of federal permits and licenses).

Under Section 7, the federal agency conducting, funding, or permitting an action (the federal lead agency) must consult USFWS or NMFS, as appropriate, to ensure that the proposed action will not jeopardize endangered or threatened species or destroy or adversely modify designated critical habitat. If a proposed project "may affect" a listed species or designated critical habitat, the lead agency is required to prepare a biological assessment (BA) evaluating the nature and severity of the expected effect. In response, USFWS issues a biological opinion with a determination that the proposed action either:

- May jeopardize the continued existence of one or more listed species (jeopardy finding) or result in the destruction or adverse modification of critical habitat (adverse modification finding), or
- Will not jeopardize the continued existence of any listed species (no jeopardy finding) or result in adverse modification of critical habitat (no adverse modification finding).

The BO issued by USFWS may stipulate discretionary "reasonable and prudent" conservation measures. If the project would not jeopardize a listed species, USFWS issues an incidental take statement to authorize the proposed activity.

In cases where a nonfederal entity is undertaking an action that does not require federal authorization, the take of listed species must be permitted by USFWS through the Section 10 process. If the proposed project would result in the incidental take of a listed species, the applicant must first obtain a Section 10(a)(1)(B) incidental take permit (ITP). Incidental take under Section 10 is defined as take of federally listed fish and wildlife species "that is incidental to, but not the purposes of, otherwise lawful activities". To receive an ITP, the nonfederal entity is required to prepare a Habitat Conservation Plan (HCP). The HCP must include conservation measures that avoid, minimize, and mitigate the project's impact on listed species and their habitat.

Migratory Bird Treaty Act

The MBTA (16 USC 703) enacts the provisions of treaties between the United States, Great Britain, Mexico, Japan, and the Soviet Union and authorizes the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. It establishes seasons and bag limits for hunted species and protects migratory birds, their occupied nests, and their eggs (16 USC 703; 50 CFR 10,

21). Most actions that result in taking or in permanent or temporary possession of a protected species constitute violations of the MBTA. Examples of permitted actions that do not violate the MBTA are the possession of a hunting license to pursue specific game birds, legitimate research activities, display in zoological gardens, bird-banding, and other similar activities. USFWS is responsible for overseeing compliance with the MBTA, and the U.S. Department of Agriculture's (USDA's) Animal Damage Control Officer makes recommendations on related animal protection issues.

Clean Water Act

The CWA was enacted as an amendment to the federal Water Pollution Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to waters of the United States. The CWA serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. The following discussion gives background information as relevant to biological resources; additional discussion of the CWA is provided in Section 3.2, *Hydrology and Water Quality*.

Waters of the United States are areas subject to federal jurisdiction pursuant to Section 404 of the CWA. *Waters of the United States* are typically divided into two types: *wetlands* and *other waters of the United States*.

Wetlands

Wetlands are "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR § 328.3[b], 40 CFR § 230.3). To be considered subject to federal jurisdiction, a wetland must normally support hydrophytic vegetation, hydric soils, and wetland hydrology (Environmental Laboratory 1987).

Other Waters of the United States

Other waters of the United States are seasonal or perennial water bodies, including lakes, stream channels, drainages, ponds, and other surface water features, that exhibit an ordinary high water mark but lack positive indicators for the three wetland parameters (33 CFR 328.4).

Permits for Fill Placement in Waters and Wetlands (Section 404)

CWA Section 404 regulates the discharge of dredged and fill materials into waters of the United States.

Applicants must obtain a permit from the Corps for all discharges of dredged or fill material into waters of the United States, including wetlands, before proceeding with a proposed activity. The Corps may issue either an individual permit evaluated on a case-by-case basis or a general permit evaluated at a program level for a series of related activities. General permits are preauthorized and are issued to cover multiple instances of similar activities expected to cause

only minimal adverse environmental effects. Nationwide permits (NWPs) are a type of general permit issued to cover particular fill activities. Each NWP specifies particular conditions that must be met for the NWP to apply to a particular project. Waters of the United States in the county are under the jurisdiction of the San Francisco District of the Corps.

Compliance with CWA Section 404 requires compliance with several other environmental laws and regulations. The Corps cannot issue an individual permit or verify the use of a general permit until the requirements of NEPA, ESA, and the National Historic Preservation Act (NHPA) have been met. In addition, the Corps cannot issue or verify any permit until a water quality certification or a waiver of certification has been issued pursuant to CWA Section 401.

Water Quality Certification (Section 401)

Under CWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the United States must obtain certification from the state in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate. Therefore, all projects that have a federal component and may affect state water quality (including projects that require federal agency approval, such as issuance of a Section 404 permit) must also comply with CWA Section 401.

Executive Order 13112 (Prevention and Control of Invasive Species)

Executive Order 13112 (February 3, 1999) directs all federal agencies to prevent and control the introduction of invasive species in a cost-effective and environmentally sound manner. It established a national Invasive Species Council comprising federal agencies and departments and a supporting Invasive Species Advisory Committee comprising state, local, and private entities. The Invasive Species Council and Invasive Species Advisory Committee have prepared a National Invasive Species Management Plan (2001) that recommends objectives and measures to implement the Executive Order and prevent the introduction and spread of invasive species. The Executive Order and directives from FHWA require consideration of invasive species in NEPA analyses, including identification and distribution, potential impacts, and prevention or eradication measures.

4.9.4.2 State Regulations

California Endangered Species Act

California implemented CESA in 1984. It prohibits the take of endangered and threatened species; however, habitat destruction is not included in the state's definition of take. CESA Section 2090 requires state agencies to comply with

endangered species protection and recovery, and to promote conservation of these species. DFG administers CESA and authorizes take through Section 2081 agreements (except for species designated as fully protected).

For rare plant species, CESA defers to the California Native Plant Protection Act of 1977, which prohibits importing, taking, or selling rare and endangered plants. State-listed plants are protected mainly in cases in which state agencies are involved in projects under CEQA. In such cases, plants that are listed as rare under the California Native Plant Protection Act are not protected under CESA but can be protected under CEQA.

California Fish and Game Code

Fully Protected Species

The California Fish and Game Code provides protection from take for a variety of species, referred to as *fully protected species*. Section 5050 lists protected amphibians and reptiles. Section 3515 prohibits take of fully protected fish species. Eggs and nests of all birds are protected under Section 3503, nesting birds (including raptors and passerines) under Sections 3503.5 and 3513, birds of prey under Section 3503.5, and fully protected birds under Section 3511. Migratory non-game birds are protected under Section 3800. Mammals are protected under Section 4700. The California Fish and Game Code defines *take* as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Except for take related to scientific research, all take of fully protected species is prohibited. There are two fully protected species, white-tailed kite and bald eagle, which have the potential to occur in the county.

Streambed Alteration Agreements (Section 1602 et seq.)

DFG has jurisdictional authority over wetland resources associated with rivers, streams, and lakes under California Fish and Game Code Sections 1602. DFG has the authority to regulate all work under the jurisdiction of California that would substantially divert, obstruct, or change the natural flow of a river, stream, or lake; substantially change the bed, channel, or bank of a river, stream, or lake; or use material from a streambed.

In practice, DFG marks its jurisdictional limit at the top of the stream or lake bank or the outer edge of the riparian vegetation, where present, and sometimes extends its jurisdiction to the edge of the 100-year floodplain. Because riparian habitats do not always support wetland hydrology or hydric soils, wetland boundaries, as defined by CWA Section 404, sometimes include only portions of the riparian habitat adjacent to a river, stream, or lake. Therefore, jurisdictional boundaries under Section 1600 may encompass a greater area than those regulated under CWA Section 404.

DFG enters into a Streambed Alteration Agreement (SAA) with an applicant and can request conditions to ensure that no net loss of wetland values or acreage will be incurred. The streambed or lakebed alteration agreement is not a permit but, rather, a mutual agreement between DFG and the applicant.

Sections 3503 and 3503.5

Section 3503 of the California Fish and Game Code prohibits the killing of birds or the destruction of bird nests. Section 3503.5 prohibits the killing of raptor species and the destruction of raptor nests.

Regional Water Quality Control Board

Porter Cologne Water Quality Act

Water Code Section 13260 requires "any person discharging waste, or proposing to discharge waste, within any region that could affect the *waters of the state* to file a report of discharge (an application for waste discharge requirements)." Under the Porter-Cologne Act definition, the term *waters of the state* is defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." While all waters of the United States that are within the borders of California are also waters of the state, the converse is not true—in other words, waters of the United States is a subset of waters of the state. Thus, California retains authority to regulate discharges of waste into any waters of the state, regardless of whether Corps has concurrent jurisdiction under Section 404 of the CWA. This authority is regulated and implemented by the Regional Water Quality Control Board (RWQCB).

Region 3 Conditional Agriculture Waiver Program

On July 9, 2004, the Central Coast Regional Water Quality Control Board adopted Order No. R3-2004-0117, Conditional Waivers of Waste Discharge Requirements for Discharges from Irrigated Lands. All commercial, irrigated farming operations were required to comply beginning in January 1, 2005. Lands that are being prepared for planting also need to enroll. Farmers are expected to complete 15 hours of farm water quality education within three years of adoption of the waiver, develop farm water quality management plans that address, at a minimum, irrigation management, nutrient management, pesticide management, and erosion control, and implementing management practices identified in their plans. Growers have the option of performing individual monitoring or participating in cooperative monitoring program.

4.9.4.3 Local Policies and Regulations

This section summarizes local policies and regulations that pertain to biological resources that would affect or be affected by the 2007 General Plan.

Tree Protection

The County has an ordinance for the protection of trees within its jurisdiction. Tree protection within the County varies in accordance with different areas and master plans, which provide specific policies relative to the protection of specific

types of trees. Each of the following tree removal scenarios require a tree removal permit (16.60.030):

- North County Area Plan or Toro Area Plan areas: oak or madrone tree six inches or more in diameter two feet above ground level.
- Carmel Valley Master Plan area: oak, madrone or redwood tree six inches or more in diameter two feet above ground level.
- Cachagua Area Plan area: native tree six inches or more in diameter two feet above ground level. "Native trees," for the purpose of this section, are Santa Lucia fir; black cottonwood; Fremont cottonwood; box elder; willows; California laurel; sycamores; oaks; and madrones.
- Any oak tree in any other area of the County of Monterey designated in the applicable area plan as Resource Conservation, Residential, Commercial or Industrial (except Industrial, Mineral Extraction).
- Any landmark oak tree removed in any area except as may be approved by the Director of Planning and Building Inspection pursuant to Section 16.60,040 Landmark oak trees are those trees which are twenty-four (24) inches or more in diameter when measured two feet above the ground, or trees which are visually significant, historically significant, or exemplary of their species.
- Any oak trees in any other area of the County of Monterey designated in the applicable area plan as Agricultural or Industrial, Mineral Extraction, except for a small number of uses specified in Section 16.60.050.
- Any oak trees removed in any area of the County of Monterey for commercial harvesting purposes.

As a condition of permit approval, any applicant seeking to remove a protected tree from a property within County jurisdiction is required to relocate or replace each removed protected tree at a one-to-one ratio. Removal of more than three protected trees from a single lot over a one-year period requires submission of a Forest Management Plan and approval of a Use Permit by the Monterey County Planning Commission. The Forest Management Plan is to be prepared at the applicant's expense by a qualified professional forester (16.60.040).

Several tree removal activities are exempted from the provisions of the County tree ordinance. These include timber harvesting operations in accordance with a timber harvesting plan submitted pursuant to the provisions of the Forest Practices Act (Pub. Resources Code Section 45110 et seq); any governmental or utilities-related tree removal that occurs within public rights-of-way; and any construction-related tree removal that is included in an approved subdivision, Use Permit, or similar discretionary permit (16.60.060).

4.9.4.4 Other Local Programs

Elkhorn Slough Partners in Restoration Program

The Elkhorn Slough Partners in Restoration (PIR) permit coordination program is a permit coordination program to support local farmers, ranchers, and landowners who want to improve water quality and wildlife habitat on and near their lands. Elkhorn Slough PIR incorporates erosion control and riparian enhancement practices making it easier for the agricultural community to participate in implementing voluntary conservation projects. The project partners have crafted this program to enhance the Elkhorn Slough watershed's natural habitat and reduce erosion and sedimentation in both the upland areas and the coastal environment downstream.

The core of Elkhorn Slough PIR is the watershed—based agreements entered into by local, state and federal regulatory agencies and the National Resource Conservation Service (NRCS) and the Resource Conservation District (RCD) of Monterey County. These agreements create “one-stop permit shopping” for farmers, ranchers, and landowners working with the NRCS and RCD of Monterey County on conservation projects. The watershed—based agreements covered ten different conservation practices and management measures in the Elkhorn Slough watershed. Under Elkhorn Slough PIR, a cooperator receiving technical and/or cost share assistance from the NRCS or the RCD of Monterey County is allowed to implement the associated conservation practices without seeking individual permits—provided they partner with the NRCS and RCD of Monterey County and carefully follow the terms of the program's agreements. The NRCS and RCD of Monterey County assist in project design and monitor implementation and maintenance of the conservation practices to ensure the projects comply with the program.

Salinas Valley Watershed Permit Coordination Program

The NRCS, the RCD of Monterey County, Sustainable Conservation, and the Monterey Bay National Marine Sanctuary’s Water Quality Protection Program have worked with eight federal, state, and county regulatory agencies (Monterey county, Coastal Commission, CDFG, RWQCB, U.S. Army Corps of Engineers, USEPA, USFWS, and NMFS) to pre-approve permits for sixteen commonly used conservation practices when doing watershed improvement practices and projects through the NRCS/RCD. This program allows farmers to be able to efficiently complete site improvements that are of benefit to water quality, reduce erosion, and in some cases enhance wildlife habitat.

4.9.5 Impacts and Mitigation Measures

This section discusses impacts and mitigation measures for development associated with the 2007 General Plan. Impact analyses are presented for two

scenarios under the 2007 General Plan: development anticipated up to the year 2030 (2030 planning horizon) and full buildout.

4.9.5.1 Methodology

The significance criteria below and the special-status definition noted above were used in combination with the profile of existing biological resources described above to identify the potential impact of development. The effect of the proposed General Plan and Area Plan policies is taken into account before determining significance. Where significant impacts are identified, mitigation is recommended. A significance conclusion is made for residual impacts after the application of recommended mitigation.

While indirect effects to biological resources from alterations in water quality due to development is considered in the analysis below, the reader is directed to Section 4.3, Hydrology and Water Quality, for the detailed analysis of water quality and identification of relevant General Plan/Area Plan policies, and recommended mitigation.

4.9.5.2 Criteria for Determining Significance

Development under the 2007 General Plan would have a significant impact on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS (these impacts are discussed below under Impact BIO-1);
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFG or USFWS (these impacts are discussed below under Impacts BIO-2);
- Have a substantial adverse effect on federally protected waters and wetlands as defined by Section 404 of the Clean Water Act and state waters protected by the Porter-Cologne Water Quality Act (including, but not limited to, rivers, creeks, marshes, vernal pools, etc.) through direct removal, filling, hydrological interruption, or other means (these impacts are discussed below under Impact BIO-2);
- 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 (these impacts are discussed below under Impact BIO-4);
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (these impacts are discussed below under Impact BIO-5); or

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan (these impacts are discussed below under Impact BIO-6).

4.9.5.3 Impact Overview by Development Area

To provide the reader a general characterization of the types of biological resource impacts in different potential development areas, this section gives a broad impact overview of each development area. This analysis is general in nature, providing insight into potential impacts for each are based on assessment of current resources and assuming that development associated with the 2007 General Plan would potentially impact all resources.

Impact analysis taking into account General Plan and Area Plan policies, significance determination, and mitigation determinations follows this section.

Estimated impacts on natural communities from development other than agriculture are shown in Table 4.9-7.

Table 4.9-7. Monterey County GP 2007 Estimated Impacts on Natural Vegetation Communities due to Development

Natural Community	Area of Potential Effect in Planning Areas outside Fort Ord	Estimated Area of Effect in Planning Areas outside Fort Ord	Fort Ord Potential Effects (b)	Total Effects
Annual Grassland	94,004	7,709	1,513	9,222
Baccharis and Gabilan Scrub	63,614	1,268		1,268
Baccharis Chaparral	367	32		32
Coastal Scrub	6	2		2
Coastal Prairie	1,493	38		38
Mixed Conifer	4,267	292		292
Maritime Chaparal	10	0	2,796	2,796
Monterey Pine Forest	246	36		36
Native Grassland	17	15		15
Oak Savannah and Woodland	90,613	2,607	1,505	4,112
Redwood Forest	71	1		1
Riparian and Wetland Areas	3,258	180	0	180
Total	257,967	12,177	5,814	17,991

Notes:

(a) Vegetation mapping described in Table 4.9-2 was overlayed with land use designations in the 2007 General Plan for all locations outside Fort Ord. Where the land use designation allows development (residential, commercial, industrial, public/quasi-public, etc.), the area was identified as a potential effect. Assumptions were made about percentage of conversion for each land use designation. Conversions for certain categories (medium density residential, industrial, mineral extraction) were assumed to be total (100%), whereas other categories were assumed to result in partial conversion (such as commercial assumed to convert 50% of the designated land) or very limited conversion (such as public-quasi public and rural density residential - both assumed to convert only 1% of designated land due to the large acreage in these designations). Assumptions are rough estimates only and may overstate or understate actual impacts as the exact amount of conversion on any specific parcel cannot be estimated accurately on a landscape level. Castroville acres were not in the GIS land use layer and were added manually from the vegetation map GIS.

(b) Fort Ord impacts were identified based on unpublished data from the Fort Ord HCP. The total for Maritime Chaparral for Fort Ord includes coastal scrub as the HCP data did not disaggregate the totals.

Community Areas

Pajaro

The proposed Pajaro Community Area is located in the northern part of the County adjacent to the Pajaro River, which creates the Santa Cruz/Monterey county line. There are no known CEQA-defined special-status species occurrences on record within the Pajaro Community Area, though without a site

specific habitat assessment the presence of CEQA-defined special-status species or other sensitive resources (i.e., wetlands, native grasslands) cannot be ruled out. The Community Area includes riparian habitat along the Pajaro River. It does not appear that the Community Area will encroach on the riparian corridor though a closer study during implementation of the plan or specific projects will be necessary for confirmation. The Pajaro River has only minimal riparian vegetation associated with it along this reach. Many common wildlife species likely use the river for daily movement through the area. The Pajaro River itself is an important migration corridor for steelhead during annual spawning runs.

Boronda

The Boronda Community Area is located on the western edge of the City of Salinas. The Boronda Community Area is already more than half developed on the northeast end and the southwestern portion, between Boronda Road, Davis Road, and SR 183 is primarily agricultural lands.

The only significant biological resource in the Boronda Community Area is Markley Swamp, a freshwater wetland. Markley Swamp supports a diverse array of wildlife, including migratory waterfowl, raptors, amphibians, aquatic reptiles, and small mammals. There are no known occurrences of CEQA-defined special-status species in the Boronda Community Area, but there is the potential for the western pond turtle, California red-legged frog, and Californian tiger salamander to occur in Markley Swamp.

Castroville

The Castroville Community Area is located eight miles northwest of the City of Salinas and five miles west of Prunedale at the crossroads of Highways 1, 156 and 183. The Castroville Community Area Plan has already been adopted by Monterey County. The following discussion is based on the Draft EIR for the Castroville Community Area (PMC 2006)

There are drainages and small pockets of ruderal vegetation that contain habitat for CEQA-defined special-status species. A portion of Tembladero Slough contains riparian habitat and other wetlands.

CEQA-defined special-status plant species in the area include the San Joaquin spearscale, Congdon's tarplant, saline clover, and the federally threatened and state endangered Santa Cruz tarplant and there is potential for Hickman's cinquefoil. CEQA-defined special-status wildlife species that have been documented in the Castroville vicinity include steelhead, California red-legged frog, and California tiger salamander. Other CEQA-defined special-status species have the potential to occur in the area include Least's Bell vireo and burrowing owl. Modifications to local hydrology to provide flood protection to the community will affect wetland habitats of the Tembladero Slough. Similar modifications are likely to alter Castroville Slough on the northeast side of the community.

Mitigation was adopted for the Community Plan that reduced the impacts of the Community Plan to less than significant (Monterey County Housing and Redevelopment Office 2007).

Fort Ord Master Plan

The entire proposed Fort Ord Community Area is addressed in the Fort Ord Reuse Plan. Potential impacts of development at Fort Ord were addressed programmatically in the Fort Ord Reuse Plan and its EIR (FORA 1997). The FORA Reuse Plan Final Environmental Impact Report (FORA FEIR) identified on a program level a potentially significant environmental impact for biological resources as related to loss of sensitive species addressed in the Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord (HMP). An HCP is under development that would address impacts to federal and state listed species. The HMP is designed to managed open space habitat as well as CEQA-defined special-status species throughout the base.

The HMP establishes a habitat conservation area, a corridor system, and parcel-specific land use categories, in addition to outlining management requirements for all lands on the former Fort Ord (FFO). The HMP identifies four general categories of parcel-specific land uses: habitat reserve, habitat corridor, development with reserve areas or restrictions, and development with no restrictions.

The Fort Ord Reuse Authority (FORA) and the County of Monterey submitted modifications to the original HMP to the Army and USFWS for approval for the East Garrison Specific Plan. The Army and USFWS approved the boundary changes and other HMP modifications. The approved modifications allow residential and commercial development at East Garrison on an additional 210 acres of oak woodland, maritime chaparral, and grassland communities that would have been preserved under the original HMP. In exchange, the amendments to the habitat reserve set aside over 450 acres of land to support biotic communities at Parker Flats, which was previously designated for development. Thus, some 240 acres of habitat are preserved under the amended HMP (with the East Garrison Specific Plan than under the original.

The Fort Ord Community Areas contains extensive areas of sensitive and other natural communities including: maritime chaparral, oak savannah, oak woodland native grassland, dune scrub, riparian forest, vernal pools, and freshwater marsh. Some of these areas may be affected by potential future development. Impacts on the East Garrison Specific Area Plan were addressed in the EIR prepared for that project and mitigation was identified to reduce impacts (Michael Brandman Associates 2004).

Chualar

The boundary of the Chualar Community Area has not yet been established, however most of the undeveloped area surrounding Chualar is irrigated farmland with limited value for biological resources.

There are drainages and small pockets of ruderal vegetation that could contain habitat for CEQA-defined special-status species. A portion of Chualar River is adjacent to the west side of the Community Area. This river contains limited riparian habitat but does have potential to support CEQA-defined special-status wildlife species such as the California tiger salamander and California red-legged frog.

Rural Centers

There are seven designated Rural Centers in the 2007 General Plan. Development within the Rural Centers has the potential to impact biological resources in some sites. Each Rural Center also has the potential for impacts to wildlife corridors and movement of wildlife species across the landscape, and for introduction of exotic species, particularly noxious weeds.

Bradley, Lockwood, San Ardo, San Lucas

These four Rural Centers are located in agricultural areas south of King City along the Highway 101 corridor and west of Highway 101 along Jolon Road. The land in these centers is flat and in varying degrees of development already. For the most part, vegetation in these areas is limited to agricultural and annual grassland. All of the annual grassland and agricultural areas along the Highway 101 corridor have the potential to support San Joaquin kit fox and in many places along the Salinas River there are known occurrences of bald eagle. There are many documented occurrences of both of these species around Bradley. Development of the Bradley rural center, in particular, will likely result in the removal of San Joaquin kit fox habitat.

Pleyto

Pleyto is located southeast of Lockwood in an agricultural valley along Jolon Road. A small amount of the Pleyto Rural Center is currently developed and vegetation includes annual grassland and baccharis scrub.

Pine Canyon

Pine Canyon is located west of King City where Pine Canyon opens out of the Santa Lucia Mountains into the southern Salinas Valley. This Rural Center includes upland hills and the valley floor. Natural areas in Pine Canyon Rural Center include oak woodland, oak savanna, scrub, mixed conifer, and riparian/wetland. Development of Pine Canyon may have significant impacts on sensitive communities including mixed conifer, oak savannah, oak woodland and riparian/wetland areas. Additionally, the upland portion of Pine Canyon Rural Center has been identified as potential denning and foraging habitat for the San Joaquin kit fox, based on habitat conditions and historical observation of kit foxes in the region (Bryan Mori Biological Consulting Services 2000). Although kit foxes are not documented on the upland portion, development of this portion of the Rural Center could result in loss of kit fox habitat and incidental mortalities. Since kit fox is a federal endangered and state threatened species, these impacts would be significant.

River Road

River Road is located southwest of Salinas and includes the following habitats: mixed conifer forest, oak savannah, oak woodland and riparian/wetland. The current parcel lines indicate that most of the remaining natural habitat is contained within a small number of large parcels. However, if these parcels are developed, the potential impacts would be significant and require mitigation.

Affordable Housing Overlay Districts

Development of AHOs could impact CEQA-defined special-status species, sensitive natural communities, wildlife corridors and wildlife movement, and protected trees.

Using the landcover mapping described above and shown in Table 4.9-2 and aerial photographs, these AHO areas contain the following potential biological resources (this is only a general overview and is not based on any site-specific inventory):

- The Mid-Valley AHO is approximately 13 acres in size excluding portions of properties located within the floodplain. It is mostly developed land (residential and commercial development) with some areas of agriculture, a limited (~1 acre) area of annual grassland. The primary biological resource of concern would be the Carmel River which located adjacent to, but not on the AHO district, and a possible drainage on the east side of the district.
- The Highway 68 AHO near the Monterey Airport is mostly undeveloped and includes 58 acres of coastal prairie, 12 acres of oak woodland, and small areas of annual grassland and previously disturbed areas. The oak woodland areas may also contain areas of native Monterey pine forest.
- Highway 68/Reservation Road AHO is mostly agricultural with about 6 acres of annual grassland and one acre of maritime chaparral. An apparent tributary to the Salinas River is located adjacent to the AHO district.

Unincorporated Areas outside Focused Development Areas

Undeveloped lots exist throughout the county in rural and agricultural lands. The Land Use Element allows development of lots of record, but requires establishment of a Subdivision Evaluation System that includes criteria for resource management.

These undeveloped lots may support native and often sensitive natural communities such as wetlands, oak woodland types, native grasslands, or redwood forests. Because of the abundance of native plant communities in rural Monterey County, there is potential to cause significant impacts, specifically due to:

- loss or degradation of sensitive special-status communities; and
- loss of CEQA-defined special-status species that depend on and inhabit these communities;

- effects of habitat fragmentation; and
- introduction of non-native pest plants and/or animals.

Agricultural Winery Corridors

The proposed Agricultural Winery Corridor Plan (ACWP) is designed to facilitate the establishment of up to 40 new artisan and 10 new full-scale wineries along three corridors in the central and southern Salinas Valley and the San Antonio Valley. These corridors overlap with three of the 2007 General Plan three Planning Areas (Toro, Central Salinas Valley, and South County).

The ACWP shall be developed to encourage development of the wine industry within the designated corridors. Approximately 60 percent of the winery corridors are currently already in agricultural development.

Natural communities in the corridors include annual grassland, Baccharis scrub, Gabilan scrub, mixed conifer, oak woodland, oak savanna, grassland, and riparian/wetland areas. Wine industry development may intersect sensitive biological resources. In addition, there are known rare plant occurrences documented in the CNDDB for the area around Jolon Road and there may be undocumented CEQA-defined special-status plant species in other locations. There are also several documented occurrences of CEQA-defined special-status wildlife, including San Joaquin kit fox and California tiger salamander and extensive potential habitat for these and other CEQA-defined special-status species.

Implementation of the ACWP will affect wildlife corridors to some extent under the presumption that a large scale winery would include result in expansion of viticulture in the adjacent area to supply the facility. Vineyards often are surrounded by fencing that is impermeable to wildlife, even for species that are willing to cross through vineyards - which many species are not. In addition, the increase in population and visitor numbers may impact the ability of wildlife to inhabit or move through these areas. However, the ACWP envisions that development of wineries will be geographically distributed throughout corridors, rather than concentrated in limited zones.

Increased vineyards could also involve the use of pesticides and increased soil erosion, depending on agricultural practices. Runoff containing pesticide residues or sediment could affect aquatic CEQA-defined special-status species in downstream areas. Water quality impacts of the 2007 General Plan are discussed in greater detail in Section 4.3, Water Resources.

Open Space

Increase in population growth in the County is likely to increase recreational demands on areas of recreational open space such as the County's Regional Parks, State Beaches and Parks, and lands held by the Monterey Peninsula Regional Parks District lands and private trusts and conservancies. Such increased demand on use of open space areas is distinct from the recreational demands that are met by urban or community parks. The increased use of open

space areas may result in impacts to biological resources in these areas. The open space lands contain sensitive and non-sensitive natural communities and are known or potential habitat for CEQA-defined special-status plant and animal species. The open space also often has valuable function as habitat corridors for wildlife species. Potential impacts of open space recreation use could include loss or degradation of sensitive communities (including wetlands), loss or degradation of CEQA-defined special-status species' habitat or populations, interference with wildlife movement, introduction of exotic invasive plant species, and/or interference with the use of native wildlife nursery sites.

Agriculture

Based on trends in agricultural employment (AMBAG 2004; AMBAG 2008), no net expansion in overall agricultural acreage is projected for 2030 as virtually no increase in agricultural employment is forecast by AMBAG to 2030 for the Monterey County in the most recent (2008) and the immediately prior (2004) economic forecasts.

Although no net expansion of agricultural acreage is forecast, there will still be expansion of agriculture onto natural lands due to the loss or agricultural lands to urban use and likely also due to expansion of wine growing on slopes of the Salinas Valley and other locations in the County.

The dominant vegetation community converted in the last decade has been annual grassland (over 80%) with far smaller conversions of oak woodland, riparian/wetland/marsh areas, coastal prairie, bacharis and gabiland scrub, mixed conifer and other community types.

Analysis of GIS data for current vineyard acreages provided by the Monterey County Vintner's Association (Monterey County Vintner's Association 2008) applied as an overlay to the habitat overlays created to analyze conversions indicates that nearly one third (~4,000 acres) of the total 1982 to 2006 habitat to agricultural conversions (~12,000 acres) was due to vineyard expansion. Of this 4,000 acres, approximately 700 acres were converted to vineyard between 1982 and 1996 and the remainder of 3,300 acres were converted between 1996 and 2006, which represents approximately 40 percent of overall conversion acreage (8,200 acres). Spatial analysis of the vineyard development indicated that most of the recent vineyard expansion is at the valley edges and upslope.

As shown in Exhibits 4.9.6, 4.9.7, and 4.9.8, while there are scattered conversions of habitat to agriculture east and west of Prunedale and along the Salinas River north of Fort Ord, the dominant locales of recent conversions are along the eastern and western slope of the Salinas Valley. It is expected that these slopes of the Salinas Valley along with the slopes of tributary valleys to the Salinas Valley will be the likely focus of future conversions of habitat to agriculture.

Using historic trends as a proxy for future conversions, Table 4.9-8 estimates the amount of habitat that might be converted by 2030 and at buildout.

As noted above for vineyards, expansion of agriculture into new areas could also involve the use of pesticides and increased soil erosion, depending on agricultural practices which could affect aquatic CEQA-defined special-status species in downstream areas. Water quality impacts of the 2007 General Plan are discussed in greater detail in Section 4.3, Water Resources.

Table 4.9-8. Monterey County Agricultural Habitat Conversions, 2030 and Buildout (Includes Cities and Coastal Areas)

Conversion Type	Acres Converted 1982–2006	Average Annual 1982–2006	Estimated Acres converted by 2030	Estimated Acres converted by Buildout
Habitat to Farmland	**11,185**	**447**	**9,843**	**37,582**
Annual Grassland	8,564	343	7,536	28,775
Oak Woodland	653	26	575	2,194
Riparian/Wetland	641	26	564	2,154
Coastal Prairie	428	17	377	1,438
Mixed Conifer	388	16	341	1,304
Baccharis Scrub	269	11	237	904
Gabilan Scrub	93	4	82	312
Oak Savanna	49	2	43	165
Saltwater Marsh	38	2	33	128
Baccharis Chaparral	33	1	29	111
Freshwater Marsh	21	1	18	71
Maritime Chaparral	8	0	7	27

Methodology: See Table 4.9-6. Forecast for 2030 and buildout based on 1982 to 2006 averages.

4.9.5.4 Impact Analysis

Impacts on CEQA-defined Special-Status species

Impact BIO-1: Potential Adverse Impact on CEQA-defined special-status species (Less than Significant with Mitigation through 2030 Planning Horizon and Significant and Unavoidable with Mitigation at Buildout)

2030 Planning Horizon

Impact of Development with Policies

Land use and development consistent with the 2007 General Plan would result in adverse impacts on CEQA-defined special-status species in Monterey County, particularly those in or near areas that are contemplated for future urban uses. Impacts on CEQA-defined special-status species would include direct loss of individuals or localized populations, elimination or degradation of habitat, and isolation of subpopulations due to habitat fragmentation. Conversion of existing natural habitat to urban development, roadways, and other infrastructure improvements could result in the elimination of populations of CEQA-defined special-status species where present within the limits of proposed grading and development.

Routine and ongoing agricultural activity conducted within its current footprint would not result in new conversions of natural habitat. Agricultural activity is required to comply with the Agricultural Waiver Program of the RWQCB which addresses runoff and downstream water quality that could otherwise have an indirect effect on aquatic resources.

The installation of new vineyards, row crops, and other actively managed agricultural uses (including routine and ongoing agriculture), mining extraction, and other activities could also result in the elimination of essential habitat for CEQA-defined special-status species. Even if the sensitive habitat is deliberately avoided at the project level, new development and intensively managed land practices would result in fragmentation of the existing habitat and leave the CEQA-defined special-status species population at risk of extirpation (local extinction). The exact amount of habitat conversion due to agricultural expansion onto uncultivated lands is not known. Based on recent trends from 1982 to 2006 when approximately 450 acres of habitat were converted each year on average, if this trend continued to 2030, then approximately 9,850 acres of habitat would be converted across the County.

Indirect impacts would include disruption of critical functions affecting reproductive success; degradation of habitat quality to such an extent that occupied habitat is no longer suitable for individual survival, and other influences. Indirect impacts to CEQA-defined special-status species could also occur due to increases in stormwater runoff, erosion and downstream sedimentation, and use of pesticides for agriculture and landscaping.

CEQA-Defined Special-Status Plant Species

Development associated with the 2007 General Plan would result in the direct loss or indirect disturbance of CEQA-defined special-status plant species that are known to grow or that could grow in impacted areas. Impacts on CEQA-defined special-status plant species would result in a substantial reduction in local population size, lowered reproductive success, or habitat fragmentation.

CEQA-Defined Special-Status Wildlife Species

Development under the 2007 General Plan will result in the direct loss or indirect disturbance of CEQA-defined special-status wildlife species or their habitats that are known to occur, or have potential to occur, in the plan area. Impacts on CEQA-defined special-status wildlife species or their habitat would result in a substantial reduction in local population size, lowered reproductive success, or habitat fragmentation. Significant impacts on CEQA-defined special-status wildlife species associated with general plan implementation include, but are not limited to the following: mortality from movement of construction equipment and vehicles; loss of breeding, foraging and refuge habitat from removal of woodland/forest habitat, filling of aquatic habitats and removal of riparian vegetation; and loss of migration corridors from construction of buildings and roadways.

CEQA-Defined Special-Status Fish Species

In some cases development under the general plan would adversely affect CEQA-defined special-status fish species. Impacts on aquatic systems would result from an increase in sediment and/or contaminant input, diversion of water flow, and removal of riparian vegetation. Construction and grading including urban development and conversion of previously uncultivated slopes adjacent to waterways would disturb soils and cause sediment to be transported into and through the channel, which would result in temporary increases in turbidity and sedimentation downstream of construction sites. This would affect food supply and feeding opportunities.

Fuel and concrete could spill into the waterway when construction occurs adjacent to riverine habitat. Various contaminants, such as fuel oils, grease, and other petroleum products used in construction activities, could be introduced into the system either directly or through surface runoff. Contaminants may be lethal or sublethally toxic to fish and other aquatic organisms.

Removal of riparian vegetation would weaken the streambank by loosening the soil, thus increasing the bank's susceptibility to erosion. Alteration of fish habitat would occur if the channel bed and banks were disturbed (e.g., if riprap were placed there) or if sites that have been disturbed mechanically were further disturbed by high-flow events before they are stabilized. Riparian vegetation provides cover for juvenile rearing, shade to reduce temperatures, and food input (i.e., terrestrial invertebrates), and is considered a very valuable component of fish habitat.

2007 General Plan Policies

Land Use Element

The 2007 General Plan Land Use Element emphasizes compact city-centered growth and discourages the encroachment of urban uses into undeveloped areas.

Land Use Element Policies LU-1.1 through LU-1.9 promote appropriate and orderly growth and development while protecting desirable existing land uses. Policy LU-1.1 requires that the type, location, timing, and intensity of growth in the unincorporated area be managed. Policy LU-1.2 discourages premature and scattered development. Policy LU-1.3 stipulates that balanced development of the County be assured through designating adequate land for a range of future land uses. Policy LU-1.4 limits growth to areas where an adequate level of services and facilities exists or can be assured concurrent with growth and development. Policy LU-1.5 requires that land uses be designated to achieve compatibility with adjacent uses. Policy LU-1.6 calls for the establishment of standards and procedures to assure proper levels of review of development siting, design, and landscaping. Policy LU-1.7 allows for clustering of residential development to those portions of the property most suitable for development. Policy LU-1.8 encourages voluntary reduction or limitation of development potential in the rural and agricultural areas through dedication of scenic or conservation easements, transfer of development rights and other appropriate techniques. Policy LU-1.9 prioritizes infill of vacant non-agricultural lands in existing developed areas and new development within designated urban service areas are a priority.

Open Space and Conservation Element

Policy OS-3.5 establishes permit requirements for development relative to steep slopes. The policy prohibits development on slopes greater than 30% with certain exceptions, provides for a discretionary development permit on slopes greater than 25%, or greater than 15% in highly erodible soils and establishes an agricultural permit process for conversion of previously uncultivated lands greater than 25%. These permit processes will be designed to require that an erosion control plan be developed and implemented that addresses slope stabilization, and drainage and flood hazards. There are specialized criteria for projects that are subject to a State Agricultural Waiver Program that includes biological resource and water quality.

Open Space and Conservation Element Policies OS-4.1 through OS-4.3 establish measures to protect coastal, marine, and river resources. Policy OS-4.1 stipulates that lFederal and state designated native

marine fresh water plant and animal species be protected. Policy OS-4.2 requires that direct and indirect discharges of harmful substances into rivers or streams not exceed state or federal standards. Policy OS-4.3 stipulates that fresh water marshes, wetlands, sloughs, river and stream mouth areas, as well as all waterways that drain and have impact on state designated Areas of Special Biological Significance be protected, maintained and preserved in accordance with state and federal water quality regulations.

Open Space and Conservation Element Policies OS-5.1 through OS-5.18 establish measures to protect biological resources and natural habitats.

Policy OS-5.1 and 5.2 establishes that the extent and acreages of critical habitat and suitable habitat for listed species shall be inventoried and their conservation promoted. Policy OS-5.3 stipulates that development be carefully planned to provide for the conservation and maintenance of plant and animal communities or species listed by state or federal agencies for protection. Policy OS-5.4 encourages the avoidance of impacts to state and federally protected plant and wildlife species through the use of clustering lots to avoid critical areas, dedications of permanent conservation easements, and other appropriate means. Policy OS-5.5 encourages landowners and developers to preserve the integrity of existing terrain and native vegetation in visually sensitive areas such as hillsides, ridges, and watershed but exempts Routine and Ongoing Agricultural from this policy.

Policy OS-5.6 stipulates that native and native compatible species, especially drought resistant species, be utilized in fulfilling landscaping requirements. Policy OS-5.7 requires that proposals for harvesting commercially valuable timber (as defined by the California Department of Forestry) must include a Timber Harvest Plan, consider opportunities for concurrent public recreation, be approved by the California Department of Forestry, complete environmental review, and comply with the resource protection goals and policies the General Plan. Policy OS-5.8 allows small-scale milling operations, subject to compatibility with resource protection policies and the peace of adjacent residences. Policy OS-5.9 establishes that each Area Plan set forth tree removal permit requirements. Policy OS-5.10 sets forth criteria for the County tree removal ordinance.

Policy OS-5.11 promotes conservation of large, continuous expanses of native trees and vegetation as the most suitable habitat for maintaining abundant and diverse wildlife. Policy OS-5.12 requires consultation with the CDFG to protect Areas of Special Biological Significance for state and federally listed species. Policy OS-5.13

encourages efforts to obtain and preserve natural areas of particular biologic, scientific, or educational interest and restrict incompatible uses from encroaching upon them. Policy OS-5.14 requires that policies and procedures that encourage exclusion and control or eradication of invasive exotic plants and animals be established. Policy OS-5.15 sets forth a fee waiver program for environmental restoration projects.

Policy OS-5.16 requires biological surveys and implementation of mitigation measures for development that would potentially disturbed listed species or its critical habitat. Policy OS-5.17 requires the County to develop a program to mitigate the loss of critical habitat. Policy OS-5.18 requires all applicable federal state permitting requirements to be met before disturbing any federal or state jurisdictional areas.

Public Services Element

Public Service Element Policies PS-11.11 and 11.12 establish measures to minimize impacts to biological resources within recreational areas and open space areas. These policies require emphasis on protection and best management practices of environmental resources in County parks and open space facilities. Open spaces that are rich in biological resources are to be managed for passive enjoyment of these resources.

Area Plan Policies

Cachagua Area Plan

Policy CACH-1.4 stipulates that new development adjacent to the Ventana Wilderness does not impact the purpose of the wilderness areas. Policy CACH-3.3 requires that the alteration of hillsides and natural landforms be minimized through sensitive siting and design of all improvements and maximum feasible restoration including botanically appropriate landscaping. Policy CACH-3.5 stipulates mitigation for mining, commercial timber, or resource production impacts on flora and fauna. Policy CACH-3.6 promotes cooperation with the United States Forest Service and private property owners to ensure that Santa Lucia fir are protected. Policy CACH-3.7 protects riparian vegetation and threatened fish species and along the Carmel and Arroyo Seco Rivers. It also reduces encroachment from new development on the main channels of the Carmel and Arroyo Seco Rivers.

Carmel Valley Master Plan

Policy CV-3.4 requires that the alteration of hillsides and natural landforms be minimized through sensitive siting and design Policy

CV-3.7 stipulates that specific areas of biological significance be identified and preserved as open space. Policy CV-3.8 requires that development be sited to protect riparian vegetation, minimize erosion, and preserve the visual aspects of the Carmel River. It also requires that riparian vegetation be re-established in areas where it no longer exists. Policy CV-3.9 stipulates that willow-cover along the banks and bed of the Carmel River be maintained in a natural state for erosion control. Policy CV-3.10 requires that predominant landscaping and erosion control material consist of plants native to the valley and requires landscape and erosion plans to incorporate an approach to controlling invasive non-native plant species. Policy CV-3.11 discourages removal of healthy, native oak and madrone trees and requires a permit for the removal of any of these trees with a trunk diameter in excess of six inches at breast height with replacement at 1:1 ratio. Policy CV-3.12 encourages the designation of open space in areas of diverse habitats and ecologically important zones. Policy CV-4.1 stipulates that reduce potential erosion, the amount of land cleared at any one time be limited to the area that can be developed during one construction season, motor vehicles be prohibited on the banks or in the bed of the Carmel River, and native vegetation must be maintained in areas with certain slopes or erodible soils. Policy CV-5.3 requires that new development incorporate water reclamation, conservation features to maintain the ecological environment. Policy CV-6.2 discourages gardens, orchards, row crops, grazing animals, farm equipment, and buildings on slopes of 25 percent or greater or where it would require the conversion or extensive removal of existing native vegetation.

Central Salinas Valley Area Plan

Policy CVS-5.1 prohibits new development from encroaching on the main channels of the Arroyo Seco River and the Salinas River in order to preserve riparian habitats. Policy CVS-5.2 stipulates that new recreational uses avoid encroaching on the main channels of the Arroyo Seco River and the Salinas River in order to preserve riparian habitats.

Fort Ord Master Plan

Recreation Policy C-2 requires review of all proposed recreational use for compatibility with an adopted Habitat Conservation Plan to insure long-term protection of sensitive resources.

Biological Resource Policies A-1 through A-9 promote the preservation and protection of the sensitive species and habitats addressed in the installation-wide Habitat Management Plan (HMP) for Fort Ord in conformance with its resource conservation and habitat management requirements and with the guidance provided in the HMP Implementing/Management Agreement.

Biological Resource Policies B-1 through B-3 require the County to preserve and protect sensitive species and habitats not addressed in the HMP. Policy B-1 requires the County to strive to avoid or minimize loss of sensitive species listed in Fort Ord Reuse Plan Table 4.4-2 that are known or expected to occur in the areas planned for development. Policy B-2 requires County coordination with the Cities of Seaside and Marina, California State University, FORA and other interested entities in the designation of an oak woodland conservation area connecting the open space lands of the habitat management areas. Policy B-3 requires the County to preserve, enhance, restore and protect vernal ponds, riparian corridors and other wetland areas.

Biological Resource Policies C-1 through C-3 require the County to avoid or minimize disturbance to natural land features and habitats through sensitive planning, sitting and design as new developed is proposed in undeveloped lands.

Biological Resource Policies D-1 through D-2 encourage construction worker biological resource training and environmental education and outreach. Biological Resource Policies E-1 and E-2 require the County to address the interim management of natural land areas for which the County is designated as the responsible party and monitor activities that affect all undeveloped natural lands.

Greater Monterey Peninsula Area Plan

Policy GMP-3.4 stipulates that plant materials be used to integrate human-made and natural environments. Policy GMP-3.5 promotes the preservation of redwood forest habitat and wetlands as open space through the use of conservation easements or fee acquisition. Policy GMP-3.6 requires that a 100-foot setback from all wetlands. . Policy GMP-3.7 promotes cooperative efforts between County and cities to conserve wetlands. Policy GMP-3.8 encourages the designation of open space in areas of diverse habitats and ecologically important zones. Policy GMP-3.9 promotes the preservation of critical habitat areas as open space. Policy GMP-3.10 encourages the County to work with state and federal agencies to ensure that oil transport activities near the Monterey County coast include adequate procedures to protect marine bird and mammal (particularly sea otter) populations and to clean up oil spills. Policy GMP-4.1 promotes the preservation of redwood forest and chaparral habitat on land exceeding 25 percent slope.

Greater Salinas Area Plan

Policy 1.1 requires that new development in the Butterfly Village Special Treatment Area preserve certain specified sensitive habitat areas. Policy GS-1.5 requires that development of commercial land

uses designated near Highway 68 and the Salinas River be allowed only if it protects and, where feasible, enhances the riparian habitat along the river. Policy GS-1.8 allows that the land near the town of Spreckels designated as industrial if it is designed to protect, and where feasible, enhance the riparian corridor along the Salinas River. Policy GS-3.1 requires that all vegetation on land exceeding 25 percent slope, particularly chaparral and broad leaf evergreen, remain undisturbed. Policy GS-3.2 encourages the use of native plant materials to integrate the human-made environment with the natural environment. Policy GS-5.1 requires that Gabilan Creek be maintained in a natural riparian state.

North County Plan

Policy NC-3.3 prioritizes conservation of North County's native vegetation in order to retain the viability of threatened or limited vegetative communities and animal habitats and preserve rare, endangered, and endemic plants for scientific study. Policy NC-3.4 discourages removal of healthy, native oak and madrone trees and requires a permit for the removal of any of these trees with a trunk diameter in excess of six inches at breast height. Trees removed must be replaced at a 1:1 ratio using nursery-grown trees of the same species that are a minimum of one gallon in size. Policy NC-3.5 promotes the preservation of critical habitat areas as open space.

South County Area Plan

Policy SC-1.2 encourages cluster development in all areas where development is permitted in order to preserve open space. Policy SC-5.2 encourages cooperative soil conservation, water quality protection, and resource restoration programs within watershed basins shared with neighboring counties. Policy SC-5.3 prohibits new development from encroaching on the main channels and associated floodways of the Nacimiento, San Antonio, and Salinas Rivers.

Toro Area Plan

Policy T-3.7 discourages the removal of healthy trees with diameters in excess of eight inches. Policy T-4.1 prohibits land uses and practices that contribute to significant increases of siltation and flooding of Toro Creek.

AWCP

Section 3 of the Wine Corridor Plan provides limits on the number of wineries in each segment. Section 3.4 (Permitted Uses) and 3.5 (Development Standards) is intended to reduce the footprint of a winery complex.

Section 4 of the Agricultural Element includes policies that support the development of a fully integrated wine industry and encourage development along the designated corridor. Policy AG-4.2 designates segments of the corridor to achieve a balance between wine grape production and wine processing capacity.

Significance Determination

The definition of "special status species" in the 2007 General Plan (Glossary, p. 13) is limited to those listed under the ESA and the CESA and "critical habitat" is defined as areas designated under the ESA. 2007 General Plan Policies OS-5.1,-5.2,-5.3, -5.4, -5.12, -5.16,-5.17, and -5.18 require avoidance, minimization, and compensation of impacts to listed "special-status species". However, there is a landscape-level concern related to new discretionary development in the Salinas Valley that may occur in potential kit fox habitat that is not fully addressed by currently proposed General Plan policies. There is no specific mechanism for mitigating potential impacts to this species from conversion of its habitat due to discretionary development.

Given the General Plan definition of "special-status policies", the aforementioned policies in the 2007 General Plan for biological resources in the Open Space and Public Services Elements concerning "special status species" do not provide for the assessment or mitigation of impacts to species that are not listed under the FESA or CESA. While there are a number of Area Plan policies that provide for protection or mitigation of impacts to certain CEQA-defined special-status species, and the policies for the protection for habitats of listed species will produce co-benefits for non-listed (but rare) other species, the 2007 General Plan does not provide a systematic approach to address impacts of development to CEQA-defined special-status species as described above in this document.

This impact is considered potentially significant because development under the 2007 General Plan would result in reduced numbers, range, and habitat quantity and quality for plant, wildlife, and fish species that are considered "rare, threatened, or endangered" as defined by CEQA guidelines Section 15380 but which are not protected by the federal or state endangered species acts. The following mitigation measures are recommended for implementation by the County.

Mitigation Measures

CEQA-Defined Special-Status Species—Program Level

Mitigation Measure BIO-1.1: Baseline Inventory of Landcover, CEQA-Defined Special Status Species Habitat, Sensitive Natural Communities, Riparian Habitat, and Wetlands in Monterey County

The County shall expand the inventory of listed species suitable and critical habitat required by Policy OS 5.1 and OS-5.2 to include an

updated vegetation land cover map, identification of suitable habitat for CEQA-defined special status species (as defined in this document), sensitive natural communities, and riparian habitat in Monterey County. The inventory shall include wetlands inventory as feasible based on existing data sources and aerial interpretation. This inventory should be updated at a minimum of ten-year intervals. The inventory can exclude areas that are not under the control of Monterey County (e.g., cities, state and federal lands).

Mitigation Measure BIO-1.2: Salinas Valley Conservation Plan to preserve habitat for the San Joaquin kit fox in the Salinas Valley

The County shall, in concert with the USFWS, CDFG, cities in the Salinas Valley, and stakeholders develop a conservation plan for the Salinas Valley to provide for the preservation of adequate habitat to sustain the San Joaquin kit fox population. The general focus area of the plan shall be the Salinas Valley south of the community of Chualar. The Conservation Plan, at a minimum, shall be adopted by Monterey County and shall be applied to all discretionary approvals (and their associated CEQA documents) with potential to affect the San Joaquin kit fox within the conservation plan area. The County shall complete the conservation plan within 4 years of General Plan adoption. The conservation plan funding program shall be developed and shall include a mitigation fee program for which development projects will be assessed a fee based on a proportional basis of impact to the San Joaquin kit fox. The compensation plan shall be developed and implemented in coordination with the appropriate state or federal agency and may provide mechanisms to mitigate impacts of an individual project through one or more of the following means: identifying an agency-approved mitigation bank or other compensation site (on- or off-site); and/or preserving habitat; monitoring the compensation site; and funding the management of the compensation site.

<u>CEQA-Defined Special Status Species—Project Level</u>

Mitigation Measure BIO-1.3: Project Level Biological Survey and Avoidance, Minimization, and Compensation for Impacts to CEQA-defined Special-Status Species and Sensitive Natural communities.

The County shall require that any development project that could potentially impact a CEQA-defined special status species or sensitive natural community shall be required to conduct a biological survey of the site. If CEQA-defined special-status species or sensitive natural communities are found on the site, the project biologist shall recommend measures necessary to avoid, minimize, and/or compensate for identified impacts to CEQA-defined special-status species and sensitive natural communities. An ordinance establishing minimum standards for a biological report shall be enacted. This policy shall only apply to the following:

- Development in Focused Growth Areas (Community Areas, Rural Centers and Housing Overlays
- Development requiring a discretionary permit
- Large scale wineries in the AWCP.

Significance Conclusion

Over 80% of the development in Monterey County within the 2030 Planning Horizon will occur in areas designated for focused growth. Discretionary permits will be required for this development as well as for any large scale residential and commercial development that might occur outside of these areas (and is subject to the Subdivision Evaluation System). The subdivision Evaluation System examines subdivisions of 5 or more lots or projects of equivalent intensity. For discretionary development, implementation of the General Plan policies alone would have resulted in significant impacts to the San Joaquin kit fox and to CEQA-defined special status species. Mitigation Measure BIO-1.1 creates a biological resources inventory (including CEQA-defined special status species) that will be periodically updated. Mitigation Measure BIO-1.2 would address impacts to kit fox habitat that might occur from development. Mitigation Measure BIO-1.3 requires preparation of a biological report that includes measures to avoid impacts or minimize impacts to CEQA-defined special-status species for focused growth allowed under the General Plan, other large scale projects and projects requiring discretionary permits in the County.

These mitigation measures would address impacts from discretionary large-scale residential, commercial, public infrastructure and agricultural development. In combination with the application of Area Plan policies targeting specific CEQA-defined special-status species, impacts to special-status species (both listed and CEQA-defined) from discretionary development would be considered less than significant.

While "routine and ongoing" agricultural activities would affect CEQA-defined special-status species, these activities occur on agricultural properties that were previously converted from natural land and are already committed to crops. Thus, new habitat loss would not occur and the remaining concern is about impacts on adjacent habitat areas. Participation in the Salinas Valley Watershed Permit Coordination Program, which promotes voluntary conservation practices that protect water quality, is extensive. There were approximately 250,000 irrigated acres in Monterey County enrolled in the program as of September 2007. In addition, agriculture is subject to the RWQCB's Agricultural Waiver Program, which also concerns water quality protection. Participation in the Permit Coordination Program and compliance with the requirements of the Agricultural Waiver program would minimize indirect off-site effects of agriculture on downstream aquatic habitat that support CEQA-defined special-status species. For these reasons, the impact of "routine and ongoing agriculture", where it does not result in conversion of natural lands, is considered to be less than significant.

Legal lot development without subdivision would result in conversion of habitat, but would have highly dispersed effects on CEQA-defined special-status species and their habitat that on a landscape level is also considered less than significant.

The remaining development consists of conversion of previously uncultivated agricultural lands to new farmland. Previously uncultivated lands are those areas that have not been cultivated during the past 20 years. As shown in the pattern of historic conversion (see Exhibits 4.9.6, 4.9.7, 4.9.8, and 4.9.9), conversion of natural communities would be widely dispersed geographically throughout the ranges of CEQA-defined special-status species addressed in this document. Thus future habitat conversions are expected to dispersed and not concentrated in a way that they would substantially change overall populations of CEQA-defined special-status species. New agricultural development would be subject to the Agricultural Waiver Program concerning water quality protection, which will protect downstream aquatic species habitat that contain CEQA-defined special-status species from indirect water quality effects. For agricultural conversions on slopes greater than 25%, Policy OS-3.5 includes requirements to address water quality, erosion and biological resources, which would reduce potential impacts to CEQA-defined special-status species and their habitat. Based on the assumption that conversion of previously uncultivated lands is not anticipated to exceed the previous 25 year trend (1982 – 2006) in the County (approximately 450 acres per year), the sporadic and discontinuous pattern of crop expansion, the extensive geographic distribution of agricultural operations especially within the Salinas Valley, and the application of current regulatory requirements to address off-site water quality impacts, agricultural conversion is not considered to result in a significant impact to CEQA-defined special-status species or their habitat.

Buildout

Impact of Development with Policies

While there are profound uncertainties in predicting the impacts of buildout on CEQA-defined special-status species nearly 84 years in the future, nevertheless there will likely be further adverse effects of buildout beyond the 2030 horizon. Given the amount of potential buildout, these effects would exceed those for impacts before 2030.

Up to 2030, based on housing units, the County would have less than one-third (~28%) of the overall buildout allowed by the 2007 General Plan. It is expected that most of the growth by 2030 (perhaps 80% or more) will be within the focused development areas (Community Areas, Rural Centers, and AHOs). What this means for development between 2030 and 2092 is that the bulk of development will be in areas outside the focused development areas and will thus be far less compact, and is likely to result in more fragmentation of habitat compared to the development prior to 2030.

Furthermore, up to 2030, there will be 22 years of agricultural conversion, compared to 2092, which will have an additional 62 years of agricultural conversion of potential CEQA-defined special-status species habitat. While it is reasonable to assume that some agricultural conversion will continue in the immediate future based on current trends, and that only a portion of the lands that would be converted would include CEQA-defined special-status species habitat or impact wildlife corridors, it is highly speculative to presume that recent trends of agricultural conversion of habitat and expansion will continue as at present for 84 years in the future. Thus, the amount of agricultural conversion of CEQA-defined special-status species habitat at buildout is not estimated, but is assumed to be some level beyond 2030.

2007 General Plan and Area Plan Policies

The 2007 General Plan and Area Plan policies summarized above would apply to buildout after 2030.

Significance Determination

This impact is considered potentially significant because buildout under the 2007 General Plan would result in reduced numbers, range, and habitat quantity and quality for plant, wildlife, and fish species that are considered "rare" under CEQA as evidence by meeting the special-status species definition noted above but which are not protected by the federal or state endangered species acts. A further concern is that new threats to CEQA-defined special-status species may arise in the more distant future beyond 2030 that are not currently anticipated.

The following mitigation measures are recommended for implementation by the County.

Mitigation Measures

Mitigation Measures BIO- 1.1 through BIO-1.3 as described above.

Mitigation Measure BIO-1.4: By 2030, prepare an Update to the General Plan to identify expansion of existing focused growth areas and/or to identify new focused growth areas to reduce loss of natural habitat in Monterey County

The County shall update the County General Plan by no later than January 1, 2030 and shall consider the potential to expand focused growth areas established by the 2007 General Plan and/or the designation of new focused growth areas. The purpose of such expanded/new focused growth areas would be to reduce the loss of CEQA-defined special status species and their habitat due to continued urban growth after 2030. The new/expanded growth areas shall be designed to accommodate at least 80% of the projected residential and commercial

growth in the unincorporated County from 2030 to buildout. This update will also address expansion of agricultural operations and potential impacts to CEQA-defined special-status species.

Mitigation Measure BIO-1.5: By 2030, prepare a Comprehensive County Natural Communities Conservation Plan

The County shall complete the preparation of a NCCP for all incorporated areas in Monterey County by no later than January 1, 2030 to address all state and federal listed species and all CEQA-defined special-status species with potential to be listed up to buildout of the County. The County shall invite the participation of the incorporated cities, the federal land agencies, Caltrans and other stakeholders. The NCCP shall also cover preservation of sensitive natural communities, riparian habitat, and wetlands, and wildlife movement corridors and include mechanisms including on and off-site mitigation ratios and fee programs for mitigating impacts.

Significance Conclusion

Implementation of General Plan policies and Mitigation Measures BIO-1.1 through BIO-1.5 would reduce impacts of buildout on CEQA-defined special-status species and their habitat to a less than significant level.

However, it is impossible to know what threats CEQA-defined special-status species will face over the next 84 years. Species that are currently common today may be subject to new threats (such as invasive species or climate change) that may make them far more rare than at present and it is unknown whether there will be feasible means to address these new threats. Species that are currently rare could be subject to new threats as well, which could undermine current conservation practices and require additional measures that are not anticipated at present. Further, actions in other parts of California could affect populations of CEQA-defined special-status species that also occur in Monterey County, that could in turn affect the priority for conservation in Monterey County and require additional protection measures and conservation areas.

Given this uncertainty, it is not possible definitively conclude that impacts can be fully mitigated and thus this impact is considered significant and unavoidable.

Impacts to Natural Communities (including Riparian Habitat and Wetlands)

Impact BIO-2: Potential Adverse Effects on Sensitive Riparian Habitat, Other Sensitive Natural Communities and on Federal and State Jurisdictional Waters and Wetlands (Less Than Significant with Mitigation for 2030 Planning Horizon and Significant and Unavoidable with Mitigation for Buildout)

2030 Planning Horizon

Impact of Development with Policies

Common Natural Communities

There are several common vegetation types (habitats) within the county that may be lost as a result of development associated with the 2007 General Plan. Examples of common habitats are agricultural land, annual grassland, barren land, common chaparral and scrub communities, and eucalyptus forests. The loss of these common habitats is considered less than significant because this habitat type is not a sensitive natural community, and because similar habitat of equivalent or greater value is abundant in the region. Furthermore, loss of these common habitats alone is not expected to contribute to the destruction or deterioration of an individual, population of, or habitat for CEQA-defined special-status species. Impacts are considered less than significant. No mitigation is required.

Sensitive Natural Communities (other than Riparian Habitat)

There are several sensitive natural community types within the county that may be lost as a result of development associated with the 2007 General Plan. These are described in detail in the Environmental Setting section of this chapter and include dune scrub, marshes, native grasslands, maritime chaparral, oak woodland types, Monterey pine forests and conifer/redwood forests. The loss of these habitats is considered potentially significant because it would result in permanent loss of communities considered sensitive by DFG.

Riparian Habitat

Development associated with the 2007 General Plan would result in the removal of riparian habitat in specific locations. Additionally, development could result in long-term degradation of riparian sensitive plant communities, fragmentation or isolation of an important wildlife habitat, or disruption of natural wildlife movement corridors or important rearing habitat for juvenile steelhead. The loss or disruption of riparian habitats is a significant impact due to the value of such habitat for a wide

variety of common and CEQA-defined special-status species and for providing a wildlife movement corridor along creeks in the County.

Waters and Wetlands

Development activities associated with the 2007 General Plan would result in the loss of wetlands and waters of the United States and/or the State, including named or unnamed streams, vernal pools, salt marshes, freshwater marshes, and other types of seasonal and perennial wetland communities. Wetlands and other waters would be affected through direct removal, filling, hydrological interruption (including dewatering), alteration of bed and bank, and other construction-related activities. This impact is considered potentially significant because it would result in permanent loss of wetlands or waters of the United States and/or the State, or loss of functions or habitats associated with these wetlands or waters.

Noxious Weeds

Development associated with the 2007 General Plan could introduce noxious weeds or result in their spread into currently uninfested areas, possibly resulting in the degradation or loss of sensitive natural communities including wetlands and riparian habitats. Noxious weed plants or seeds may be dispersed via construction equipment if appropriate measures are not implemented. New development at the urban-wildland interface would also increase the potential for wildland fire. While fire is an essential part of maintaining many native vegetation communities, fires can also spread weed seed that can outcompete native vegetation during the recolonization period following fire, which can reduce the range and vigor of native vegetation communities. This impact is considered potentially significant because the introduction or spread of noxious weeds would result in a substantial reduction or elimination of species diversity or abundance.

2007 General Plan Policies

The 2007 General Plan emphasizes compact city-centered growth in and near existing urbanized areas. This land use concept is designed to preserve significant natural areas and minimize adverse biological impacts, including adverse effects on sensitive natural communities, riparian habitat and wetland areas. The 2007 General Plan also contains goals and policies that address potential adverse impacts on riparian and wetland areas from development.

Land Use Element

Land Use Element Policies LU-1.1 through LU 1.9 establish general land use concepts that emphasize city-centered growth, compatibility between adjacent land uses, and the conservation of natural areas.

These policies are summarized in detail under Impact BIO-1. Collectively, these policies promote compact urban growth in existing developed areas and discourage growth in sensitive natural communities, riparian and wetland areas where development would have the most deleterious impacts on these habitats.

Open Space and Conservation

Policies OS-3.1 -3.9 address mechanisms to reduce soil erosion, and water quality impacts through the use of BMPs, project design and permitting requirements on slopes. OS-3.7 encourages preparation and implementation of a coordinated resources management plan in watersheds of State designated impaired waterways. OS-3.9 requires the development of a Program to address potential cumulative hydrologic impacts of the conversion of hillside rangeland areas to cultivated croplands, including effects from soil erosion, increased runoff related stream stability impact and potential violation of water quality standards.

Policy OS-4.2 requires that direct and indirect discharges of harmful substances into rivers or streams not exceed state or federal standards. Policy OS-4.3 stipulates that fresh water marshes, wetlands, sloughs, river and stream mouth areas, as well as all waterways that drain and have impact on state designated Areas of Special Biological Significance be protected, maintained and preserved in accordance with state and federal water quality regulations.

Policy OS-5.5 provides encouragement to preserve the integrity of existing terrain and native vegetation in visually sensitive areas such as hillsides, ridges, and watersheds. Policy OS-5.6 requires the use of native and native compatible species, especially drought resistant species, shall be utilized in fulfilling landscaping requirements. Policy OS-5.11 promotes conservation of large, continuous expanses of native trees and vegetation as the most suitable habitat for maintaining abundant and diverse wildlife. Policy OS-5.12 requires consultation with the CDFG to protect Areas of Special Biological Significance for state and federally listed species. Policy OS-5.13 encourages efforts to obtain and preserve natural areas of particular biologic, scientific, or educational interest. Policy OS-5.14 requires establishment of policies and procedures that encourage exclusion and control or eradication of invasive exotic plants and pests. Policy OS-5.15 requires establishment of a fee waiver program for environmental restoration projects.

Public Services Element

PS-2.8 requires that all projects be designed to minimize runoff, recharge groundwater and protect water quality. Public Service

Element Policies PS-11.11 and 11.12 establish measures to minimize impacts to biological resources within recreational areas and open space areas. These policies require emphasis on protection and best management practices of environmental resources in County parks and open space facilities. Open spaces that are rich in biological resources are to be managed for passive enjoyment of these resources.

Agricultural Element

Policy AG-5.1 of the Agricultural Element supports programs that reduce soil erosion. Policy AG-5.2 promotes policies and programs to protect and enhance surface water and groundwater resources.

Area Plan Policies

Cachagua Area Plan

Policy CACH-3.3 requires that the alteration of hillsides and natural landforms be minimized through sensitive siting and design of all improvements and maximum feasible restoration including botanically appropriate landscaping. Policy CACH-3.6 promotes cooperation with the United States Forest Service and private property owners to ensure that Santa Lucia fir are protected. Policy CACH-3.7 protects riparian vegetation and threatened fish species along the Carmel and Arroyo Seco Rivers. It also reduces encroachment from new development on the main channels of the Carmel and Arroyo Seco Rivers.

Carmel Valley Master Plan

Policy CV-3.4 requires that the alteration of hillsides and natural landforms be minimized through sensitive siting and design of all improvements and maximum feasible restoration including botanically appropriate landscaping. Policy CV-3.7 stipulates that areas of biological significance, including the redwood community of Robinson Canyon, the riparian community and redwood community of Garzas Creek, wetlands, marshes, seeps, springs, native bunchgrass stands, natural meadows, cliffs, rock outcrops, unusual geologic substrates, ridgelines, and wildlife migration routes be identified and preserved as open space. Policy CV-3.8 requires that development be sited to protect riparian vegetation, minimize erosion, and preserve the visual aspects of the Carmel River. Policy CV-3.9 stipulates that willow-cover along the banks and bed of the Carmel River be maintained in a natural state for erosion control and any alteration to the river be only allowed by permit from the Monterey Peninsula Water Management District or Monterey County. Policy CV-3.10 requires that predominant landscaping and erosion control material consist of plants native to the valley. Policy

CV-3.12 encourages the designation of open space in areas of diverse habitats and ecologically important zones. Policy CV-4.1 stipulates that reduce potential erosion, the amount of land cleared at any one time be limited to the area that can be developed during one construction season, motor vehicles be prohibited on the banks or in the bed of the Carmel River, and native vegetation must be maintained in areas with certain slopes or erodible soils. Policy CV-5.3 requires that new development incorporate water reclamation, conservation features to maintain the ecological environment. Policy CV-6.2 discourages gardens, orchards, row crops, grazing animals, farm equipment, and buildings on slopes of 25 percent or greater or where it would require the conversion or extensive removal of existing native vegetation.

Central Salinas Valley Area Plan

Policy CVS-5.1 prohibits new development from encroaching on the main channels of the Arroyo Seco River and the Salinas River in order to preserve riparian habitats, flood flow capacity, and groundwater recharge. Policy CVS-5.2 stipulates that new recreational uses avoid encroaching on the main channels and floodways of the Arroyo Seco River and the Salinas River in order to preserve riparian habitats. The policy also prohibits development that would create level of runoff that would cause erosion or adversely affect surface water resources.

Fort Ord Master Plan

Recreation Policy C-1 requires the County to establish an oak tree protection program to ensure conservation of existing coastal live oak woodlands in large corridors within a comprehensive open space system. Recreation Policy C-2 requires review of all proposed recreational use for compatibility with an adopted Habitat Conservation Plan to insure long-term protection of sensitive resources.

Biological Resource Policies A-1 through A-9 promote the preservation and protection of the sensitive species and habitats addressed in the installation-wide Habitat Management Plan (HMP). Biological Resource Policies B-1 through B-3 require the County to preserve and protect sensitive species and habitats not addressed in the HMP. Biological Resource Policies C-1 through C-3 require the County to avoid or minimize disturbance to natural land features and habitats through sensitive planning, sitting and design as new developed is proposed in undeveloped lands. Biological Resource Policies D-1 through D-2 encourage construction worker biological resource training and environmental education and outreach. Biological Resource Policies E-1 and E-2 require the County to address the interim management of natural land areas for which the

County is designated as the responsible party and monitor activities that affect all undeveloped natural lands.

Greater Monterey Peninsula Area Plan

Policy GMP-3.4 stipulates that plant materials be used to integrate human-made and natural environments. Policy GMP-3.5 promotes the preservation of redwood forest habitat and wetlands as open space through the use of conservation easements or fee acquisition. Policy GMP-3.6 requires that a 100-foot setback from all wetlands, as identified by a County-approved biologist, be provided and maintained in open space use. Policy GMP-3.7 promotes cooperative efforts between County and cities to conserve wetlands. Policy GMP-3.8 encourages the designation of open space in areas of diverse habitats and ecologically important zones. Policy GMP-4.1 promotes the preservation of redwood forest and chaparral habitat on land exceeding 25 percent slope.

Greater Salinas Area Plan

Policy 1.1 requires that new development in the Butterfly Village Special Treatment Area preserve certain specified sensitive habitat areas. Policy GS-1.5 requires that development of commercial land uses designated near Highway 68 and the Salinas River be allowed only if it protects and, where feasible, enhances the riparian habitat along the river. Policy GS-1.8 allows that the land near the town of Spreckels designated as industrial if it is designed to protect, and where feasible, enhance the riparian corridor along the Salinas River. Policy GS-3.1 requires that all vegetation on land exceeding 25 percent slope, particularly chaparral and broad leaf evergreen, remain undisturbed. Policy GS-3.2 encourages the use of native plant materials to integrate the human-made environment with the natural environment. Policy GS-5.1 requires that Gabilan Creek be maintained in a natural riparian state.

North County Area Plan

Policy NC-3.3 prioritizes conservation of North County's native vegetation in order to retain the viability of threatened or limited vegetative communities and animal habitats and preserve rare, endangered, and endemic plants for scientific study.

South County Area Plan

Policy SC-1.2 encourages cluster development in all areas where development is permitted in order to preserve open space. Policy SC-5.3 prohibits new development from encroaching on the main channels and associated floodways of the Nacimiento, San Antonio, and Salinas Rivers.

Toro Area Plan

Policy T-4.1 prohibits land uses and practices that contribute to significant increases of siltation and flooding of Toro Creek.

Significance Determination

The policies in the 2007 General Plan Open Space Element concerning sensitive natural communities do not always provide for the assessment or mitigation of impacts to all sensitive natural communities. However, there are there a numerous Area Plan policies provide for protection or mitigation of impacts to a number of important sensitive natural communities that are unique to these geographic areas. In addition, policies for the protection for habitats of listed species will produce co-benefits for some natural communities. The 2007 General Plan does not provide a systematic approach to address impacts of development to all sensitive natural communities as defined above in this document. This impact is considered potentially significant because development under the 2007 General Plan would result in reduced range, quality and extent of sensitive natural communities. Further, the 2007 General Plan policies do not sufficiently guide the implementation of future development so as to ensure avoidance, minimization, and/or compensation for impacts to sensitive natural communities. Thus impacts to sensitive natural communities are considered significant.

The 2007 General Plan and some of the Area Plans contain policies concerning the protection of riparian habitat and wetlands. For example, Policies OS-4.2 and OS-4.3 address marine and wetland resources. The Cachagua Area Plan, the Carmel Valley Master Plan, the Greater Monterey Peninsula Area Plan and the South County Area Plan contain specific protections for riparian habitat (or for riparian habitat along key rivers) and the Carmel Valley Master Plan and the Greater Monterey Peninsula Area Plan contain specific protections for wetlands. However, there is no specific protection framework for riparian habitat and in the General Plan. Thus, impacts to riparian habitat are considered significant. Additionally, development on slopes adjacent to riparian habitats is not specifically protected. Nor are there criteria for development adjacent to streams and riparian areas.

Impacts to wetlands as designated under the Clean Water Act Section 404, and the state Porter-Cologne Water Quality Control Act and State designated Areas of Special Biological Significance are protected by proposed 2007 General Plan policies in Section OS-4 and Area Plans.

Impacts that could occur as a result of displacement impacts from the spread of noxious weeds are addressed by the 2007 General Plan Policy OS 5-14 and is less than significant. No new General Plan policies are required related to this impact.

The following mitigation measures are recommended for implementation by the County.

Mitigation Measures

Program Level Mitigation Measures

Mitigation Measure BIO-1.1 as described above under Impacts to CEQA-defined special-status species.

Mitigation Measure BIO-2.1: Stream Setback Ordinance

The county shall develop and adopt a county-wide Stream Setback Ordinance to establish minimum standards for the avoidance and setbacks for new development relative to streams. The ordinance shall identify standardized inventory methodologies and mapping requirements. A stream classification system shall be identified to distinguish between different stream types (based on hydrology, vegetation, and slope, etc.) and thus allow application of standard setbacks to different stream types. The ordinance shall identify specific setbacks relative to the following rivers and creeks so they can be implemented in the Area Plans: Salinas, Carmel River, Arroyo Seco, Pajaro River, Nacimiento, San Antonio, Gabilan Creek, and Toro Creek. The ordinance may identify specific setbacks for other creeks or may apply generic setbacks based on the stream classification developed for the ordinance. The purpose of the ordinance will be to preserve riparian habitat and reduce sediment and other water quality impacts of new development.

The Stream Setback Ordinance shall apply to all discretionary development within the County and to conversion of previously uncultivated agricultural land (as defined in the General Policy Glossary) on normal soil slopes over 15% or on highly erodible soils on slopes over 10%.

Mitigation Measure BIO-2.2: Oak Woodlands Mitigation Program.

The County shall prepare, adopt and implement a program that allows project to mitigate the loss of oak woodlands. The program would include ratios for replacement, payment of fees to mitigate the loss or direct replacement for the loss of oak woodlands and monitoring for compliance. The program would identify criteria for suitable donor sites. Mitigation for the loss of oak tree woodlands may be either on-site or off-site. The program would allow payment to either a local fund established by the County. Until such time as the County program is implemented, payment of a fee may be made to the State Oak Woodlands Conservation Program. Replacement of oak woodlands shall be on a minimum 1:1 ratio.

Mitigation Measure BIO-2.3: Add Considerations Regarding Riparian Habitat and Stream Flows to Criteria for Long-Term Water Supply and Well Assessment.

Public Services Policies PS-3.3 and PS-3.4 establish the criteria for proof of a long-term water supply and for evaluation and approval of new wells. The following criteria shall be added to these policies:

- Policy PS-3.3.i—Effects on instream flows necessary to support riparian vegetation, wetlands, fish, and other aquatic life including migration potential for steelhead.
- Policy PS-3.4.g—Effects on instream flows necessary to support riparian vegetation, wetlands, fish, and other aquatic life including migration potential for steelhead.

Project Level Mitigation Measure

Mitigation Measure BIO-1.3 as described above under Impacts to CEQA-defined special-status species.

Significance Conclusion

Up to 2030, based on housing units, the County would have less than one-third (~28%) of the overall buildout allowed by the 2007 General Plan. It is expected that most of the growth by 2030 (perhaps 80% or more) will be within the focused development areas (Community Areas, Rural Centers, and AHOs).

A Stream Setback Ordinance as identified above would reduce impacts to streams from new development and from conversion of previously uncultivated agricultural land on steeper slopes and on highly erodible soils in steep slope areas and would further protect these habitats and species by minimizing direct impacts to habitat and reducing water quality impacts in streams. Other mitigation would require a baseline inventory of sensitive natural communities, establish an oak woodlands mitigation program, require consideration of riparian habitat and stream flows during water supply assessments, and project-level inventory, avoidance, minimization, and compensation for impacts to sensitive natural communities.

Accordingly, application of the General Plan policies combined with the above mitigation would mitigate project-level impacts to sensitive natural communities, riparian habitat, and wetlands/waters to a less than significant level.

Buildout

Impact of Development with Policies

As noted above, there are uncertainties in predicting the impacts of buildout on sensitive natural communities, riparian habitat, and wetlands nearly 84 years in the future, nevertheless there will likely be further adverse effects of buildout beyond the 2030 horizon. It is anticipated that lots of record would be the primary location for residential development unless there are changes to the density of Community Areas and Rural Centers or new growth areas identified. Given the amount of potential buildout, these effects would exceed those for impacts before 2030. There are also uncertainties with respect to trends in agriculture that cannot be predicted at this time. This would result in the potential conversion of sensitive natural communities, riparian habitat, and wetlands. The amount of conversion at buildout is not estimated, but is assumed to be some level beyond 2030.

2007 General Plan and Area Plan Policies

The 2007 General Plan and Area Plan policies summarized above for this impact would apply to buildout after 2030.

Significance Determination

This impact is considered potentially significant because buildout under the 2007 General Plan would result in reduced quality, extent, and range of sensitive natural communities, riparian habitat and wetlands. Furthermore, the geographic extent of those impacts is difficult to predict.

The following mitigation measures are recommended for implementation by the County.

Mitigation Measures

Mitigation Measure BIO-1.1, 1.2, 1.3, 1.4, and 1.5 as described above under Impacts to CEQA-defined special-status species.

Mitigation Measures BIO-2.1, 2.2 and 2.3 as described above.

Significance Conclusion

Implementation of General Plan policies, Mitigation Measures BIO-1.1 through BIO-1.5, and Mitigation Measures BIO-2.1 through 2.3 would reduce impacts of buildout on sensitive natural communities, riparian habitat, and wetlands to a less than significant level.

However, it is impossible to know what threats sensitive natural communities will face over the next 84 years. Natural communities may be subject to new threats (such as invasive species, new diseases, new pests, or climate change)

that may make them far more rare than at present and it is unknown whether there will be feasible means to address these new threats. New threats could undermine current conservation practices and require additional measures that are not anticipated at present. Further, actions in other parts of California could affect sensitive natural communities that also occur in Monterey County, that could in turn affect the priority for conservation in Monterey County and require additional protection measures and conservation areas.

Given this uncertainty, it is hard to definitively conclude that impacts can be fully mitigated and thus this impact is considered significant and unavoidable.

Impact on Wildlife Movement and Wildlife Nursery Sites

Impact BIO-3.1: Potential Disturbance and Loss of Native Fish and Wildlife Species Movement Corridors (Less than Significant with Mitigation for 2030 Planning Horizon and for Buildout)

2030 Planning Horizon

Impact of Development with Policies

Development under the 2007 General Plan could restrict local or long-distance movement of native species by further fragmenting intact habitat blocks. Development in natural landscapes serves to disconnect or fragment habitat areas, which in turn reduces the size of CEQA-defined special-status species populations that those habitat areas can support. This reduces the ability of the population to grow and increases the probability the population will be impacted by other environmental factors (e.g., disease, catastrophic weather, predation). However, in some cases these impacts may be unavoidable due to the density of development plans, the specific migration needs of individual species, or the extent of wildlife corridor alternation.

Potential corridors that would be impacted are as follows:

- **Santa Cruz Mountains to Gabilan Range**—The 2007 General Plan does not focus growth in the northeast part of the county around Prunedale. However ongoing expansion of Highway 101 and development on existing lots along Highway 101 will continue to affect this linkage.
- **Santa Lucia Mountains to Fort Ord**—Expansion of Highway 68, development in the Toro Plan Area and in Carmel Valley could affect this corridor.
- **Salinas Valley (east–west)**—Development in Community Centers and Rural Centers and other areas adjacent to the river, along the valley floor, and along the slopes of the Valley (including agricultural conversions

and winery expansion) could affect east-wide migration cross the valley. Expansion and increased traffic along Highway 101 and River Road could also affect east-west migration potential.

- **Salinas River (north-south)**—Development adjacent to the river, along the valley floor, and along the margins of the Valley (including agricultural conversions and winery expansion) could affect north-south migration along the valley.
- **Carmel River**—Limited subdivision (266 lots), development on existing lots, development of the STA at Rancho Canada Village, and the Mid-Valley AHO could affect areas adjacent to the Carmel River.
- **Pajaro River**—Development in the Pajaro Rural Center and on existing lots in North County could affect the river. Nearly all of the land adjacent to the river within Monterey County has already been converted to agriculture.

2007 General Plan Policies

Land Use Element

The 2007 General Plan Land Use Element emphasizes compact city-centered growth and discourages the encroachment of urban uses into undeveloped areas and clustering of residential development to areas most suitable to support the development. Collectively, these policies promote compact urban growth in existing developed areas and discourage growth on significant natural areas that serve as wildlife movement corridors where development would have the most deleterious impacts on wildlife movement. Land Use Element Policies LU-1.1 through LU-1.9 were summarized under Impact BIO-1.

Land Use in Area Plans

Development on properties with residential land use designations location within the Toro Area Plan along the Highway 68 corridor, Greater Salinas Area Plan north of the City of Salinas between Williams Road and Highway 101, and the North County Area Plan are limited to the first single family home on a legal lot of record. Creation of new lots in the Carmel Valley Area is capped at 266 new lots.

Open Space and Conservation Element

Policies OS 1.3-1.8 address ridgeline development, transfer of development rights and clustering. OS-1.7 establishes a transfer development program to direct development away from areas with unique visual or natural features, critical habitat, or prime agricultural soils. OS-1.8 encouraging clustering of development in

rural and agricultural areas to protect prime agricultural land and critical habitat areas.

Policy OS-4.3 stipulates that fresh water marshes, wetlands, sloughs, river and stream mouth areas, as well as all waterways that drain and have impact on state designated Areas of Special Biological Significance be protected, maintained and preserved in accordance with state and federal water quality regulations.

Policy OS-5.11 promotes conservation of large, continuous expanses of native trees and vegetation as the most suitable habitat for maintaining abundant and diverse wildlife. Policy OS-5.13 encourages efforts to obtain and preserve natural areas of particular biologic, scientific, or educational interest and restrict incompatible uses from encroaching upon them. Policy OS-17 requires the County to develop a program to mitigate the loss of critical habitat.

Safety Element

Goal S-2 and Policies S-2.1 through 2.8 address reducing development in the floodplain and reducing impacts that would occur within the floodplain.

Agricultural Wine Corridor

AG-4.3 addresses the development of a Winery Corridor Plan to encourage development of the wine industry within the designated corridor. The Corridor Plan establishes limits on the facilities that could be permitted under the Plan along with development criteria.

Area Plan Policies

Cachagua Area Plan

Policy CACH-1.4 stipulates that new development adjacent to the Ventana Wilderness not impact the purpose of the wilderness areas. Policy CACH-3.7 protects riparian vegetation and threatened fish species along the Carmel and Arroyo Seco Rivers. It also reduces encroachment from new development on the main channels of the Carmel and Arroyo Seco Rivers.

Carmel Valley Master Plan

Policy CV-3.7 stipulates that areas of biological significance, including the redwood community of Robinson Canyon, the riparian community and redwood community of Garzas Creek, wetlands, marshes, seeps, springs, native bunchgrass stands, natural meadows, cliffs, rock outcrops, unusual geologic substrates, ridgelines, and wildlife migration routes be identified and preserved as open space.

Policy CV-3.8 requires that development be sited to protect riparian vegetation, minimize erosion, and preserve the visual aspects of the Carmel River. It also requires that riparian vegetation be re-established in areas where it no longer exists. Policy CV-3.9 stipulates that willow-cover along the banks and bed of the Carmel River be maintained in a natural state for erosion control. Policy CV-3.12 encourages the designation of open space in areas of diverse habitats and ecologically important zones. CV-4.1 limits the amount of land that can be cleared during one construction season, provhits motorized vehicles in the Carmel River bed, and requires maintenance of native vegetative cover in areas with erosive soils and steep slopes.

Central Salinas Valley Area Plan

Policy CVS-5.1 prohibits new development from encroaching on the main channels of the Arroyo Seco River and the Salinas River in order to preserve riparian habitats. Policy CVS-5.2 stipulates that new recreational uses avoid encroaching on the main channels of the Arroyo Seco River and the Salinas River in order to preserve riparian habitats.

Fort Ord Master Plan

Biological Resources Policy A-3 requires the County to maintain the habitat values and integrity of the habitat corridor through the western portion of the Recreational Vehicle Park/Youth Camp. Policy A-4 requires the County to protect the habitat corridor in the RV park/youth camp parcel from degradation due to the development in, or use of, adjacent parcels. Policy A-7 requires the County to coordinate with California State University and UCNRS to minimize the potential for HMP species in the habitat conservation and corridor areas adjacent to CSUMB land to be adversely affected by human activity associated with access.

Policy B-2 requires County coordination with the Cities of Seaside and Marina, California State University, FORA and other interested entities in the designation of an oak woodland conservation area connecting the open space lands of the habitat management areas. Policy B-3 requires the County to preserve, enhance, restore and protect vernal ponds, riparian corridors and other wetland areas.

Biological Resources Policy E-2 requires the County to monitor activities that affect all undeveloped natural lands, including, but not limited to conservation areas and habitat corridors as specified and assigned in the HMP.

Greater Monterey Peninsula Area Plan

Policy GMP-3.6 requires that a 100-foot setback from all wetlands, as identified by a County-approved biologist, be provided and maintained in open space use. Policy GMP-3.8 encourages the designation of open space in areas of diverse habitats and ecologically important zones.

Greater Salinas Area Plan

Policy GS-1.5 requires that development of commercial land uses designated near Highway 68 and the Salinas River be allowed only if it protects and, where feasible, enhances the riparian habitat along the river. Policy GS-1.8 allows that the land near the town of Spreckels designated as industrial if it is designed to protect, and where feasible, enhance the riparian corridor along the Salinas River. Policy GS-5.1 requires that Gabilan Creek be maintained in a natural riparian state.

South County Area Plan

Policy SC-1.2 encourages cluster development in all areas where development is permitted in order to preserve open space. Policy SC-5.3 prohibits new development from encroaching on the main channels and associated floodways of the Nacimiento, San Antonio, and Salinas Rivers.

Significance Determination

Development under the general plan could restrict local or long-distance movement of native species by further fragmenting intact habitat blocks. Development in natural landscapes serves to disconnect or fragment habitat areas, which in turn reduces the size of CEQA-defined special-status species populations that those habitat areas can support. This reduces the ability of the population to grow and increases the probability the population will be impacted by other environmental factors (e.g., disease, catastrophic weather, predation, etc.). In many cases these impacts are avoidable by using permeable landscape designs (e.g., roadway underpasses, reduced fencing).

The policies in the 2007 General Plan for Biological Resources do not specifically address wildlife corridors with the exception of the Fort Ord Master Plan. However, the Land Use Element focuses development within designated areas which helps to reduce habitat and corridor fragmentation below the level it would otherwise be. Certain Area Plan policies provide protection of riparian corridors along the Salinas River, Carmel River, Arroyo Seco, Gabilan Creek, and Garzas Creek. The Open Space Element addresses ridgeline development and the Safety Element addresses floodplain development.

In the past decade, there has been a concerted effort by land conservation groups, the regional park district, state and federal agencies and County government to conserve large expanses of open space and wildlife corridor in key corridor linkages. These efforts have contributed to the cumulative reduction in potential impacts to the corridors described above, including coastal and inland linkages. There have also been a number of recent donations and sales of key conservation areas to public and private entities that will have significant long term benefits to securing important wildlife corridors. The Big Sur Land Trust has over 25,000 acres in its holdings and recently acquired, along with the Nature Conservancy, an additional 4,000 acre holding west of Gonzales that straddles the Sierra de Salinas ridgeline with lands in both Carmel River and Salinas watersheds. The Marks Ranch, an 812 acre holding which includes a major wildlife corridor in the Highway 68 corridor, has been deeded for future annexation to the County's Toro Park. A 2,137 acre parcel along the Arroyo Seco River (Central Salinas Area) has been designated as a permanent conservation area as mitigation for a major pipeline project recently approved by the County.

Despite the beneficial effects of these conservation efforts, the 2007 General Plan does not provide a systematic approach to address impacts of development to key wildlife movement linkage as defined above in this document. This impact is considered significant because development under the 2007 General Plan could result in a reduction in linkage between wildlife species populations and reduction in migration of fish and other species along river corridors.

The following mitigation measures are recommended for implementation by the County.

Mitigation Measures

Mitigation Measure BIO-1.2 as discussed above under Impacts to CEQA-Defined Special-Status Species.

Mitigation Measure BIO-2.1 as discussed above under Impacts to Sensitive Natural Communities.

Mitigation Measure BIO-3.1: Project-Level Wildlife Movement Considerations.

The County shall require discretionary projects to retain movement corridors of adequate size and habitat quality to allow for continued wildlife use based on the needs of the species occupying the habitat. The County shall consider the need for wildlife movement in designing and expanding major roadways and public infrastructure projects to provide movement opportunities for terrestrial wildlife and to ensure that existing stream channels and riparian corridors continue to provide for wildlife movement and access.

Significance Conclusion

Over 80% of the development in Monterey County within the 2030 Horizon will occur in areas designated for focused growth. Discretionary permits will be required for this development as well as for any large scale residential and commercial development that might occur outside of these areas (subject to the Subdivision Evaluation System). For discretionary development, implementation of the General Plan policies alone would have potentially resulted in significant impacts to wildlife movement corridors. Mitigation Measure BIO-3.1 requires consideration of wildlife movement for all discretionary projects. Mitigation Measure BIO-1.2 would address impacts to kit fox habitat that might occur from development and will have co-benefits for the protection of wildlife movement for other species. Mitigation Measure BIO-1.3 requires preparation of a biological report that includes measures to avoid impacts or minimize impacts to CEQA-defined special-status species, which may also have some co-benefits for wildlife movement corridors. Mitigation Measure BIO-2.1 would further protection riparian corridors for wildlife movement.

These mitigation measures would address potential impacts from discretionary large-scale residential, commercial, public infrastructure and agricultural development. In combination with the application of Area Plan policies, impacts to wildlife movement from discretionary development would be considered less than significant.

"Routine and ongoing" agricultural activities that occur on existing cropland are part of the baseline and thus would not result in new impacts on wildlife movement corridors.

Legal lot development without subdivision would have highly dispersed effects on wildlife movement that on a landscape level is also considered less than significant.

The remaining development consists of conversion of previously uncultivated agricultural lands to new farmland. As shown in the pattern of historic conversion (see Exhibits 4.9.6, 4.9.7, 4.9.8, and 4.9.8), conversion of natural communities would be widely dispersed geographically throughout the County. Based on the assumption that conversion of previously uncultivated lands is not anticipated to exceed the previous 25 year trend (1982 – 2006) in the County (approximately 450 acres per year), the sporadic and discontinuous pattern of crop expansion, and the geographic distribution of agricultural operations (especially within the Salinas Valley), agricultural conversion is not considered to result in a significant impact to wildlife movement corridors.

Buildout

Impact of Development with Policies

As noted above, there are uncertainties in predicting the impacts of buildout on wildlife movement corridors nearly 84 years in the future; nevertheless there will likely be further adverse effects of buildout beyond the 2030 horizon. Given the amount of potential buildout, these effects would exceed those for impacts before 2030. As one example, the amount of traffic generated by buildout is larger than that for 2030, which would require substantial new transportation facilities to accommodate transportation needs. Whether that would be new roadways, new rail-lines, or other means of transportation cannot be known at this time. Further, trends in agriculture both respect to types of crops and technology are uncertain. The additional 62 years of potential for agricultural conversion of natural habitat is not estimated, but is assumed to be some level beyond 2030

2007 General Plan and Area Plan Policies

The 2007 General Plan and Area Plan policies summarized above for this impact would apply to buildout after 2030.

Significance Determination

This impact is considered potentially significant because buildout under the 2007 General Plan would result in further degradation and impediments to wildlife movement corridors. Furthermore, the geographic extent of those impacts is difficult to predict.

The following mitigation measures are recommended for implementation by the County.

Mitigation Measures

Mitigation Measure BIO-1.2 as discussed above under Impacts to CEQA-Defined Special-Status Species.

Mitigation Measure BIO-1.3 as discussed above under Impacts to CEQA-Defined Special-Status Species.

Mitigation Measure BIO-1.4 as discussed above under Impacts to CEQA-Defined Special-Status Species.

Mitigation Measure BIO-1.5 as discussed above under Impacts to CEQA-Defined Special-Status Species.

Mitigation Measure BIO-2.1 as discussed above under Impacts to Sensitive Natural Communities.

Mitigation Measure BIO-3.1 as discussed above.

Significance Conclusion

Implementation of General Plan policies would focus growth to 2030 and Mitigation Measure BIO-1.4 would focus growth for the period after 2030. Implementation of a NCCP for the County would provide for long-term conservation needs, which to be effective, must include effective preservation of wildlife movement corridors. Mitigation Measures BIO-1.2 would address conservation needs for the San Joaquin kit fox which will produce co-benefits for wildlife movement corridors. The new Stream Setback Ordinance would further protection of riparian corridors beyond the level provided in the General Plan. Mitigation Measure BIO-1.3 would require consideration of preservation of wildlife movement areas during project- review. The combined effect of these measures is to identify and plan for the long-term vitality of wildlife movement corridors in the Count and thus this impact is less than significant.

Impact BIO-3.2: Potential Loss or Disturbance of Nesting Migratory Birds and Raptors (Less than Significant with Mitigation)

2030 Planning Horizon

Impact of Development with Policies

Woodland, forest, scrub, grassland, aquatic and riparian habitats in throughout Monterey County provide suitable nesting habitat for hundreds of migratory birds including CEQA-defined special-status species such as the white-tailed kite, bald eagle, sharp-shinned hawk, Cooper's hawk, marbled murrelet, western burrowing owl, black swift, purple martin, yellow warbler, and tricolored blackbird. The loss or disturbance of these habitats is considered potentially significant to nesting migratory birds and raptors.

2007 General Plan Policies

While there are General Plan policies concerning the preservation of listed species habitat, specified sensitive natural communities, riparian vegetation and wetlands (these are summarized above under Impacts BIO-1 and BIO-2) and for protected trees (summarized below under Impact BIO-4) which will reduce the potential loss of nesting habitat and direct and indirect disturbance of nesting birds, there are no specific policies concerning nesting and migratory birds (unless they are state or federally-listed species).

Area Plan Policies

While there are Area Plan policies concerning the preservation of listed species habitat and listed species, specified sensitive natural communities, riparian vegetation and wetlands (these are summarized

above under Impacts BIO-1 and BIO-2) and protected trees (see Impact BIO-4 which will reduce the potential loss of nesting habitat and the direct and indirect of nesting birds, there are no specific policies concerning nesting and migratory birds (except for those included in the Fort Ord HMP).

Significance Determination

If development under the 2007 General Plan occurs during the breeding season (generally between February 1 and September 15), construction activities (e.g., vegetation removal, grading, noise, etc.) would result in nest abandonment and subsequent loss of eggs or developing young at active nests. This impact is considered potentially significant if the subsequent population declines affected the viability of the local population. Disturbance that results in nest abandonment and death of young or loss of reproductive potential at active nests would also violate California Fish and Game Code Sections 3503 (active bird nests) and the MBTA.

Mitigation Measures

Mitigation Measure BIO-3.2: Remove Vegetation during the Nonbreeding Season and Avoid Disturbance of Nesting Migratory Birds, Including Raptors, as Appropriate (generally September 16 to January 31).

Vegetation removed in the course of development will be removed only during the nonbreeding season (generally September 16 to January 31). Occupied nests of migratory birds, including raptors, will be avoided during this period. The county shall consult, or require the developer to consult, with a qualified biologist prior to any site preparation or construction work in order to (1) determine whether work is proposed during nesting season for migratory birds, (2) determine whether site vegetation is suitable to nesting migratory birds, (3) identify any regulatory requirements for setbacks or other avoidance measures for migratory birds which could nest on the site, and (4) establish project-specific requirements for setbacks, lock-out periods, or other methods of avoidance of nesting birds. The county shall require the development to follow the recommendations of the biologist.

Significance Conclusion

Implementation of the mitigation measure above, in combination with the General Plan Policies and mitigation measures identified for CEQA-defined special-status species, sensitive natural communities, riparian habitat, and wetlands would reduce impacts related to nesting birds (including raptors) to a less-than-significant level and avoid violating the MBTA and California Fish and Game Code.

Buildout

Impact of Development with Policies

Development after 2030 will continue to have the potential to disturb nesting birds during construction.

2007 General Plan and Area Plan Policies

The 2007 General Plan and Area Plan policies summarized above for this impact would also apply to buildout after 2030.

Significance Determination

This impact is considered potentially significant if the subsequent population declines affected the viability of the local population. Disturbance that results in nest abandonment and death of young or loss of reproductive potential at active nests would also violate California Fish and Game Code Sections 3503 (active bird nests) and the MBTA.

Mitigation Measures

Mitigation Measure BIO-3.2: Remove Vegetation During the Nonbreeding Season and Avoid Disturbance of Nesting Migratory Birds, Including Raptors, as Appropriate.

Significance Conclusion

Implementation of the mitigation measure above, in combination with the General Plan Policies and mitigation measures identified for CEQA-defined special-status species, sensitive natural communities, riparian habitat, and wetlands would reduce buildout impacts related to nesting birds (including raptors) to a less-than-significant level and avoid violating the MBTA and California Fish and Game Code.

Impacts Related to Local Policies or Ordinances for the Protection of Biological Resources

Impact BIO-4: Potential Loss of Protected Trees (Less than Significant)

2030 Planning Horizon

Impact of Development with Policies

New development contemplated by the 2007 General Plan would potentially result in the removal of trees that are protected under the County's existing

tree preservation ordinance (Monterey County Code, Chapter 16.60). This ordinance applies to various species of trees including oak, madrone, redwood, fir, elder, laurel, cottonwood, and sycamore trees, and requires that permits be obtained to remove to species of the aforementioned trees. This would be a potentially significant impact.

2007 General Plan Policies

The 2007 General Plan emphasizes compact city-centered growth in and near existing urbanized areas. This land use concept is designed to preserve significant natural areas and minimize adverse biological impacts, including conflicts with tree preservation policies.

Land Use Element

The 2007 General Plan Land Use Element emphasizes compact city-centered growth and discourages the encroachment of urban uses into undeveloped areas which will reduce the numbers of protected trees ultimately removed for development.

Open Space and Conservation

Policy OS-5.9 establishes that each Area Plan set forth tree removal permit requirements.

Policy OS-5.10 requires the establishment of regulations for tree removal, including Timberland Conversion, to be maintained by ordinance implementing Area Plan policies that address the following:

a. Criteria when a permit is required including:
    1. number of trees,
    2. minimum size of tree,
    3. Post Timberland conversion land-use
b. How size is measured for each protected species of tree, and what constitutes a landmark tree depending on the rate of growth for that species.
c. Hazardous trees
d. Pest and disease abatement
e. Replacement criteria.
f. Ensure minimal removal

Policy OS-5.11 promotes conservation of large, continuous expanses of native trees and vegetation as the most suitable habitat for maintaining abundant and diverse wildlife.

Area Plan Policies

Cachagua Area Plan

CACH-3.4 discourages the removal of native trees and specified the conditions under which they are allowed to be removed. Policy CACH-3.6 promotes cooperation with the United States Forest Service and private property owners to ensure that Santa Lucia fir are protected.

Carmel Valley Master Plan

Policy CV-3.11 discourages removal of healthy, native oak and madrone trees and requires a permit for the removal of any of these trees with a trunk diameter in excess of six inches at breast height. Trees removed must be replaced at a 1:1 ratio using nursery-grown trees of the same species that are a minimum of one gallon in size. The policy includes penalties for tree removal that occurs without a permit.

Fort Ord Master Plan

Policy C-2 requires the County to encourage the preservation and enhancement of native oak woodland elements in the natural and built environments.

Greater Monterey Peninsula Area Plan

GMP-3.5 requires development to be designed to prevent, to the maximum extent feasible, the destruction of native oak, pine, and redwood forest habitat.

North County Plan

Policy NC-3.4 discourages removal of healthy, native oak and madrone trees and requires a permit for the removal of any of these trees with a trunk diameter in excess of six inches at breast height. Trees removed must be replaced at a 1:1 ratio using nursery-grown trees of the same species that are a minimum of one gallon in size.

Toro Area Plan

Policy T-3.7 discourages the removal of healthy trees with diameters in excess of eight inches.

Significance Determination

The 2007 General Plan and Area Plans contain policies that establish tree preservation regulations for each planning area. The County's existing tree

preservation ordinance also sets forth criteria for removal of certain types of significant trees. In addition, the 2007 General Plan land use concept emphasizes city-centered growth and discourages urban development in greenfields and significant natural areas where large native trees are most likely to be found. Therefore, the 2007 General Plan is internally consistent with the County's existing and proposed tree preservation requirements and would not create potential conflicts with the aforementioned requirements. Impacts in this regard would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

With the proposed General Plan policies as noted above, impacts to protected trees would be less than significant.

Buildout

Impact of Development with Policies

Development after 2030 would result in the loss of protected trees.

2007 General Plan and Area Plan Policies

The 2007 General Plan and Area Plan policies summarized above apply to buildout as well.

Significance Determination

The 2007 General Plan and Area Plans contain policies that establish tree preservation regulations for each planning area. The County's existing tree preservation ordinance also sets forth criteria for removal of certain types of significant trees. In addition, the 2007 General Plan land use concept emphasizes city-centered growth and discourages urban development in greenfields and significant natural areas where large native trees are most likely to be found. Therefore, the 2007 General Plan is internally consistent with the County's existing and proposed tree preservation requirements would not create potential conflicts with the aforementioned requirements. Impacts in this regard would be less than significant.

Mitigation Measures

None required.

Significance Conclusion

As noted above, impacts to protected trees would be less than significant.

Consistency with Adopted Conservation Plans

Impact BIO-5.1: Potential Inconsistency with Adopted Conservation Plan (Less than Significant)

2030 Planning Horizon

Impact of Development with Policies

There are no adopted regional habitat conservation plans or Natural Community Conservation Plans currently permitted in the county inland areas covered by the 2007 General Plan.

2007 General Plan Policies

There are no General Policies related to habitat conservation plans.

Area Plan Policies

Fort Ord Master Plan

There is an adopted Habitat Management Plan for Fort Ord that was adopted as part of the reuse planning. The Ford Ord Master Plan policies require consistency with the adopted HMP.

Significance Determination

The Fort Ord HCP will be in force in the future. The County is a participant in the development of this HCP and will implement the HCP on discretionary development under its jurisdiction. This impact is thus less than significant. No mitigation is required for this impact.

Significance Conclusion

The County's policies for the Fort Ord Master Plan require the County to only approve development consistent with the existing HMP. The County is a participant in the development of the current HCP for Fort Ord and will implement the HCP on discretionary development under its jurisdiction.

If the County adopts a Salinas Valley Conservation Plan (pursuant to Mitigation Measure BIO-1.2), it will implement the required measures for development subject to the plan within its jurisdiction. Thus, this impact is less than significant.

Buildout

Impact of Development with Policies

There are no adopted regional habitat conservation plans or Natural Community Conservation Plans currently permitted in the county inland areas covered by the 2007 General Plan. Thus, at present development allowed by the 2007 General Plan has no impact relative to adopted plans.

The HCP for the former Fort Ord will in all likelihood be completed in the near future. There may be other HCPs/NCCPs developed in the future.

2007 General Plan and Area Plan Policies

Policies related to this impact are summarized above.

Significance Determination

The Fort Ord HCP will be in force in the future. The County is a participant in the development of this HCP and will implement the HCP on discretionary development under its jurisdiction. Thus this impact is less than significant.

Mitigation Measures

The following measures are noted for information purposes only.

Mitigation Measure BIO-1.2: Salinas Valley Conservation Plan to preserve habitat for the San Joaquin kit fox in the Salinas Valley

Mitigation Measure BIO-1.5: By 2030, prepare a Comprehensive County Natural Communities Conservation Plan

Significance Conclusion

The County is a participant in the development of the current HCP for Fort Ord and will implement the HCP on discretionary development under its jurisdiction.

If the County adopts a Salinas Valley Conservation Plan (pursuant to Mitigation Measure BIO-1.2), it will implement the required measures for development subject to the plan within its jurisdiction.

If the County adopts a comprehensive NCCP for the entire County at some point in the future pursuant to Mitigation Measure BIO-1.5), the County will implement the required measures for development subject to the plan within its jurisdiction. The overall impact is less than significant.

4.10 Cultural Resources

4.10.1 Abstract

Monterey County was first inhabited by the Costanoan then Esselen people. Spanish explorers first landed in Monterey Bay in the early 1600s; however, Franciscan missionaries did not establish missions in the county until the late 1700s. Americans began settling in the county in the 1800s during the Mexican period and especially after the Gold Rush of 1849. The unincorporated area of Monterey County contains a number of historic resources, including Mission Nuestra Señora de la Soledad and the Old Mission School near Soledad, the Site of the Battle of Natividad near Salinas, and the Glass House in Pajaro. Archaeological and paleontological resources have also been found at numerous sites in the county.

All potential cultural resources impacts from development and land use activities contemplated by the 2007 General Plan would be less than significant and would not require mitigation.

All potential cultural resources impacts from implementation of the proposed *Agricultural Winery Corridor Plan* (AWCP) would be less than significant and would not require mitigation.

4.10.2 Environmental Setting

Cultural resources encompass paleontological, archaeological, and historic resources. Below is a brief summary of each component.

- **Paleontological Resources:** Paleontology is the study of plant and animal fossils. Generally, paleontological resources are more than 10,000 years old.
- **Archaeological Resources:** Archaeology is the study of prehistoric human activities and cultures. Archaeological resources are generally associated with indigenous cultures and are less than 10,000 years old.
- **Historic Resources:** Historic resources are associated with the more recent past. In California, historic resources are typically associated with the Spanish, Mexican, and American periods in the state's history and are usually less than 200 years old.

4.10.2.1 Monterey County History

Pre-Historic Period

The earliest human presence in what is now Monterey County probably dates back as far as 10,000 to 12,000 years ago. The first inhabitants were nomadic hunters, banding together in small groups, following game herds for their subsistence. The earliest settlements began to appear around 7,500 to 8,000 B.C. These occupation sites, which comprised small villages, indicate a cultural shift to a different form of subsistence based on exploitation of a broader range of local resources, including marine and freshwater food sources (fish and shellfish), game (rabbits, deer, elk), acorns, and wild roots, and nuts and berries. By 6,000 B.C., at least four such village sites from this period are known to have existed in the area around Moss Landing and Elkhorn Slough, undoubtedly because of the abundance of resources in this area.

A little later, a second shift occurred, again reflecting a change in subsistence strategy that is evident in changes in prehistoric settlement patterns. This change is thought to have occurred because of in-migration of a different people from the north, who were part of a larger movement emanating from farther east. During the middle period (2,500 to 1,600 years ago), villages became larger but fewer in number. They were augmented by a large number of small, widely distributed sites for the collection, processing, and distribution of resources. This new settlement pattern reflects a fundamental shift in strategy from smaller sites dependent on close proximity to resources, to villages supported by outlying sites specializing in collecting and processing resources. Rather than being constrained to living near the food source, the people developed a specialized system to collect and transport resources to population centers.

This new strategy of collection rather than foraging allowed an even broader use of resources and over time resulted in a larger population. The ocean and nearby salt and freshwater marshes were used in conjunction with the oak woodland, savanna, and grassland habitats that provided game, acorns, and other resources. The larger collection strategy enabled early inhabitants to expand in number. The specialization of roles allowed the culture to develop. Instead of generalized foraging, individualized skills developed, such as production of arrowheads, musical instruments, shell beads, and tools. During this middle period of prehistory the local indigenous culture reached its peak in terms of cultural expressions of concentrated wealth.

During the period between A.D. 900 and 1,100, a severe climatic shift began. There was a warming period in which the ocean temperature rose, perhaps not unlike a prolonged El Niño event. The marine and coastal environment became less productive and less reliable as a food source. These conditions necessitated another adaptation in subsistence strategy, stimulating further movement inland and greater dependence on acorns as a staple food. Acorns were particularly useful because they could be stored for as long as a year, providing a secure supply of winter food. The climate change led to a redistribution of occupation sites into many different environments. Villages became further disseminated

and very seasonal. The overall effect was decentralization with many new sites farther inland. Settlement sites became specialized according to seasonal use, differentiating into winter and summer sites. In wintertime, occupants would move inland, seeking the shelter and resources in inland canyons and habitats. At this time Rancho San Carlos was first occupied intensively, as a winter village site. The resource-rich regions of what is now Fort Hunter Liggett, along the Nacimiento River, were also intensively occupied at the same time.

At roughly A.D. 1500, the climate shifted again, entering what is known as the Little Ice Age, a colder period which lasted until at least A.D. 1800. Collection behavior became very specialized and migratory. The indigenous people were still in this middle period of subsistence behavior when Spanish explorers saw them for the first time.

Historical Period

Monterey County has been called the "cradle of California history," owing to its central position relative to historical activities. Monterey Bay became the focus of several Spanish exploratory expeditions after it was first noticed by Juan Cabrillo in 1542. Sebastian Vizcaino, who sailed into it in 1602, named the bay after Conde de Monterrey, Viceroy of Spain. The Franciscans founded three missions (San Carlos Borroméo, San Antonio de Padua, and Nuestra Soñora de Soledad) in what is now Monterey County, and these, along with the Presidio established in the late 1700s and eight large ranchos that formed from land concessions to Spanish army veterans, became focal points of activity.

When the Mexican Republic formed in 1822, the missions were secularized and new ranchos developed on 68 Mexican land grants. A robust economy emerged, based on cattle ranching on these large ranchos, some of which exceeded 10,000 acres. This economy received a great boost when the Mexican regime opened Monterey harbor to foreign trade. The Custom House in Monterey became the site for collection of duties, providing the main source of income for Alta California's government. The harbor enabled rancheros to trade their hides and tallow for products from around the world. This commercial vitality led to Monterey's role as the Mexican capital of California.

In May 1846, the United States declared war against Mexico, commencing the Mexican-American War. Commodore John Drake Sloat sailed into Monterey Bay 2 months later and demanded surrender of the port. On orders to secure men and horses for the war in southern California, Lt. Colonel John C. Fremont arrived in Monterey as well. In November, as Fremont and his men were driving horses from San Juan Bautista to Monterey, Californios led by Manuel Castro attacked them. The Battle of Natividad was the only military engagement fought in northern California during the Mexican-American War. Organized resistance to the American occupation ended in 1847. On February 2, 1848, the Treaty of Guadalupe Hidalgo was signed, giving the United States possession of Alta California.

Monterey continued to play a key role for some time after the Mexican-American War. At the beginning of the American period, the convention to draft and sign California's new constitution convened at Colton Hall in Monterey, considered California's finest building at the time. This period coincided with the California Gold Rush, and the market for tallow and hides shifted to a demand for beef to feed the population of gold prospectors. By the 1870s, dairy farming was introduced in the area around Gonzales and Soledad. This enterprise required irrigation to support alfalfa production, a practice based on rudimentary canal systems used earlier by friars at the missions.

In 1863 and 1864, a disastrous drought wiped out the cattle industry. Grain production quickly became Monterey County's principal activity. Between 1857 and 1865, the county's grain acreage increased from 2,450 to 27,358 acres. The resulting grain surplus was an incentive to build the harbor at Moss Landing from which farmers could ship their grain products worldwide. Bixby's Landing played a similar role for the export of tanbark and lumber from the Big Sur coast. Transportation soon became a major factor in supporting the county's growing economy. In 1872, Southern Pacific Railroad extended its rail line to Salinas from Pajaro. As the railroad pushed farther south, it opened new markets and stimulated settlement of new towns. From Salinas, it extended southward to Chualar, followed by Gonzales and Soledad, as landowners donated rights-of-way across their ranches. With this new transport capability, grain could be loaded at Soledad, expanding the acreage available for cultivation. By 1875, nearly 100,000 acres of grain were harvested in the county, making it one of California's principal grain-producing regions.

In the 1880s, a transformation began in the lower Salinas Valley, initiated by systematic draining and reclamation of the extensive marshland and several dozen lakes in the northern end of the valley. By the 1880s, Chinese laborers had cleared 1,000 acres of land, increasing its value from $28 to $100 an acre. As land prices rose, dry farmers and cattle and sheep ranchers sold out or shifted to row crops.

Widespread sugar beet cultivation in the Salinas area prompted Claus Spreckels to open what was then the largest sugar beet refinery in the world in 1899, south of Salinas. Capacity of the plant reached 3,000 tons of beets per day—more than all of the other refineries in California combined. Spreckels also built the town that still bears his name around the facility. The community of Spreckels was one of California's few company towns and was home to a variety of businesses, a school, a church, and cottages for company employees.

The extension of the railroad, improved irrigation systems, refrigerated freight cars, and other innovations in technology transformed the agricultural economy of the Salinas Valley, further opening up cultivated lands to row crops in place of dry farming dominated by grain crops. This development established the basis for the Salinas Valley's modern economy.

In the late nineteenth century, Monterey County became a destination for tourism and resort activities. Three resorts with hotels developed at Paraiso, Tassajara,

and Slates Hot Springs. Pacific Grove was founded as a religious and cultural retreat, growing from a tent city to a town of small Victorian cottages. In the early 1900s, Pebble Beach was subdivided and became a fashionable summer resort. In Carmel, the Arts and Crafts movement took hold in local architecture, as the town became a colony for artists and writers.

On the coast, at Moss Landing and in Monterey, sardine fisheries flourished for a little less than two decades between 1931 and the late 1940s. The cannery buildings at both of these locations are historical remnants of that brief period before the sardines and then the canning industry disappeared.

4.10.2.2 Ethnography

Costanoan/Ohlone

The Costanoan were speakers of languages in the Penutian language family. The Costanoan, now commonly referred to as Ohlone, consisted of over 50 tribal groups, speaking eight different but related languages that included Karkin (northern and southern portions of the Carquinez Strait); Chochenyo (east shore of San Francisco between Richmond and Mission San Jose and probably Livermore Valley); Tamien (southern San Francisco Bay and lower Santa Clara Valley); Ramaytush (San Mateo and San Francisco Counties); Awaswas (Santa Cruz Costanoan between Davenport and Aptos); Mutsun (Pajaro River drainage); Achastan/Rumsen (lower Carmel, Sur, and lower Salinas Rivers); and Chalon (Salinas River). This territory encompasses a lengthy coastline as well as several inland valleys.

The Ohlone relied on gathering, hunting, and fishing to procure a wide variety of flora and fauna for subsistence and material needs. The Ohlone had both permanent village locations and seasonal camps to take advantage of the diverse terrain along the central coast. The first Spanish encounters with the Ohlone occurred as early as 1602 with the Sebastian Vizcaino navigational expedition, followed by the inland exploratory expedition of Gaspar de Portola in 1769. Seven missions were established in Ohlone territory between 1770 and 1797. Ohlone were both forcibly and voluntarily brought to the missions along with other tribes, including Yokuts, Miwoks, Esselen, and Patwin. Once part of the mission system, the Ohlone were discouraged or forced from practicing their traditional rituals and social activities. Contact with Euroamericans resulted in a drastic reduction of population due to disease, violence, and a declining birth rate. The Ohlone population fell from an estimated 10,000 in 1770 to fewer than 2,000 by 1832. Following secularization of the missions in 1834, most of the remaining Ohlone moved into growing towns and surrounding ranchos to work as laborers or domestic servants. By the mid-twentieth century, the Ohlone population was reduced to 130 in the San Francisco Bay area, although some research suggests that in the early 1970s there may have been approximately 200 surviving Ohlone.

In the 1960s, the Ohlone Indian Tribe was incorporated as a formal organization, now holding title to the Ohlone Indian cemetery in Fremont, California. In the 1970s, the Pajaro Valley Ohlone Indian Council was created and was actively preserving sites of traditional importance. Four Ohlone groups had sought recognition: the Amah-Mutsun Tribal Band, the Carmel Mission Band, the Indian Canyon Band, and the Muwekma/Ohlone Tribe. Similarly situated as previously Federally Recognized Tribal groups, were the Ohlone Costanoan Esselen Nation of the Monterey Bay region, historically identified by the Bureau of Indian Affairs (BIA) under the jurisdiction of the Reno and Sacramento Agencies as the Mission San Carlos Indian Band (Helen Hunt Jackson 1883) and Monterey Band of Monterey County (Special Indian Agent C. E. Kelsey 1906–1913; Superintendent James Jenkins, Reno Agency 1923), and the Amah-Mutsun Tribal Band identified by the BIA as the San Juan Bautista Band (C. E. Kelsey 1906–1913; Jenkins 1923; and L. A. Dorrington, Superintendent of Sacramento Agency 1927). The Muwekma Ohlone Tribe has historically used the term "Ohlone" throughout the twentieth century. On their 1928–1932 and 1968–1972 BIA enrollment applications, the families used either Ohlone or Mission San Jose Tribe. The Amah Mutsun community used only Mission San Juan Bautista Tribe, and the Monterey community used either Esselen or Mission Carmel Tribe.

There have been continued efforts to document genealogies by using mission records to piece together family and tribal history. The groups mentioned above, as well as other individuals, have been actively involved in the management and preservation of their heritage and are frequently involved in the management of cultural resources. Ohlone descendants continue to conduct ceremonies and traditional practices such as the gathering of plant materials for basket making. Some of these activities are known to take place on Fort Ord Public Lands in the Central Coast Management Area.

Esselen

Peoples of the Esselen language group inhabited the area south of Monterey, including the upper drainage of the Carmel River south to the vicinity of Junipero Serra Peak and west to the Sierra de Salinas. The area encompassed a 25-mile stretch along the Pacific Coast. Research in the early 1970s recognized six Esselen tribelets: Excelen, (Carmel Valley), Echilatg (Santa Lucia Mountains), El Pino (lower Arroyo Seco), Cuchunu (Arroyo Seco), Eslenajan (near Soledad Mission), and Tucutnut (Carmel River) (Hester 1978:497). Very little is known about the lifeways of the Esselen prior to Euroamerican contact. Documentation of Esselen lifeways has been minimal, and much of what is known about the group is gleaned from archaeological research and mission records. The population of the Esselen in the eighteenth century is estimated at 500 to 1,285 persons. With the founding of Mission San Carlos Borroméo de Monterey at Carmel in 1770, many Esselen were moved to the mission. It has been suggested that by the mid-1800s they were totally absorbed into the mission population, where many also perished. Families have taken steps to preserve their history and identities as Esselen by founding the Ohlone Costanoan Esselen

Nation, currently located in and around Carmel Valley. The Ohlone Costanoan Esselen Nation consists of 500 members and has been petitioning the federal government to regain recognition as a formal Federally Recognized Tribe.

4.10.2.3 Documented Cultural Resources

Paleontological Resources

Significant paleontological resources are fossils or assemblages of fossils that are unique, unusual, rare, uncommon, and diagnostically or stratigraphically important—and those that add to an existing body of knowledge in specific areas, stratigraphically, taxonomically, or regionally. They include fossil remains of large to very small aquatic and terrestrial vertebrates, remains of plants and animals previously not represented in certain portions of the stratigraphy, and assemblages of fossils that might aid stratigraphic correlations—particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, paleoclimatology, and the relationships of aquatic and terrestrial species.

Most of the fossils found in Monterey County are of marine life forms and form a record of the region's geologic history of advancing and retreating sea levels. Because of the marine origin of these deposits, the area lacks the large, terrestrial fossils found in other regions such as the dinosaur fossils of the southwestern United States. Most of Monterey County's fossils are micro-organisms such as foraminifera or diatoms, or assemblages of mollusks and barnacles most commonly found in sedimentary rocks ranging from Cretaceous age (138 to 96 million years old) to Pleistocene age (1.6 million to 11 thousand years old).

Fossils are found throughout the county because of the widespread distribution of marine deposits. A review of nearly 700 known fossil localities was conducted by paleontologists in 2001, and 12 fossil sites were identified as having outstanding scientific value. To avoid potential degradation of the sites, the precise locations have been omitted from this document. However, the general location of the sites is shown in Exhibit 4.10.1. For the most part, the fossils at these 12 sites reflect the type of assemblages found throughout the county (microorganisms or invertebrates); however, each has special characteristics that make it unique or rare, or in some way provide important stratigraphic or historic information.

Archaeological Resources

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association. In the protection and management of the cultural environment, CEQA Guidelines provide definitions and standards for cultural

resource management. The term "unique archaeological resource" has the following meaning according to CEQA:

> An archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:
>
> - Contains information needed to answer important scientific research questions, and there is a demonstrable public interest in that information.
> - Has a special and particular quality, such as the oldest of its type or the best available example of its type.
> - Is directly associated with a scientifically recognized important prehistoric or historic event or person (Public Resources Code Section 21083.2[g]).

The likelihood for occurrence of archaeological resources is shown on Exhibit 4.10.2. The sensitivity map identifies three levels of archaeological sensitivity: high, moderate, and low. The mapping of these areas is based on three different considerations. One of these is the distribution of known archaeological resources (previously discovered and recorded sites). This distribution is reflected in the areas of high sensitivity concentrated in the lower Salinas Valley north of Salinas and extending to Castroville, Moss Landing, and coastal north county. It also accounts for the high-sensitivity zone extending from Monterey Peninsula southward along the full length of the coast, including the upper Carmel Valley; Fort Hunter Liggett; Cone Peak; and the Arroyo Seco, Big Sur, and Big Creek watersheds.

A second consideration used in the mapping is uncertainty in the number of resources in some areas. This is evident in the high-sensitivity rating given to Peachtree Valley and the Parkfield area, where little or no archaeological surveying has been conducted. In the interest of erring on the conservative side rather than putting unknown resources at risk, these areas are rated as high-sensitivity on the map.

A final consideration in defining sensitivity zones is the well-founded observation on the part of archaeologists that river courses and major drainages are common locations of human occupation or use. This consideration is reflected in the high-sensitivity designations given to Salinas River tributaries such as Pancho Rico and Sargent Creeks in the south county, and Chualar and Gabilan Creeks in the northern portion of the valley. The importance of streams and rivers in human occupation is evident in the several burial sites that have been uncovered on the terraces of the Salinas River.

Historical Resources

Exhibit 4.10.3 depicts the location of federally, state-, and county-listed historic resources. More than 200 sites in Monterey County are included in a federal, state, or county listing of designated or eligible historic resources. Notable historic resources in the unincorporated county include Mission Nuestra Señora

de la Soledad and the Old Mission School near Soledad, Richardson Adobe near Soledad, the Site of the Battle of Natividad near Salinas, the José Eusebio Boronda Adobe Casa in Boronda, the Glass House in Pajaro, and Mission San Antonio de Padua near Jolon.

4.10.3 Regulatory Framework

4.10.3.1 State Historic Preservation Programs

The State Office of Historic Preservation oversees four historic preservation programs:

- National Register of Historic Places
- California Register of Historic Places
- California Historical Landmarks
- California Points of Historic Interest

Each program has its own specific eligibility criteria, although historic resources often overlap on multiple lists.

Resources listed in the National Register, California Historical Landmarks 770 and above are automatically listed in the California Register. Points of Historical Interest designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the California Register.

4.10.3.2 California Environmental Quality Act

CEQA requires that discretionary land use approvals be reviewed for potential environmental impacts, including impacts on cultural resources, and that potentially significant cultural resource impacts be disclosed, and if possible, mitigated to a level of less than significant (CEQA Guidelines Section 15064.5[3]).

4.10.3.3 Senate Bill 18—Tribal Consultation Guidelines

Senate Bill 18 (SB18) requires that local governments consult with tribal representatives about the implications of proposed general plans or amendments on protected cultural places and sacred sites. SB18 introduces a separate process that expands the focus to include traditional tribal cultural places on both public and private lands for Federally and non-Federally Recognized Tribes. A cultural place is a landscape feature, site, or cultural resource that has some relationship to particular tribal religious heritage or is an historical or archaeological site of

significance or potential significance. The cultural place may be outside the reservation boundary. Many tribes have "Traditional Use Areas" that extend miles beyond reservation boundaries, reflecting their historical mobile patterns. SB18 consultation is designed to be concurrent with the general plan process.

4.10.3.4 Monterey County Local Official Register of Historic Resources

The local Official Register of Historic Resources is the County of Monterey's listing of locally designated historic resources.

4.10.3.5 Monterey County Historic District Design Guidelines

Monterey County has specific design guidelines for the East Garrison and Spreckels Historic Districts. These guidelines are intended to preserve and protect historic structures and ensure that surrounding land uses are compatible with historic districts.

Project Impacts

This section describes the CEQA impact analysis relating to cultural resources for the project and alternatives. It describes the methods used to determine the Project's impacts and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

4.10.3.6 Thresholds of Significance

Implementation of the 2007 General Plan would result in a significant impact on cultural resources if it would:

- Cause a substantial adverse change in the significance of a historic resource;
- Cause a substantial adverse change in the significance of an archaeological resource;
- Directly or indirectly destroy a unique paleontological resource; or
- Disturb any human remains, including those interred outside of formal cemeteries.

4.10.3.7 Impact Analysis

Buildout of the 2007 General Plan to the 2030 and 2092 planning horizons could result in impacts on historical, archaeological, and paleontological resources and burial sites, in Monterey County.

New development in the 2007 General Plan could potentially damage, degrade, or destroy the historic integrity of historical resources resulting in significant adverse affects on such resources. Grading, trenching, and other subsurface construction activities associated with buildout of the 2007 General Plan have the potential to encounter undiscovered archaeological resources. Undiscovered archaeological resources could potentially be damaged or destroyed. Development activities associated with the 2007 General Plan (i.e., subsurface earthmoving) may have the potential to damage or destroy paleontological resources. The same development activities also have the potential to disturb or destroy burial sites, particularly those interred outside of formal cemeteries.

Historical Resources

Impact CUL-1: Development under the 2007 General Plan could potentially damage or destroy historic resources. (Less Than Significant Impact with Mitigation.)

2030 Planning Horizon

Impact of Development with Policies

Buildout of the 2007 General Plan to the 2030 planning horizon would result in new development that could damage, degrade, or destroy the historic integrity of various sites that are listed, or eligible for listing, in the National Register, State Register, or County Inventory of historic places. Ground-disturbing activity associated with new development could potentially damage, degrade, or destroy the historic integrity of these sites.

Special Treatment Area (STA) Paraiso Hot Springs contains sensitive historic and prehistoric archaeological resources (cultural resources). Specific archeological information is not currently available regarding these resources, but this site and its history imply that the resources may be significant. Applying an STA designation to the site would allow further study of the area for recreational and visitor-serving commercial development and, potentially, approval of discretionary permits that allow future development. The future discretionary project review will be subject to CEQA.

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized below set forth comprehensive measures to avoid and minimize adverse impacts on historical resources to the maximum extent practicable.

Public Service Element

The 2007 General Plan contains policies that are designed to promote historical preservation. Public Services Element Policies PS-12.2 through PS-12.4 (identification and designation of historic resources) encourage the listing of eligible historical sites by means of regularly updating cultural resources inventories, encouraging private property owners to submit applications for appropriate properties to qualify on the National Register of Historic Places and/or the California Register of Historical Resources, and by designating such properties with a Historic resource (HR) overlay on the zoning map. This will ensure awareness of existing historic resources and their locations.

Policies PS-12.1, PS-12.9, PS-12.10, and PS-12.12 through PS-12.15 (plans and regulations for protection of historical resources) promote the continued use of land use planning tools such as zoning to protect the integrity of historical sites. This will ensure consistency with guidelines and requirements of state and federal historic preservation laws, that new development will be compatible with existing historical resources in order to maintain the special values and unique character of the historic properties, that repair or rehabilitation would not preclude the structures continued designation as a historic structure, and that the special character of designated historic districts and neighborhoods shall be retained.

Policy PS-12.6 (support incentives to help preserve historic and cultural resources) promotes tax incentives such as the Mills Act and covenants that encourage historical preservation. This would encourage landowners to help preserve structures or building on their property that may be deemed historically significant.

Policies PS-12.5, PS-12.7, PS-12.8, PS-12.11, PS-12.16, and PS-12.17 (enhancement of the county's historical programs and documentation) encourage enhancement of programs that promote historical preservation and documentation by seeking out sources of funding for such programs, continuing support for the efforts of Monterey County's historical organizations to preserve the county's historical resources, development of public information programs regarding opportunities and programs to preserve historic and cultural resources, and promotion of heritage tourism to highlight Monterey County's diverse cultural back ground.

Agricultural Winery Corridor Plan

The AWCP is included in the 2007 General Plan. It is designed to promote the development of an integrated wine industry in Monterey County. The plan designates three winery corridors in the Salinas Valley and establishes land use policies to guide the development of no more than 60 wine-related facilities on the three corridors (refer to Section 3.0, Project Description, for the type and number of allowed facilities on each corridor).

The 2007 General Plan Agriculture Element Policies AG-4.1 through AG-4.4 establish land use policies to guide the development of the AWCP. These land use policies include standards that regulate the size and location of wineries and allow for the development of wine-related facilities that are consistent with the existing agricultural land uses. Under the ultimate buildout scenario of the AWCP, 40 artisan wineries, 10 full-scale wineries, and 10 tasting rooms would be developed. A specified number of each wine-related facility is identified on each of the three corridors; however, specific locations are not.

Historical resources within the AWCP boundaries include Mission Nuestra Señora de la Soledad, the Old Mission School, and the Richardson Adobe on the River Road/Arroyo Seco Road/Central Avenue Corridor and Mission San Antonio de Padua on the Jolon Road Corridor. As shown on Exhibit 4.10.2, most of the Jolon Road Corridor is designated as having high sensitivity for archaeological resources while most of the River Road/Arroyo Seco Road/Central Avenue and Metz Road corridors are designated as having low sensitivity. As shown on Exhibit 4.10.1, taken from the 2007 General Plan, no recorded paleontological sites are within any of the three AWCP corridors.

Implementation of the AWCP would allow for the development of wineries and tasting rooms along three corridors in the Salinas Valley. The development of these facilities could result in the alteration or demolition of existing structures that meet historic eligibility criteria. Construction activities associated with the development of new or expanded winery or tasting room facilities could also damage or destroy historical resources.

The AWCP is a component of the 2007 General Plan and is consistent with the policies that pertain to historical resources. Furthermore, any wineries or tasting rooms that would adversely affect historical resources would be required to comply with all federal and state laws governing historical preservation.

Area Plan Policies

Three Area Plans also have supplemental policies in the 2007 General Plan to preserve and protect historical resources.

North County Area Plan

Policy NC-2.2 (protection of Old Stage Road) calls for the preservation of the historical value of Old Stage Road, which will ensure that the road maintains its historic integrity in spite of new development. Policy NC-3.6 (North County Historic Sites) lists sites to be considered for inclusion in a historical resources zoning district, which will encourage protection of such sites from destruction caused by future development.

Greater Salinas Area Plan

Policy 1.4 (restricted development of town of Spreckles) stipulates that future development projects in Spreckels be harmonious with the surrounding historic character and be reviewed by the Historic Resource Review Board. Policy GS-3.3 (historic walnut tree maintenance and preservation) promotes preservation of the walnut trees along Spreckels Boulevard and encourages the use of private fund-raising efforts for tree maintenance. Implementation of these policies will help protect the town of Spreckels from possible destruction caused by future development. Policy GS-3.4 (support efforts to preserve historic resources) identifies the Boronda Adobe and Darrington Adobe as significant historical resources and promotes efforts of the Monterey County Historic Resources Review Board (HRRB) to maintain and preserve these sites. This will contribute to the protection and preservation of Monterey County's historic resources.

Carmel Valley Master Plan

Policy CV-3.13 (designation and protection of historic resources) stipulates that future development in Carmel Valley preserve the integrity of historical sites. Implementation of this policy will aid in preventing the damage or destruction of historic resources potentially caused by future development.

Federal and State Historic Preservation Requirements

All future development activities contemplated by the 2007 General Plan would be required to comply with all applicable federal and state statutes that concern the preservation of historical resources (e.g., the National Historic Preservation Act).

CEQA Review

In addition, future discretionary development activities contemplated by the 2007 General Plan would be required to undergo environmental review pursuant to CEQA. This review would include assessment of potential impacts on historical resources.

Significance Determination

Buildout of the 2007 General Plan within the 2030 planning horizon could potentially result in adverse impacts on historical resources. New development could potentially damage, degrade, or destroy the historic integrity of these resources.

However, the 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts on historical resources to the maximum extent practicable. The 2007 General Plan contains policies that are designed to promote historical preservation, such as setting forth measures to encourage the listing of eligible historical sites, the use of land use planning tools such as zoning to protect the integrity of historical sites, promotion of tax incentives and covenants that encourage historical preservation, and enhance the county's historical programs and documentation. Therefore, historic resources, including STA Paraiso Hot Springs, would not be significantly impacted by the buildout of the 2007 General Plan. Impacts in this regard would be less than significant.

Precise locations of future AWCP facilities are unknown at the time of this writing; therefore, it is speculative to engage in further analysis of impacts on historical resources. Further analysis of potential historical resource impacts will take place at the project level.

Mitigation Measures

Mitigation Measure CUL-1:
Policy CSV-1.1 of the Central Salinas Valley Area Plan will be revised to read:

CSV-1.1 Special Treatment Area: Paraiso Hot Springs - The Paraiso Hot Springs properties shall be designated a Special Treatment Area. Recreation and visitor serving land uses for the Paraiso Hot Springs Special Treatment Area may be permitted in accordance with a general development plan and other discretionary approvals such as subdivision maps, use permits, and design approvals. The Special Treatment Area may include such uses as a lodge, individual cottages, a visitor center, recreational vehicle accommodations, restaurant, shops, stables, tennis courts, aquaculture, mineral water bottling, hiking trails, vineyards, and orchards. The plan shall address cultural resources protection, fire safety, access, sewage treatment, water quality, water quantity,

drainage, and soil stability issues (APN: 418-361-004, 418-361-009, 418-361-021, 418-361-022).

Significance Conclusion

In summary, buildout of the 2007 General Plan within the 2030 planning horizon could potentially result in adverse impacts on historic resources. However, the 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts on historic resources to the maximum extent practicable. Therefore, historic resources would not be significantly impacted by buildout of the 2007 General Plan. Impacts would be less than significant.

Buildout

Impact of Development with Policies

Buildout of the 2007 General Plan to the 2092 planning horizon would result in new urban development in undeveloped areas beyond 2030 levels. New development could damage, degrade, or destroy the historic integrity of various sites that are listed, or eligible for listing, in the National Register, State Register, or County Inventory of historic places. New development could potentially damage, degrade, or destroy the historic integrity of these sites resulting in significant adverse affects on historic resources.

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized above set forth comprehensive measures to avoid and minimize adverse impacts on historic resources to the maximum extent practicable.

Significance Determination

Buildout by 2092 could potentially result in adverse impacts on historical resources. However, the 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts on historic resources to the maximum extent practicable. The 2007 General Plan contains policies that are designed to promote historic preservation. Assuming these or similar policies and requirements remain in place, historic resources would not be significantly impacted by 2092 buildout of the 2007 General Plan. Impacts would be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies, as modified by Mitigation Measure CUL-1, is necessary.

Significance Conclusion

In summary, buildout by 2092 could potentially result in adverse impacts on historical resources. However, the 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts on historical resources to the maximum extent practicable. Therefore, historic resources would not be significantly impacted by buildout of the 2007 General Plan. Impacts would be less than significant.

Archaeological Resources

Impact CUL-2: Development under the 2007 General Plan could potentially damage or destroy archaeological resources. (Less-Than-Significant Impact with Mitigation.)

2030 Planning Horizon

Impact of Development with Policies

Grading, trenching, and other subsurface construction activities associated with buildout of the 2007 General Plan have the potential to encounter undiscovered archaeological resources. Undiscovered archaeological resources could potentially be damaged or destroyed.

As mentioned previously in the historic impacts section, STA Paraiso Hot Springs contains sensitive historic and prehistoric archaeological resources (cultural resources). Future development would be subject to discretionary project review pursuant to CEQA. Policy CSV-1.1 of the Central Salinas Valley Area Plan, as modified by Mitigation Measure CUL-1 would avoid a significant impact on this resource.

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized below set forth comprehensive measures to avoid and minimize adverse impacts on archaeological resources to the maximum extent practicable.

Open Space and Conservation Element

The 2007 General Plan contains policies that address potential impacts on archaeological resources. Policies OS-6.1, OS-6.2, and OS-6.6 (identification and protection of archaeological resources) establish procedures to identify archaeologically sensitive areas using the statewide inventory developed by the Native American Heritage Commission (NAHC) and the State Historic Preservation Office (SHPO), to educate the public on such matters archeological resources, and to stipulate that the County shall adopt a uniform set

of guidelines for data recovery programs as well as for consultation with Native American descendents. By creating public awareness, these policies protect archaeological resources from the potential damages of future development. Policy OS-6.5 (avoidance of development in culturally sensitive areas) stipulates policies and procedures must be established to encourage the avoidance or clustering of new development away from sensitive areas. Policies OS-6.3 and OS-6.4 (field surveys in sensitive areas) require field surveys for projects in sensitive areas, and use of the SHPO Clearinghouse and the NAHC's list of sacred sites. These policies will ensure that archaeological resources are not destroyed during new development.

Native American Consultation

In accordance with SB18 and above policies OS-6.2, OS-6.3, and OS-6.6, the County of Monterey initiated consultation over the 2007 General Plan with local Native American representatives in spring 2006. Consultation efforts included contacting six tribal groups (list provided by the Native American Heritage Commission and included Indian Canyon Mutsun Band of Costanoan, Xolon Salinan Tribe, Amah/Mutsun Tribal Band, Ohlone Costanoan Esselen, Nation, Salinan Tribe of Monterey, San Luis Obispo and San Benito Counties, Ohlone-Jakki Kehl). The County met with representatives of the Ohlone Coastanoan Esselan Nation (OCEN) tribe on about six occasions to review General Plan language relative to archaeology, burial sites, and paleontology. Several language changes were suggested by OCEN representatives and incorporated in the current draft. An OCEN representative was present at the Planning Commission hearings and agreed to the current language. None of the other tribes responded to the request for consultation.

Agricultural Winery Corridor Plan

As noted above, the AWCP would allow for the development of wineries and tasting rooms along three corridors in the Salinas Valley. Development of these facilities could result in damage or destruction of archaeological resources. The AWCP is a component of the 2007 General Plan and is consistent with the policies that pertain to archaeological resources.

Furthermore, any wineries or tasting rooms that would adversely affect archaeological resources would be required to comply with all state laws governing preservation of archaeological resources. Included are requirements that cultural resource surveys be conducted prior to development.

Area Plan Policies

One Area Plan contains a supplemental policy concerning archaeological resources.

Carmel Valley Master Plan

Policy CV-3.13 (designation and protection of archeological resources) stipulates that future development in Carmel Valley preserve the integrity of archaeological sites. Implementation of this policy will aid in preventing the damage or destruction of archaeological resources potentially caused by future development.

2007 General Plan Land Use Concepts

The 2007 General Plan emphasizes compact city-centered growth in and near existing urbanized areas. This land use concept is designed to preserve significant natural areas and minimize adverse cultural resource impacts, including adverse effects on archaeological resources. By emphasizing growth in areas where land use disturbances have already occurred, any potential adverse impacts on archaeological resources would be minimized. Significant natural areas that may contain unique and important archaeological sites would be preserved through this proposed land use concept.

CEQA Requirements

Future discretionary development activities contemplated by the 2007 General Plan would also be required to undergo environmental review pursuant to CEQA. This review would include assessment of potential impacts on archaeological resources.

Significance Determination

Buildout of the 2007 General Plan within the 2030 planning horizon could potentially result in adverse impacts on archaeological resources. However, the 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts on archaeological resources to the maximum extent practicable. The 2007 General Plan and Area Plan policies summarized above contain policies that address potential impacts on archaeological resources. Implementation of these proposed policies would ensure that archaeological resources are protected from adverse impacts. The proposed policies reduce impacts on archaeological resources by requiring compliance with applicable laws and by implementing a land use concept that will direct new development in areas that have already experienced ground-disturbing activities

Monterey County also consulted with tribal representatives in accordance with SB18 about the implications of the 2007 General Plan on cultural places

and sacred sites. This process has provided the County with additional information about areas where potential archeological sites may occur and will enable the County to consider the potential occurrence of these sites when regulating future land use activities. Therefore, archeological resources, including STA Paraiso Hot Springs, would not be significantly impacted by the buildout of the 2007 General Plan. Impacts would be less than significant.

Mitigation Measures

Mitigation Measure CUL-1, described above, will avoid a significant effect.

Significance Conclusion

In summary, buildout of the 2007 General Plan within the planning horizon could potentially result in adverse impacts on archeological resources. However, the 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts on archaeological resources to the maximum extent practicable. Therefore, archaeological resources would not be significantly impacted by buildout of the 2007 General Plan. Impacts would be less than significant.

Buildout

Impact of Development with Policies

Buildout of the 2007 General Plan to the 2092 planning horizon would result in new urban development in undeveloped areas beyond 2030 levels. New development could create ground-disturbing activity resulting in significant adverse affects on archeological resources.

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized above set forth comprehensive measures to avoid and minimize adverse impacts on archaeological resources to the maximum extent practicable.

Significance Determination

Buildout by 2092 could potentially result in adverse impacts on archaeological resources. However, the 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts on archaeological resources to the maximum extent practicable. The 2007 General Plan employs land use concepts such as city-centered growth and preservation of natural areas to direct future growth away from archaeological resources that would be most deleteriously impacted by urban development. Assuming these or more stringent requirements remain in place, archaeological resources therefore would not be significantly impacted

by buildout of the 2007 General Plan. Impacts would be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies, as modified by Mitigation Measure CUL-1, is necessary.

Significance Conclusion

Buildout by 2092 could potentially result in adverse impacts on archaeological resources. However, the 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts on archaeological resources to the maximum extent practicable. Therefore, archaeological resources would not be significantly impacted by buildout of the 2007 General Plan. Impacts would be less than significant.

Paleontological Resources

Impact CUL-3: Development under the 2007 General Plan could result in damage or destruction of paleontological resources. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Buildout of the 2007 General Plan would allow for the development of new urban uses in undeveloped areas and existing urbanized areas. Development activities (i.e., subsurface earthmoving) may have the potential to damage or destroy paleontological resources.

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized below set forth comprehensive measures to avoid and minimize adverse impacts on historical resources to the maximum extent practicable.

Open Space and Conservation Element

The 2007 General Plan contains policies to specifically address potential impacts on paleontological resources. Policies OS-7 and OS-7.2 (identification and protection of paleontological resources) establish procedures to identify and map paleontological resources, by requiring complete paleontological reviews and consultation with academic professionals. Implementation of these policies will ensure that potentially significant paleontological resources are not destroyed as a result of activities related to new development.

Policies OS-7.3 and OS-7.4 (survey sensitive areas) require field surveys for paleontological resources in sensitive areas prior to approval of development. This requirement will ensure that unknown paleontological resources are protected from destruction due to future development activities. Policy OS-7.5 (development away from paleontological resources) stipulates that policies and procedures encourage avoidance or clustering of new development away from these resources, thus avoiding impacts on sensitive paleontological resources.

Agricultural Winery Corridor Plan

As noted above, the AWCP would allow for the development of wineries and tasting rooms along three corridors in the Salinas Valley. Development of these facilities could result in damage or destruction of paleontological resources.

The AWCP is a component of the 2007 General Plan and is consistent with the policies that pertain to paleontological resources, as summarized under Impact CUL-3. Furthermore, any wineries or tasting rooms that would adversely affect paleontological resources would be required to comply with all state laws governing preservation of paleontological resources. This includes requirements that cultural resource surveys be conducted prior to development.

2007 General Plan Land Use Concepts

The 2007 General Plan emphasizes compact city-centered growth in and near existing urbanized areas. This land use concept is designed to preserve significant natural areas and minimize adverse cultural resource impacts, including adverse effects on paleontological resources. Emphasizing growth in areas where land use disturbances have already occurred will minimize potential adverse impacts on paleontological resources. Significant natural areas that may contain unique and important paleontological sites would be preserved through this proposed land use concept.

CEQA Review

In addition, future discretionary development activities contemplated by the 2007 General Plan would be required to undergo environmental review pursuant to CEQA. This review would include assessment of potential impacts on paleontological resources.

Significance Determination

Development under the 2007 General Plan within the 2030 planning horizon could potentially result in adverse impacts on paleontological resources.

However, the 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts on paleontological resources to the maximum extent practicable. The 2007 General Plan contains policies to specifically address potential impacts on paleontological resources. Implementation of these proposed policies would ensure that paleontological resources are protected from adverse impacts. The proposed policies reduce impacts on paleontological resources by requiring compliance with applicable laws and by implementing a land use concept that will direct new development in areas that have already experienced ground-disturbing activities. Consequently, impacts on paleontological resources associated with implementation of the 2007 General Plan would be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

In summary, buildout of the 2007 General Plan within the planning horizon could potentially result in adverse impacts on paleontological resources. However, the 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts on paleontological resources to the maximum extent practicable. Therefore, paleontological resources would not be significantly impacted by buildout of the 2007 General Plan. Impacts would be less than significant.

Buildout

Impact of Development with Policies

Buildout of the 2007 General Plan to the 2092 planning horizon would result in new urban development in undeveloped areas beyond 2030 levels. Development activities (i.e., subsurface earthmoving) may have the potential to damage or destroy paleontological resources.

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized above set forth comprehensive measures to avoid and minimize adverse impacts on paleontological resources to the maximum extent practicable.

Significance Determination

Buildout by 2092 could potentially result in adverse impacts on paleontological resources. However, the 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts on paleontological resources to the maximum extent practicable. The 2007 General Plan employs land use concepts such as city-centered growth and preservation of natural areas that would direct future growth

away from paleontological resources that would be most deleteriously impacted by urban development. Assuming that these or more stringent requirements remain in place, paleontological resources therefore would not be significantly impacted by buildout of the 2007 General Plan. Impacts would be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

Buildout by 2092 could potentially result in adverse impacts on historical resources. However, the 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts on historical resources to the maximum extent practicable. Therefore, paleontological resources would not be significantly impacted by buildout of the 2007 General Plan. Impacts would be less than significant.

Burial Sites

Impact CUL-4: Buildout of the 2007 General Plan could damage or destroy burial sites. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Buildout of the 2007 General Plan would allow for the development of new urban uses in undeveloped areas and in existing urbanized areas. Development activities (i.e., subsurface earthmoving) have the potential to disturb or destroy burial sites, particularly those interred outside of formal cemeteries.

2007 General Plan Policies

Open Space and Conservation Element

The 2007 General Plan contains policies to specifically address potential impacts on burial sites. Policies OS-8.1 and OS-8.2 (identification and protection of burial sites) establish procedures to identify and protect burial sites with assistance from the local Native American representatives and the NAHC, and stipulate that information on location and significance of burial sites be included in the environmental review process. Policy OS-8.3 (development at known burial sites) states that proposed development at sites where known burials or human cemeteries are located is prohibited until compliance with appropriate regulations and agencies have been completed. Policy OS-8.4 (development away from burial sites)

stipulates that policies and procedures encourage avoidance or clustering of new development away from burial sites, thus avoiding impacts on sensitive burial sites. Policy OS-8.5 (improve public recognition of the county's cultural heritage) states that a Native Californian Advisory Panel shall be established to aid public recognition of the county's cultural heritage, thus ensuring the protection of burial sites during future development efforts. Policies OS-8.6 and OS-8.7 (Native American consultation) require consultation with tribal representatives to identify potential burial sites and other significant tribal resources for all future General Plan Amendments, Master Plans, and Specific Plans. Implementation of the above policies prevents damage or destruction of burial sites potentially caused by future development.

Area Plan Policies

Native American Consultation

As discussed above, in accordance with SB18 and above policies OS-8.1, OS-8.6, and OS-8.7 the County of Monterey initiated consultation with local Native American representatives in spring 2007. Consultation efforts included contacting six tribal groups. The County met with representatives of the OCEN tribe [none of the others responded to the request for consultation] on about six occasions to review general plan language relative to archaeology, burial sites, and paleontology. Several language changes were suggested by OCEN representatives and incorporated in the current draft. An OCEN representative was present at the PC hearings and agreed to the current language.

Agricultural Winery Corridor Plan

As noted above, the AWCP would allow for the development of wineries and tasting rooms along three corridors in the Salinas Valley. Development of these facilities could result in damage or destruction of burial sites. The AWCP is a component of the 2007 General Plan and is consistent with the policies that pertain to burial sites.

Furthermore, any wineries or tasting rooms that would adversely affect burial sites would be required to comply with all state laws governing preservation of burial sites. Included are requirements that cultural resource surveys be conducted prior to development.

2007 General Plan Land Use Concepts

The 2007 General Plan emphasizes compact city-centered growth in and near existing urbanized areas. This land use concept is designed to preserve significant natural areas and minimize adverse cultural resource

impacts, including adverse effects on burial sites. Emphasizing growth in areas where land use disturbances have already occurred minimizes potential adverse impacts on burial sites. Significant natural areas that may contain unique and important burial sites would be preserved through this proposed land use concept.

CEQA Review

Future discretionary development activities contemplated by the 2007 General Plan would be required to undergo environmental review pursuant to CEQA. This review would include assessment of potential impacts on burial sites.

Significance Determination

Buildout of the 2007 General Plan within the planning horizon could potentially result in adverse impacts on burial sites. However, the 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts on burial sites to the maximum extent practicable. The 2007 General Plan and Area Plan policies summarized above contain policies that address potential impacts on burial sites. Implementation of these proposed policies would ensure that burial sites are protected from adverse impacts. The proposed policies reduce impacts on burial sites by requiring compliance with applicable laws and by implementing a land use concept that will direct new development in areas that have already experienced ground-disturbing activities. In addition, Monterey County consulted with tribal representatives in accordance with SB18 about the implications of the 2007 General Plan on cultural places and sacred sites. This process has provided the County with additional information about areas where potential burial sites may occur and will enable the County to consider the potential occurrence of these sites when regulating future land use activities. Therefore, burial sites would not be significantly impacted by the buildout of the 2007 General Plan. Impacts would be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

In summary, development under the 2007 General Plan within the 2030 planning horizon could potentially result in adverse impacts on burial sites. However, the 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts on burial sites to the maximum extent practicable. Therefore, burial sites would not be significantly impacted by buildout of the 2007 General Plan. Impacts would be less than significant.

Buildout

Impact of Development with Policies

Buildout of the 2007 General Plan to the 2092 planning horizon would result in new urban development in undeveloped areas beyond 2030 levels. Development activities (i.e., subsurface earthmoving) have the potential to disturb or destroy burial sites, particularly where interment has occurred outside of formal cemeteries.

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized above set forth comprehensive measures to avoid and minimize adverse impacts on burial sites to the maximum extent practicable.

Significance Determination

Buildout by 2092 could potentially result in adverse impacts on burial sites. However, the 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts on burial sites to the maximum extent practicable. The 2007 General Plan employs land use concepts such as city-centered growth and preservation of natural areas that would direct future growth away from burial sites that would be most deleteriously impacted by urban development. Therefore, burial sites would not be significantly impacted by buildout of the 2007 General Plan. Impacts in this regard would be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

In summary, buildout to the 2092 planning horizon could potentially result in adverse impacts on burial sites. However, the 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts on burial sites to the maximum extent practicable. Assuming that these or more protective requirements remain in place, burial sites would not be significantly impacted by buildout of the 2007 General Plan. Impacts would be less than significant.

4.10.4 Level of Significance after Mitigation

All impacts on cultural resources would be less than significant with implementation of the measures in the 2007 General Plan, and no additional mitigation would be required.

4.11 Public Services and Utilities

4.11.1 Abstract

A number of public service agencies and utility providers serve the unincorporated areas of Monterey County. These agencies and providers include nearly 20 fire protection agencies, the Monterey County Sheriff's Office, three dozen school districts, various County departments, and multiple water and wastewater districts.

All impacts related to public services and utilities would be less than significant and would not require mitigation beyond implementation of the proposed 2007 General Plan policies and programs. Impacts to water supply and infrastructure are discussed in Section 4.3.

4.11.2 Existing Setting

4.11.2.1 Fire Protection

Fire protection services in the county are currently provided by several different organizations, including fire protection districts, volunteer fire departments, fire brigades, the California Department of Forestry and Fire Protection (CDFFP), the U.S. Forest Service, the National Parks Service, and the U.S. military. Over 20 different fire protection entities serve the County (Exhibit 4.11.1).

Fire protection districts are the primary fire service providers. These independent special districts serve both incorporated and unincorporated areas. The cities of Carmel-by-the-Sea, Gonzales, King City, Marina, Monterey, Pacific Grove, Salinas, Seaside, and Soledad all have their own fire departments. Districts can establish and operate fire departments (though some do not have fire stations) and develop water storage facilities for fire protection. They can also operate ambulance services and provide rescue and first-aid services. Many of the districts have mutual aid agreements with one another, and several districts contract for services with the CDFFP. In most cases, the districts, volunteer fire departments, and brigades emphasize structural fire protection, while the CDFFP addresses wildland fires.

The CDFFP also provides protection to most of the southeast county, areas south of San Antonio Reservoir, the upper elevations and benchlands of the central Salinas Valley, and the upper elevations south of lower Carmel Valley. Fort Hunter Liggett and Camp Roberts are served by the military. The Big Sur Coast is protected by the Big Sur Volunteer Fire Brigade (a brigade does not have the same funding structure as the fire protection districts). The U.S. Forest Service provides wildland fire suppression in Los Padres National Forest.

4.11.2.2 Sheriff's Protection

The Monterey County Sheriff's Office provides police services to the unincorporated portions of the county. These services include patrol, crime prevention, and crime investigation provided out of stations in Monterey, Salinas, and King City. The Sheriff's Patrol Division provides a full range of law enforcement and related emergency response services to a resident population of approximately 110,000 (unincorporated areas) over an area of 3,325 square miles. Table 4.11-1 summarizes each station's service area. In addition, the Sheriff's Office operates the County Detention Facility in Salinas.

Table 4.11-1. Sheriff's Station Summary

Regional Station	Address	Service Area
Central	1414 Natividad Road in Salinas	Castroville, Aromas, Toro Park , Spreckels, Prunedale, Chualar, Fort Ord (portions)
Coastal	1200 Aguajito Road in Monterey	Monterey Peninsula, Carmel Valley, Big Sur Coast
South County	250 Franciscan Way in King City	Central Salinas Valley, San Lucas, San Ardo, Bradley, Bryson-Hesperia, Parkfield, Fort Hunter Ligget, Camp Roberts, Lake San Antonio

Source: Monterey County Sheriff's Office 2008.

The Sheriff's Office contains an Administrative Bureau, an Enforcement Operations Bureau, and a Custody Operations Bureau. The Enforcement Operations Bureau includes the Patrol Division, Narcotics Division, Investigations Division, Homeland Security Division, Crime Prevention Unit, Special Operations Division, and various other teams (such as Hostage/Crisis Negotiation, Search and Rescue, S.W.A.T., and K-9).

As of June 2006, the Sheriff's Office had 462.5 full-time equivalent staff positions. This includes 338 sworn safety officer positions and 124.5 non-sworn positions. As of June 2006, the Sheriff's Office 48 positions were vacant, 30 of them for sworn personnel and 18 for non-sworn personnel.

4.11.2.3 Schools

A total of 36 public school districts and charter school programs serve Monterey County. This total includes seven school districts whose boundaries overlap into other counties (Exhibit 4.11.2). The 29 school districts and charter school programs wholly contained in Monterey County are summarized in Table 4.11-2. In 2006, more than 53,000 students were enrolled in these districts.

School districts based in San Benito, Fresno, Santa Cruz, and San Luis Obispo Counties also serve portions of Monterey County. These seven districts are summarized in Table 4.11-3.

4.11.2.4 Library Services

The County provides library services to residents of the unincorporated county and eight cities through the Monterey County Free Libraries system. Branch libraries are located in the following communities: Aromas, Big Sur, Bradley, Buena Vista (Las Palmas area), Carmel Valley, Castroville, Gonzales, Greenfield, King City, Marina, Pajaro, Parkfield, Prunedale, San Ardo, San Lucas, Seaside, and Soledad. The Library also maintains deposit collections in some local schools. The Library's service area does not include the city limits of the cities of Carmel-by-the-Sea, Monterey, Pacific Grove, and Salinas, which operate their own public libraries.

Monterey County Free Libraries offer library materials in a variety of formats (i.e., books, talking books [books on tape], magazines and newspapers, pamphlets, large print, electronic resources, and videos) and in a variety of languages, such as English, Spanish, Korean, and Vietnamese. The library also operates two bookmobiles: one based in Prunedale and the other based in King City. The two bookmobiles visit more than 30 communities on a regular basis.

Table 4.11-2. Summary of Monterey County School Districts

District	District Type	Number of Schools	Enrollment (2006–2007)
Alisal Union School District	K-8	13	7,416
Bradley Union School District	K-8	1	28
Carmel Unified School District	K-12	6	2,132
Chualar Union Elementary School District	K-8	1	310
Cypress Grove Charter High School Arts & Science	9-12	1	166
Gonzales Unified School District	K-12	4	2,272
Graves Elementary District	K-8	1	40
Greenfield Union Elementary School District	K-8	4	2,468
International School	K-7	1	336
King City Joint Union High School District	9-12	4	2,142
King City Union Elementary School District	K-8	4	2,434
Lagunita School District	K-8	1	60
Learning for Life Charter School District	7-12	1	107
Mission Union Elementary School District	K-8	1	97
Monterey County Office of Education District	K-12	5	1,628
Monterey Peninsula Unified School District	K-12	22	11,607
North Monterey County Unified School District	K-12	8	4,707

District	District Type	Number of Schools	Enrollment (2006–2007)
Oasis Charter District	K-6	1	118
Pacific Grove Unified School District	K-12	5	1,725
Pacific Unified School District	K-12	1	21
Salinas City Elementary School District	K-6	12	7,788
Salinas Union High School District	7-12	10	13,548
San Antonio Union School District	K-8	1	193
San Ardo Union School District	K-8	1	120
San Lucas Union School District	K-8	1	78
Santa Rita Union School District	K-8	5	2,924
Soledad Unified School District	K-12	8	4,255
Spreckels Union School District	K-8	2	870
Washington Union School District	K-8	3	969
Total		**128**	**70,559**

Source: Ed-Data, Education Data Partnership 2008.

Table 4.11-3. Summary of School Districts Based In Other Counties

District	Home County	District Type	Total Number of Schools	Schools in Monterey County	Total District Enrollment (2006–2007)
Aromas-San Juan Unified School District	San Benito	K-12	3	1	1,330
Coalinga-Huron Joint Unified School District	Fresno	K-12	11	—	4,348
Pajaro Valley Unified School District	Santa Cruz	K-12	33	3	19,162
Paso Robles Joint Union School District	San Luis Obispo	K-12	12	—	5,030
Pleasant Valley Joint Union Elementary School District	San Luis Obispo	K-8	1	—	137
San Miguel Joint Union Elementary School District	San Luis Obispo	K-8	2	—	454
Shandon Joint Unified District	San Luis Obispo	K-12	4	1	384
Total			**61**	**5**	**30,845**

Source: Ed-Data, Education Data Partnership 2008.

4.11.2.5 Public Health

The Monterey County Health Department provides public health services to Monterey County. The Health Department provides a variety of services, including adult behavioral services alcohol and drug treatment, communicable diseases treatment, HIV/AIDS prevention, immunization, lifestyle risk, maternity, pediatric, and reproductive health services.

The Health Department operates clinics in Marina, Salinas, and Seaside. Natividad Hospital in Salinas, which is currently operated by the County, is the main provider of care for indigent and underinsured residents of the County and provides both primary and in-patient care.

4.11.2.6 Wastewater

Wastewater disposal in the urban areas of the county is mostly provided through sewage treatment plants. The Central Coast RWQCB has not identified any significant issues with any of the present plant operations.

Wastewater Treatment Facilities

There are two regional treatment facilities in Monterey County. The Monterey Regional Water Pollution Control Agency (MRWPCA) provides wastewater transmission, treatment, and disposal. The Agency's wastewater treatment plant is located north of the City of Marina, immediately south of the Salinas River. The membership and areas served by the MRWPCA include Del Rey Oaks, Seaside, Monterey, Pacific Grove, Salinas, Sand City, and MCWD. The Agency also serves the unincorporated areas of Moss Landing, Boronda, Castroville, and the former Fort Ord area. The wastewater treatment plant capacity is 29.6 MGD (about 89 acre-feet per day) and current demand is 21.0 MGD (about 64.5 acre-feet per day).

The Carmel Area Water District (CAWD) is the other regional district providing wastewater services in the county. The CAWD operates and maintains sewage collection, treatment, and disposal facilities. The District's facilities are located at the mouth of the Carmel River and serve the City of Carmel-by-the-Sea, Del Monte Forest/Pebble Beach, and portions of the Carmel Valley. The wastewater treatment plant capacity is 4.0 MGD (about 1.2 acre-feet per day) and current demand is 1.7 MGD (about 5.2 acre-feet per day).

In addition, the incorporated cities in the central Salinas Valley operate their own wastewater treatment facilities. A summary of the regional and city wastewater treatment facilities is provided in Table 4.11-4.

Table 4.11-4. Municipal Wastewater Disposal in Monterey County

Wastewater Treatment System	Service Area	Treatment Level	Capacity	Current Use	Remaining Capacity
Monterey Regional Water Pollution Control Agency	Del Rey Oaks, Marina, Monterey, Pacific Grove, Salinas, Sand City, Seaside	Tertiary	29.6 MGD (27.0 MGD permitted)	21 MGD	8.6 MGD
Carmel Area Wastewater District	Carmel-by-the-Sea, Pebble Beach, portions of Carmel Valley	Tertiary	4.0 MGD (3.0 MGD permitted)	1.7 MGD	2.7 MGD
Gonzales	Gonzales	Primary	0.706 MGD	0.35 MGD	0.356 MGD
Greenfield	Greenfield	Primary	1.0 MGD	0.8 MGD	0.2 MGD
King City	King City	Secondary	1.2 MGD	0.731 MGD	0.469 MGD
Soledad	Soledad	Secondary	5.6 MGD (3.1 MGD permitted)	2.5 MGD	3.1 MGD

MGD = Million gallons per day.

Source: Association of Monterey Bay Area Governments 1999.

Monterey County also has several County Service Areas (CSAs) providing wastewater services. CSAs provide various services to the unincorporated areas of the county. Wastewater collection, treatment, and disposal as well as septic tank maintenance are among the permitted services.

Rural Treatment Systems

On-site wastewater systems provide treatment and disposal of domestic wastes on individual sites. There are three basic types of treatment systems: septic tanks, biological treatment units, and chemical treatment units. A treatment system is usually used in combination with a soil absorption field: drain fields, seepage pits, leaching chambers, absorption mounds, and evapotranspiration beds. The predominant type of wastewater system used in the rural communities of Monterey County is the septic tank and dual drain field.

Many of the homes in Monterey County are currently using septic systems. Most of these systems pre-date 1969 County regulations governing the approval of individual disposal systems and have undersized septic tanks; inadequate area for expansion; and undersized, crowded drain fields. In some cases, when conventional septic systems fail, an alternative system may be allowed by the County Environmental Health Department. Alternative systems may employ aerobic processes to breakdown organic material or may use an engineered mound where percolation is inhibited. These alternative systems require intensive monitoring and are expensive to maintain.

4.11.2.7 Solid Waste

Two agencies oversee solid waste disposal in Monterey County. The Monterey Regional Waste Management District (MRWMD) serves the western coastal areas of Monterey County. MRWMD's service area includes the cities of Carmel-by-the-Sea, Del Rey Oaks, Marina, Monterey, Pacific Grove, Sand City, and Seaside; and the unincorporated areas of Big Sur, Carmel Highlands, Carmel Valley, Castroville, Corral De Tierra, Laguna Seca, Moss Landing, Pebble Beach, San Benancio, and Toro Park. The District covers a total of 853 square miles.

The Salinas Valley Solid Waste Authority (SVSWA) serves the eastern inland portions of Monterey County. SVSWA's service area includes the cities of Gonzales, Greenfield, King City, Salinas, and Soledad; and the unincorporated communities of Bradley, Chualar, Jolon, Lockwood, Pine Canyon (King City), Pleyto, Prunedale, San Ardo, San Lucas, and Spreckels.

Collection Service

Waste Management, Inc. provides contract solid waste and recycling collection services to unincorporated areas of Monterey County. Waste Management hauls solid waste and recyclables to each respective agency's facilities.

Landfills

Three active landfills currently operate in Monterey County. They are summarized in Table 4.11-5.

Table 4.11-5. Monterey County Landfill Summary

Landfill	Location	Operator	Permitted Capacity	Remaining Capacity	Closure Date
Crazy Horse Sanitary Landfill	Salinas	SVSWA	2.7 million cubic yards	1.0 million cubic yards	2009
Johnson Canyon Sanitary Landfill	Gonzales	SVSWA	13.8 million cubic yards	6.9 million cubic yards	2040
Marina Landfill	Marina	MRWMD	49.7 million cubic yards	48.6 million cubic yards	2107

Source: California Integrated Waste Management Board 2008a.

SVSWA currently has future plans to expand both of its landfills, as well as site a new landfill. This would increase capacity beyond that shown in Table 4.11-5. MRWMD has enough capacity at its existing landfill and has no immediate plans to expand or site a new landfill.

Waste Diversion Rates

Waste diversion is a measurement of how much solid waste is diverted from landfills by waste prevention or recycling activities. Table 4.11-6 summarizes the waste diversion rates for unincorporated Monterey County from 1996 through 2006. Although diversion rates improved substantially to over 50 percent in 2001, diversion rates have fluctuated and have begun to drop in recent years. Outreach efforts associated with recycling and waste diversion programs are being implemented to motivate the public to recycle.

Table 4.11-6. Waste Diversion Rates (1996–2006)

Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Diversion rate (%)	23	25	25	30	31	57	53	54	58	49	50

Source: California Integrated Waste Management Board 2008b.

The State requires that each jurisdiction achieve a diversion rate of at least 50 percent. Monterey County is currently in compliance with this requirement.

4.11.3 Regulatory Framework

4.11.3.1 Federal and State

Federal Regulations

The federal government sets minimum standards for the protection of water quality, including for drinking water and environmental protection, and has jurisdiction over flow in some waters where rivers or streams cross state boundaries. The federal government also has a voice in water management through its jurisdiction over energy regulation (for hydroelectric projects) and where endangered fish and aquatic species occur within a water body.

The federal CWA (including WDRs, the NPDES program, and Section 303(d) impaired water bodies and TMDLs) is described in detail in Section 4.3, Water Resources. The CWA is largely administered by the State Water Board and the Central Coast RWQCB.

State Regulations

Wastewater Disposal

CCRWQCB has adopted water quality standards to be met by treatment. These are imposed, for treatment facilities, through the waste discharge requirement (WDR) permitting process administered by the CCRWQCB. Wastewater

treatment plants, both public and private, are required to meet the standards under individual WDRs issued and enforced by the CCRWQCB. The CCRWQCB has adopted a WDR waiver for onsite domestic wastewater treatment for individual residences. A WDR "waiver" does not waive permitting, but rather establishes standard requirements for permitting qualifying projects.

Municipal Services Review

LAFCO is the agency empowered to incorporate, annex to, or dissolve cities and special districts. The objectives of LAFCO law (Government Code Section 56000 et seq.) require LAFCO to discourage urban sprawl, encourage the orderly formation and development of local government agencies, ensure the provision of adequate urban services, and preserve agricultural land resources on a countywide basis. Each county's LAFCO is comprised of representatives of the county, cities, special districts, and the public.

To assist with these functions, California Government Code Section 56430 requires LAFCOs to conduct Municipal Services Reviews (MSRs) that describe the municipal services provided by the agencies that are subject to LAFCO authority. MSRs are comprehensive studies designed to collect and analyze information about the governance structures and efficiencies of service providers, to estimate their ability to meet current and future service needs, and to identify opportunities for greater coordination and cooperation between providers. LAFCO may include one or more services in the review, and the study area may be the whole county or any subarea as determined by LAFCO.

The goals of the MSR are to determine infrastructure needs or deficiencies, growth and population projections for the affected area, financing constraints and opportunities, opportunities for shared facilities, and government structure options. MSRs can therefore provide useful information in evaluating water supply issues.

Wastewater Management

Wastewater disposal is regulated by the County Health Department, the CCRWQCB, and the SWRCB. Please see the Regulatory Framework for Potable Water above and in Section 4.3, Water Resources.

Solid Waste—California Integrated Waste Management Act of 1989

Decreasing landfill disposal capacity and the increasing difficulty to site or expand waste disposal facilities, whether as a result of public opposition or the enactment of more stringent environmental regulations, led to the passage of the California Integrated Waste Management Act of 1989 (AB 939) (Chapter 1095, Statutes of 1989, et seq.). AB 939 was adopted in an effort to improve planning for solid waste facilities and reduce the volume and toxicity of solid waste that is disposed. With its passage, solid waste management practices were redefined by (1) requiring each of the cities and unincorporated portions of counties throughout the State of California to divert 25 percent by 1995 and, as of the year 2000, 50 percent of the solid waste that is disposed; and (2) requiring local governments to prepare and implement plans that would improve waste resource management by integrating solid waste management principles that place

importance on first reducing solid waste through source reduction, reuse, recycling, and composting before disposing of it through environmentally safe landfill disposal or transformation (e.g., regulated incineration of solid waste materials).

Fire Protection—Uniform Fire Code and California Building Standards Code

The Uniform Fire Code published by the International Fire Code Institute and the Uniform Building Code (adopted in California as the California Building Standards Code) published by the International Conference of Building Officials both prescribe performance characteristics and materials to be used to achieve acceptable levels of fire protection.

Amendments to the California Building Standards effective in 2008 increased the requirements for defensible space and require more fire-resistant building materials and design than prior codes. These codes are in effect in areas identified as having severe fire hazards.

Public Education—Leroy F. Greene School Facilities Act of 1998 (SB 50)

In 1998, the California State Legislature enacted SB 50, which made significant amendments to existing State law governing school fees. SB 50 prohibited state or local agencies from imposing school impact mitigation fees, dedications, or other requirements in excess of those provided in the statute. Government Code Section 65995(e) provides that where payment has been made to a school district in accordance with the school fee program that is considered full mitigation of any school impacts. The legislation also prohibits local agencies from denying or conditioning any project (including a general plan) based on the inadequacy of school facilities.

Water Quality

A number of federal, state, and local governments protect beneficial uses and water quality objectives for surface water and groundwater resources. Government Code Section 65302 (Land Use), requires city and county general plans to address water supply as a topical issue, using an Urban Water Management Plan as a primary source document. Programs and regulations related to drinking water quality, water supply, and wastewater treatment and disposal are described below.

4.11.4 Project Impacts

Impacts to public service utilities from the 2007 General Plan policies on the 2030 planning horizon and 2092 buildout are discussed. The significance of the impact is based on the thresholds of significance, which are described below. If the impact would be significant, a mitigation measure to minimize the impact and the resultant level of significance of the impact are stated. Then, the impacts of the 2007 General Plan policies on the projected 2092 buildout, along with proposed mitigation are discussed.

4.11.4.1 Methodology

The impacts on public service utilities were based on using thresholds of significance to determine impact significance, described below, and an analysis of the remaining service capacity and expected future growth within the Community Areas. In addition, compliance with federal, state and local ordinances and regulation regarding public service utilities were also considered.

4.11.4.2 Thresholds of Significance

Implementation of the 2007 General Plan would result in a significant impact on public services and utilities if it would:

- Require new or expanded fire protection facilities;
- Require new or expanded Sheriff's facilities;
- Require new or expanded school facilities;
- Require new or expanded library facilities;
- Require new or expanded public health facilities;
- Require new or expanded wastewater treatment facilities;
- Require new or expanded storm water drainage facilities; or
- Require new or expanded solid waste disposal facilities or result in non-compliance with federal, state, or local statutes related to solid waste.

4.11.4.3 Impact Analysis

Buildout of the 2007 General Plan would impact the sheriff, fire protection, wastewater treatment, landfill, libraries, public school, and storm water drainage facilities if, new or expansions of the existing facilities are required. The following section provides an analysis of the potential impacts the 2007 General Plan policies would have on the 2030 planning horizon. Furthermore, mitigation measures and the minimization of the mitigation measures are also discussed.

Fire Protection

Impact PSU-1: Development and land use activities contemplated in the 2007 General Plan may result in the need for new or expanded fire facilities. (Less than Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Implementation of the 2007 General Plan would increase urban development in the unincorporated areas of the county, resulting in a greater need for fire protection in order to avoid adverse effects on the public health and safety. The policies of the 2007 General Plan would avoid significant effects. New or expanded fire protection facilities would be required, particularly near the proposed Pajaro, Boronda, Castroville, Chualar, and Fort Ord Community Areas, which would result in significant effects.

2007 General Plan Policies

The 2007 General Plan proposes a number of policies to ensure that new or expanded fire facilities would be provided concurrently with anticipated growth.

Public Service Element

Public Service Element Polices PS-1.1 through PS-1.6 establish general standards for the provision of public facilities concurrently with future growth. Furthermore, these policies direct growth where adequate facilities currently exist, seek to achieve acceptable level of service standards through improvements funded by fair share impact fees and planned capital improvements. These policies would decrease the impact of future growth by requiring that fire stations be developed concurrently with future developments and that fire stations provide an Adequate Public Facility and Services (APFS) that meets or exceeds the required amount by the development.

Safety Element

Safety Element Policies S-4.1 through S-4.33 address potential impacts from fire hazards. The policies include educational awareness and participation about fire hazards, establish a minimum roadway access for fire vehicles, and require new developments to provide fire suppression systems, such as fire breaks, fire-retardant building materials, and automatic fire sprinkler systems. Furthermore, these policies would create a design review process by county planning and fire officials to address project design, landscaping, and building standards. The policies described above would decrease accidental fires through educational awareness of the

public. The above described policies would also prevent small fires from enlarging by establishing roadway access for fire vehicles and requiring new developments to provide fire suppressant systems. In addition, the design review process would further decrease fires from occurring by ensuring the project design, landscaping and building standards and other fire-protection related issues are addressed.

Safety Element Policies S-6.1 through S-6.8 set forth emergency preparedness policies to ensure that fire protection agencies would have adequate resources to meet the demands of the buildout population. These resources includes, adequate emergency centers and brochures that specify the levels of emergency levels available throughout the county be developed. Policy S-6.6 prohibits development in areas that cannot be reached by emergency vehicles within the county standards.

Area Plan Policies

Most of the fire policies are contained in the 2007 General Plan for the entire county. Two Area Plans provide area specific fire protection policies.

Greater Salinas Area Plan

Policy GS-1.1 requires that future development within the Butterfly Village portion of the Rancho San Juan Special Treatment Area provide adequate public services, including fire protection.

Cachagua Area Plan

Policy CACH-4.3 encourages the formation of a fire district in this area to assist and ensure that a minimum level of fire protection is available to residents within the area plan boundaries.

Development Impact Fees

New development projects also would be assessed impact fees to finance capital improvements for fire protection facilities. Because payment of these fees would be limited to the project's fair share, additional funding sources would be required to ensure that adequate facilities are provided concurrently with growth. Capital Improvement and Financing Plans that identify what is required to meet APFS needs are required under Public Services Element Policy PS-1.1.

Significance Determination

The 2007 General Plan and Area Plan goals and policies are designed to accommodate growth in Community Areas while ensuring that new development provides adequate fire protection facilities and services to

future residents. These comprehensive policies will ensure that facilities are built and operated to provide an acceptable level of fire protection.

Physical construction, resource demands, and employee requirements associated with future fire protection facilities and services would be addressed in future separate environmental reviews. However, typical impacts of fire protection facilities include noise and intermittent traffic disruption, depending on the location and design of the facility. Noise impacts are generally unavoidable due to the use of loud sirens when equipment is leaving the station on emergency calls; however, it is highly unlikely that noise impacts would occur frequently. Thus, noise impacts from sirens would be less than significant due to their low frequent occurrence and because it not expected to impact the overall noise level of a given area. Future facilities would include mitigation as necessary to reduce the magnitude of potential site-specific effects. Traffic disruption is typically short in nature; only long enough for equipment to leave the station and therefore has no impact on traffic congestion.

There are no plans at the current time that describe the size, location, or operational characteristics of these future facilities. Therefore, their environmental impacts cannot be determined with any certainty and are examined at only a general level of detail. New facilities and services would serve the Community Areas and Rural Centers (where demand is expected to be greatest) and likely would be located in those areas. When specific facilities are proposed, they would be subject to CEQA review; mitigation of any significant impacts that may be identified would be required where feasible.

Mitigation Measures

Because new or expanded fire protection facilities associated with implementation of the 2007 General Plan policies would require project-specific environmental review and potentially significant adverse effects would be mitigated as feasible, no mitigation is necessary.

Significance Conclusion

Adequate facilities will be provided in a timely manner such that impacts on the public health, safety and welfare are less than significant. Future fire station operations will have a less than significant noise impact on nearby residences and other sensitive uses because noise impacts are not likely to occur on a frequent basis.

Buildout

Impact of Development with Policies

Buildout in 2092 will result in increased development which, in turn, will require the construction or expansion of facilities beyond 2030 levels. Future policies and service standards are unknown; however, we may assume that

they will maintain or increase current standards. Historically, society has increased standards of safety; thus, it can be assumed that by buildout county standards of public safety and services will have been increased. The 2007 General Plan and Area Plan goals and policies will be implemented, including adoption of a County noise ordinance that will establish enforceable noise limits.

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized above identify the public service, safety, and noise policies that will be in place to provide adequate fire protection services to future county residents.

Significance Determination

Future fire stations are assumed to require sirens to be sounded as vehicles leave on emergency calls. This would presumably result in temporary noise levels that exceed acceptable standards at nearby sensitive uses. As today, future facilities will be subject to environmental analysis and the mitigation of noise impacts, to the extent feasible. Nonetheless, occasional noise impacts may not be avoidable; however, noise impacts are not expected to occur frequently. The construction and operation of future fire stations would be less than significant.

Mitigation Measures

Because new or expanded fire protection facilities associated with implementation of the 2007 General Plan policies would require project-specific environmental review and potentially significant adverse effects would be mitigated as feasible, no additional mitigation is necessary beyond 2007 General Plan policies and adoption of the County noise ordinance.

Significance Conclusion

The impacts of operating future facilities will be less than significant.

Sheriff's Protection

Impact PSU-2: Development and land use activities contemplated in the 2007 General Plan may result in the need for new or expanded Sheriff's facilities. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Implementation of the 2007 General Plan would increase the population of the unincorporated areas of Monterey County, resulting in a greater demand for Sheriff's protection. New or expanded Sheriff's facilities would be required, particularly near the proposed Pajaro, Boronda, Castroville, Chualar, and Fort Ord Community Areas.

2007 General Plan Policies

The 2007 General Plan proposes a number of policies to ensure that new or expanded Sheriff's facilities would be provided concurrently with future growth.

Public Services Element

As discussed under Impact PSU-1, Public Services Element Policies PS-1.1 through PS-1.6 would establish general standards for the provision of adequate public facilities. These policies would decrease the impact on sheriff facilities by that requiring future developments be developed concurrently with future sheriff stations. According to the policies, future sheriff stations must provide an Adequate Public Facility and Services (APFS) that meets or exceeds the required amount by the development. The development of new sheriff facilities concurrently with development would decrease the impact by providing an APFS.

Safety Element

As stated in Impact 1, Safety Element Policies S-6.1 through S-6.8 set forth emergency preparedness policies to ensure that the Sheriff's Office would have adequate resources to meet the demands of the 2030 population. Policies S-6.1 through S-6.8 would decrease impact on sheriff stations by ensuring that stations have the adequate resources in an emergency situation, which include emergency centers, information on the levels of emergency provided and prohibiting development in areas that cannot be reached by emergency vehicles.

Area Plan Policies

One supplemental Area Plan policy concerns Sheriff's services:

Greater Salinas Area Plan

Policy GS-1.1 requires that future development within the Butterfly Village portion of the Rancho San Juan Special Treatment Area provide adequate public services, including Sheriff's protection.

Development Impact Fees

PS-1.4 would require payment of a fair share of the cost of providing the APFS to serve the development. New development projects would be assessed impact fees to finance capital improvements for Sheriff's facilities. Payment of these fees would ensure that adequate facilities are provided concurrently with growth.

Significance Determination

The 2007 General Plan and Area Plan goals and policies are designed to accommodate growth in Community Areas while ensuring that new development provides adequate Sheriff's facilities and services to future residents. As a result, there would be no substantial impact on health and safety that might occur absent of such facilities.

There are no plans at the current time that describe the design, location, or operational characteristics of future facilities. Therefore, their environmental impacts cannot be determined with any certainty and are examined at only a general level of detail. New facilities and services would serve the Community Areas and Rural Centers (where demand is expected to be greatest) and likely would be located in those areas. Their impacts would be an indistinguishable part of the impacts of the community as a whole. These facilities are typically low-key. For example, traffic is generally insubstantial because it is spread throughout the day. Noise is similarly low because of the limited number of employees and because sirens are seldom, if ever used when vehicles leave the premises (unlike a fire station).

The potential significant adverse environmental effects associated with providing such facilities and services will be evaluated in future site-specific and facility-specific environmental reviews, with incorporation of mitigation as necessary to reduce the magnitude of these potential effects pursuant to Public Resources Code Section 21002.

Mitigation Measures

Impacts of these facilities will be generally part of the overall impacts resulting from development within the Community Areas and Rural Centers. No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

Adequate sheriff's facilities will be provided in a timely manner such that impacts on the public health, safety and welfare are less than significant. Future sheriff's station operations will have a less-than-significant impact on nearby residences and other sensitive uses.

Buildout

Impact of Development with Policies

Increased development at 2092 buildout will increase demand for sheriff's facilities to serve a larger and more dispersed population. As with the 2030 Horizon, there are no plans available for future facilities, but they would reasonably be expected to be built in population centers. The typical impacts would be the same as those described above.

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized above identify the public service and safety policies that will be in place to provide adequate sheriff services to future county residents.

Significance Determination

Mitigation Measures

Impacts of these facilities will be generally part of the overall impacts resulting from development within the Community Areas and Rural Centers. No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

The impact of 2092 buildout on sheriff services would be less-than-significant because additional required services would be developed concurrently to buildout.

Public Schools

Impact PSU-3: Development and land use activities contemplated in the 2007 General Plan may result in the need for new or expanded school facilities. (Less-Than-Significant-Impact) Future schools may affect adjoining land uses. (Significant and Unavoidable Impact)

2030 Planning Horizon

Impact of Development with Policies

Future development anticipated by the 2007 General Plan would result in greater demands for public education facilities, particularly near the proposed Pajaro, Boronda, Castroville, Chualar, and Fort Ord Community Areas. The construction of new or expanded school facilities would be a potentially significant impact, depending on the site-specific situation.

2007 General Plan Policies

The 2007 General Plan establishes a number of policies that encourage new or expanded public school facilities to be provided concurrently with future growth.

Public Services Element

As discussed under Impact PSU-1, Public Services Element Policies PS-1.1 through PS-1.6 set forth general standards for the provision of adequate public facilities. The implementation of Public Services Element Policies PS-1.1 through PS-1.6 would decrease the impact on public schools by requiring that public education facilities be developed concurrently to the development. These new public education facilities would also be required to meet or exceed the required amount by the proposed development. Public Services Element Policies PS-7.1 through PS-7.4, and Policy 7.8 identify specific standards for the provision of educational facilities. These policies address planning and consultation among county officials and the affected school districts to decide on a site that is in or near the areas of development. In addition, these policies also require financial support be provided for the acquisition of future public school facilities to the affected district and for the developed public school facilities to serve as multi-purpose facilities for the community. The required financial support for public school facilities and developing the facilities in or near development areas will decrease the impact on public school facilities from the projected 2030 planning horizon.

Area Plan Policies

One supplemental Area Plan policy concerns public schools:

Greater Salinas Area Plan

Policy GS-1.1 requires that future development within the Butterfly Village portion of the Rancho San Juan Special Treatment Area provide adequate public services, including a school site.

Development Impact Fees

New development projects will be assessed impact fees in accordance with SB 50 to finance capital improvements for public school facilities by the affected school district. Payment of these fees would contribute to the financing of adequate facilities concurrently with growth, in addition to state funding and local school district construction bonds. As discussed above in the regulatory section, Government Code Section 65995(h) provides that payment of development impact fees in accordance with its provisions constitutes "full and complete mitigation of the impacts" of new development.

Significance Determination

Paying school impact fees mitigates the impact of new development on schools under Government Code Section 65995(h). Therefore, the policies of the 2007 General Plan will ensure that this impact will be less-than-significant.

The 2007 General Plan and Area Plan goals and policies are designed to accommodate growth in Community Areas while ensuring that new development provides adequate school facilities and services to future residents. There are no plans at the current time describing the design and operational characteristics of future school facilities. Therefore, their environmental impacts cannot be determined with any certainty and are examined at only a general level of detail. New school facilities and services would serve the Community Areas and Rural Centers (where demand is expected to be greatest) and likely would be located in those areas.

The potential significant adverse environmental effects associated with providing new or expanded school facilities and services would be evaluated in the future site-specific and facility-specific environmental reviews by the pertinent school districts. CEQA requires the districts to incorporate all feasible mitigation measures to reduce the magnitude of these potential effects (Public Resources Code Section 21002).

In practice, school facility construction is usually not subject to County land use regulations (Government Code Section 53094). Accordingly, the pertinent school district will be the lead agency for any CEQA analysis that

is undertaken. The County does not have sufficient information regarding specific locations, sizes, and types of future school facilities to reasonably analyze the potential impacts of specific facilities. That level of detailed analysis would be outside the scope of the 2007 General Plan EIR, which is analyzing the broader impacts of plan implementation.

That being said, there are certain impacts that are typical of school construction and operations. Construction impacts include noise, dust, and traffic during the time necessary to construct the school. Work is typically done during daylight hours, on weekdays. As a result, noise is usually at acceptable levels. Dust would be controlled by implementation of the BMPs required by the Monterey Bay Unified Air Pollution Control District. Traffic impacts consist of arrival and departure of work crews, and delivery of construction materials. The significance of traffic impacts depends upon the level of congestion on the streets that access the construction site. These impacts are usually localized.

When in operation, schools typically create significant peak-hour traffic congestion from the delivery and pick-up of students and when large events are held and, if associated with a lighted playing field, light and glare impacts. Noise may be bothersome to nearby residents at large campuses during the delivery and pick-up of students, and where playing fields are close to residences during recess or PE (although school noise is seldom in excess of significance thresholds). Noise would also be bothersome if the school included a stadium with a loudspeaker system.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is reasonable at this time because the significance of future impacts would be dependent upon school location, design, and operation features that are unknown at this time. Mitigation measures will be developed by the pertinent school districts at such time as they prepare future environmental analyses for specific school projects.

Significance Conclusion

Development under the 2007 General Plan will result in a less-than-significant effect on schools. Paying school impact fees, as required by state law and proposed Public Services Element policy PS-7.8, mitigates the impact of new development on schools under Government Code Section 65995(h).

New or expanded schools would result in significant, unavoidable effects. Significant traffic, noise, and lighting effects are most likely to occur at larger schools during school activities. At the present, there is insufficient information about future schools to determine exactly where and when significant effects will occur.

Buildout

Impact of Development with Policies

Buildout will result in the need for new schools. Since the adoption of Government Code Section 65995, California voters have consistently passed the necessary state bond measures to maintain SB 50's effectiveness. There is no reason to expect this support to change. As a result, future payment of school fees will continue to mitigate school impacts under the terms of Section 65995.

Although much of the additional development under buildout in 2092 would be the result of development on individual lots, schools will most probably be located in cities and communities, rather than in rural areas. The particular locations, sizes, and designs of these facilities cannot be known at this time. Typical impacts would be the same as described above for the 2030 horizon.

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized above identify the public service policies that will be in place to provide adequate public school services to future county residents.

Significance Determination

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is reasonable at this time because the significance of future impacts would be dependent upon school location, design, and operation features that are unknown at this time. Mitigation measures will be developed by the pertinent school districts at such time as they prepare future environmental analyses for specific school projects.

Significance Conclusion

Development under the 2007 General Plan will result in a less-than-significant effect on schools. Paying school impact fees, as required by state law and proposed Public Services Element policy PS-7.8, mitigates the impact of new development on schools under Government Code Section 65995(h).

New or expanded schools would result in significant and unavoidable effects. Significant traffic, noise, and lighting effects are most likely to occur at larger schools during school activities. At the present, there is insufficient information about future schools to determine exactly where and when significant effects will occur.

Libraries

Impact PSU-4: Development and land use activities contemplated in the 2007 General Plan may result in the need for new or expanded library facilities. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Future growth anticipated by the 2007 General Plan would result in greater demands for library services. These demands would result in the need for new library or expanded facilities, particularly near the proposed Pajaro, Boronda, Castroville, Chualar, and Fort Ord Community Areas. Construction of these new or expanded facilities would have environmental impacts.

The County Free Library system currently has branches in the following communities: Aromas, Big Sur, Bradley, Carmel Valley, Castroville, Gonzales, Greenfield, King City, Marina, Pajaro, Parkfield, Prunedale, Salinas (Buena Vista), San Ardo, San Lucas, Seaside, and Soledad. Most are located in small buildings that are integrated into the communities. The smallest libraries in Bradley and Parkfield are open only two days a week. The Big Sur, Pajaro, San Ardo, and San Lucas branches are open only three days a week. The City of Salinas has its own library system.

2007 General Plan Policies

The 2007 General Plan proposes a number of policies to ensure that new or expanded library facilities would be provided concurrently with future growth.

Public Service Element

As discussed under Impact PSU-1, Public Services Element Policies PS-1.1 through PS-1.6 set forth general standards for the provision of adequate public facilities. Public Service Element Policies PS-1.1 through PS-1.6 would decrease the impact on libraries by requiring library facilities be developed concurrently with development and that the new or expanded facilities exceeds or meets the required services required by the new development. Public Services Element Policies PS-10.1 through PS-10.5 set forth policies that address funding for additional library services and accessibility by future residents. Policies PS-10.1 through PS-10.5 would decrease the impact by pursuing additional funding from the state and private contributions to ensure additional library services are provided.

Area Plan Policies

One supplemental Area Plan policy concerns library services:

Greater Salinas Area Plan Policy GS-1.1 requires that future development within the Butterfly Village portion of the Rancho San Juan Special Treatment Area provide adequate public services, including library services.

Development Impact Fees

New development projects will be assessed impact fees to finance capital improvements for library facilities. Payment of these fees would ensure that adequate facilities are provided concurrently with growth.

Significance Determination

The 2007 General Plan and Area Plan goals and policies are designed to accommodate growth in Community Areas while ensuring that new development provides adequate library facilities and services to future residents. However, there are no plans at the current time for specific library facilities. Therefore, their environmental impacts cannot be determined with any certainty and are examined at only a general level of detail. New or expanded facilities and services would serve the Community Areas and Rural Centers (where demand is expected to be greatest) and likely would be located in those areas.

Future library construction is expected to have typical construction impacts, including noise, dust, and traffic while work is going on. Community libraries of the sort envisioned to serve current and future residents are not typically large construction projects that result in significant effects. In any case, they will be subject to CEQA review and Public Resources Code Section 21002 requires that all feasible mitigation measures be adopted as necessary to reduce the magnitude of these potential effects. Their effects are expected to be less-than-significant.

Because future library facilities are expected to be located within the urbanizing areas their operational impacts will be largely indistinguishable from the overall impacts of the Community Area or Rural Center in which they may be located. Libraries are not typically large facilities or facilities that generate substantial amounts of traffic. Patrons visit throughout the days when they are open, so there are no peak hours of attendance. If located within a Community Area or Rural Center a substantial percentage of their patrons would be expected to walk or bicycle there. Therefore, impacts are expected to be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary. Should future CEQA analyses of library construction or expansion

identify potentially significant effects of specific library projects, mitigation will be required at that time.

Significance Conclusion

New and expanded library facilities to serve future populations will have less-than-significant impacts on the environment.

Buildout

Impact of Development with Policies

Buildout will result in the need for new libraries. Although much of the additional development under buildout in 2092 would be the result of development on individual lots, libraries will most probably be located in cities and communities. The particular locations, sizes, and designs of these facilities cannot be known at this time. Typical impacts would be the same as described above for the 2030 horizon and are expected to be less-than-significant.

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized above identify the public service policies that will be in place to provide adequate library services to future county residents.

Significance Determination

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary. Should future CEQA analyses of library construction or expansion identify potentially significant effects of specific library projects, mitigation would be required at that time.

Significance Conclusion

New and expanded library facilities to serve future populations will have less-than-significant impacts on the environment.

Public Health

Impact PSU-5: Development and land use activities contemplated in the 2007 General Plan may result in the need for new or expanded public health facilities. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Future growth anticipated by the 2007 General Plan would result in greater demands for public health services. These demands would result in the need for new public health facilities such as clinics or hospitals. The sizes and locations of these future facilities are unknown. At the present time, the Monterey County Health Department operates clinics in Marina, Salinas, and Seaside. The Department's public health nurses provide home visitation services as well.

2007 General Plan Policies

The 2007 General Plan proposes a number of policies to ensure that new or expanded public health facilities would be provided concurrently with future growth.

Public Service Element

As discussed under Impact PSU-1, Public Services Element Policies PS-1.1 through PS-1.6 set forth general standards for the provision of adequate public facilities, which would decrease the impact by requiring APFS be provided to future developments. Public Services Element Policies PS-8.1 and PS-8.2 promote a full range of health care programs for county residents and the establishment of needed health care services in areas with high population concentrations. The establishment of health care facilities in areas with high population and promotion of health care programs would decrease the impact by expanding the services. Public Service 8.4 requires nurse staffing be provided at levels that meet the health needs of the County's rural residents. This policy would also decrease the impact of the development by requiring the appropriate nurse staffing be provided.

Significance Determination

The 2007 General Plan goals and policies are designed to accommodate growth in Community Areas and Rural Centers while ensuring that new development provides adequate public health facilities and services to future residents. Future facilities would have construction and operational impacts. There are no plans at the current time for specific facilities and services. Therefore, their environmental impacts cannot be determined with any

certainty and are examined at only a general level of detail. New facilities and services would serve the Community Areas and Rural Centers (where demand is expected to be greatest) and likely would be located in those areas. Physical construction and resource demands associated with future site-specific public health facilities would be addressed in separate environmental reviews at such time as they are being proposed. Public Resources Code Section 21002 requires the incorporation of all feasible mitigation measures in order to reduce the magnitude of any potential effects identified in those later environmental analyses.

Public health facilities are usually located near their clientele, are commensurate in size to the community they will serve, and are most likely to be placed in the urbanized Community Areas and Rural Centers. Typically, these facilities would be health offices or clinics, not full hospitals. Construction impacts would likely include traffic from workers and deliveries, noise from construction, and dust if grading is necessary.

For the most part, operational impacts will be largely indistinguishable from the overall impacts of the Community Area or Rural Center in which the facility may be located. Such facilities typically have a steady stream of visitors during working hours, but do not result in the peak traffic, noise, or lighting impacts typically associated with a hospital.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

Given the expected size of an office or clinic serving a small community, construction impacts are expected to be less-than-significant. The operations of expected facilities would also be less than significant.

Buildout

Impact of Development with Policies

Buildout in 2092 will result in the need for new public health facilities. Due to the nature of these facilities, they will probably be located in cities and communities where they are accessible to their clients. The particular locations, sizes, and designs of these facilities cannot be known at this time. Typical impacts would be the same as described above for the 2030 horizon and are expected to be less-than-significant.

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized above identify the public service policies that will be in place to provide adequate public health care services to future county residents.

Significance Determination

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary. Should future CEQA analyses of health facilities construction or expansion identify potentially significant effects of specific facilities, mitigation would be required at that time.

Significance Conclusion

New and expanded health facilities to serve future populations will have less-than-significant impacts on the environment.

Wastewater

Impact PSU-6: Development and land use activities contemplated in the 2007 General Plan may create additional demands for wastewater collection and treatment, resulting in a need for new or expanded wastewater treatment facilities. (Less-Than-Significant-Impact)

2030 Planning Horizon

Impact of Development with Policies

Implementation of the 2007 General Plan would result in urban development, which would generate wastewater. The increased generation of wastewater would cause a need for additional wastewater collection and treatment capacity, particularly near the proposed Pajaro, Boronda, Castroville, Chualar, and Fort Ord Community Areas. If sufficient capacity is not available, there is a potential that water quality would be degraded by discharges of untreated or under-treated wastewater.

Development in accordance with the 2007 General Plan AWCP would eventually result in 40 new artisan and 10 new full-scale wineries by 2030. Continuing the earlier assumptions of water use, a typical artisan winery would be expected to produce 90,000 gallons of wastewater annually. This is based on an estimated production rate of 1.5 gallons of wastewater for each gallon of wine (Monterey County Environmental Health Department *Subsurface Disposal System Design Criteria*—1/18/08). Full-scale wineries would produce the following levels of wastewater per year:

Table 4.11-7. Typical Winery Wastewater Production

Type/Size of Winery	Wastewater Production per Winery (gallons per year)
Artisan (25,000 cases)	90,000
Full-scale (75,000 cases)	1.89 million
Full-scale (175,000 cases)	4.4 million
Full-scale (375,000 cases)	9.45 million
Full-scale (750,000 cases)	18.9 million
Full-scale (1.5 million cases)	37.8 million

Daily disposal rates are not estimated because they depend on the level of wine production. Production levels vary depending upon the season, with peak activity during the crush. In all cases, disposal of these volumes of wastewater would require engineered wastewater treatment systems. These systems would be subject to compliance with CCRWQCB standards for water treatment and quality, and County standards for construction.

2007 General Plan Policies

The 2007 General Plan proposes a number of policies to ensure that new public facilities would be provided concurrently with future growth.

As discussed under Impact PSU-1, Public Services Element Policies PS-1.1 through PS-1.6 contain general standards for the provision of adequate public facilities. The policies under Goal PS-1 will require that new development projects in Community Areas and Rural Centers either provide or finance wastewater collection and treatment capital improvements. Such improvements would ensure that adequate facilities are provided concurrently with urban growth and that wastewater discharge complies with established water quality standards.

Public Services Element Polices PS-4.1 through PS-4.8 set forth policies that concern wastewater treatment. These policies address wastewater treatment facilities services, private and public funding, groundwater recharge with secondary or higher treatment reclaimed water, treatment criteria for future wastewater facilities, and septic disposal tanks. These policies create standards for wastewater treatment that would further minimize wastewater impacts on the environment. Moreover, policies under PS-4 encourage developers to contribute their fair share to the funding of future expansions or construction of new wastewater treatment facilities.

Area Plan Policies

Several Area Plan supplemental policies address wastewater.

Greater Salinas Area Plan

Policy GS-1.1 requires that future development within the Butterfly Village portion of the Rancho San Juan Special Treatment Area provide adequate infrastructure, including for wastewater.

Carmel Valley Master Plan

Policy CV-1.8 requires that cluster development be consistent with wastewater application rates of the Carmel Valley Wastewater Study, which generally would require clustering of five units or less on a minimum of 5 acres of land.

Toro Area Plan

Policy T-5.1 encourages higher densities in areas where wastewater treatment facilities can be made available.

Significance Determination

Implementation of the 2007 General Plan would increase wastewater generation and therefore would require new or expanded treatment facilities. The above-listed 2007 General Plan and Area Plan policies will adequately address the need for new or expanded wastewater facilities. There are no plans at the current time for these facilities and services. Therefore, their environmental impacts cannot be determined with any certainty and are examined at only a general level of detail. New facilities and services would serve the Community Areas and Rural Communities (where demand is expected to be greatest) and likely would be located in those areas. Additional facilities would be installed in the Salinas Valley at the wineries that would develop under the 2007 General Plan AWCP.

All of the facilities may include wastewater treatment plants, related ponds, and collection pipelines. When specific facilities are proposed, they would be subject to CEQA review, mitigation of any significant impacts that may be identified would be required where feasible (Public Resources Code Section 21002), and would be required to meet CCRWQCB and County water quality standards.

The details of physical construction and resource demands associated with future wastewater facilities and services are unknown at this time. They may result in construction impacts such as traffic, noise, and dust. Typically, wastewater facilities result in air quality (odor) impacts during operation. Water quality impacts from new wastewater treatment facilities are expected to be minimal as a result of the effluent limitations and discharge specifications that will be imposed by the CCRWQCB as part of the Waste Discharge Requirements. The CCRWQCB typically also restricts overflow and spills. Otherwise, the impacts of new wastewater treatment facilities

would be part of the impacts associated with growth in the Community Areas and Rural Centers, or development of the specific winery.

At the same time, municipal wastewater treatment facilities do not usually generate substantial amounts of traffic, result in light and glare, or result in water quality or flooding impacts (they are subject to permitting by the CCRWQB that will specifically require avoidance of such impacts). Assuming that they will be located in Community Areas or Rural Centers, they would have a limited potential to adversely affect biological resources. Similarly, most of the winery corridor is in agriculture. Prospective winery-related wastewater treatment facility sites would therefore be likely to have low habitat value.

Mitigation Measures

The implementation of the proposed 2007 General Plan policies and existing regulations, particularly those of the CCRWQCB, would ensure that potential impacts from new wastewater treatment facilities would be less than significant. No mitigation is necessary.

Significance Conclusion

Potential impacts would be less than significant.

Buildout

Impact of Development with Policies

Buildout in 2092 will substantially increase the level of development within the County. In particular, there will be more development on individual lots distributed outside the Community Areas and Rural Centers. This will require the construction or expansion of wastewater treatment facilities, including on-site treatment, beyond 2030 levels.

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized above identify the public service policies that will be in place to provide adequate wastewater treatment services to future county residents.

Significance Determination

Future policies and treatment standards are unknown; however, we may assume that they will be at least as protective of water quality as current standards. Furthermore, the specific location and size of future wastewater treatment plants are not known at this time. However, the construction or expansion of a treatment plant would have to minimize impacts through the CEQA compliance. PS-4.12 mandates development of Onsite Wastewater Management Plans for areas with high concentrations of development that are served primarily by individual sewage systems. The CCRWQCB's WDR

waiver for on-site systems places further restrictions on their use and operation. These policies and regulations will avoid significant effects from new or expanded facilities. Thus, the expansion or construction of new facilities would be less than significant.

Mitigation Measures

The implementation of the proposed 2007 General Plan policies and existing regulations, particularly those of the CCRWQCB, would ensure that potential impacts from new wastewater treatment facilities would be less than significant. No mitigation is necessary.

Significance Conclusion

This impact would be less-than-significant.

Storm Water Drainage

Impact PSU-7: Development and land use activities contemplated in the 2007 General Plan may result in the need for new or expanded stormwater drainage facilities. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Future growth anticipated by implementation of the 2007 General Plan, particularly in the Community Areas and Rural Centers, would result in more impervious surface coverage, which would result in additional storm water runoff. An increase in storm water runoff has the potential to degrade water quality by increasing erosion, sedimentation, and siltation in waterbodies. Without new drainage facilities, the runoff would endanger public safety, and threaten water quality. Accordingly, new and expanded stormwater drainage facilities would be required, particularly near the proposed Pajaro, Boronda, Castroville, Chualar, and Fort Ord Community Areas.

2007 General Plan Policies

The 2007 General Plan proposes a number of policies to ensure that new public facilities would be provided concurrently with future growth.

Public Service Element

As discussed under Impact PSU-1, Public Services Element Policies PS-1.1 through PS-1.6 set forth general standards for the provision of adequate public facilities.

Safety Element

Safety Element Polices S-3.1 through S-3.7 address stormwater drainage. Safety element PS-3.1 requires that post-development runoff shall not be greater than pre-development peak flow drainage through the implementation of onsite stormwater detention. Safety element policy 3.3 through 3.7 requires management of stormwater runoff by establishing a County Flood Management Program, maintaining areas with high peak flow that generate erosion in a GIS database, and a Drainage Design Manual. These management policies will decrease stormwater runoff through detention and prevent flooding, which would prevent the endangerment of future residents.

Area Plan Policies

Several Area Plan supplemental policies address storm water drainage.

North County Area Plan

Policy C-4.1 requires that newly developed areas that drain into Merritt Lake and Tembladero Slough be annexed to MCWRA in order to provide for the maintenance of drainage facilities.

Carmel Valley Master Plan

Policy CV-4.2 stipulates that a comprehensive drainage maintenance program be established by the either sub-basins or valley-wide watershed zones. Policy CV-4.3 requires that a fee be imposed for onsite improvements for development projects to help finance the improvement and maintenance of the drainage facilities identified in the Master Drainage Plan for Carmel Valley.

Cachagua Area Plan

Policy CACH-4.1 stipulates that commercial mining, timber, and other resource production operations be designed so that additional runoff, additional erosion, or additional sedimentation would not occur off the project site.

South County Area Plan

Policy SC-5.4 requires that storm water facilities in new urban development be designed to mitigate impacts on agricultural lands located downstream.

Significance Determination

The 2007 General Plan and Area Plan goals and policies are designed to accommodate growth in Community Areas while ensuring that new development provides adequate storm water drainage facilities to future residents. Specifically, Safety Element Policy 3.3 requires that drainage facilities to mitigate the post-development peak flow impact of new development must be installed concurrent with new development. Enforcement of this policy would ensure that storm drainage facilities are provided with new development.

There are no plans at the current time for specific facilities and services. Therefore, their environmental impacts cannot be determined with any certainty and are examined at only a general level of detail. New facilities and services would serve the Community Areas and Rural Communities (where demand is expected to be greatest) and likely would be located in those areas. When specific facilities are proposed, they would be subject to CEQA review; mitigation of any significant impacts that may be identified would be required where feasible (Public Resources Code Section 21002).

Conventional storm drainage facilities have generally consisted of detention or retention basins drainage pipelines, and related facilities such as curbs and gutters. Where basins are not maintained properly, they may harbor disease vectors such as mosquitoes. However, this is not commonly a problem due to the vector control activities of the County's Environmental Health Division. Most, if not all, of the impacts of the facilities would be part of the impacts associated with growth in the Community Areas and Rural Centers. Although these conventional stormwater drainage methods have functioned to manage flooding, these designs have not managed stormwater sufficiently to decrease impacts to water quality. Impacts to water quality occurs when stormwater is discharged into the receiving waterbodies. Therefore, impacts would be significant.

Mitigation Measure

Mitigation Measure PS-1: The County will add the following policy to the 2007 General Plan:

Policy S-3.9: require all future developments to implement the most feasible number of Low Impact Development (LID) techniques into their stormwater management plan. The LID techniques may include, but are not limited to, grassy swales, rain gardens, bioretention cells, tree box filters, and preserve as much native vegetation as feasible possible on the project site.

Significance Conclusion

The implementation of LID techniques along with 2007 General Plan policies will reduce the amount of runoff that is produced by developments and impacts to water quality. The encouragement of LID techniques and the

2007 General Plan policies will reduce stormwater impact to a less-than-significant level.

Buildout

Impact of Development with Policies

The 2007 General Plan buildout in 2092 will result in substantial new residential development outside of Community Areas and Rural Centers. Unless regulated, the increase in impermeable surfaces would result in greater runoff and require downstream facilities to control stormwater runoff. The size, location, and operation of these facilities cannot be reasonably identified at this time.

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized above identify the public service and safety policies that will be in place to provide stormwater management services to future county residents.

Significance Determination

Typically, such facilities would have the same characteristics and impacts as described above. Assuming that County and state regulations and policies are at least as restrictive as under the 2007 General Plan, the impacts of additional impervious surfaces would be significant to water quality.

Mitigation Measures

The County's adoption of policy PS-3.9, as described above, would reduce impacts to water quality.

Significance Conclusion

With the state regulations, Monterey County policies and adoption of policy PS-3.9 buildout impacts to stormwater would be less than significant.

Solid Waste

Impact PSU-8: Development and land use activities contemplated in the 2007 General Plan may result in a need for new solid waste facilities or non-compliance with waste diversion requirements. (Less-Than-Significant Impact.) Future solid waste facilities would have a significant effect on the environment. (Significant and Unavoidable)

2030 Planning Horizon

Impact of Development with Policies

Buildout of the 2007 General Plan would result in urban development, which would generate solid waste. The increased generation of solid waste would create a need for new or expanded solid waste facilities, such as transfer stations, materials recovery facilities, and landfills—particularly near the proposed Pajaro, Boronda, Castroville, Chualar, and Fort Ord Community Areas. In addition, the increased generation of solid waste would result in non-compliance with State waste diversion requirements.

2007 General Plan Policies

The 2007 General Plan proposes a number of policies to ensure that public services would be provided concurrently with future growth.

Public Services Element

As discussed under Impact PSU-1, Public Services Element Policies PS-1.1 through PS-1.6 provide general standards for the provision of adequate public services. As previously discussed, policies under PS-1 would require the concurrent development of solid waste facilities along with development. Furthermore, the new or expanded facilities must provide an amount that meets or exceed that of the development. Public Services Element Policies PS-5.1 through PS-5.4 set forth policies that address recycling programs that will reduce waste, increase recycle material; promote the recycle of construction debris and new disposal sites. Public Service policies PS-5.1 through PS-5.4 would decrease generated solid waste by increasing recyclable material. Public Services Element Policies PS-6.2 through PS-6.4 address future solid waste disposal sites' location, planning, environmental impacts, surrounding land use. Public Safety policies PS 6.1 and PS 6.5 address the development of future efficient diversion programs and waste handling facilities that are in accordance with State-required diversion and recycling goals. Policies under PS-6 would decrease potential social impacts that would arise from the location of a future solid waste facility.

Area Plan Policies

No Area Plan policies address solid waste.

Landfill Capacity

As shown in Table 4.11-5, approximately 56 million cubic yards of capacity is remaining in the four active landfills in Monterey County. In addition, as noted in the policies listed above, the County is pursuing additional landfill capacity through expansion of existing sites or development of new sites. Accordingly, landfill capacity is expected to be adequate to serve the needs of the 2007 General Plan 2030 planning horizon.

Agricultural Winery Corridor Plan

Development of wineries and tasting rooms under the AWCP would generate solid waste and recycling volumes. Wineries in particular generate by-products of the grape crushing process, such as pomace. Much of these by-products are suitable for composting. As summarized in Table 4.11-5, Monterey County has adequate landfill capacity to meet the short-term and long-term needs of the wine-related facilities developed under the AWCP.

Significance Determination

Implementation of the 2007 General Plan would increase solid waste generation, and therefore would require additional landfill capacity and new or expanded transfer stations and recycling facilities. As summarized in Table 4.11-5, the four active landfills located in Monterey County have adequate capacity to accommodate additional solid waste generated by implementation of the 2007 General Plan.

There are no plans at the current time for new facilities and services. The existing facilities have sufficient capacity to meet the needs of future growth to 2030 and no new facilities would be necessary. Therefore, no significant impacts would result.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

This impact would be less-than-significant.

Buildout

Impact of Development with Policies

None of the existing landfills have a permitted lifespan that reaches the end of the 2092 buildout period. Accordingly, the combination of waste production from existing and future development would exceed the capacity of current landfills. Landfill sitting is traditionally difficult because of the need to find a suitable site and the public controversy that typically accompanies permitting of the site. This becomes more problematic as residential development becomes more dispersed, as will occur at buildout.

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized above identify the public service policies that will be in place to provide solid waste services to future county residents.

Significance Determination

There is a reasonable likelihood that future landfill expansion or the permitting of new landfills in the County will be controversial and have significant environmental impacts. However, the County would determine the specific site for a future landfill after considering comments from county residents and complying with CEQA. Although CEQA requires mitigation measures to be implemented, it can be expected that the expansion or construction of new landfill facilities would have significant and unavoidable environmental impacts.

Mitigation Measure

Mitigation Measure PS-2: The County will add the following policy to the 2007 General Plan:

Policy PS-5.5. The County will review its Solid Waste Management Plan on a 5-year basis and institute policies and programs as necessary to exceed the wastestream reduction requirements of the California Integrated Waste Management Act. The County will adopt requirements for wineries to undertake individual or joint composting programs to reduce the volume of their wastestream.

Significance Conclusion

2007 General Plan policies and proposed PS-5.5 policy would not be enough to mitigate impacts to landfill services. This impact would be significant and unavoidable.

4.11.5 Level of Significance after Mitigation

2030 Planning Horizon would increase the population in the county, which would require public utility services prior to development approval. The 2007 General Plan and proposed policies would mitigate impacts to public service utilities. Buildout impacts would be addressed with the existing County policies and any future policies that may exist at that time. CEQA compliance would also be required for all future expansion and new facilities that may be constructed. Thus, 2030 impacts would be mitigated to a less than significant level. Buildout impacts in 2092 would also be less than significant, except impacts from future landfills, which would be significant and unavoidable.

4.12 Parks, Recreation and Open Space

4.12.1 Abstract

Residents and visitors alike enjoy the spectacular natural beauty of Monterey County's parks and open spaces. The region includes an ecologically diverse native landscape, including beaches, undeveloped coastal dunes, wetlands, a dramatic rocky shoreline, redwood canyons and coastal peaks. Multiple federal, state, county governments and local districts own and operate parks, recreational facilities, and open space in Monterey County. Management agencies include the U.S. National Parks Service (NPS), the U.S. Forest Service (USFS), Bureau of Land Management (BLM), California State Parks (CSP), Monterey County, and local park agencies and districts. The County parks system encompasses about 10% of the County's total park acreage (Monterey County 2007a). Notable public lands and open space include Los Padres National Forest, the Big Sur Coast state parks, as well as Lake Nacimiento, Lake San Antonio, and Laguna Seca Regional Parks. Trails in the county include the Monterey Bay Coastal Trail, which spans 29 miles of the coast between the City of Marina and the community of Pebble Beach.

With implementation of the 2007 General Plan, future demand for parks, recreation and open space would include greater demand for both neighborhood-scale parks within urbanized areas, as well as regional scale parks serving the outlying areas of the County. Parks, recreation and open space policies are addressed throughout the 2007 General Plan, including the Land Use Element, Open Space and Conservation Element, and the Public Services Element. All potential parks, recreation and open space impacts associated with implementation of the 2007 General Plan would be less than significant with mitigation.

4.12.2 Introduction

This section identifies and evaluates issues related to parks, recreation and open space within the 2007 General Plan action area.

The "Environmental Setting" discussion below describes the current setting of the action area. The purpose of this information is to establish the existing environmental context against which the reader can then understand the environmental changes caused by the action. The environmental setting information is intended to be directly or indirectly relevant to the subsequent discussion of impacts.

The environmental changes associated with the action are discussed under "Impact Analysis." This section identifies impacts, describes how they would

occur, and prescribes mitigation measures to reduce significant impacts, if necessary.

4.12.3 Environmental Setting

4.12.3.1 Parks and Open Space

Parks and publicly held open space within the County provide a range of uses addressing a variety of park-related needs, from intensive recreational activities scaled to meet regional demands (such as Laguna Seca Recreation Area and Lake San Antonio), to passive recreational activities catering to the individual experience and natural resource preservation (such as Garland Ranch Regional Park and Jacks Peak County Park). These lands are owned and managed by several different agencies, each with slightly different mandates and management objectives. Multiple agencies manage parks and open space in Monterey County, including the NPS, USFS, BLM, U.S. Fish and Wildlife Service (USFWS), CSP, California Department of Fish and Game (DFG), Monterey Peninsula Parks District, Monterey County Parks Department and local municipalities (see Exhibit 4.12.1).

Federally-Owned Land

The federal government owns and manages several hundred thousand acres of land in Monterey County, including Los Padres National Forest, Pinnacles National Monument, the Salinas River National Wildlife Refuge and a broad array of BLM lands.

Los Padres National Forest

The Los Padres National Forest (LPNF) encompasses nearly two million acres (1,752,400 acres) in the coastal mountains of central California. LPNF extends along the coast from the Big Sur area of Monterey County to the western edge of Los Angeles County. The northern non-contiguous portion of the LPNF in Monterey County can be seen in Exhibit 4.12.1. Elevations within the LPNF range from sea level to 8,831 feet. The LPNF is managed by the USFS, and is divided into a northern division and a southern division The northern division totals 314,674 acres and includes all of the acreage in Monterey County and northern San Luis Obispo County (USFS 2008a). The northern division is administered by the Monterey Ranger District. Segments of three rivers in LPNF are designated as national Wild and Scenic Rivers: the Big Sur River (Monterey County), Sespe Creek (Ventura County) and the Sisquoc River (Santa Barbara County). An 18.4 miles segment of the Arroyo Seco River within the county is being considered for addition to the national Wild and Scenic Rivers system (USFS 2008b). Activities permitted within the LPNF include hiking, camping, mountainbiking, off-highway vehicle travel, picnicking, and many other outdoor recreation activities.

Several large wilderness areas are set aside within the LPNF, including the Ventana Wilderness, located in the San Lucia mountains of Monterey County. The Ventana Wilderness was designated within the LPNF in the 1970s (USFS 2008c). The California Wilderness Act of 1984 added about 2,750 acres to the Ventana Wilderness. In 1992, the Los Padres Condor Range and River Protection Act and added about 38,800 acres to the Ventana Wilderness and created the approximately 14,500-acre Silver Peak Wilderness within the LPNF. In 2002, the Big Sur Wilderness and Conservation Act expanded the Ventana Wilderness for the fifth time, adding nearly 35,000 acres and increasing the total acreage of the Ventana Wilderness to its present size of 240,026 acres. Access in Wilderness Areas is allowed by foot or horseback only; motorized or mechanized travel, including mountain bikes, is prohibited.

Pinnacles National Monument

Pinnacles National Monument was created by Theodore Roosevelt in 1908 to protect the remains of an ancient volcano, and is currently managed by the NPS. The Pinnacles National Monument encompasses 26,000 acres of land in the Gabilan Mountains east of Soledad on State Highway 146. Most of the monument area is located in San Benito County, but a small portion of the national monument is located in eastern Monterey County. The monument is known for its' massive monoliths, spires and sheer-walls. These rock formations provide for large 'pinnacles' that attract rock climbers. Permitted activities within the monument include camping, hiking, caving, rock climbing, and bird watching.

Salinas River National Wildlife Refuge

The Salinas River National Wildlife Refuge is located approximately 11 miles north of the City of Monterey where the Salinas River empties into Monterey Bay. The refuge is managed by the USFWS and encompasses several habitat types including sand dunes, salt marsh, river lagoon, riverine, and a saline pond. The refuge provides habitat for several threatened and endangered species, including the California brown pelican, Smith's blue butterfly, the western snowy plover, the Monterey sand gilia, and the Monterey spineflower. The Salinas River National Wildlife Refuge is open to the public, though there are no facilities beyond a parking lot and footpaths. Permitted activities include fishing, hunting (seasonal), photography and wildlife observation.

Elkhorn Slough National Estuarine Research Reserve

The Elkhorn Slough National Estuarine Research Reserve (ESNERR) is one of 26 National Estuarine Research Reserves established nationwide as field laboratories for scientific research, estuarine education and habitat stewardship. Elkhorn Slough is a seven-mile arm of the Monterey Bay located half way between the cities of Santa Cruz and Monterey. ESNERR is owned and managed by the DFG and it operates in partnership with the federal National Oceanic and Atmospheric Administration (NOAA) and the local, non-profit Elkhorn Slough Foundation. The 1,400-acre reserve hosts programs that promote education, research, and conservation in Elkhorn Slough. There are five miles of trails that meander through oak woodlands, tidal creeks, and freshwater marshes. Elkhorn Slough is renowned for its birding opportunities during fall, winter, and spring.

Bureau of Land Management Holdings

The BLM administers several thousand acres of land throughout Monterey County. Holdings include land in Fort Ord and on the Monterey Peninsula, and rugged land adjacent to the Los Padres National Forest. Camping, equestrian activities, hiking and mountain biking are allowed on the Monterey Peninsula holdings. The BLM land near the Los Padres National Forest is mostly inaccessible and is designated as a Wilderness Study Area.

State Parks

The California State Parks (CSP) owns and operates 20 park units in Monterey County, totaling 17,567 acres. Most of these units are on or near the coast. Several of these state parks, including the Marina State Beach in Marina, Point Lobos State Reserve in Carmel, and the Julia Pfeiffer Burns State Park on the Big Sur Coast attract visitors from throughout California and around the world. Table 4.12-1 lists the location and acreage of each of the state park units in Monterey County.

Table 4.12-1. State Park Units in Monterey County

Unit	Location	Acreage
Andrew Molera State Park	Big Sur Coast	4,766
Asilomar State Beach	Pacific Grove	107
Carmel River State Beach	Carmel	297
Fremont Peak State Park	Prunedale	162
Garrapata State Park	Carmel Highlands	2,940
Hatton Canyon Property	Carmel	130
John Little State Reserve	Big Sur Coast	21
Julia Pfeiffer Burns State Park	Big Sur Coast	3,762
Limekiln State Park	Big Sur Coast	711
Marina State Beach	Marina	171
Monterey District Headquarters	Monterey	6
Monterey State Beach	Monterey	100
Monterey State Historical Park	Monterey	10
Moss Landing State Beach	Moss Landing	60
Pfeiffer Big Sur State Park	Big Sur Coast	1,107
Point Lobos Ranch Property	Carmel	1,329
Point Lobos State Reserve	Carmel	1,325
Point Sur State Historical Park	Big Sur Coast	80
Salinas River State Beach[a]	Moss Landing	282
Zmudowski State Beach[a]	Moss Landing	194

[a] Park boundaries overlap with another county.

Source: California Department of Finance 2006b.

The Fort Ord Dunes State Park is an additional state park currently being considered for development in Monterey County, and is currently in the environmental review stage. Located along Highway 101 on Monterey Bay, the proposed 990 acre Fort Ord Dunes State Park has four miles of shoreline historically associated with Fort Ord. The Final General Plan and Environmental Impact Report for Fort Ord Dunes State Park was approved by the State Parks and Recreation Commission in September 2004.

Monterey Peninsula Regional Park District

The Monterey Peninsula Regional Park District (Regional Park District) is a special parks and open space district located on the Monterey Peninsula. The voters of Monterey County approved a specific ballot measure which created the

Regional Park District (MPRPD) in November 1972. The park district boundaries were set to match the Monterey Peninsula College District, and a Board of Directors was formed to oversee operations and policy-making. The MPRPD was entrusted to acquire lands for the express purpose of preserving open space and providing recreational opportunities. The MPRPD has protected approximately 20,000 acres of open space and acquired, or helped to acquire, a total of 24 parks and open spaces along the Monterey Peninsula, Big Sur Coast, Cachagua and Carmel Valley. The MPRPD acquires land through funds derived from a 0.5% allocation of property tax collected within its boundaries, along with matching federal and state funds.

In 2004, voters in the MPRPD approved a ballot measure creating the MPRPD Parks, Open Space and Coastal Preservation benefit assessment district. The voters agreed to an assessment of approximately $19/yr. per single family dwelling equivalent in order to provide funding for MPRPD to continue preserving and protecting parks and open space. Table 4.12-2 summarizes the MPRPD's parks and preserves.

Table 4.12-2. Monterey Peninsula Regional Park District Parks and Preserves

Park/Preserve	Location	Accessibility
Bloomquist Open Space Preserve	Upper Carmel Valley	Access by permit only
Cachagua Community Park	Cachagua	Open to public
Frog Pond Wetland Preserve	Del Rey Oaks	Open to public
Garland Ranch Regional Park	Carmel Valley	Open to public
Laidlaw-Apte Pine Forest Preserve	Carmel Highlands	Access by permit only
Landfill Dunes Preserve	Seaside	Open to public
Locke-Paddon Community Park	Marina	Open to public
Marina Dunes Preserve	Marina	Open to public
Mill Creek Redwood Preserve	Big Sur	Access by permit only
Palo Corona Regional Park	Carmel	Access by permit only
San Clemente-Blue Rock Open Space	Carmel Valley	Closed to public
South Monterey Bay Dunes	Sand City	Open to public

Source: Monterey Peninsula Regional Park District 2007.

Monterey County Parks Department

The Monterey County Parks Department is responsible for the operation and maintenance of a system of nine regional parks and two lakes encompassing over 12,155 acres of land and 10,000 acres of lakes. San Antonio Lake, located southeast of Jolon and Lockwood in the South County area, encompasses 12,000 acres and is the largest county-operated recreational area. Toro Park is the

second largest county-operated park facility and is 4,783 acres in size. These county-owned public lands provide open space and recreational opportunities primarily on a regional scale for unincorporated areas of the County, rather than at the neighborhood level. Royal Oaks Park and Manzanita Park serve the residents of North County. Jacks Peak and Toro Park are located adjacent to Monterey-Salinas Highway 68 and serve residents from the Monterey Peninsula and the Greater Salinas Area. San Lorenzo Park, just north of King City, serves residents of the Salinas Valley and visitors to the county. The Lake San AntonioRecreation Area and the Laguna Seca Recreation Area/Raceway serve visitors from throughout California, the nation, and the world—in addition to county residents. Each of these County parks is described in further detail below.

Jacks Peak County Park

Jacks Peak Park encompasses 525 acres, and is located within the Greater Monterey Peninsula Area Plan (Exhibit 4.12.1). Its central feature is Jacks Peak, the highest point on the Monterey Peninsula, rising 1,068 feet above Monterey and Carmel, with a view of Monterey Bay. The day-use park allows picnics and day hiking. Over 8 miles of trails, including a self-guided nature trail, wrap around Jacks Peak and throughout the remainder of the park.

Laguna Seca Recreation Area

The 542 acre Laguna Seca Recreation Area, located within the former Fort Ord area, is home to both the recreation area as well as the Mazda Raceway at Laguna Seca. The recreation area is within a short driving distance from the Monterey Peninsula, Salinas Valley, Carmel Valley and Big Sur. The recreation area has 172 tent and RV campsites. In addition, the recreation area offers multiple picknicking areas, a rifle and pistol range, off-highway motorcross areas, and off-highway vehicle areas. The Trackview Pavilion (Red Bull Energy Center) is also available to rent for large events. The world-famous Mazda Raceway Laguna Seca is home to the Skip Barber Racing School, as well as multiple car-racing events throughout the year.

Lake San Antonio

Lake San Antonio is Monterey County's largest freshwater recreation area, and is located within the South County Area Plan, adjacent to Fort Hunter Liggett. The lake is formed by an earthfill dam on the San Antonio River and was completed in 1965. The lake and dam are owned by the Monterey County Water Authority. Lake San Antonio offers year-round activities including picnicking, camping, fishing, hiking, swimming, boating and water-skiing. Lake facilities include the Lake San Antonio Marina, a small general store and a dry storage yard. Lake San Antonio has over 500 campsites as well.

Manzanita Park

Manzanita Park is a large, recreational facility and nature preserve located southwest of Prunedale. The park is 500 acres in size, with 50 acres set aside for youth recreation while the rest of the land is a nature preserve. The park is operated by the North County Youth Recreation Association and is open during their scheduled events which vary throughout the year. Scheduled events

typically include baseball games, softball games, soccer games, BMX racing, batting cage practice, and dog training events.

Royal Oaks Park

Royal Oaks Park was established in 1966 and is the oldest park in the Monterey County Parks system. This 122-acre day use facility is situated in an oak-studded valley southeast of Pajaro along Mayer Road, within the North County Coastal Land Use Plan area. The park facilities include numerous picnic tables, large-group accommodations, a softball field, playground equipment, basketball, volley-ball and tennis courts, and many miles of hiking trails.

San Lorenzo Park

San Lorenzo Park is located along the banks of the Salinas River, at the base of the Santa Lucia Mountains. The park is located on the outskirts of King City, and is within the South County Area Plan (Exhibit 4.12.1). San Lorenzo Park offers multiple facilities including picnic areas, playgrounds, horseshoe pits, volleyball courts, softball areas, 90 campsites and a walking trail along the banks of the Salinas River. The park also contains the Monterey County Agricultural and Rural Life Museum.

Toro Regional Park

Toro Regional Park is located within the Toro Plan Area and is six miles from downtown Salinas, and 13 miles from the Monterey Peninsula along Hwy 68 (Exhibit 4.12.1). Toro Regional Park was first opened in 1971 and contained 4,756 acres. A large, 849-acre ranch known as Marks Ranch has recently been secured by Monterey County and the Big Sur Land Trust. The newly acquired ranch will be annexed to Toro Park. Park facilities at Toro Park include an equestrian staging area and riding trails, two softball fields, playgrounds, horseshoe pits, volleyball courts, mountain biking trails and over 20 miles of hiking trails.

San Antonio Lake

Lake San Antonio is a freshwater recreation area 20 miles inland from the Central Coast in southern Monterey County. The lake is formed by the damming of the San Antonio River and is approximately 5000 surface water acres. San Antonio Lake is open year round for hiking, biking equestrian use, camping, water skiing, fishing, and wakeboarding. There are over 4-miles of lake shore camping on the north shore.

Lake Nacimiento

Nacimiento Lake is located in northern Monterey County, but it is managed by the County of Monterey. Similarly to Lake San Antonio, Lake Nacimiento is formed by the Nacimiento dam. The lake covers 5,000 acres of surface waters and approximately 165 miles of shoreline. The area provides recreational facilities for camping, hiking, biking, boating, and equestrian use among other recreational opportunities.

4.12.3.2 Open Space

The State General Plan Guidelines define open space as including land used for the managed production of resources, such as forestlands, rangeland, agricultural lands, and areas of economic importance for the production of food or fiber. Under these guidelines, open space can serve specific purposes, including preservation of natural resources, continued managed production of resources, outdoor recreation, and health and safety.

As described above, a substantial amount of parkland and open space in the county is owned by the federal and state government. This includes Los Padres National Forest, multiple properties owned by BLM, the state parks discussed above, and the two large military bases. The two military bases are Camp Roberts which is now owned by the California National Guard, and Fort Hunter Liggett owned by the Department of the Defense. Camp Roberts is located south of Bradley along Hwy 101, and borders San Luis Obispo County. Camp Roberts was constructed in 1940 to train soldiers during the Korean War, and encompasses over 43,000 acres. Fort Hunter Liggett is the largest United States Army Reserve command post. Fort Hunter Liggett comprises 165,000 acres is bounded by the Santa Lucia Mountains to the east, Los Padres National Forest to the north and west, and the San Luis Obispo County line to the south. The Fort also contains the headwaters of the Nacimiento River. Limited public access for camping and hunting is allowed on these lands. Overall, the use of these military lands is strictly controlled by the military, and is beyond the area of influence of the 2007 General Plan Action Area.

Under the State Guidelines, outdoor recreational land use is also considered open space, thus based on the definition golf courses are considered open space. The County does not own or manage any recreational golf courses for the public; however, any proposed golf course within open space requires a County permit.

Much of the open space in Monterey County is not formally designated or recognized as such, but exists as undeveloped slopes or canyons owned by private citizens in rural areas. This form of open space, though not formally protected by an open space designation may exist because of site conditions or zoning/slope restrictions that reflect physical constraints and resources.

There are also small neighborhood parks throughout the County that are incorporated into the design of large subdivisions per the County's park dedication ordinance. These are designed to meet the specific needs of the residents in the area and diverse age and recreational interests per Section 19.12.010 of the Monterey County Code, described below under "Regulatory Framework."

4.12.3.3 Trails

There are hundreds of miles of hiking, equestrian and bike trails in Monterey County. Notable hiking trails in Monterey County within the Los Padres National Forest include Arroyo Seco trails, Little Sur Camp, the Blue Rock Ridge Trail, the Pine Ridge Trail and the Santa Lucia Trail. In addition, according to the Ventana Wilderness Alliance, there are over fifty hiking trails within the Ventana Wilderness alone. Many of the state parks also include extensive trail systems, including the Andrew Molera State Park trails, the Pfeiffer Big Sur State Park trails, the Point Lobos State Reserve trails, and the Fremont Peak State Park trails.

The Monterey Bay Coastal Trail is 29 miles long and winds through several Monterey County communities, including Pebble Beach, Pacific Grove, Monterey, Sand City, Seaside, and Marina. The trail is used by both joggers, skaters, walkers and cyclists.

The goal of integrating a network of trails that strategically link schools and major recreational facilities can be found throughout the parks and recreation master plans adopted for individual cities within Monterey County. The trails complement existing roadways and infrastructure to aid in the movement of vehicles and pedestrians throughout the county, and enhance the quality of life by providing alternative modes of transportation.

4.12.3.4 Recreation Resources and Programs

The local communities in Monterey County operate a comprehensive system of municipal recreation programs that respond to the needs of Monterey County's children, youth, adults, and seniors. Local jurisdictions and private recreational organizations provide a wide variety of active recreation programs for the residents and visitors of Monterey County. Local jurisdictions work in cooperation through various joint use agreements to maximize the use of recreational facilities throughout the county. These cooperative efforts continue to foster the optimal use of parks and recreation resources and services available to the community through joint use of existing recreational facilities and partnerships with other recreation providers and for-profit agencies.

4.12.4 Regulatory Framework

Parks, open spaces and recreation facilities are subject to numerous laws and regulations. Summaries of state and local laws related to the management of these facilities are presented in this section.

4.12.4.1 State Policies

Quimby Act (California Government Code 66477)

The Quimby Act (California Government Code §66477) was passed in 1975 and authorizes cities and counties to pass ordinances requiring developers to set aside land, donate conservation easements, or pay fees for park improvements. This provision of the State Subdivision Map Act enables cities and counties to require the dedication of land and/or payment of in-lieu fees for parks and recreation purposes as a condition of approval of a tentative map or parcel map subdivision. The dedication of land and/or payment of in-lieu fees must be based on parkland dedication policies and standards established in the city or county general plan. Currently, only the County's subdivision ordinance outlines the policies and standards for dedication of parklands. The existing 1982 General Plan does not have specific policies or standards establishing the amount of parkland to be dedicated. This policy issue will be addressed further under 4.12.5, *Project Impacts*.

AB 1600 amended the Quimby Act in 1982 to hold local governments more accountable for imposing park development fees. The AB 1600 amendment requires agencies to clearly show a reasonable relationship between the public need for the recreation facility or park land and the type of development project upon which the fee is imposed. Cities and counties are required to show a strong direct relationship, or nexus, between the park fee exactions and the proposed project. Local ordinances must include definite standards for determining the proportion of the subdivision to be dedicated and the amount of the fee to be paid by the developer. AB 2936 was adopted as an amendment to the Quimby Act in 2002, and allows counties and cities to spend up to 10% of their Quimby Act fees to prepare master plans for park and recreation facilities every three years.

4.12.4.2 County Policies

Monterey County Code

Title 19 of the Monterey County Code establishes regulations pertaining to subdivision development in the County. Chapter 19.12 specifically outlines regulations pertaining to the dedication and reservations of easements. Section 19.12.010 of the Monterey County Code establishes the County's parks and recreation facilities standards. This code section was enacted pursuant to the authority granted to the County by the Subdivision Map Act and provides for additional parks, recreational facilities and open spaces as appropriate pursuant to the General Plan. As a condition of approval of a tentative map, the subdivider dedicates land, pays a fee in lieu thereof, or both, at the option of the County, for park or recreational purposes. The land dedicated or the fees paid, or both, must be used for local or regional community and neighborhood parks and recreational facilities in such a manner that the locations and use of such parks and recreational facilities bear a reasonable relationship to the use of the park and

recreational facilities by the inhabitants of the subdivision generating such dedication or fees, or both. The Code determines that the public interest, convenience, health, safety and welfare require that three acres of property for each one thousand (1,000) persons residing within the unincorporated area of the County be devoted to local park and recreation purposes. This acreage requirement is pro-rated based on the size of the project.

The primary intent of this Code section is to provide the land for recreation units on a local level of service which reasonably serves the subdivision or neighborhood, including but not limited to: tot lots, play field lots, playgrounds, neighborhood parks, playfields, community or district parks, and other specialized recreational facilities that may serve the family group and also senior citizens citizen and child care activities. Principal consideration is given to lands that offer:

1. A variety of recreational potential for all age groups;
2. Recreational opportunities within walking distance from residents homes;
3. Possibility for expansion or connection with school grounds;
4. Integration with hiking, riding and bicycle trails, natural stream reserves and other open space;
5. Coordination with all other park systems; and
6. Access to at least one existing or proposed public street.

The ordinance also establishes the circumstances under which an in-lieu fee may be accepted. For example, if the subdivision has less than fifty parcels, the subdivider would pay a fee equal to the land value of the portion of the park or recreational facilities required to serve the needs of the residents of the proposed subdivision. The money collected by the County can be used in accordance with the schedule developed pursuant to Section 19.12.010K for the purpose of acquisition, development, maintenance and operation of County regional park units and for developing new or rehabilitation of existing neighborhood or community park or recreational facilities reasonably related to serving the subdivision. These funds can also be used towards the purchase of necessary land and/or improvement of land for park or recreational purposes. The funds must be committed within five years after payment thereof or the issuance of building permits on one-half of the lots created by the subdivision, whichever occurs later. If the money is not committed, it would be distributed and paid to the current owners of the subdivision. At the time of the approval of the final map or parcel map, the Director of Parks and Recreation would develop a schedule specifying how, when, and where the land or fees will be used to develop or rehabilitate a park or recreational facilities to serve the residents of the subdivision.

2007 General Plan Goals and Policies

The 2007 General Plan Public Services Element establishes goals and corresponding policies to address parks and recreation impacts. The applicable goals and policies are discussed under the Impacts and Mitigation section below.

4.12.5 Project Impacts

4.12.5.1 Thresholds of Significance

Criteria for determining the significance of impacts related to parks and recreation are based on criteria set forth in Appendix G of the State CEQA Guidelines (14 Cal. Code Regs. § 15000 et seq.). Implementation of the 2007 General Plan would cause a significant impact to parks, recreation, and open space resources if it would result in any of the conditions listed below.

- Require new or expanded parks or recreational facilities, which were not contemplated in the general plan or
- Result in the physical deterioration of parks or recreational facilities due to increased use.

4.12.5.2 Impact Analysis

Implementation of the 2007 General Plan to the 2030 and 2092 planning horizons would increase demands on existing parks and recreation facilities in the county. Such demands would create a need for new or expanded facilities and would also potentially cause the physical deterioration of existing parks and recreation facilities.

New or Expanded Parks and Recreation Facilities

Impact PAR-1: Implementation of the 2007 General Plan would result in the need for new or expanded parks and recreational facilities, which were not contemplated in the general plan. (Less-Than-Significant Impact with Mitigation)

2030 Planning Horizon

Impact of Development with Policies

The County currently has an abundance of park, recreation and open space facilities. The Monterey County Parks system alone consists of nine regional parks, encompassing more than 12,000 acres of land and 10,000 acres of lakes. The County's current park standard establishes a park ratio of 3 acres

of parkland per 1,000 residents. The County's 2006 adjusted population estimate is 438,978 residents for both the incorporated county and unincorporated cities combined. In 2006, the existing need for parkland per the County's subdivision ordinance dedication ratio of 3:1000 for this combined city/county population was 1,317 acres (438,978*0.003). The projected population in 2030 is 602,731 residents within both the unincorporated county and incorporated cities. Using the parkland dedication ratio of 3:1000, 1,808 (602,731*0.003) acres of parkland would be needed to serve this population. Using the parkland dedication ratio of 3:1000, the County's existing parkland acreage of 12,000 acres exceeds the area needed to meet the current parkland/resident ratio by several thousand acres. In addition, multiple other parks, recreation and open spaces exist throughout the county under the jurisdiction of the federal government, state agencies, MPRPD and local municipalities.

Nevertheless, future population growth anticipated by the 2007 General Plan to the 2030 planning horizon would increase demands on existing parks and recreation facilities near population centers within the county. The 2007 General Plan includes policies to address this increased demand for parks, recreation and open space services.

2007 General Plan Policies

The 2007 General Plan policies summarized below establish comprehensive measures to ensure the proposed project meets the need for new or expanded parks and recreational facilities.

Land Use Element

The Land Use Element guides decision makers, planners and the general public as to the ultimate pattern of development within the unincorporated areas of the county. It designates the general distribution, location and extent of land uses, such as housing, business, industry, open space, agriculture, natural resources, recreation, and public/quasi-public uses (Monterey County 2007). The location and density of uses prescribed by the Land Use Element are integrally linked to policies for the protection of environmental resources included in the Conservation/Open Space Element.

Land Use Element Policy LU-2.7 (open space) states that open space should be provided in and/or on the fringes of residential areas. Land Use Element Policy LU-2.23 (Community Areas) states that Community Areas shall be designed to achieve a sustainable, balanced, and integrated community offering various types of land use designations including "a variety of recreational opportunities and public amenities integrating enhancement of existing natural resources into the community where possible." (Monterey County 2007.)

Land Use Element Policy LU-2.34 (Urban Residential) establishes regulations for three categories of Urban Residential land including Medium Density Residential (MDR), High Density Residential (HDR) and Mixed Use (MU). Both MDR and HDR categories allow for a range of land uses, including recreational, public and quasi public lands. MDR areas are appropriate for a range of residential uses (1-5 units/acre) and housing types, recreational, public and quasi public, and other uses that are incidental and subordinate to the residential use and character of the area.

Land Use Element Policy LU-2.35 (Rural Residential) establishes regulations for three categories of Rural Residential land, including Low Density Residential (LDR), Rural Density Residential (RDR) and Resource Conservation (RC). Both LDR and RDR categories allow for a range of land uses, including recreational, public and quasi-public lands. The RC designation would apply in primarily rural residential or agricultural areas with sensitive resources, as well as areas planned for resource enhancement. RC lands would create important open space amenities for the entire community, and in some cases would provide drainage and flood control facilities in conjunction with open space. A range of passive to active activities are envisioned, including park and recreation facilities that can be accomplished without significant structural development and also complement, protect and enhance the resources.

Land Use Element Policy LU-6.1 (Public/Quasi-Public designations) establishes the Public Quasi-Public (PQP) land use designation. The PQP land use designation would accommodate publicly or privately owned land uses such as schools, parks, regional parks, public works facilities and hospitals that serve the public at large.

Land Use Element Policy LU-6.2 (Agency-owned lands) establishes that lands that are owned by a federal, state, or local public agency may be designated as PQP. Land management regulations and policies for those lands would be established accordingly by each applicable federal, state or local public agency.

Land Use Element Policy LU-6.3 (Planning Coordination) and 6.4 (Public Lands) requires that the County's planning activities be coordinated with the planning efforts undertaken by other public agencies with landholdings in Monterey County. The planning for public lands adjacent to private lands should be undertaken as a joint effort between all of the affected agencies and private property owners.

Land Use Element Policy LU-7.1 (Water Bodies) establishes priorities for multiple uses of major water bodies in the county, including water supply, flood control and hydroelectric power generation. Recreation is established as the secondary priority and

compatibility between multiple uses of major water bodies and surrounding land uses shall be considered.

Land Use Element Goal LU-8 (Open Space) encourages the provision of open space lands as part of all types of development, including residential, commercial, industrial and public development.

Land Use Element Policy LU-8.1 (Planning Process) requires that the open space needs of the community and new development be reviewed and addressed through the planning process.

Land Use Element Policy LU-8.2 (Clustering) establishes that clustering, consistent with the other policies of this 2007 General Plan, is considered a means of maximizing permanent open space within new development.

Land Use Element Policy LU-8.3 and 8.4 (Development Credit) requires that lands would be set aside for future park and recreation development sites, and incorporated into new urban and rural development. As part of development review and approval, on-site development density credit consistent with the underlying land use designation shall be given for developable lands placed in permanent open space as part of a development. Use of the on-site development density credit will be allowed only if environmental, health and public safety factors permit.

Land Use Element Policy LU-8.4 (Open space integration) requires that, wherever possible, open space lands provided as part of a development should be integrated into an area-wide open space network. Land Use Element Policy LU-8.5 (Open space buffers) establishes that development should consider use of open space buffers on the perimeter and integrated into the development.

Implementation of the Land Use Element policies described above would establish comprehensive measures to avoid and minimize adverse impacts to parks and recreation facilities, and meet the need for new or expanded parks and recreational facilities. Land use designations would allow for a range of land uses, including recreational, open space and quasi-public lands. In addition, the County's planning activities would be coordinated with the planning efforts undertaken by other public agencies with landholdings in the County.

Conservation and Open Space Element

The Conservation and Open Space Element guides the County in the long-term conservation and preservation of open space lands and natural resources while protecting private property rights (Monterey County 2007). The County's intent is to enable greater cooperation

among public agencies and the public to share management responsibilities in accomplishing the shared goal of conserving and protecting the resources of the region.

Conservation and Open Space Element Goal OS-1 (Scenic Resources) establishes policies to retain the character and natural beauty of Monterey County by preserving, conserving and maintaining unique physical features, natural resources and agricultural operations.

Conservation and Open Space Element Policy OS-1.7 (Development Rights) establishes a voluntary, transfer of development rights program to direct development away from areas with unique visual or natural features, critical habitat, or prime agricultural soils shall be established.

Conservation and Open Space Element Policy OS-1.10 (Trails Program) recognizes the value of trails in Monterey County, and establishes policies to develop a county-wide trails program, including bike paths (Class 1), walking and equestrian facilities used by the general public. Specific trails shall be addressed in each Area Plan. General parameters include voluntary dedication of trails, recognition of crop safety in siting trails and appropriate design

Implementation of the Open Space and Conservation Element policies described above would minimize impact to parks and recreation. The proposed county-wide trails program in Policy OS-1.10 would create a trail system throughout the county. Further, Policy OS-1.7 and OS-1.1 would minimize impacts by setting aside areas with unique physical characteristics for the general public. The transfer of development rights would lessen the impacts by creating new parkland and recreation area. The implementation of the policies depicted above would establish comprehensive measures to avoid and minimize adverse impacts to parks and recreation facilities, and meet the need for new or expanded parks and recreational facilities within the county.

Public Services Element

The Public Service Element also contains specific policies that govern parks and recreational facilities in the County. Public Services Element Goal PS-11 (Stewardship) calls for maintaining and enhancing the county's parks and trails system in order to provide recreational opportunities, preserve natural scenic resources and significant wildlife habitats and good stewardship of open space resources.

Public Service Element Polices PS-11.1 (parks acquisition) states that priority shall be given to the acquisition of land, development, and maintenance of new parks in areas that are deficient in park services and in rapidly growing areas. Evaluation of this need would include consideration of the costs for development of facilities as well as ongoing management and maintenance. After evaluation of regional needs, locations where park acquisition should be pursued in concert with willing property owners would be identified. Evaluation of this need would include consideration of the costs for development of facilities as well as on-going management and maintenance. After evaluation of regional needs, locations where park acquisition should be pursued in concert with willing property owners would be identified.

Public Service Element Polices PS-11.2 (park ratios) establishes that park acquisition, development, and maintenance guidelines based upon acreage, population, parkland ratios and consideration of natural resource values that will provide adequate park and recreation facilities for existing and future residents shall be established. Broad public participation in the development of these guidelines would be assured.

Public Service Element Polices PS-11.3 (parks distribution) outlines that, in cooperation with other park and public lands agencies, an equitable geographic distribution of neighborhood, community and regional park facilities commensurate with the needs of the surrounding residents shall be established.

Public Service Element Polices PS-11.4 (Youth camping) encourages interpretive and recreational services such as youth campaign in parklands.

Public Service Element Polices PS-11.5 (Other park agencies) promotes the full utilization of park and recreation facilities owned and/or operated by other agencies is encouraged.

Public Service Element Polices PS-11.6 (Funding Sources) requires that county funding sources and special operating agreements shall be used to make County parks and recreation facilities available and ensure their on-going maintenance.

Public Service Element Polices PS-11.7 (Accessibility) stipulates that accessibility, in terms of affordability, physical access and hours of operation of the County's park and recreation facilities shall be assured to the maximum extent practicable.

Public Service Element Polices PS-11.8 (Lake San Antonio Park) proposes that, in order to join the separated portions of the Lake San Antonio Park, acquisition of the publicly owned lands at the Old

Hacienda and the northern Lake San Antonio area shall be sought if Fort Hunter-Liggett is closed.

Public Service Element Polices PS-11.9 (Parkland acquisition) outlines that a wide range of mechanisms to acquire and maintain parkland, including a variety of funding sources such as land donations, public conveyances from other agencies and development impact fees shall be utilized.

Public Service Element Polices PS-11.10 (Quimby Act) establishes that, pursuant to the provisions of the State Subdivision Map Act, residential subdivision projects shall be conditioned to provide and maintain park and recreation land and facilities or pay in-lieu fees in proportion to the extent of need created by the development.

Public Service Element Polices PS-11.11 (Management Plans) stipulates that management plans for all County park and recreational areas and facilities, emphasizing protection of environmental resources and best management practices for open space on these lands, shall be prepared and adopted. Public Service Element Polices PS-11.12 (Management Plans, cntd.) requires that parks for more active uses shall be distinguished from parks and open space areas rich in biological resources suitable for more passive enjoyment of those resources. Management Plans shall reflect these differences and specify appropriate management for each use.

Public Service Element Polices PS-11.13 (Long-term management) requires that new park facilities shall not be opened to public use until adequate, long-term facility management is provided. Public Service Element Polices PS-11.14 (Community Area Plans) stipulates that all Community Area Plans shall identify adequate sites for park and recreation facilities.

Implementation of the Public Service Element Policies described above would establish comprehensive measures to avoid and minimize adverse impacts to parks and recreation facilities, as well as meet the need for new or expanded parks and recreational facilities within the county. The Public Service Element Policies establish general standards for the provision of public facilities concurrently with future growth. Included are policies that direct growth where adequate facilities currently exist, policies that seek to achieve acceptable level of park service standards through improvements funded by fair share impact fees and planned capital improvements, and require that only new developments that have or can provide adequate concurrent public services and parks facilities be approved.

Area Plan Policies

The Area Plans contain specific supplemental policies that assist in ensuring that potential increased demand on parks and recreation services from implementation of the 2007 General Plan are addressed.

North County Area Plan

North County Area Plan Policy NC-3.5 (critical habitat) requires the preservation of critical habitat areas as open space. In addition, when an entire parcel cannot be developed due to this critical habitat preservation policy, a low intensity, clustered development would be permitted.

North County Area Plan Policy NC-3.7 (Trails plan committee) would establish a new Trails Plan committee to be appointed by the Board of Supervisors. The new committee would be tasked with developing a Trails Plan for the North County area that would be consistent with General Plan Policy OS-1.10 (Trails Program). The new Trails Plan would include a trails map and implementation policies for the North County area. Recreational trail and equestrian trial easements would be developed where feasible, and would be located within County-required easements of private roads.

Greater Salinas Area Plan

Greater Salinas Valley Area Plan Policy GS-1.1 (Butterfly Village Special Treatment Area) designates approximately 671 acres located north of San Juan Grade Road and east of Harrison Road as a "Special Treatment Area," or STA. This designation would permit a planned development including a public park including trails, public parking, and a series of drainage ponds. It would also preserve sensitive habitat areas as open space. A community health and wellness center would also be included, and it would provide a variety of health, fitness and nutrition uses.

Greater Salinas Valley Area Plan Policy GS-5.1 (Public Services) stipulates that portions of Gabilan Creek be evaluated for a linear park as defined by the County's Parkland Classification System at such time when the County can support another regional park. In the interim, the policy requires that Gabilan Creek be maintained in a natural riparian state, maintained in a free-flowing state devoid of dams, allowed its natural flood capacity through required setbacks conforming to the 100-year floodplain, and kept free from urban encroachment by residential development through required dedication of land in the floodplain corridor.

Central Salinas Valley Area Plan

Central Salinas Valley Area Plan Policy CSV-1.1 (Paraiso Hot Springs) designates Paraiso Hot Springs as a STA. Recreation and visitor serving land uses for the Paraiso Hot Springs Special Treatment Area may be permitted in accordance with a general development plan and other discretionary approvals such as subdivision maps, use permits and design approvals. The STA may include such uses as a lodge, individual cottages, a visitor center, recreational vehicle accommodations, restaurant, shops, stables, tennis courts, aquaculture, mineral water bottling, hiking trails, vineyards, and orchards. Central Salinas Valley Area Plan Policy CSV-1.12 (Permits) requires that all recreation and visitor-serving commercial land uses shall require a use permit.

Central Salinas Valley Area Plan Policy CSV-1.7 (Millers Lodge) designates the historical "Millers Lodge" as a STA to recognize historical day use, camping, recreation, and residential uses that have been present on the parcel since the 1940's. This STA designation would allow the owners to apply for a use permit and general development plan. This policy would not permit expansion or intensification of the Miller's Lodge property beyond what is currently developed (as of adoption of the 2007 General Plan), nor allow any new uses not already occurring on the site.

Greater Monterey Peninsula Area Plan

Greater Monterey Peninsula Area Plan Policy GMP-1.4 (open space) stipulates that development proposals include compatible open space uses located between other developed areas.

Greater Monterey Peninsula Area Plan Policy GMP-1.5 (environmentally sensitive areas) necessitates the provision of open space and low-intensity educational and recreational uses in environmentally sensitive areas and in areas of high visual sensitivity.

Greater Monterey Peninsula Area Plan Policy GMP-1.7 (White Rock Club) designates the White Rock Club, an existing recreational facility consisting of 100 cabin sites and one gatehouse, as a STA. Development within the White Rock Club would be subject to the policies of the Rural Grazing land use designation. In addition, only the repair and remodeling of the existing 100 cabin sites would be allowed without a specific Use Permit. No additional cabin sites would be allowed. Conversion of the cabins to permanent residential units would also not be permitted without a Use Permit.

Greater Monterey Peninsula Area Plan Policy GMP-1.8 (San Clemente Ranch) designates the San Clemente Ranch as an STA.

Development within the San Clemente Ranch would be subject to the policies of the Rural Grazing land use designation. The existing recreational facilities on the ranch consist of 101 cabin sites, 5 permanent residents, tennis courts, a swimming pool and fishing ponds. The reconstruction, remodeling or rebuilding of approved cabins or development of new cabins on approved cabin sites would be allowed with appropriate Planning and Building Inspection Department and Health Department permits. Conversion of the 101 cabins to permanent residential units would not be permitted. The use of the cabins would remain a recreational use, and occupancy would be restricted to no more than 45 consecutive days.

Greater Monterey Peninsula Area Plan Policy GMP-3.8 (open space) encourages the designation of open space in areas of diverse habitats and ecologically important zones. Policy GMP-3.9 (critical habitat) promotes the preservation of critical habitat areas as open space.

Greater Monterey Peninsula Area Plan Policy GMP-3.11 (Trails) stipulates that riding and hiking trails would be acquired and developed with the intent of creating a coordinated, area-wide trails system. All motorized vehicles would be prohibited from using these trails. Highest priority trails are identified.

Greater Monterey Peninsula Area Plan Policy GMP-3.12 (trail acquisition) establishes that trail acquisition and development procedures address design standards, trail location, construction standards, liability questions, patrol and enforcement, trail restrictions or limitations, maintenance and operation plans, and burden of cost.

Greater Monterey Peninsula Area Plan Policy GMP-3.13 (Bike paths) calls for the dedication of trail easements as a condition of development approval, notwithstanding Policy OS-1.10(b), as development of bike paths and a coordinated, area-wide trails system are essential for circulation, safety and recreation in the Greater Monterey Peninsula Planning Area.

Greater Monterey Peninsula Area Plan Policy GMP-5.1 (Regional cooperation) encourages cooperation between the county, Monterey Peninsula Regional Park District and peninsula cities in developing a joint program to increase the amount of useable parks and recreation facilities within the Greater Monterey Peninsula area.

Greater Monterey Peninsula Area Plan Policy GMP-5.2 (development review) requires that each development proposal be evaluated by the County to determine the extent to which such development may help further the County's parks and recreation facility goals, objectives, and policies.

Carmel Valley Master Plan

Carmel Valley Master Plan Policy CV-1.3 (open space) requires that open space uses be located between the development areas in order to clearly define them, and to maintain a distinction between the more rural and more suburban areas of the valley.

Carmel Valley Master Plan Policy CV-1.8 (cluster development) sets criteria for cluster development, including a stipulation that it be used to protect visible open space and is in compliance with other applicable policies. In addition, open space for clustered developments must be dedicated in perpetuity.

Carmel Valley Master Plan Policy CV-3.14 (trails) calls for the creation of a network of shortcut trails and bike paths to interconnect neighborhoods, developments, and roads. These trails would be closed to motor vehicles and their intent is to facilitate movement within the Carmel Valley without the use of automobiles.

Carmel Valley Master Plan Policy CV-3.15 (development rights) allows public and private agencies such as the Big Sur Land Trust, the Monterey Regional Park District, and others to acquire development rights or accept easements and dedications for significant areas of biological, agricultural, or other open space land.

Carmel Valley Master Plan Policy CV-3.19 (Trail easements) calls for the dedication of trail easements as a condition of development approval, notwithstanding Policy OS-1.10(b), as development of bike paths and a coordinated, area-wide trails system are essential for circulation, safety and recreation in the Carmel Valley Planning Area.

Carmel Valley Master Plan Policy CV-5.7 (school recreation sites) promotes the expansion of existing school facilities for recreational uses, including land next to Carmelo School and Middle School.

Toro Area Plan

There are no specific policies related to parks, recreation or open space in the Toro Area Plan.

Cachagua Area Plan

Cachagua Area Plan Policy CACH-1.4 (Ventana Wilderness) requires that new development adjacent to the Ventana Wilderness not impact the purpose of the wilderness area.

Cachagua Area Plan Policy CACH-1.5 (Sydicate Camp) designates Syndicate Camp as a STA, an existing recreational facility consisting

of 24 cabin sites. Development within Syndicate Camp would be subject to the policies of the Rural Grazing land use designation, except those policies relating to density of development. The reconstruction, remodeling or rebuilding of approved cabins or development of new cabins on approved cabin sites would be allowed with appropriate Planning and Building Inspection Department and Health Department permits. Permanent residency is allowed.

Cachagua Area Plan Policy CACH-3.8 (trail easements) calls for the dedication of trail easements as a condition of development approval, notwithstanding Policy OS-1.10(b), as development of bike paths and a coordinated, area-wide trails system are essential for circulation, safety and recreation in the Cachagua Planning Area.

Cachagua Area Plan Policies CACH-5.2 and CACH-5.3 stipulate that public and private parkland development obtain a use permit and be limited to facilities that are scaled in relationship to and compatible with existing infrastructure and the rural environment. Private sector recreational opportunities that are compatible with policies in the Cachagua Area Plan would be considered. Private recreational development opportunities would include campgrounds, riding stables, guest ranches, pack stations, and music, religious, art and nature retreats.

South County Area Plan

South County Area Plan Policy SC-1.2 (clustered development) promotes clustered development in all areas where development is permitted in order to make the most efficient use of land and to preserve agricultural land and open space.

South County Area Plan Policy SC-5.5 (commercial recreation) requires that commercial recreational facilities for boating, water sports, camping, and similar uses at any proposed park site be of moderate size, compatible with surrounding uses, and be consistent with all resource protection and hazard avoidance policies.

South County Area Plan Policy SC-5.6 (Camp Roberts) stipulates that the County work with Camp Roberts to establish a park site on the Salinas River at Camp Roberts.

Agricultural Winery Corridor Plan

The northern end of the River Road/Arroyo Seco Road/Central Avenue Corridor contains the River Road-Las Palmas residential areas, which include active neighborhood parks accessible to area residents. The Jolon Road Corridor is near the regional recreational venues of Lake Nacimiento, Lake San Antonio, and the Los Padres National Forest. The other areas of the AWCP contain agricultural

lands and do not contain parks or recreational facilities. In addition, there are no specific policies related to parks, recreation or open space in the AWCP.

Community Area Policies

Fort Ord Master Plan—Fort Ord Land Use Element

The Fort Ord Master Plan Land Use Element contains a description of all the Base Land Use Designations. These Base Land Use Descriptions are compatible and consistent with the Land Use descriptions that pertain to the Monterey County area contained in the adopted Fort Ord Reuse Plan. These Base Land Use Descriptions are summarized below in relation to parks, recreation and open space policies.

The Low Density Residential, Medium Density Residential and High Density Residential Base Land Use Designations allow for a range of residential product types. In addition to residential uses, community centers and parks are allowed in these designations. Commercial recreation is also allowed in designated overlay districts.

The Visitor Serving Base Designation allows hotels and resorts, conference centers, restaurants, commercial recreation, and retail support uses. The Open Space Recreation Base Designation allows public parks and recreation activities not prohibited by overlay designations, habitat management, public amphitheaters, environmental education facilities, and commercial recreation.

The Habitat Management Base Designation allows habitat management, ecological restoration, environmental educational activities and facilities, and passive recreational activities, such as hiking, bike riding, horse riding, and picnicking in accordance with adopted habitat plans.

The School/University Base Designation allows public primary and higher educational facilities, habitat management, environmental education and support uses such as offices, sport facilities, maintenance uses, university housing, and convenience retail.

The Public Facility/Institutional Base Designation allows facilities that have public institutional ownership or benefit. Such uses may include habitat management, light industrial and R&D, corporation and maintenance yards, public utilities, training grounds, offices, educational facilities, and youth camps.

CSUMB/Recreational Planning Area

The California State University Monterey Bay (CSUMB) Recreational Planning Area is located at the Northern end of the County area of Fort Ord and is comprised of two Planning Districts. The first Planning District includes lands conveyed or subject to future public benefit conveyance to CSUMB. The second Planning District includes the former landfill site that is expected to be conveyed to the University of California. The CSU Planning District totals approximately 800 acres and is comprised of an existing residential area and a reserve are for future development needs of the campus. The County Recreation/Habitat Protection District includes approximately 340 acres designated as Open Space/Recreation and Habitat Management, with a component of commercial use and another smaller area of 88 acres to be used for active recreation and habitat protection.

The former (capped) landfill includes approximately 141 acres that are to be used for park and open space. All uses allowed in the base designation are allowed by this overlay district. Region-serving recreation facilities, such as an amphitheater may be appropriate. In addition, approximately 57 acres (the area not located in the landfill cap) is also designated for park and open space use and may be used for road right-of-way and commercial recreational uses including an 18-hole golf course and a regional-serving equestrian center.

Reservation Road Planning Area

The Reservation Road Planning area includes five Overlay Districts, including the UC Habitat Management District, the Youth Camp District, and the County Habitat Management District. This UC Habitat Management District totals approximately 167 acres for habitat management. All uses specified in the Base Designation are allowed except as prohibited by the adopted Fort Ord habitat management plan. The Youth Camp District totals approximately 125 acres located on the south side of Intergarrison Road. This District is designated for Public Facilities and is envisioned to be a youth camp to be operated by the County or an outside agency. The County Habitat Management Planning District totals approximately 374 acres for habitat management. Allowed uses and activities are be specified in the Habitat Management Plan.

Parker Flats (Residential) District

This Planning District totals approximately 946 acres. The District was intended to accommodate a residential community of up to 3,184 residential units on 520 acres, at an overall density of up to 5 units per gross acre, neighborhood serving retail commercial uses on a one-acre site, visitor-serving uses (potentially including hotel and

golf course development) on 194 acres, and 231 acres of open space preserve. Due to a land swap agreement, the final land uses for the Parker Flats Residential District will be determined in a future Specific Plan for the area. However, this future Specific Plan would incorporate multiple development and design objectives. These development and design objectives include providing public spaces for community activities and recreation accessible to the future residents, and using the natural areas of the District to create distinctive edges to neighborhoods that are walkable for residents. In addition, the Specific Plan would coordinate the design and character of a perimeter regional trail to provide an effective boundary between the residential community and the adjacent BLM protected habitat area. The Specific Plan would also consider providing centralized equestrian facilities as emenities for the new neighborhoods to take advantage of the trails within the adjacent BLM lands.

York Road Planning Area

This Planning Area is located at the southwest end of the County's Fort Ord area adjacent to the existing Ryan Ranch development within the City of Monterey. The Planning Area is designated as Office Park/R&D and includes a 25 acre interim park site. Development will be subject to the preparation and approval of a Specific Plan or other planned development mechanism and constraints.

Bureau of Land Management/Recreation Area

This area contains approximately 16,000 acres comprised of the four Planning Districts, including an Open Space and Habitat District and the Laguna Seca Regional Park District. The Open Space and Habitat District encompasses approximately 15,000 acres designated for open space and habitat management under the jurisdiction of BLM. Allowed uses in this District would be in conformance with adopted habitat conservation plans. The Laguna Seca Regional Park District contains approximately 591 acres and is designated for Public Facilities to be used in expanding Laguna Seca Regional Park.

Fort Ord Master Plan Recreation/Open Space Land Use Policies

Objective A of the Fort Ord Master Plan Recreation/Open Space Land Use policies encourages land uses that respect, preserve and enhance the natural resources and open spaces at the former Fort Ord.

Recreation/Open Space Land Use Policy A-1 states the County shall encourage the conservation and preservation of irreplaceable natural resources and natural resources. Program A-1.1 requires the County

to identify natural resources and open space, and incorporate them into its Greater Monterey Peninsula Area Plan and zoning designations.

Recreation/Open Space Land Use Policy A-2 stipulates that the County shall encourage the provision of public open space lands as part of all types of development, including residential, commercial and institutional. Program A-2.1 requires the County to evaluate and provide for the need for public open space as part of review of development projects.

Objective B of the Fort Ord Master Plan Recreation/Open Space Land Use policies calls for using open space as a land use link and buffer. Program B-1.2 states the County shall create an open space plan for former Fort Ord showing the linkage of all open space areas within the County as well as linking to open space and habitat areas outside the County areas. Program B-2.1 calls for the County to review each application for a development entitlement for compatibility with adjacent open space land uses, and require suitable open space buffers to be incorporated into the development plans. Program B-2.2 encourages clustering of all types of land uses. Program B-2.3 calls for the County to designate open space areas, wherever possible, on the perimeter of all development undertaken at the former Fort Ord.

Objective C of the Fort Ord Master Plan Recreation/Open Space Land Use policies calls for using open space as a land use link and buffer reserving sufficient lands for community and neighborhood parks and recreation facilities in the Fort Ord area and adjacent communities. Program C-1.1 requires the County to amend its Greater Monterey Peninsula Area Plan and zoning ordinance to designate appropriate park and recreation facilities at the former Fort Ord to serve the needs of their community area, appropriate and consistent with the recreation standards established for the Fort Ord Reuse Plan and the County Subdivision Ordinance, which identifies a Standard of 3 acres per 1,000 people.

Program C-1.2 requires the County to designate land uses for the following park locations and acreages: a) 10 acres for a neighborhood park in the Eucalyptus Road Planning Area, and b) a minimum of 200 acres in permanent open space within the Eucalyptus Road residential planning area. Program C-1.4 necessitates that the County amend its Greater Monterey Peninsula Area Plan map to include this land as Park and Open Space.

Recreation/Open Space Land Use Policy C-2 specifies that the County provide sufficient resources to operate and maintain the park facilities at the former Fort Ord. Program C-2.1 requires the County provide in the for a minimal recreation program in the budget at the

time that each park is developed. In addition, the County should also provide a budget for a complete recreation and park maintenance program when the population to be served by the park reaches one thousand residents. Program C-2.2 requires that each park in the Fort Ord portion of the County should be developed and the recreation equipment should be in place when approximately 50% of the residential dwelling units that will be served by the park have been constructed and occupied.

Objective E of the Fort Ord Master Plan Recreation/Open Space Land Use calls for the County to coordinate open space and recreation land use with other affected agencies at the former Ford Ord, such as the California Department of State Parks and Recreation (CDPR) and BLM. Program E-1.1 stipulates that the County shall assist the CDPR to develop and implement a Master Plan for ensuring consistency of future uses of areas in the coastal zone including the management of the Fort Ord coastal dunes and beaches for the benefit of the public by restoring habitat, recreating the natural landscape, providing public access, and developing appropriate day use and overnight lodging facilities (limited to a capacity of 40 rooms). Program E-1.2 requires the County to assist CDPR to carry out a dune restoration program for the Fort Ord Dunes State Park. Program E-1.5 establishes that the proposed community park facility in the Recreation/HMP District in the CSUMB/Recreation Planning Area (Fort Ord Reuse Plan Polygon 17a) will use about 30 acres of land currently dominated by oak woodland for an equestrian center and other recreational facilities. The park will serve as a gateway to trails in the BLM area. Program E-1.6 allows for the Youth Camp District in the Reservation Road Planning Area (Fort Ord Reuse Plan Polygon 17b) to be rehabilitated for an existing travel camp, and that the County shall assure that this planned use is compatible with adjacent land uses.

Significance Determination without Mitigation

Future population growth associated with implementation of the 2007 General Plan would increase demands on existing parks and recreation facilities in the County. Such demands would create a need for new or expanded parks, recreation and open space facilities. The above-listed 2007 General Plan and Area Plan policies address the need for parks and recreation facilities.

In addition, Section 19.12.010 of the Monterey County Code requires that a project must provide 3 acres of property for each 1,000 persons for parks and recreation purposes, or a pro-rated acreage based on the size of the property. However, this requirement is not mirrored in the 2007 General Plan policies, as is necessary in order to apply the Quimby Act. Therefore, the effectiveness of the County's Quimby Act ordinance is hindered by the lack of standards in the existing 1982 General Plan. This shortcoming would be

resolved by the adoption of Mitigation Measure PAR-1, described below. This mitigation measure would ensure that sufficient new localized park and recreation land is acquired during the development process so that adequate facilities and/or funds are provided. Potential environmental impacts that may occur as a result of new or expanded park and recreational facilities would be analyzed as a part of a separate, site-specific environmental process.

In addition, Conservation and Open Space Element Policy OS-1.10 (Trails Planning) restricts the County's ability to implement extensive trails planning because the dedication of trails easements is considered a voluntary action under this policy. As a result, new trail easements along adopted trail corridors may not be required as a condition of subdivision approval. This could result in gaps where some trail easements have been obtained, making it impracticable to develop the easement into a trail. However, the County would still receive adequate funds for recreational facilities with new development through the Quimby Act. In addition, as described above, there is already a significant amount of open space within the County (Federal, State, Regional and Local) in relation to the population.

Potential parks, recreation and open space impacts under the 2007 General Plan would be less than significant through the 2030 planning horizon.

Mitigation Measures

The following mitigation measure is recommended in order to ensure the use of the Quimby Act in obtaining local park and recreation facilities.
Mitigation Measure PAR-1:

Proposed 2007 General Plan policy PS-11.10 will be amended to read: "Pursuant to the provisions of the State Subdivision Map Act, residential subdivision projects shall be conditioned to provide and maintain park and recreation land and facilities or pay in-lieu fees in proportion to the extent of need created by the development. *The ratio of park and recreation facilities to residents will be at least three acres for each one thousand residents.*"

Significance Conclusion

In summary, future growth associated with the 2007 General Plan would increase demands on existing parks and recreation facilities through the 2030 planning horizon. Existing available parks and recreation facilities available in Monterey County greatly exceed the county's established ratio of 3 acres of parks per 1,000 residents. As a result, the increase in demand would not exceed the threshold standard. Mitigation Measure PR-1 is not necessary to avoid an impact on parks and recreation facilities, but would ensure that the county can implement its Code Section 19.12.010. Therefore, impacts to parks, recreation and open space facilities would be less than significant.

Buildout

Impact of Development with Policies

As discussed earlier, the County currently has an abundance of park, recreation and open space facilities. The Monterey County Parks system currently consists of nine regional parks, encompassing more than 12,000 acres of parkland and 10,000 acres of lakes. The County's current park standard establishes a park ratio of 3 acres of parkland per 1,000 residents. The County's buildout population estimate is 932,322 residents in both the incorporated county and unincorporated cities combined. Therefore, the estimated of parkland needed to serve this buildout population per the County's dedication ratio of 3:1000 for this combined city/county population is 2,796 acres (932,322*.003). Using the parkland dedication ratio of 3:1000, the County's existing parkland acreage of 12,000 acres exceeds the area needed to meet the buildout parkland/resident ratio by several thousand acres. In addition, multiple other parks, recreation and open spaces exist throughout the county under the jurisdiction of the federal government, state agencies, MPRPD and local municipalities.

Buildout of the 2007 General Plan to 2092 would result in a more extensive development pattern than currently exists in the County. In addition to existing park and recreation facilities, the Quimby Act would require the construction or expansion of parks, recreation and open space facilities beyond 2030 levels whenever land is subdivided. The 2007 General Plan and Area Plan goals and policies listed above would be implemented, along with Section 19.12.010 of the Monterey County Code and Mitigation Measure PAR-1.

2007 General Plan Policies

The 2007 General Plan policies summarized under the 2030 planning horizon establish comprehensive measures to avoid and minimize adverse impacts to parks and recreation facilities, and meet the need for new or expanded parks and recreational facilities. For example, implementation of the Public Service Element policies described above would establish comprehensive measures to avoid and minimize adverse impacts to parks and recreation facilities, as well as meet the need for new or expanded parks and recreational facilities within the county. The Public Service Element Policies establish general standards for the provision of public facilities concurrently with future growth. Included are policies that direct growth where adequate facilities currently exist, policies that seek to achieve acceptable level of park service standards through improvements funded by fair share impact fees and planned capital improvements, and require that only new developments that have or can provide adequate concurrent public services and parks facilities be approved.

Significance Determination

Future population growth associated with implementation of the 2007 General Plan through 2092 buildout would increase demands on existing parks and recreation facilities in the County. Such demands would largely be met by existing parks, recreation or open space facilities. The above-listed 2007 General Plan and Area Plan policies adequately address the need for new parks and recreation facilities and provide mechanisms to acquire and develop these facilities. For example, Section 19.12.010 of the Monterey County Code, in conjunction with Mitigation Measure PAR-1, requires that a project must provide 3 acres of property (or pay an in-lieu fee) for each 1,000 persons for parks and recreation purposes, or a pro-rated acreage based on the size of the property. Potential environmental impacts that may occur as a result of new or expanded park and recreational facilities would be analyzed as a part of a separate, site-specific environmental process.

Conservation and Open Space Element Policy OS-1.10 (Trails Planning) hinders the County's ability to implement trails planning because dedication of these trails easements would be voluntary. While trails may be obtained through purchase of easements or property, budgetary constraints limit that approach. As a result, new trail easements along adopted trail corridors may not be contiguous, even over the 2092 buildout period. Because the county has parks and recreation facilities in excess of its expressed goal, the possibility of not fully implementing the trails plan is not a significant effect. Potential parks, recreation and open space impacts under the 2007 General Plan would remain less than significant through the 2092 planning horizon.

Mitigation Measures

Mitigation Measure PAR-1. See the description above.

Significance Conclusion

In summary, future growth associated with the 2007 General Plan would increase demands on existing parks and recreation facilities through the 2092 planning horizon. Such demands would be met by existing parks and recreation facilities, which already exceed the county standard for area. Implementation of the 2007 General Plan and Area Plan policies, Section 19.12.010 of the Monterey County Code, and Mitigation Measure PAR-1 would ensure that sufficient new parks and recreation land is acquired during the development process so that adequate facilities are provided at the local level. Therefore, impacts to parks, recreation and open space facilities would be less than significant with mitigation.

Physical Deterioration of Park Facilities

Impact PAR-2: Population growth associated with implementation of the 2007 General Plan would potentially create additional demands on existing parks and recreational facilities, thereby resulting in the physical deterioration of such facilities. (Less-Than-Significant Impact with Mitigation.)

2030 Planning Horizon

Impact of Development with Policies

Future growth anticipated by the 2007 General Plan would increase demands on existing parks and recreation facilities in the County. Such additional demands would potentially cause the physical deterioration of these existing parks facilities. For purposes of this impact analysis, only the potential deterioration and wear and tear on parks and recreation facilities within the Monterey County Parks District and the Monterey Peninsula Regional Park District is considered. Impacts to federal and state parks, recreation, and open space facilities within Monterey County would continue to be addressed within federal and state management budgets. In addition, many of the federal and state parks and open spaces are used by residents of the County, residents of California, and tourists from around the world. It would be difficult to determine the wear and tear on these federal and state lands from use by County residents without conducting a detailed survey of park and open space users.

2007 General Plan Policies

The 2007 General Plan contains policies that address potential impacts to parks and recreational facilities, as summarized under Impact PAR-1 above. The adoption of these policies would ensure that parks and recreation facilities are provided funding in order to meet the demands of future growth and avoid demands that would lead to physical deterioration of existing facilities. The primary funding source would come from new development projects that would be assessed impact fees to finance capital improvements for new and existing park and recreational facilities. Payment of these fees would ensure that adequate parks and recreation facilities and/or funds are provided concurrently with growth.

The Area Plans provide supplemental policies that address the concerns of ongoing maintenance and care for parks and recreation facilities. The policies address the funding mechanisms and long-term maintenance of these facilities by creating guidelines that specifically address parks and recreation facilities. These policies are also summarized under Impact PAR-1 above.

Significance Determination without Mitigation

The 2007 General Plan contains policies that address potential impacts to parks and recreational facilities, as summarized under Impact PAR-1. The adoption of these policies, along with Mitigation Measure PAR-1, would ensure that parks and recreation facilities are provided adequate funding in order to meet the demands of future growth, and to avoid demands that would lead to physical deterioration of existing and future park facilities. One of the primary funding sources for the Monterey County Parks Department would come from implementation of Section 19.12.010 of the Monterey County Code, and Mitigation Measure PAR-1. Payment of these fees would ensure that adequate parks and recreation facilities and/or funds are provided concurrently with growth. Other funding sources for the Monterey County Parks Department include day-use fees, and public grants. Such funding sources would help meet maintenance needs of the County park system through the 2030 planning horizon.

Impacts to the Monterey Peninsula Regional Parks Department (MPRPD) facilities would be mitigated by using funds derived from a 0.5% allocation of property tax collected within its boundaries, along with matching federal and state funds. In addition, the MPRPD has an assessment of approximately $19/yr. per single family dwelling equivalent in order to provide funding for MPRPD to continue preserving and protecting parks and open space.

Potential environmental impacts that may occur as a result of wear and tear on existing or future park facilities in Monterey County would be analyzed as a part of a separate, site-specific environmental process.

Mitigation Measures

Mitigation Measure PAR-1:

Proposed 2007 General Plan policy PS-11.10 will be amended to read: "Pursuant to the provisions of the State Subdivision Map Act, residential subdivision projects shall be conditioned to provide and maintain park and recreation land and facilities or pay in-lieu fees in proportion to the extent of need created by the development. *The ratio of park and recreation facilities to residents will be at least three acres for each one thousand residents*."

Significance Conclusion with Mitigation

Implementation of the 2007 General Plan and Area Plan policies, and collection of development fees per Mitigation Measure PAR-1 would ensure that potential impacts related to deterioration of parks and recreational facilities would be less than significant. Collection of development fees would enable the County to require sufficient new parks and recreation facilities in order to avoid overuse of existing facilities. No additional mitigation is necessary.

Buildout

Impact of Development with Policies

Buildout of the 2007 General Plan through the 2092 horizon would result in increased demands on existing parks and recreation facilities. Such demands would cause the physical deterioration of these facilities beyond 2030 levels.

2007 General Plan Policies

The 2007 General Plan contains policies that address potential impacts to parks and recreational facilities, as summarized under Impact PAR-1. The adoption of these policies would ensure that parks and recreation facilities are provided adequate funding through the 2092 planning horizon, in order to meet the demands of future growth and avoid demands that would lead to physical deterioration of existing facilities.

In addition, the Area Plans provide supplemental policies that address the concerns of ongoing maintenance and care for parks and recreation facilities. The policies address the funding mechanisms and long-term maintenance of these facilities by creating guidelines that specifically address parks and recreation facilities. These policies are summarized under Impact PAR-1.

Significance Determination without Mitigation

The 2007 General Plan contains policies that address potential impacts to parks and recreational facilities, as summarized under Impact PAR-1. The adoption of these policies would ensure that parks and recreation facilities are provided adequate funding in order to meet the demands of future growth, and to avoid demands that would lead to physical deterioration of existing and future park facilities. Funding sources for the Monterey County Parks Department include day-use fees, and public grants. Such funding sources would help meet maintenance needs of the County park system through the 2092 planning horizon.

Impacts to the Monterey Peninsula Regional Parks Department (MPRPD) facilities would be mitigated by using funds derived from a 0.5% allocation of property tax collected within its boundaries, along with matching federal and state funds. In addition, the MPRPD has an assessment of approximately $19/yr. per single family dwelling equivalent in order to provide funding for MPRPD to continue preserving and protecting parks and open space.

Potential environmental impacts that may occur as a result of wear and tear on existing or future park facilities in Monterey County would be analyzed as a part of a separate, site-specific environmental process.

Significance Conclusion

Implementation of the 2007 General Plan and Area Plan policies, and existing funding sources would ensure that potential impacts related to deterioration of parks and recreational facilities would be less than significant through buildout.

4.12.6 Level of Significance after Mitigation

All impacts related to parks, recreation and open space would be less than significant with implementation of the measures in the 2007 General Plan, Area Plans, Section 19.12.010 of the Monterey County Code, and Mitigation Measure PAR-1. No additional mitigation beyond Mitigation Measure PAR-1 would be required.

4.13 Hazards and Hazardous Materials

4.13.1 Abstract

This section describes the existing hazardous conditions in Monterey County in relationship to aviation, wildland fires, hazardous materials, and emergency response management in the 2007 General Plan area. This section presents the federal, state, and local policies and regulations in relation to these hazards; and identifies impacts and mitigation measures associated with implementation of the 2007 General Plan. This section also identifies means in which hazardous materials associated with implementation of the 2007 General Plan could be accidentally released into the environment.

- **Aviation:** There are four general aviation airports, two military airstrips, and more than thirty private airstrips, helipads, and agricultural landing fields located in Monterey County.
- **Wildland Fires:** Many areas of Monterey County are highly susceptible to wildland fire hazards due to the rugged topography and large areas of densely forested areas. Lack of precipitation in the summer months also contributes to an increased risk of wildland fires in the county. Much of the county is designated as a high or very high fire hazard area by the California Department of Forestry and Fire Protection (CDFFP), with the exception of the Salinas Valley and the Monterey Peninsula (Exhibit 4.13.1).
- **Hazardous Materials:** A hazardous material is defined by the California Department of Toxic Substances Control (DTSC) as a material that poses a significant present or potential hazard to human health and safety or the environment if released because of its quantity, concentration, or physical or chemical characteristics (26 CCR 25501). Common hazardous materials include petroleum hydrocarbons, pesticides, volatile organic chemicals, and certain metals. There are more than 450 hazardous waste generators and more than 10 contaminated sites in the County.
- **Emergency Response**: Emergency evacuation routes are designated throughout the county, and emergency response activities are coordinated by the Monterey County Office of Emergency Services (OES).

All potential hazards and hazardous materials impacts from development and land use activities associated with implementation of the 2007 General Plan would be less than significant and would not require mitigation. Hazards such as tsunamis, seiches, and mudflows are discussed separately in Section 4.4, Geology, Soils and Seismicity. Flood hazards are discussed in Section 4.3, Water Resources.

4.13.2 Introduction

This section identifies issues related to hazards and hazardous materials in the 2007 General Plan action area.

The "Environmental Setting" discussion below describes the current setting of the 2007 General Plan action area. The purpose of this information is to establish the existing environmental context against which the reader can understand the environmental changes caused by implementation of the 2007 General Plan. The environmental setting information is intended to be directly or indirectly relevant to the subsequent discussion of impacts.

The environmental changes associated with the action are discussed under "Impact Analysis." This section identifies impacts, describes how they would occur, and prescribes mitigation measures to reduce significant impacts, if necessary.

4.13.3 Environmental Setting

4.13.3.1 Hazards

Aviation

There are four general aviation airports, two military airstrips, and more than 30 private airstrips and helipads in Monterey County. A description of the various aviation facilities in the county follows.

- Monterey Peninsula Airport, located on the outskirts of the City of Monterey, is the largest and busiest commercial airport in the county. The Federal Aviation Administration (FAA) indicates that 91,435 aircraft operations occur annually at the airport (Federal Aviation Administration 2008). The Monterey Peninsula Airport is located between Highway 68 and SR 218 just east of Del Rey Oaks, and south of Seaside (Exhibit 3.7). The airport borders the city limits of Monterey, Del Rey Oaks and Seaside. However, the Monterey Peninsula Airport is an independent Airport District, and is not incorporated into either the city limits of Monterey or the county. The Monterey Peninsula Airport District includes portions of Monterey, Pacific Grove, Del Monte Forest, Pebble Beach, Carmel-by-the-Sea, greater Carmel, Del Rey Oaks, Seaside, Sand City, the Monterey-Salinas Highway to Laureles Grade, and the west end of Carmel Valley (Monterey Peninsula Airport 2008).
- The City of Salinas Municipal Airport is the second busiest airport in the county. The airport is owned and operated by the City of Salinas and serves commercial, general aviation, and agricultural-related aircraft (e.g., crop dusters). The FAA indicates that 77,896 aircraft operations occur annually at the airport (Federal Aviation Administration 2008b). The airport is located

within the city limits of the City of Salinas, in the southeastern quadrant of the city (Exhibit 3.5). The airport is not located in the county's jurisdiction, and is not included within the boundaries of the Greater Salinas Area Plan.

- Marina Municipal Airport is a public airport located two miles east of the central business district of Marina. The FAA indicates that 40,000 aircraft operations occur annually at the airport (Federal Aviation Administration 2008c). The airport is owned and operated by the City of Marina, and primarily serves general aviation aircraft. Marina Municipal Airport is built at the site of the former Fritzche Army Air Field located adjacent to Fort Ord. The airport is not located in the county's jurisdiction, and is not included within the boundaries of the Fort Ord Master Plan area.
- Mesa del Rey Airport is located one mile northeast of King City, and primarily serves general aviation and agricultural-related aircraft. The airport is located within the city limits of King City, and is owned and operated by the city. The airport is not located in the county's jurisdiction, and is not included within the boundaries of the Central Salinas Valley Area plan. The FAA indicates that 3,500 aircraft operations occur annually at the airport (Federal Aviation Administration 2008d).
- The Schoonver Tactical Air Strip at Fort Hunter Liggett is capable of supporting C-130 Hercules and C-12 Huron operations. Fort Hunter Liggett also contains the Tusi Helipad and the Doolittle Aircraft Training Area, which is used for Close Air Support training by Navy aircraft from Naval Air Station Lemoore in Kings County. Fort Hunter Liggett is under the jurisdiction of the Department of Defense, and is not included within the boundaries of the South County Area Plan.
- McMillan Airfield at Camp Roberts is capable of supporting C-130 operations. McMillan Airfield is also currently used for Unmanned Aerial Vehicle operations and testing. Camp Roberts is located south of Bradley along Highway 101, and also borders San Luis Obispo County. McMillan Airfield is under the jurisdiction of the California National Guard, and is not included within the boundaries of the South County Area Plan.
- There are more than 30 private airstrips, agricultural landing fields, and helipads in the County. Locations of these aviation facilities include Salinas Valley State Prison, the San Ardo oil fields, and hospitals in Monterey, Salinas, and King City.

Wildland Fires

Wildland fires are a major hazard in many areas of Monterey County. Rugged topography, dry summers, and an abundance of fuel combine to make much of Monterey County susceptible to wildland fire hazards during the warmer seasons of the year. Much of the county is designated as a high or very high fire hazard area by the California Department of Forestry and Fire Protection (Cal Fire), with the exception of the Salinas Valley and the Monterey Peninsula (Exhibit 4.13.1).

The state mandates that Cal Fire prepare Wildland Fire Hazard Maps for each county, rating fire hazards as low, moderate, high, or very high. These classifications are based on slope, climate, fuel loading (vegetation), and water availability. Wildland fires are a hazard for the more densely populated areas of the county as well. For example, the Salinas Rural Fire District, which serves almost all of unincorporated Greater Salinas, indicates that wildland fires are the major cause of fires in its jurisdiction.

Large areas of rugged terrain with highly flammable vegetation have high wildland fire potential. The principal ingredients of wildland fires—fuel, topography, and weather—combine to make highly hazardous fire conditions throughout much of the county. To compound the problem, local topography tends to accentuate the spread of fires due to the varied movement of winds and makes fire fighting with heavy equipment very difficult or nearly impossible.

The very high fire hazard throughout many county areas makes them unsafe for development and occupancy unless strong fire safety measures are taken. Many areas under County jurisdiction are without an organized structural fire protection programs. Even where organized protection does exist, fire suppression may be hampered by lack of water, rugged terrain, and delayed response times.

4.13.3.2 Hazardous Materials

A *hazardous material* is defined by the California Environmental Protection Agency (Cal-EPA) Department of Toxic Substances Control (DTSC) as a material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released (*26 CCR 25501*). For the purposes of this discussion, hazardous materials consist of raw materials and products, and hazardous wastes consist of wastes that are generated by facilities and businesses or that remain on site as a result of past activities.

Hazardous materials are grouped into the following four categories, based on their properties:

- Toxic—causes human health effects;
- Ignitable—has the ability to burn;
- Corrosive—causes severe burns or damage to materials; and
- Reactive—causes explosions or generates toxic gases.

Hazardous waste is any hazardous material that is discarded, abandoned, or slated to be recycled. The criteria that render a material hazardous also make a waste hazardous. Hazardous materials and hazardous waste can result in public health hazards if released into the soil or groundwater; or through airborne releases in vapors, fumes, or dust. Soil and groundwater with concentrations of hazardous constituents higher than specific regulatory levels must be handled and disposed of as hazardous waste when excavated or pumped from groundwater.

This following section describes common hazardous materials used in Monterey County, as well as known and potential hazardous waste sites in the county.

Common Hazardous Materials Used in Monterey County

The Environmental Protection Agency's Resource Conservation and Recovery Act Information (RCRAInfo) database indicates that, as of March 17, 2008, there were 452 transporters, treaters, storers, and disposers of hazardous waste in Monterey County. The most common are commercial and industrial users such as agricultural producers, automotive repair, dry cleaners, gas stations, pest control, energy providers, and retailers. Institutional users of hazardous materials include schools, colleges, correctional facilities, utilities, hospitals, military installations, landfills, and other public agencies.

4.13.3.3 Contaminated Sites

The California Department of Toxic Substances Control (DTSC) EnviroStor Database indicates that, as of August 7, 2008, there were 28 contaminated sites in Monterey County that are listed in federal or state databases. These sites are summarized below in Table 4.13-1.

Table 4.13-1. Contaminated Sites in Monterey County

#	Site	Listing Status	Location
1	Berman Steel-Salinas	State Response	Salinas
2	Camp Roberts—Army National Guard	State Response	Camp Roberts
3	Chalone Peaks Middle School	School Cleanup	King City
4	Crazy Horse Sanitary Landfill	Federal Superfund—Listed	Salinas
5	Dynegy Moss Landing	Hazardous Waste—Operating Permit	Moss Landing
6	Embassy Suites Hotel	State Response	Seaside
7	Fanoe Ranch	Voluntary Cleanup	Gonzales
8	Firestone Tire & Rubber Co	Hazardous Waste—Non-Operating	Salinas
9	Firestone Tire (Salinas Plant)	Federal Superfund—Delisted	Salinas
10	Fort Hunter Liggett	State Response	Jolon
11	Fort Hunter Liggett, U.S. Army	Hazardous Waste—Non-Operating	Jolon
12	Fort Hunter Liggett-Cantonment Reuse	State Response	Jolon
13	Fort Ord—East Garrison (VCA)	Federal Superfund—Listed	Fort Ord
14	Fort Ord—University Villages (VCA)	Federal Superfund—Listed	City Of Marina
15	Fort Ord Redevelopment Authority (Early Transfer)	Federal Superfund—Listed	Fort Ord
16	Fort Ord State Park—MOU with DPR	Federal Superfund—Listed	City Of Marina
17	Fort Ord, CA	Federal Superfund—Listed	Fort Ord
18	Fort Ord—Del Rey Oaks Development	Federal Superfund—Listed	Monterey

#	Site	Listing Status	Location
19	Granite Canyon Marine Lab	State Response	Monterey
20	PG&E Moss Landing Switchyard	Hazardous Waste—Non-Operating	Moss Landing
21	PG&E Gas Plant Salinas	State Response	Salinas
22	PG&E, MGP Monterey	Voluntary Cleanup	Monterey
23	Point Pinos Lighthouse	State Response	Pacific Grove
24	Pure-Etch Co	Hazardous Waste—Non-Operating	Salinas
25	U.S. Army DLIFLC & POM	Hazardous Waste—Non-Operating	Fort Ord
26	Verticare Helicopters	State Response	Salinas
27	Berman Steel-Salinas	State Response	Salinas
28	Camp Roberts – Army National Guard	State Response	Camp Roberts

Source: California Department of Toxic Substances Control. EnviroStor Database. Accessed August 7, 2008.

4.13.3.4 Emergency Management

Office of Emergency Services

The Monterey County Office of Emergency Services (OES) is responsible for initiating and coordinating disaster and emergency preparation, response, recovery, and mitigation operations within Monterey County. OES develops and maintains various emergency plans, including incident response plans for certain types of incidents and coordinated emergency response plans for certain geographical threat areas. During an emergency condition, OES is the designated lead agency and activates the Emergency Operations Center.

Emergency Evacuation

Monterey County has designated emergency evacuation routes throughout the county. The evacuation routes are designated and maintained to ensure the safe and efficient movement of people, belongings, and emergency personnel including their support services during times of declared emergencies. These routes include U.S. 101, State Highways, several numbered county roads, and various other county roads. These routes are considered “Pre-designated Emergency Evacuation Routes” and may be deployed when necessary. These routes are listed in Table 4.13-2.

Table 4.13-2. Emergency Evacuation Routes

Road Designation	Routes		
U.S. Highways	U.S. 101		
State Highways	Highway 1	Highway 25	Highway 68
	Highway 129	Highway 146	Highway 156
	Highway 183	Highway 198	Highway 218
Numbered County Roads	Arroyo Seco Road (G17)	Bitterwater Road (G13)	Carmel Valley Road (G16)
	Fort Romie Road (G17)	Hall Road (G12)	Interlake Road (G14)
	Jolon Road (G14)	Jolon Road (G18)	Lake Drive (G19)
	Laureles Grade (G20)	Metz Road (G15)	Reservation Road (G17)
	River Road (G17)	San Juan Road (G11)	San Miguel Canyon Road (G12)
Other County Roads	Alisal Road	Aromas Road	Blackie Road
	Blanco Road	Bradley Road	Bryson-Hesperia Road
	Cachagua Road	Calera Canyon Road	Camphora Gloria Road
	Carpenteria Road	Castroville Boulevard	Cattlelmen Road
	Cholame Road	Chualar Canyon Road	Cooper Road
	Corral de Tierra Road	Crazy Horse Canyon Road	Davis Road
	Dolan Road	Echo Valley Road	Elkhorn Road
	Elm Avenue	Espinosa Road	Gloria Road
	Gonzales River Road	Harkins Road	Indian Canyon Road
	Indians Road	Johnson Canyon Road	Lockwood-San Lucas Road
	Lone Oak Road	Milpitas Road	Mission Road
	Molera Road	Nacimiento-Fergusson Road	Nashua Road
	Oasis Road	Old Stage Road	Palo Colorado Canyon Road
	Paris Valley Road	Parkfield-Coalinga Road	Peach Tree Road
	Pesante Road	Pine Canyon Road	Priest Valley Road
	Reliz Canyon Road	Robinson Canyon Road	Salinas Road
	San Benancio Road	San Juan Grade Road	San Lucas Road
	17 Mile Drive	Spreckels Road	Strawberry Road
	Tassajara Road	Vineyard Canyon Road	

Source: County of Monterey General Plan. Safety Element. 2007.

4.13.4 Regulatory Framework

4.13.4.1 Federal and State

Airport Land Use Compatibility Regulations

Planning boundaries are established for height, noise, and safety around each airport and active airfield. Airport planning activities also establish policies that determine the compatibility of new land uses proposed within each planning area

boundary. State Airport Land Use Law establishes an Airport Land Use Commission (ALUC) in most counties for the purpose of preparing comprehensive airport land use plans (CLUPs) for all general purpose airports within the county and to review existing and proposed land uses for consistency with the airport safety provisions of the CLUPs. The law requires a jurisdiction to submit its General Plan and other land use regulations to the ALUC for review and to amend the plan as may be necessary to achieve consistency with CLUPs adopted by the ALUC.

More specifically, the ALUC is a seven-member commission created under the authority of California State Aeronautics Act (Public Utility Code Section 21670). The primary purpose of the ALUC is to ensure that new land uses around public use airports do not create excessive noise and safety hazards for the public. Development proposals in the vicinity of local airports are referred to the ALUC by governing jurisdictions (county or incorporated city) for review. More detailed information on specific airports located within the county can be found in Section 4.8, Noise.

The Monterey County ALUC reviewed the 2006 General Plan Update (GPU4) for consistency with the CALUPs in December 2006. The ALUC found that the plan conformed to the CLUPs. Additionally, Federal Aviation Regulations (FAR) Part 77 defines a series of imaginary surfaces surrounding all public use airports. Any proposed object or structure that would penetrate any of these imaginary surfaces as they apply to the affected airport facilities is considered by the FAA to be an obstruction to air navigation. An obstruction to air navigation may not be a hazard to air navigation; however, the FAA presumes it to be a hazard and treats it as such until an FAA aeronautical study determines that it does not have a substantial adverse effect on the safe use of the navigable airspace by aircraft. The imaginary surfaces the FAA uses to determine whether a structure or an object would be an obstruction to air navigation includes the primary surface, approach surface, horizontal surface, conical surface, and transitional surfaces. The CLUPs determine compatibility of surrounding land uses based upon height restrictions, noise levels associated with the airport operations, and exposure of persons to crash hazards.

Comprehensive Environmental Response, Compensation, and Liability Act

Discovery of environmental health damage from disposal sites prompted the U.S. Congress to pass the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund). The purpose of CERCLA is to identify and clean up chemically contaminated sites that pose a significant environmental health threat. The Hazard Ranking System is used to determine whether a site should be placed on the National Priorities List (NPL) for cleanup activities.

Superfund Amendments and Reauthorization Act

The Superfund Amendments and Reauthorization Act (SARA) pertains primarily to emergency management of accidental releases. It requires formation of state and local emergency planning committees, which are responsible for collecting material handling and transportation data for use as a basis for planning. Chemical inventory data is made available to the community at large under the "right-to-know" provision of the law. In addition, SARA also requires annual reporting of continuous emissions and accidental releases of specified compounds. These annual submissions are compiled into a nationwide Toxics Release Inventory (TRI).

Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act is the statutory basis for the extensive body of regulations aimed at ensuring the safe transport of hazardous materials via boat, rail, and highways, through air, or in pipelines. It includes provisions for material classification, packaging, marking, labeling, placarding, and shipping documentation.

Resource Conservation and Recovery Act

RCRA Subtitle C addresses hazardous waste generation, handling, transportation, storage, treatment, and disposal. It includes requirements for a system that uses hazardous waste manifests to track the movement of waste from its site of generation to its ultimate disposition. The 1984 amendments to RCRA created a national priority for waste minimization. Subtitle D establishes national minimum requirements for solid waste disposal sites and practices. It requires states to develop plans for the management of wastes within their jurisdictions. Subtitle I requires monitoring and containment systems for underground storage tanks that hold hazardous materials. Owners of tanks must demonstrate financial assurance for the cleanup of a potential leaking tank.

California Hazardous Waste Control Law

The Hazardous Waste Control Law (HWCL) is the primary hazardous waste statute in the State of California. HWCL implements RCRA as a "cradle-to-grave" waste management system in the state. HWCL specifies that generators have the primary duty to determine whether their wastes are hazardous and to ensure their proper management. HWCL also establishes criteria for the reuse and recycling of hazardous wastes used or reused as raw materials. HWCL exceeds federal requirements by mandating source reduction planning and a much broader requirement for permitting facilities that treat hazardous waste. It also regulates a number of types of wastes and waste management activities that are not covered by federal law with RCRA. The law is administered and

enforced by the California Department of Toxic Substances Control (DTSC). DTSC administers the Hazardous Waste Tracking System to follow hazardous wastes shipments through the state.

4.13.4.2 Local

Monterey County Hazardous Materials Program

The Monterey County Health Department, Division of Environmental Health, manages and regulates the storage, use, and disposal of hazardous wastes through the Hazardous Materials Program. Hazardous materials in use by businesses are reported to the Division under the Hazardous Materials and Business Plan Program. The Program provides measures for hazardous waste onsite treatment, spill prevention control and countermeasures for aboveground and underground storage tanks, site mitigation, and risk management and prevention. This program is administered by the Division under authority delegated by the state to it as a Certified Unified Program Agency (CUPA). The Division also fields the county's hazardous materials Emergency Response Team (ERT). The ERT responds to any hazardous materials incidents that may occur in the county.

Monterey County Office of Emergency Services

The Office of Emergency Services (OES) is an agency of the County Administrative Office. It has a full time staff of four County employees and a volunteer emergency communications coordinator. During emergency situations, when the Monterey County Operational Area Emergency Operations Center is activated, the Center employs an ad hoc staff comprised of up to 90 personnel from various county agencies, emergency response organizations, utilities and volunteer relief organizations from throughout the county. OES works in concert with other State and local governments and federal agencies to provide for coordinated and effective multi-agency response and relief during emergency situations.

4.13.5 Project Impacts

This section describes the CEQA impact analysis relating to hazards and hazardous materials for the project and the alternatives. It describes the methods used to determine the project's impacts and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each applicable impact discussion.

4.13.5.1 Methodology

Impacts to public safety from hazards and hazardous materials and wastes due to upset conditions, accidental releases, or natural phenomena were evaluated in relation to the 2007 General Plan. Corresponding policies and elements were used to assess the adequacy to which the 2007 General Plan and the corresponding policies and elements address hazards- and hazardous materials–related impacts.

Using the criteria for determining significance described below, analysis of the hazards and hazardous materials impacts of the project on the community was made based on the location and condition of the potential hazardous materials release sites and on the current and planned uses of the location. Additionally, aviation hazards, wildland fire hazards, and hazards associated with inadequate emergency response access were assessed to determine the potential for impacts to residents. To evaluate impacts on the environment, the impact analysis (focused on impacts to humans) assessed potential impacts from accidents, explosions, and other releases.

4.13.5.2 Thresholds of Significance

Appendix G of the CEQA Guidelines was used to derive the significance thresholds which are used to determine whether the 2007 General Plan would have a significant environmental impact. The 2007 General Plan would result in a significant impact on hazardous materials if it would:

- create a significant hazard through the routine use, transport, or disposal of hazardous materials;
- create a significant hazard through reasonably foreseeable upset and accident conditions involving the release of hazardous materials;
- expose sensitive land uses (i.e., schools, hospitals, nursing homes) to hazardous materials;
- allow development to occur on contaminated lands, creating a significant public hazard;
- create an aviation safety hazard;
- expose persons or property to wildland fire risks; or
- interfere with the implementation of an emergency response or evacuation plan.

4.13.5.3 Impact Analysis

Implementation of the 2007 General Plan to the 2030 planning horizon and buildout in 2092 would potentially result in impacts due to potential public safety

hazards caused by the presence, use, manufacture, or transport of hazardous materials within the county. Additionally, aviation, wildland fire, and inadequate emergency response access could result in public safety impacts.

Exposure to Hazardous Materials

Impact HAZ-1: New development in accordance with the 2007 General Plan would expose persons to hazardous materials from routine use, transport, or disposal of hazardous materials or the release of hazardous materials. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

The 2007 General Plan would designate growth areas which include existing urban areas, Community Areas, Rural Centers, and AHOs. In addition, existing lots of record would develop under county zoning and subdivision requirements. Hazardous materials such as pesticides, fertilizers, petroleum, and vehicle fluids, asbestos-containing materials, lead paint, polychlorinated biphenyls (PCBs), underground storage tanks, and aboveground storage tanks may all be found in these areas. The former Fort Ord has unexploded , ordnance on portions of its site. Under the base reuse agreement, this ordnance must be removed or otherwise disarmed before the area can be developed. Hazardous materials including fuels, pesticides/herbicides, and industrial chemicals are routinely transported along county roads. In addition, soils in Monterey County contain naturally occurring asbestos, which can become hazardous as dust particles.

Exposure to sensitive groups is of special concern. This includes children, the infirm, and elderly. The 2007 General Plan does not propose any specific actions that would increase the exposure of sensitive groups. Exposure of persons to known and unknown hazardous materials during implementation of the 2007 General Plan to the 2030 planning horizon would potentially result in a significant impact.

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized below set forth comprehensive measures to avoid and minimize adverse impacts from potential exposure effects from routine use, transport, and disposal of hazardous materials.

Policy S-5.2 provides that the Monterey County Operational Area Emergency Operations Plan shall include general procedures to implement the nationwide National Incident Management System (NIMS), statewide Standardized Emergency Management System

(SEMS), activate and operate the Operational Area Emergency Operations Center (EOC), coordinate responders, and implement other tactical response measures.

Area Plan Policies

None of the area plans contain policies related to hazardous materials.

Community Area Policies

Fort Ord Master Plan—Hazardous and Toxic Materials Safety

Fort Ord Master Plan Hazardous and Toxic Materials Safety Policy A-1 (Record of Decision reporting) ensures that the County monitors and reports to the public all progress made on the RA-ROD (Record of Decision).

Fort Ord Master Plan Hazardous and Toxic Materials Safety Policy B-1(RA-ROD implementation) states that the County shall monitor implementation procedures of the RA-ROD and work cooperatively with the U.S. Army and all contractors to ensure safe and effective removal and disposal of hazardous materials, ensure compliance with all applicable regulations and hazardous materials, and provide for the protection of the public during remediation activities.

Fort Ord Master Plan Hazardous and Toxic Materials Safety Policy B-2 (RA-ROD implementation at Fort Ord) requires that the County monitor implementation procedures of the RA-ROD and work cooperatively with the U.S. Army and all contractors and future users/operators of landfill or hazardous materials storage sites at the former Fort Ord.

Fort Ord Master Plan Hazardous and Toxic Materials Safety Policy C-1 (hazardous material management and disposal plans) ensures that the County requires hazardous material management and disposal plans for any future projects involving the use of hazardous materials.

Federal and State Hazardous Materials Statutes and Regulations

Federal and state statutes and regulations discussed above govern the transport, handling, storage, and disposal of hazardous wastes. Future land uses anticipated by the 2007 General Plan would be subject to these requirements.

Significance Determination

The 2007 General Plan Policies section above discusses applicable policies and explains how they would avoid and minimize adverse impacts from

hazardous materials. Additionally, as discussed above, federal and state statutes and regulations (including the DTSC's hazardous waste tracking authority), the Environmental Health CUPA (covering use, storage, and disposal as described above) and local response agencies such as the ERT, are in place to reduce potential exposure to hazardous materials, their routine transport, and potential spills. Therefore, the potential for hazardous material exposure related to implementation of the 2007 General Plan is less than significant.

Mitigation Measures

No mitigation is necessary.

Significance Conclusion

Implementation of the 2007 General Plan policies and compliance with the applicable laws and regulations would ensure that the use of hazardous materials would not create adverse risks to human health or the environment. Impacts in this regard would be less than significant.

Buildout

Impact of Development with Policies

Buildout of the General Plan in the year 2092 would result in potential localized exposure to hazardous materials in designated growth areas from new urban development permitted by the General Plan, in addition to those impacts discussed under the 2030 planning horizon. Hazardous materials such as pesticides, fertilizers, petroleum, and vehicle fluids, asbestos-containing materials, lead paint, PCBs, underground storage tanks, aboveground storage tanks, and unexploded ordnance could all be found in the areas planned for development. In addition, soils in Monterey County contain naturally occurring asbestos, which can become hazardous as dust particles. These impacts would potentially be significant.

2007 General Plan Policies

The 2007 General Plan contains goals and policies that address hazardous materials impacts from buildout of the 2007 General Plan; see discussion above under "2030 Planning Horizon."

Significance Determination

The regulation of hazardous materials and wastes has grown increasingly strict over the past several decades. This analysis assumes that the trend will remain constant and the future regulatory scheme will be at least as stringent as those currently in place. As discussed above, federal and state statutes and regulations are in place to reduce potential exposure to hazardous wastes and materials, including those in transit. The responsibilities of the County Division of Environmental Health as CUPA and its ERT group protect local

residents under the authority granted by the state. Therefore, the potential for hazardous material exposure is less than significant.

Mitigation Measures

No mitigation is necessary.

Significance Conclusion

Implementation of the 2007 General Plan policies and compliance with the applicable laws and regulations would ensure that the use of hazardous materials would not create adverse risks to human health or the environment. Impacts in this regard would be less than significant.

Aviation Hazards

Impact HAZ-2: The 2007 General Plan would establish new land uses that would potentially create aviation safety hazards. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Development under the 2007 General Plan to the 2030 planning horizon would result in new urban development, including new residential, commercial, and public/institutional land uses in the vicinity of airports, private airstrips, and helipads. New development near aviation facilities, particularly multi-story structures or developments with aerial features such as antennas, would create potential significant hazards to aviation.

2007 General Plan Policies

The 2007 General Plan contains policies and concepts to address potential aviation hazards.

Circulation Element

Circulation Element Policies C-7.1 through C-7.4 requires that new development avoids creating any aviation hazards. Policy C-7.1 (airport land use compatibility) ensures that land use activities that interfere with the safe operation of aircraft shall be prohibited. Policy C-7.2 (mitigation for safety and noise impacts near airports) requires that land uses in areas that may be impacted by airport operations be compatible with those operations and incorporate measures to mitigate potential safety and noise impacts on those uses. Policy C-7.3 (safe operation of airports) ensures that measures to provide for the continued safe operation of airports shall be

implemented. Policy C-7.4 (land use compatibility with airport plans) states that land uses in the vicinity of public airports shall be consistent and compatible with the airport comprehensive land use plans. Policy C-7.5 (control of private airstrips and agricultural landing fields) requires that private airstrips and agricultural landing fields shall be controlled to ensure they:

a) do not permanently preclude cultivation of prime farmlands or farmlands of statewide importance;

b) are outside of flight paths to and from existing airports;

c) do not impact or limit public roadways and facilities; and

d) do not provide a hazard or annoyance for neighboring areas.

This policy reduces potential impacts from placement of, and changes to, private airstrips and agricultural landing fields.

Area Plan Policies

In addition to the policies identified above, the following Area Plan supplemental policies have been developed to address aviation hazards.

Greater Salinas Area Plan

The Greater Salinas Area Plan does not contain any policies related to aviation hazards. The Jefferson STA within the Area Plan was revised to conform to ALUC recommendations in order to avoid conflicts with the Marina Airport. Greater Monterey Peninsula Area Plan

Policy GMP-2.8 (development by area airports) requires that development directly beneath runway approaches of the Monterey Peninsula Airport and Marina Municipal Airport shall:

a) be of low intensity,

b) not generate electrical interference to radio communication between pilots and the air traffic control tower,

c) not contain sources of glare which would blind or confuse pilots and, and

d) be required to grant aviation easements to the Monterey Peninsula Airport District or other appropriate entity as a condition of development approval.

Policy GMP-4.2 (land use compatibility around the Greater Monterey Peninsula Airport and promotion of planning practices that are consistent with the Airport Land Use Plan) provides for reduction of aviation hazards by ensuring compatible land uses and consistency with the Airport Land Use Plan.

Cachagua Area Plan

Policy CACH-2.3 (permitting of airports and airstrips and compatibility with surrounding land uses) reduces aviation hazards by requiring airport and airstrip permits to be compatible with land uses.

Community Area Policies

Fort Ord Master Plan

The Fort Ord Master Plan does not contain any policies related to aviation hazards.

Significance Determination

The 2007 General Plan and Area Plan policies described above set forth comprehensive measures to avoid and minimize adverse impacts related to aviation by ensuring land use compatibility near airports and airstrips and by avoiding hazardous design and location of airports and airstrips. Additionally, federal and local regulations are in place to guide development in the vicinity of airports. Therefore, the potential for hazards related to aviation is less than significant.

Mitigation Measures

No mitigation is necessary.

Significance Conclusion

Implementation of the 2007 General Plan and Area Plan policies and programs, as well as compliance with applicable federal, state, and local airport land use compatibility regulations ensure that the implementation of new land uses would not create significant hazards regarding aviation. Impacts in this regard would be less than significant.

Buildout

Impact of Development with Policies

Buildout of the General Plan in the year 2092 would result in new development throughout the county, including on existing lots of record. Proposed development near aviation facilities, particularly multi-story structures or developments with aerial features such as antennas, would be subject to review by the ALUC to ensure that they are not creating potential hazards to aviation or to potential occupants of the projects. Impacts are considered less than significant.

2007 General Plan Policies

The 2007 General Plan contains goals and policies that address aviation hazard impacts from buildout of the 2007 General Plan, which are discussed above.

Significance Determination

The 2007 General Plan and Area Plan policies described above set forth comprehensive measures to avoid and minimize adverse impacts related to aviation by ensuring land use compatibility near airports and airstrips and by avoiding hazardous design and location of airports and airstrips. Additionally, federal and local regulations are in place to guide development in the vicinity of airports. Therefore, the potential for hazards related to aviation is less than significant.

Mitigation Measures

No mitigation is necessary.

Significance Conclusion

Implementation of the 2007 General Plan and Area Plan policies and programs, as well as compliance with applicable federal, state, and local airport land use compatibility regulations ensure that the implementation of new land uses would not create significant hazards regarding aviation. Impacts in this regard would be less than significant.

Wildland Fires

Impact HAZ-3: New development in accordance with the 2007 General Plan would increase exposure to wildland fires. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Development under the 2007 General Plan up to the 2030 planning horizon would increase exposure to wildland fire risks, most notably in and around the Rural Centers that would develop within largely undeveloped rural areas outside the Salinas Valley. New development at the former Fort Ord and in the proposed Rural Centers of Bradley, Lockwood, Pleyto, and San Lucas would exposure of persons and property to moderate fuel areas at risk of wildland fires. In these areas, fuel loads from grass, brush, and/or trees are sufficient to sustain wildfires. Under dry, windy conditions, such fires can spread rapidly unless immediately attacked by fire services. Exhibit 4.13.1 illustrates fire hazard areas within the county.

Exposure of persons and property to wildland fires would be a potentially significant impact from implementation of the 2007 General Plan.

2007 General Plan Policies

The 2007 General Plan contains policies that would ensure that new fire facilities would be provided concurrently with anticipated growth.

Public Service Element

Public Service Element Policies PS-1.1 through PS-1.6 establish general standards for the provision of public facilities concurrently with future growth, which minimize impacts to emergency response and evacuation from new development. For example:

a) Policy PS-1.1 (establishment of Adequate Public Facilities and Services (APFS)) requires that adequate Public Facility and Services (APFS) requirements shall:

b) Ensure that APFS needed to support new development are available to meet or exceed the level of service standards of *Table PS-1* ("Infrastructure and Service Standards", next page) concurrent with the impacts of such development;

c) Encourage development in infill areas where APFS are available, while acknowledging the rights of property owner's to economically viable use of existing legal lots of record throughout the county; and

d) Seek to achieve acceptable level of service (LOS) standards through improvements funded by fair share impact fees and planned capital improvements (CIFP).

Policy PS-1.2 requires that the Adequate Public Facilities and Services (APFS) standards established in *Table PS-1*, "Infrastructure and Service Standards" be used to determine APFS appropriate for new discretionary development.

Policy PS-1.3 ensures that no discretionary application for new development shall be approved unless the County finds that APFS for that use exist or will be provided concurrent with the new development.

Policy PS-1.4 states that new development shall pay its fair share of the cost of providing APFS to serve the development.

Policy PS-1.5 ensures that improvements shall be installed concurrently with each phase of new development in accordance with an infrastructure phasing plan. An infrastructure phasing plan, if needed, shall be approved in concept at the time of project approval.

Policy PS-1.6 (requirement for developments to have adequate public facilities services and facilities for approval) only allows approval of those developments that have or can provide adequate concurrent public services and facilities.

Safety Element

Safety Element Policies S-4.1 through S-4.33 address potential impacts from fire hazards.

Policies S-4.1, S-4.2, and S-4.3 require promotion of educational awareness and participation between fire protection agencies and the general public about fire hazards. In particular, Policy S-4.2 requires that the County encourage and support fire protection agencies to provide communities they serve with educational materials on local fire hazards and how each community can be protected. This information should be continually available at the local fire station, local library, and other convenient locations and media. Policy S-4.3 states that the County shall encourage and support educational programs including but not limited to bilingual programs on fire safety by school districts in cooperation with fire protection agencies including Monterey County Office of Education (MCOE) and a nationally recognized fire safety education program county-wide. These outreach programs would decrease potential wildland fires through education and cooperation.

Policies S-4.4 through S-4.7 set out aframework for analyzing, identifying, and mapping wildland fire hazards. In particular, Policy S-4.4 requires that detailed scientific analysis of fire hazards in the County shall be provided periodically. Policy S-4.5 ensures that the wildland fire hazard severity map should be updated periodically as more precise information becomes available. Policy S-4.6 requires structural and other non-wildland fire risks within wildland urban interface areas be identified and maintained as a layer in the County's GIS in cooperation with fire officials and updated periodically. Policy S-4.7 requires that the County and authorities having jurisdiction develop and maintain a procedure to inform potential developers of the requirements for development in high and very high fire hazard areas. These policies call for avoiding significant wildfire areas thus reducing potential impacts.

Policies S-4.8, S-4.9, S-4.10, S-4.16, S-4.17, S-4.18, and S-4.19 establish minimum roadway access, entry, and maintenance standards to ensure access for fire vehicles, thereby reducing potential impacts from wildland fires. In particular, Policy S-4.9 states that roadways will be constructed and maintained in accordance with Monterey County Code Chapter 18.56 or the California Fire Code, as they may be updated from time to time, as determined by the fire authority having jurisdiction. Policy S-4.10

allows the County to require the creation of road maintenance agreements for all new private subdivision roads. Policy S-4.16 requires that new and reconstructed bridges be constructed in accordance with Monterey County Code Chapter 18.56 and the California Fire Code as amended. Policy S-4.17 states that drainage details for the road or driveway shall conform to current engineering practices, including erosion control Best Management Practices. Policy S-4.18 ensures that all access roads and driveways be maintained by the responsible parties to ensure the fire department safe and expedient passage at all times. Policy S-4.19 requires that gates on emergency access roadways be constructed in accordance with Monterey County Code and the California Fire Code.

Policies S-4.11, S-4.12, S-4.13, S-4.14, S-4.15, S-4.20, and S-4.21 require new developments to provide fire suppression systems such as firebreaks, fire-retardant building materials, automatic fire sprinkler systems, or water storage tanks, and institute a review process whereby fire protection agencies can comment on development plans. In particular, Policy S-4.11 states that the County shall require all new development to be provided with automatic fire protection systems (such as fire breaks, fire-retardant building materials, automatic fire sprinkler systems, and/or water storage tanks) approved by the fire jurisdiction. Policy S-4.12 ensures that the County shall require all modifications, additions, and remodeling of existing development exceeding thresholds adopted by the fire jurisdictions to be provided with automatic fire protection systems (such as fire breaks, fire-retardant building materials, automatic fire sprinkler systems, fire detection and alarm systems), water storage tanks and/or a Fuel Modification Zone plan as required by the fire jurisdiction. Policy S-4.13 states that the County shall require all new development to have adequate water available for fire suppression. The water system shall comply with Monterey County Code Chapter 18.56, NFPA Standard 1142, or other nationally recognized standard. The fire authority having jurisdiction and the County Department of Planning and Building Inspection, and all other regulatory agencies shall determine the adequacy and location of water supply and/or storage to be provided. Policy S-4.14 requires that water systems built, extended or modified to serve a new land use or a change in land use or an intensification of land use shall be designed to meet peak daily demand and recommended fire flow. Policy S-4.15 ensures that all new development shall be required to annex into the appropriate fire district. Where no fire district exists, project applicants shall provide verification from the most appropriate local fire authority of the fire protection services that exist. Project approvals shall require a condition for and a deed restriction notifying the property owner of the level of service available and acceptance of associated risks to life and property. Where annexations are mandated, the County shall negotiate a tax share agreement with the affected fire protection district. Policy S-

4.20 allows for a reduction of fire hazard risks to an acceptable level by regulating the type, density, location, and/or design and construction of development. Policy S-4.21 requires all permits for residential, commercial, and industrial structural development (not including accessory uses) to incorporate requirements of the fire authority having jurisdiction. This ensures that there will be proper infrastructure at new developments to reduce potential impacts from wildland fires.

Policies S-4.22 and S-4.23 provide that new developments must comply with applicable building and fire codes. Specifically, Policy S-4.22 states that every building, structure and/or development shall be constructed to meet the minimum requirements specified in the current adopted state building code, state fire code, Monterey County Code Chapter 18.56 and other nationally recognized standards. Policy S-4.23 requires the County to adopt the Fire Code document adopted by the State of California and appropriate amendments. This will allow for proper design at new developments to reduce potential impacts from wildland fires.

Policies S-4.24 and S-4.25 provides that new development must follow County-prescribed standards to enable emergency response vehicles to locate buildings more readily and reduce wildland fire impacts. In particular, Policy S-4.24 states that property addresses shall be required to be posted in accordance with Monterey County Code Chapter 18.56. Policy S-4.25 requires address issuance and street naming should be coordinated between the incorporated cities and the County in accordance with Monterey County Codes to avoid duplication or confusion to public safety agencies.

Policies S-4.27 through S-4.29 require creation of a design review process by County planning officials, applicants, and fire agency officials to address project design, landscaping, building standards, and other fire protection–related issues. In particular, Policy S-27 requires the County to continue to review the procedure for proposed development, including minor and major subdivisions, and provide for an optional pre-submittal meeting between the project applicant, planning staff, and fire officials. Policy S-4.28 states that the County shall provide a list of acceptable fire-resistant plants suited to each of the County's various micro-climates in accordance with *Policy OS-5.14* to avoid invasive species. This list should be developed with the cooperation of the County and fire authorities having jurisdiction, and made available at the Monterey County Planning Department. Policy S-4.29 assures that successive uses of individual buildings which require new permits for a new use comply with appropriate building standards.

Policies S-4.26, S-4.31, S-4.32, and S-4.33 describe fire protection design standards for utilities, swimming pools, and fuel modification

zones that willallow for reduction of wildland fire impacts through maximized fire protection design of new development. Specifically, Policy S-4.26 (fire hazards from utilities) states that when public facilities and aboveground utilities are located in very high or extreme fire hazard areas, special precautions shall be taken to mitigate the risks from wildfire and to ensure uninterrupted operation. Policy S-4.30 establishes that new swimming pools may be required to be plumbed to allow connection to firefighting equipment, if requested by the local fire jurisdiction. Policy S-4.31 ensures that a zone that can inhibit the spread of wildland fire shall be required of new development in fire hazard areas. Such zones should consider irrigated greenbelts, streets, and/or Fuel Modification Zones in addition to other suitable methods that may be used to protect development. The County shall not preclude or discourage a landowner from modifying fuel within the Fuel Modification Zone, or accept any open space easement or other easement over land within a Fuel Modification Zone that would have that effect. Policy S-4.32 states that property owners in high and very high fire hazard areas shall prepare an overall Fuel Modification Zone plan in conjunction with permits for new structures, subject to approval and to be performed in conjunction with the CDFFP and/or other fire protection agencies in compliance with State Law. Policy S-4 establishes that where new developments are required to provide for fuel modification zones, the cost of such construction shall be borne by the developer. Future maintenance of such fuel modification zones shall be in accordance with the fire defense standards adopted by the State of California.

Area Plan Policies

In addition to the policies identified above, the following Area Plan supplemental policy has been developed to address wildland fire hazards.

Cachagua Area Plan

Policy CACH-4.3 (encourages the formation of a fire district in this area to assist and ensure that a minimum level of fire protection is available to residents in the area plan boundaries) reduces potential wildland fire hazards by establishing and maintaining wildland fire protection in the Cachagua Area Plan vicinity.

Community Area Policies

Fort Ord Master Plan

Program B-2.4 (fire buffer) requires that the County shall designate a fire-resistant buffer between BLM lands and residential land use.

Program A-4.6 (wildfire protection measures) ensures that the County require the following measures of development in the residential lands adjacent to the habitat corridor to protect structures from wildfires and minimize the potential for erosion in the corridor:

- No structure shall be constructed immediately along the boundary of the residential area and the habitat corridor.
- A non-flammable surface (parking lots, green belt) shall be constructed where development in the residential area abuts the natural lands.
- Stormwater runoff and other drainage from the residential area shall be directed away from the habitat corridor.

Significance Determination

New development permitted by the 2007 General Plan would introduce residences and businesses to potential wildland fire hazards. However, the 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts related to wildland fires by ensuring adequate fire facilities, encouraging public fire education, mapping wildland fire hazard areas, upholding building and development standards for reduction of susceptibility to fire, requiring new development to meet fire infrastructure standards, and establishing and maintaining thorough fire protection within the county. Additionally, development impact fees would be assessed for all new development projects so that adequate facilities are provided concurrently with growth. Finally, although agricultural land has a low susceptibility to wildland fire risks, new development constructed under the 2007 General Plan and ACWP would be required to comply with all applicable provisions of the revised California Building Standards Code, including those that pertain to fire prevention. Therefore, the potential for hazards related to wildland fires is less than significant.

Mitigation Measures

No mitigation is necessary.

Significance Conclusion

The implementation of the 2007 General Plan and Area Plan policies and programs, and the collection of development impact fees, would ensure that wildland fire risks are minimized to the maximum extent feasible. Impacts in this regard would be less than significant.

Buildout

Impact of Development with Policies

Buildout of the 2007 General Plan in the year 2092would increase exposure to wildland fire risks, most notably in and around the Rural Centers described above and where existing lots of record are in high or moderate risk areas.

Additionally, wildland fire risks would occur within the some of the areas where existing lots of record are located and are most acute on the Jolon Road segment of the AWCP.

2007 General Plan Policies

The 2007 General Plan contains goals and policies that address wildland fire impacts from buildout of the 2007 General Plan and are discussed above under "2030 Planning Horizon."

Significance Determination

The 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts related to wildland fires by ensuring adequate fire facilities, encouraging public fire education, mapping wildland fire hazard areas, upholding building and development standards for reduction of susceptibility to fire, requiring new development to meet fire infrastructure standards, and establishing and maintaining thorough fire protection within the county. Additionally, development impact fees would be assessed for all new development projects so that adequate facilities are provided concurrently with growth. Finally, although agricultural land has a low susceptibility to wildland fire risks, new development constructed under the 2007 General Plan and ACWP would be required to comply with all applicable provisions of the revised California Building Standards Code, including those that pertain to fire prevention. Therefore, the potential for hazards related to wildland fires is less than significant.

Mitigation Measures

No mitigation is necessary.

Significance Conclusion

The implementation of the 2007 General Plan and Area Plan policies and programs, and the collection of development impact fees, would ensure that wildland fire risks are minimized. Impacts would be less than significant.

Emergency Response and Evacuation

Impact HAZ-4: Development under the 2007 General Plan would establish new land uses that would interfere with the implementation of an emergency response or evacuation plan. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Development under the 2007 General Plan up to the 2030 planning horizon would establish new urban uses in currently undeveloped or under-developed areas. This development may adversely affect the County's ability to implement its emergency response plan or impair the use of evacuation routes during an emergency situation.

Although the AWCP would maintain the existing agricultural land use patterns of the Salinas Valley, development of new wineries could inadvertently impair the County's implementation of an emergency response or evacuation plan.

Interference with an emergency response plan or evacuation routes due to buildout of the General Plan and ACWP may be a potentially significant impact.

2007 General Plan Policies

The 2007 General Plan contains a number of policies that would ensure that anticipated growth does not impair emergency response.

Public Service Element

As noted under Impact HAZ-3, Public Service Element Policies PS-1.1 (establishment of Adequate Public Facilities and Services (APFS)), PS-1.2 (APFS standards used to determine appropriate APFS for new development), PS-1.3 (developments must have APFS for discretionary application approval), PS-1.4 (requirement of APFS fair share payments by new development), PS-1.5 (concurrent installment of improvements with new development construction), and PS-1.6 (requirement for developments to have adequate public facilities services and facilities for approval) establish general standards for the provision of public facilities concurrently with future growth. These minimize impacts to emergency response and evacuation from new development.

Safety Element

The Safety Element establishes specific policies that address emergency response and evacuation. Policies S-5.1 (implementing emergency plans), S-5.2 (requirements for the Monterey County Operational Area Emergency Operations Plan (MCOAEOP)), S-5.3 (maintenance and update of coordinated Emergency Response Plans), S-5.4 (training program requirements), S-5.5 (enhancement of emergency preparation), and S-5.6 (enhancement of inter-jurisdictional coordination) encourage interagency cooperation between emergency responders and public safety providers, particularly in terms of training and developing emergency response, management, and evacuation plans, which will allow for better organization and response when emergency aid is needed. More particularly, Policy S-5.5 states that emergency preparation shall be enhanced by:

a. Continuing to improve preparedness programs and utilizing the best practices to increase public awareness, educate and organize the public to respond appropriately to disasters, in addition to public safety and emergency service providers.

b. Providing emergency and disaster related information to the public as events occur and coordination with utility providers during disaster events.

c. Maintaining an ongoing program to train building and safety personnel in risk assessment and ensure that County building codes keep current with state requirements.

Policy S-5.6 requires inter-jurisdictional coordination be enhanced by maintaining agreements with local, state and federal agencies to provide coordinated emergency response. The Monterey County Operational Area Emergency Plan shall be maintained and enhanced in consultation with all applicable agencies.

Policy S-5.7 (maintaining GIS mapping of hazards) states that the County shall maintain current mapping and Geographic Information System (GIS) databases on the location of hazards within Monterey County, and shall develop programs for sharing of information with other jurisdictions and provide appropriate access to databases for emergency public service providers to improve delivery of public safety services. This policy enables the County to be aware of hazards in the planning area to avoid such hazards and respond to emergencies in those areas more efficiently.

Policy S-5.8 requires that emergency services in all areas of the County shall continue to be improved. Priority for those improvements shall be given to the areas of greatest need. Policy S-5.9 establishes that emergency roadway connections may be developed where distance to through streets is excessive, or where a

second means of emergency ingress or egress is critical. New residential development of three units or more shall provide more than one access route for emergency response and evacuation unless exempted by the Fire jurisdiction. Such protection requirements shall be consistent with adopted fire safety standards. Policy S-5.10 requires that critical facilities under County jurisdiction shall be located, designed, and operated in a manner that maximizes their ability to remain functional in a disaster event. Policy S-5.11 allows a Development Impact Ordinance to obtain and maintain an acceptable level of emergency services shall be enacted so that new development, to the extent permitted under State law, shall provide its fair share of funding for public facilities and equipment concurrent with the development. The funds collected under this ordinance shall be designated for the establishment of the public safety facilities serving the new development either by a newly established public safety jurisdiction or by the existing public safety jurisdiction into which the development exists or is annexed.

Policy S-5.12 requires that new roads, bridges, and utility lines be designed and constructed in accordance with applicable seismic safety standards. Policy S-5.13 establishes that utilities serving new development should be sited and constructed to minimize the risks from hazards to the greatest extent feasible.

Policies S-5.14 (designation of potential evacuation routes) and S-5.15 (designation of Tsunami Evacuation Routes) establish emergency evacuation route procedures, which will enable the public to safely escape danger in case of emergency. Policy S-5.14 states that all public thoroughfares, private roads, and deeded emergency accesses shall be considered potential evacuation routes. The Monterey County Coordinated Emergency Response Plans shall provide basic information on the evacuation routes for specific areas. The routes listed in *Table S-1* of the General Plan as well as any other route deemed appropriate to the situation may be considered "Pre-designated Emergency Evacuation Routes" and may be employed during tactical situations at the discretion of the Monterey County Sheriff and/or the Incident Commander. Policy S-5.15 defines Tsunami Evacuation Routes as any route in an incorporated or unincorporated area leading inland away from the coastline to elevations twenty feet or higher.

Policy S-5.16 (inventory of at-risk unreinforced masonry buildings) establishes the need for inventories of at-risk structures and buildings, including unreinforced masonry buildings, shall be developed by the County to the extent feasible. Measures to abate potentially dangerous buildings through retrofitting or demolition shall be identified and encouraged.

Policies S-6.1 (emergency service availability consideration), S-6.2 (emergency service priority based on highest population), S-6.3 (establishment of Development Impact Ordinance for protection coverage and emergency services facilities), S-6.4 (Community Area development based on emergency response time), S-6.5 (countywide fire and ambulance service-level goals), and S-6.6 (development of informational brochures regarding level of fire and ambulance service) establish specific performance standards such as staffing ratios and response times so that the County's emergency response systems are always adequate. Policy S-6.1 requires that the availability of sheriff, ambulance and fire services shall be considered prior to approving the creation of new lots or the intensification of use on an existing lot, pursuant to *Table PS-1* (Public Services Element). Policy S-6.2 establishes that the provision of services shall be prioritized to give the highest priority to areas where the highest concentrations of people reside. Policy S-6.3 requires that a Development Impact Ordinance shall be established to provide adequate protection coverage and emergency services (sheriff, fire, etc) facilities consistent with State law and the standards in *Table PS-1* (Public Services Element).

Policy S-6.4 states that establishment of new or expansion of existing Community Areas shall not be allowed in areas where emergency response times exceed the standards in *Table PS-1* (Public Services Element). Policy S-6.5 establishes countywide service level goals for fire and ambulance/emergency service as:

- 8 minutes or less, 90% of the time in urban areas (Community Areas);
- 12 minutes or less, 90% of the time in suburban areas (Rural Centers):
- 45 minutes or less, 90% of the time in rural areas (Areas outside designated Community Areas or Rural Centers). (See *Policy S-5.11*)
- 45 minutes or less, 90% of the time in rural areas (Areas outside designated Community Areas or Rural Centers). (see Policy S-5.11)

Policy S-6.7 (address marking requirements) ensures that public safety measures including sequential house numbering, non-repetitive street naming, standardized lettering of house numbers in subdivision design, lighting, and park designs that allow for adequate view from streets shall be included in the design and construction of new development. This policy will allow emergency response vehicles to access emergency locations more efficiently.

Area Plan Policies

Carmel Valley Master Plan

Policy CV-4.4. (emergency access) states that the County shall require emergency road connections as necessary to provide controlled emergency access as determined by appropriate emergency service agencies (Fire Department, OES). The County shall coordinate with the emergency service agencies to periodically update the list of such connections.

Significance Determination

New urban development permitted by the 2007 General Plan may impair the County's implementation of an emergency response or evacuation plan by the 2030 planning horizon. The implementation of 2007 General Plan policies would ensure that adequate emergency access, evacuation, and management procedures are in place, and public safety providers and emergency responders are properly prepared to respond to a major emergency. The policies and programs would reduce the risks of land uses interfering or impairing emergency response times and the ability to execute evacuations during emergencies. Additionally, they would provide for adequate emergency response infrastructure and staffing so that all areas of the county would have the proper emergency services. Therefore, impacts in this regard would be less than significant.

Mitigation Measures

No mitigation is necessary.

Significance Conclusion

Implementation of the 2007 General Plan policies and programs would reduce potential emergency response and evacuation impacts to a less-than–significant level.

Buildout

Impact of Development with Policies

Buildout of the 2007 General Plan in the year 2092 would establish new urban uses in currently undeveloped or under-developed areas, which may adversely affect the County's ability to implement its emergency response plan or impair the use of evacuation routes during an emergency situation. Impacts are considered potentially significant.

Although the AWCP would maintain the existing agricultural land use patterns of the Salinas Valley, development of new wineries could inadvertently impair the County's implementation of an emergency response or evacuation plan. Impacts are considered potentially significant.

2007 General Plan Policies

The 2007 General Plan contains goals and policies that address impacts to emergency response and evacuation resulting from buildout of the 2007 General Plan. These are discussed above under "2030 Planning Horizon."

Significance Determination

New urban development permitted by the 2007 General Plan may impair the County's implementation of an emergency response or evacuation plan. The implementation of 2007 General Plan policies would ensure that adequate emergency access, evacuation, and management procedures are in place, and public safety providers and emergency responders are properly prepared to respond to a major emergency. The policies and programs discussed under "2007 General Plan Policies" explain how the project would reduce the risks of land uses interfering or impairing emergency response times and the ability to execute evacuations during emergencies. Additionally, they would provide for adequate emergency response infrastructure and staffing so that all areas of the county would have the proper emergency services. Therefore, impacts in this regard would be less than significant.

Mitigation Measures

No mitigation is necessary.

Significance Conclusion

Implementation of the 2007 General Plan policies and programs would ensure potential emergency response and evacuation impacts to a less-than-significant level.

4.13.6 Level of Significance after Mitigation

All hazards and hazardous materials impacts would be less than significant and would not require mitigation.

4.14 Aesthetics, Light, and Glare

4.14.1 Abstract

Monterey County's visual character and resources are inextricably linked to the natural topography, vegetation, and cultural history of the region. Coastal views, agricultural fields, natural ridgelines, and oak woodlands are all prominent elements of the county's visual character. The county contains 95 miles of officially designated State Scenic Highways and 43 miles of highways eligible for the scenic highway designation. Urban development and vehicles account for most of the substantial sources of light and glare in the county.

Development and land use activities contemplated by the 2007 General Plan in designated growth areas (Community Areas and Rural Centers) as well as on lots of record would result in the following significant impacts on aesthetics, light, and glare:

- **Visual Character:** Future development anticipated by the 2007 General Plan would irreversibly alter the visual character of portions of the county. No mitigation is available to reduce this impact to a level of less than significant, and therefore, this impact is significant and unavoidable.
- **Light and Glare:** Future development anticipated by the 2007 General Plan would introduce new sources of light and glare that could diminish the quality of daytime and nighttime views to portions of the county. No mitigation is available to reduce this impact to a level of less than significant, and therefore, this impact is significant and unavoidable.

All other impacts would be less than significant and would not require mitigation.

4.14.2 Introduction

This section identifies and evaluates issues related to visual resources in the General Plan action area.

The "Environmental Setting" discussion below describes the current setting of the action area. The purpose of this information is to establish the existing environmental context against which the reader can then understand the environmental changes caused by the action. The environmental setting information is intended to be directly or indirectly relevant to the subsequent discussion of impacts. For example, the setting identifies groups of people who have views of scenic resources because the action could change their views and experiences.

The environmental changes associated with the action are discussed under "Impact Analysis." This section identifies impacts, describes how they would occur, and prescribes mitigation measures to reduce significant impacts, if necessary.

4.14.3 Concepts and Terminology

Aesthetics, as addressed in CEQA, refers to visual considerations. Aesthetics (or visual resource) analysis is a process to logically assess visible change and anticipated viewer response to that change. A common methodology for conducting visual analysis has been developed by the Federal Highway Administration (FHWA), U.S. Forest Service, and the U.S. Soil Conservation Service. Some of these principles have been applied to this assessment. As an initial step, such analysis begins with the identification of existing conditions with regard to visual resources and entails the following steps:

- Objective identification of visual features of the landscape;
- Assessment of the character and quality of those resources relative to overall regional visual character; and
- Assessment of the potential significance of features in the landscape to the people who view them and their sensitivity or response to the proposed changes to those features.

The aesthetic value of an area is a measure of its visual character and quality, combined with the viewer response to the area (Federal Highway Administration 1988). Scenic quality can best be described as the overall impression that an individual viewer retains after driving through, walking through, or flying over an area (U.S. Bureau of Land Management 1980). Viewer response is a combination of viewer exposure and viewer sensitivity. Viewer exposure is a function of the number of viewers, number of views seen, distance of the viewers, and viewing duration. Viewer sensitivity relates to the extent of the public's concern for a particular viewshed. These terms and criteria are described in detail below.

4.14.3.1 Viewshed

Viewshed is an area of the landscape that is visible from a particular location (e.g., an overlook) or series of points (e.g., a road or trail) (Federal Highway Administration 1988). To identify the importance of views of a resource, a viewshed may be broken into distance zones of foreground, middleground, and background. Generally, the closer a resource is to the viewer, the more dominant it is and the greater its importance to the viewer. Although distance zones in viewsheds may vary between different geographic regions or types of terrain, a commonly used set of criteria identifies the foreground zone as 0.25 to 0.5 miles from the viewer; the middleground zone as 3 to 5 miles from the viewer; and the background zone extend infinitely.

In the *foreground zone*, the observer is a direct participant, and the views include objects at close range that may tend to dominate the view. This zone is an important linkage because it sets a tone for the quality of a visual resource. Foreground views are valued at a maximum level.

In the *middleground zone*, the observer focuses on the center of the viewshed. Views tend to include objects that are the center of attention if they are sufficiently large or visually different from adjacent visual features. Details will not be as sharp as the foreground view, but land features will still be distinguishable.

In the *background zone*, the observer can see less detail and distinction in landform and surface features. The emphasis of background views is an outline or edge. Silhouettes and ridges of one landmass against another are the conspicuous visual parts of the background, with skyline serving as the strongest line. Objects in the background eventually fade to obscurity and increasing distance.

4.14.3.2 Visual Character

Natural and artificial landscape features contribute to the *visual character* of an area or view. Visual character is influenced by geologic, hydrologic, botanical, wildlife, recreational, and urban features. Urban features include those associated with landscape settlements and development, including roads, utilities, structures, earthworks, and the results of other human activities. The perception of visual character can vary significantly seasonally, even hourly, as weather, light, shadow, and elements that compose the viewshed change. The basic components used to describe visual character for most visual assessments are the elements of form, line, color, and texture of the landscape features (U.S. Forest Service 1995; Federal Highway Administration 1988). The appearance of the landscape is described in terms of the dominance of each of these components.

4.14.3.3 Visual Quality

Visual quality is evaluated using the well-established approach to visual analysis adopted by Federal Highway Administration, employing the concepts of vividness, intactness, and unity (Federal Highway Administration 1988; Jones et al. 1975), which are described below.

- Vividness is the visual power or memorability of landscape components as they combine in striking and distinctive visual patterns.
- Intactness is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements; this factor can be present in well-kept urban and rural landscapes, and in natural settings.

- Unity is the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the landscape.

Visual quality is evaluated based on the relative degree of vividness, intactness, and unity, as modified by its visual sensitivity. High-quality views are highly vivid, relatively intact, and exhibit a high degree of visual unity. Low-quality views lack vividness, are not visually intact, and possess a low degree of visual unity.

4.14.3.4 Visual Exposure and Sensitivity

Viewer sensitivity is based on the visibility of resources in the landscape, the proximity of viewers to the visual resource, the relative elevation of viewers to the visual resource, and the types and expectations of individuals and viewer groups. The criteria for identifying the importance of views are related in part to the position of the viewer relative to the resource.

Visual sensitivity also depends on the number and type of viewers and the frequency and duration of views. Generally, visual sensitivity increases with an increase in *total number of viewers*, the *frequency of viewing* (e.g., daily or seasonally), and the *duration of views* (i.e., how long a scene is viewed). Also, visual sensitivity is higher for views seen by people who are driving for pleasure; people engaging in recreational activities such as hiking, biking, or camping; and homeowners. Sensitivity tends to be lower for views seen by people driving to and from work or as a part of their work (U.S. Forest Service 1995; Federal Highway Administration 1988; U.S. Soil Conservation Service 1978). Commuters and nonrecreational travelers have generally fleeting views and tend to focus on commute traffic, not on surrounding scenery; therefore, they are generally considered to have low visual sensitivity. Residential viewers typically have extended viewing periods and are concerned about changes in the views from their homes; therefore, they are generally considered to have high visual sensitivity. Views from recreation trails and areas, scenic highways, and scenic overlooks are generally assessed as having high visual sensitivity.

Judgments of visual quality and viewer response must be made based in a regional frame of reference (U.S. Soil Conservation Service 1978). The same landform or visual resource appearing in different geographic areas could have a different degree of visual quality and sensitivity in each setting. For example, a small hill may be a significant visual element on a flat landscape but have very little significance in mountainous terrain.

The discussion of visual character enables the analysis to compare and contrast features within the proposed project site with those of the surrounding area. The discussion of visual quality analyzes the significance of the proposed project site as a visual resource within the setting.

4.14.4 Environmental Setting

4.14.4.1 Action Area Character

Monterey County's visual character and aesthetic resources are inextricably linked to its geography and the natural topography, vegetation, and cultural history of the region. Exhibit 4.14.1 depicts areas of visual sensitivity in Monterey County. Additionally, Exhibits 4.14.2 through 4.14.6 depict areas of visual sensitivity, critical viewsheds, and existing and proposed scenic highways and routes by Planning Area. Located mid-state along the Pacific Ocean, the county is part of the Coastal Ranges. The Salinas Valley separates the Gabilan Range and Cholame Hills, located along the eastern border of the county, from the San Lucia Range that mostly comprises the western half of the county. The planning area can be generally broken down into the following landscape components:

- Valleys,
- Ridgelines,
- Vegetation,
- Watercourses,
- Coastal Views, and
- Travel Routes.

Valleys

The Salinas, Carmel, and Jolon Valleys support the majority of the county's agricultural resources, lending to the familiar rural visual character within these areas. However, these large-scale farming operations have had a significant effect on the historical character, visually altering nearly one-third of the county from natural riparian floodplain forest and oak grasslands (City of Salinas 2003) to more highly manipulated landscapes brought on by more intensive forms of agriculture (irrigated row crops, irrigated pasture, orchards, vineyards) to more passive forms (grazing, apiary). The visual resource brought to the county by agricultural land uses is the character that the agricultural land gives the county. This resource is not dependent on the specific type of crop that is being grown.

Development in the valleys has grown from the agricultural industry and is located along major travel corridors such as Highway 101. Cities and towns within the valleys include Castroville, Salinas (the largest city in the County), Gonzales, Soledad, Greenfield, King City, and Carmel Valley. Foreground, middleground, and background views of agriculture fields/pastures and the surrounding ranges and hills comprise the viewshed. Based upon the viewer's location within the landscape, views may be more expansive when unobstructed or more limited by things such as development, row crops, orchards, etc. Views of the ocean are not present from the valleys.

Ridgelines

Ridgelines are one of the most prominent features of the landscape, and they offer the greatest opportunity for panoramic vistas, sometimes with a 360-degree viewshed that extend far into the background. Views from ridgelines vary based

on available access to the ridgelines and public access is often limited to that provided by travel on public roadways and parks such as, Los Padres National Forest; Garapatta, Andrew Molera, Pfeiffer Big Sur, Julia Pfeiffer Burns, and Lime Kiln State Parks; and Jacks Peak County Park. Views of ridgelines vary based on viewers' position in the landscape and can range from full middleground and background views of multiple ridges to views that are limited to the middleground by ridgelines that are of a higher elevation and vegetation. Development on these prominently visible locations, even small structures, can have a significant impact as a structure's full mass may easily be visible from numerous points in the surrounding terrain that have views towards the ridgelines.

Vegetation

The natural vegetation that occupies much of the county is an essential component of the visual landscape. The mosaic pattern of natural vegetation is a direct response to natural conditions of topography, drainage patterns, soil characteristics, slope, exposure, elevation, and aspect and developed or altered landscapes. Boundaries between natural and developed or manipulated landscapes are often very distinct, creating greatly differing visual experiences that can be located within close proximity to one another. The county, as a whole, has retained large portions of its natural vegetation within the ranges and hills, yet has seen almost complete alteration of natural vegetation to agriculture in the valleys.

Watercourses

Natural drainage patterns and watercourses are integral to the visual environment as they shape the landscape, add visual interest, and influence the types and abundance of vegetation in nearby areas. In the project area, the major applicable watercourses are Salinas River, Carmel River, Arroyo Seco River and Pajaro River. More detail of these watercourses can be found in Section 4.3, Water Resources. Some of the natural drainage patterns and watercourse systems in the project area have been subject to various degrees of manipulation to accommodate human influence upon the landscape. While some systems, or portions of systems, have been left to more natural states, others have been drastically altered. The greatest changes can be seen in urban areas where development too close to natural drainage courses often necessitates flood control measures to protect infrastructure. These measures tend to significantly alter the natural channel geomorphology, leading to enclosed channels in an underground concrete box structure or routing them through an open concrete-lined channel.

In other instances, riparian vegetation is thinned or removed to allow for higher conveyance and capacity for specific flood intervals. For public safety reasons, chain-link fences are sometimes installed to enclose the channel and limit public access. The resulting combination of these modifications can greatly impact the visual character of the watercourse and adversely affect local visual resources.

Coastal Views

Seascapes and coastal views are deemed one of the most valued visual resources, for which the county is highly noted for, generating in-state, out-of-state, and international tourism. The extensive length of the Monterey County coastline provides an extraordinary range of coastal views. The dramatic cliffs and headlands of the Big Sur Coast, back-dropped by the Coastal Range, are a striking visual contrast to the coastal dunes and marshes that form the coastline around Monterey Bay.

The Del Monte Forest located in the Greater Monterey Penninsula Planning Area is section of unincorporated county land located directly on the coast. The site of the Seventeen Mile Drive, this area is a center that generates a great deal of tourism dollars, not only from its coastal locations but also from its unique natural landscape. This area offers a place where one can experience extended views of the coast line that surrounds it, while also offering a unique visual experience of the land itself.

Travel Routes

Travel routes provide the broadest range and greatest visual access to the various aesthetic resources within the county. Roadways and highways often wind through the region at changing elevations and serve to take travelers on a visual journey through the landscape, for which Monterey County is noted. There are many roadways that provide visual access; however, there are a number of scenic roadways and highways that exemplify such access.

Scenic Roadways and Highways

Panoramic views, ridgelines, vegetation, and coastline are common elements that influence the aesthetic quality of scenic roadways and highways in the county. These roadways are listed in Table 4.14-1.

Highway 1, between the Carmel River and the San Luis Obispo County line, has the esteem of being designated as the first Scenic Highway in California in June 1965 (California Department of Transportation 2008a). Other roads are identified in the Area Plans as scenic roads eligible for County Scenic Route designation. Official designation of these roads has not been implemented. The process of County Scenic Route designations follows similar procedures as State Scenic Highway designations. In addition to the existing County Designated Scenic Routes, there are a number of proposed routes included in the Area Plans. To be considered eligible for scenic status, the roadway must qualify under the

Federal Highway Administration's National Scenic Byways Program or the California State Scenic Highway System. For details of the regulatory requirements for scenic designation, see the Federal and State Regulations discussion below. Corridor Mangement Plans, called Scenic Corridor Protection Programs under the state system, must be developed and implemented for designated roadways to provide for the conservation and enhancement of the road's scenic values (Federal Highway Administration 1995; California Department of Transportation 2007). These plans and programs must be acknowledged and followed by local governement when planning projects in the area.

Table 4.14-1. Monterey County Scenic Highways and Roadways

Highway/ Roadway	Segment	Post-miles	Length (miles)	Designation Status*
1	Big Sur Coast Highway: Carmel-by-the-Sea to Monterey/San Luis Obispo County line	0.0–72.3	72.3	All American Road
1	Highway 68 to Monterey/San Luis Obispo County line	72.3–78.1	78.1	OD
68	Highway 1 in City of Monterey to Salinas River	4.3–17.8	13.5	OD
156	1.0 mile east of Castroville to U.S. 101 near Prunedale	1.0–5.3	4.3	OD
San Benancio Road	Highway 68 to Corral de Tierra Road	–	–	County Scenic Highway
Corral de Tierra Road	Highway 68 to San Benancio Road	–	–	County Scenic Highway
County Highway G20	Laureles Grade Road from Highway 68 south to County Highway G16 (West Carmel Valley Road) in Carmel Valley	–	–	County Scenic Highway
Interlake Road	County Highway G14/18 (Jolon Road) to Monterey/San Luis Obispo County line	–	–	County Scenic Highway
Robinson Canyon Road	Carmel Valley Road to end	–	–	County Scenic Highway
25	Highway 198 to Monterey/San Benito County line	0.0– approx. 11.0	11.0	E
68	City of Monterey to U.S. 101 near Salinas	0.0–4.3 and 17.8–22.0	8.5	E
156	Highway 1 to 1.0 mile east of Castroville	0.0–0.7	0.7	E
198	U.S. 101 to Monterey/Fresno County line	–	22.7	E

Highway/ Roadway	Segment	Post-miles	Length (miles)	Designation Status*

OD = Caltrans Officially Designated Scenic Highway.

– = Information unavailable from references used.

E = Caltrans Eligible Scenic Highway.

Sources: California Department of Transportation 2008b, 2008c; America's Byways 2008a, 2008b; Monterey County General Plan 2007 Area Plans.

4.14.4.2 Designated Sensitive Visual Areas

Each of the eight Planning Areas in the General Plan contains designated visual resource areas identified through its Area Plan. There is a mix of Sensitive Areas, Highly Sensitive Areas, Critical Viewsheds, View Sheds, View Points and View Areas. Exhibit 4.14.1 is a digitized composite of visual resource designations from each of the Area Plans, Local Coastal Programs, and City General Plans.

Community Areas and Rural Centers

Five Community Areas are identified as areas where, with a more detailed plan for that area (Community Plan), additional growth could occur. These areas include Pajaro, Boronda, Castroville, Fort Ord Master Plan, and Chualar. As visible on Exhibit 4.14.1, sensitive visual areas occur in the Pajaro and Fort Ord areas, and highly sensitive visual areas occur in the Fort Ord area. In addition to Community Areas, a second tier called Rural Centers identifies seven smaller population areas. If provided with adequate facilities and infrastructure, these areas, could accommodate growth if Community Areas could not fulfill the need and would retain their village character. These areas include River Road, Lockwood, Pleyto, Bradley, San Ardo, San Lucas, and Pine Canyon (King City). As visible on Exhibit 4.14.1, highly sensitive visual areas occur in the River Road center.

4.14.4.3 Light and Glare

Existing sources of light and glare in Monterey County are primarily associated with cities and developed unincorporated areas. Sources of light in these areas include exterior and interior building lighting, illuminated signs, streetlights, and signals. Sources of glare in these areas include windows and reflective building materials such as metal roofs. Mobile sources of light and glare originate from vehicles, airplanes, trains, and farm equipment. When light is not sufficiently screened and spills over into areas outside of a particular development area the effect is called "light trespassing."

While most features contributing to glare are man-made, a large source of glare can be natural in the form of water surfaces, such as the Pacific Ocean, and land cover. The Pacific Ocean serves as a large source of glare, which can vary in intensity based on weather/atmospheric conditions (e.g., a sunny versus a foggy day). The ocean can also cast glare during the nighttime in areas that are highly developed by reflecting the light coming from those areas. In both cases, glare from the ocean is not usually perceived as a negative aesthetic quality, and can often be associated with high-quality and memorable visual experiences.

Land cover can include exposed soil, seedlings, mature row crops, orchards, pasture, forest, and so on. The built environment is not included in "land cover." These different cover types can produce different amounts of glare based on the amount of surface area and its roughness, reflectiveness, and coloring. For example, a glossier leaved, low-growing row crop that forms more of a continuous surface is likely to create more glare than a vineyard where the vines are duller, taller, and planted in wider spaced rows that allow for areas of shade and light absorption. Similarly, dry, bare soil or mown grain fields can be much lighter, hence more reflective, than wet, bare soil or a green grain field. Areas that tend to produce the least amount of glare are areas of natural vegetation. As with the ocean, glare is influenced by weather and atmospheric conditions.

Lastly, light and glare can be affected by the absence of vegetation, because vegetation acts to screen and filter light and soften the intensity of glare. For example, in areas of intense development that lack mature landscaping or where land has been denuded of natural vegetation for agriculture, there will be a notable increase in light and glare when compared to areas of development with mature landscaping or natural, vegetated areas.

4.14.5 Regulatory Framework

4.14.5.1 Federal and State

National Scenic Byways Program

Under the National Scenic Byways Program, implemented by the Federal Highway Administration, roadways are designated as National Scenic Byways or All-American Roads based upon their scenic, historic, recreational, cultural, archeological, and/or natural intrinsic qualities. A road must significantly meet criteria for at least one of the above six intrinsic qualities to be designated a National Scenic Byway. For the All-American Roads designation, criteria must be met for multiple intrinsic qualities. Additionally, there must be a local commitment "provided by communities along the scenic byway that they will undertake actions, such as zoning and other protective measures, to preserve the scenic, historic, recreational, cultural, archeological, and natural integrity of the scenic byway and the adjacent area as identified in the corridor management plan." In addition, new signs cannot be erected if they are not in conformance with 23 U.S.C. 131(c) along any highway that has been designated as a scenic

byway under the State's scenic byway program and includes highways that are designated scenic byways under the National Scenic Byways Program and All-American Roads Program, whether or not they are designated as State scenic byways. (Federal Highway Administration 1995.)

If these roadways no longer possess the intrinsic qualities that supported their designation, local commitment has failed to retain these intrinsic qualities, or if the roadways are not maintained in accordance with their corridor management plan, they can be de-designated.

While governed for their scenic qualities by the Federal Highway Administration as described above, these designated byways fall under jurisdiction of the local county, state (Caltrans), or U.S. Forest Service (if on Forest Service lands) and are, therefore, protected largely under those jurisdictions (Steele pers. comm.).

California Scenic Highway Program

In addition to the National Scenic Byways Program, scenic roadways are designated by the State of California under the Scenic Highway Program detailed in Street and Highway Code Section 260.

> A highway may be designated as scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. (California Department of Transportation 2007.)

To become an officially designated scenic highway, the local jurisdiction must adopt a scenic corridor protection program for the eligible state scenic highway, applies to the California Department of Transportation for scenic highway approval, and receives notification from Caltrans that the highway has been designated as a Scenic Highway. The scenic corridor protection program is made up of adopted ordinances to preserve the scenic quality of the corridor or document such regulations that already exists in various portions of local codes. State and county roads can be designated as scenic highways (California Department of Transportation 2007).

Table 4.14-1 lists roadways in the project area that are designated in federal or state plans as a scenic highway or route worthy of protection for maintaining and enhancing scenic viewsheds.

State Historic Preservation Programs

The State Office of Historic Preservation oversees four historic preservation programs:

- National Register of Historic Places
- California Register of Historic Places

- California Historical Landmarks
- California Points of Historic Interest

Each program has its own specific eligibility criteria, although historic resources often overlap on multiple lists.

Resources listed in the National Register, California Historical Landmarks #770 and above are automatically listed in the California Register. Points of Historical Interest designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the California Register.

4.14.5.2 Local

Monterey County General Plan

Tree Protection

The county has an ordinance for the protection of trees within its jurisdiction. Tree protection within the county varies in accordance with different areas and master plans, which provide specific policies relative to the protection of specific types of trees. Each of the following tree removal scenarios require a tree removal permit (16.60.030):

- North County Area Plan or Toro Area Plan areas: oak or madrone tree six inches or more in diameter two feet above ground level.
- Carmel Valley Master Plan area: oak, madrone or redwood tree six inches or more in diameter two feet above ground level.
- Cachagua Area Plan area: native tree six inches or more in diameter two feet above ground level.

  "Native trees," for the purpose of this Section, are:

  - Santa Lucia Fir;
  - Black Cottonwood;
  - Fremont Cottonwood;
  - Box Elder;
  - Willows;
  - California Laurel;
  - Sycamores;
  - Oaks; and
  - Madrones.
- Any oak tree in any other area of the County of Monterey designated in the applicable area plan as Resource Conservation, Residential, Commercial or Industrial (except Industrial, Mineral Extraction).

- Any landmark oak tree removed in any area except as may be approved by the Director of Planning and Building Inspection. Landmark oak trees are those trees which are twenty-four (24) inches or more in diameter when measured two feet above the ground, or trees which are visually significant, historically significant, or exemplary of their species.
- Any oak trees in any other area of the County of Monterey designated in the applicable area plan as Agricultural or Industrial, Mineral Extraction, except for a small number of uses specified in Section 16.60.050.
- Any oak trees removed in any area of the County of Monterey for commercial harvesting purposes.

As a condition of permit approval, any applicant seeking to remove a protected tree from a property within County jurisdiction is required to relocate or replace each removed protected tree at a one-to-one ratio. Removal of more than three protected trees from a single lot over a one-year period requires submission of a Forest Management Plan and approval of a Use Permit by the Monterey County Planning Commission. The Forest Management Plan is to be prepared at the applicant's expense by a qualified professional forester (16.60.040).

Several tree removal activities are exempted from the provisions of the County tree ordinance. These include certain commercial timber operations; any governmental or utilities-related tree removal that occurs within public rights-of-way; and any construction-related tree removal that is included in an approved subdivision, Use Permit, or similar discretionary permit (16.60.040).

Monterey County Grading Ordinance

The County grading ordinance generally regulates grading involving more than 100 cubic yards of excavation and filling. Minor fills and excavations (cuts) of less than 100 yards that are not intended to provide foundation for structures, or that are very shallow and nearly flat, are typically exempt from the ordinance, as are shallow footings for small structures. Submittal requirements for a County grading permit include site plans, existing and proposed contour changes, an estimate of the volume of earth to be moved, and geotechnical (soils) reports. Projects involving grading activities over 5,000 cubic yards must include detailed plans signed by a State-licensed civil engineer.

Grading is not allowed to obstruct storm drainage or cause siltation of a waterway. All grading requires that temporary and permanent erosion control measures be implemented. Grading within 50 feet of a watercourse, or within 200 feet of a river, is regulated in the Zoning Code Floodplain regulations. Work in the Salinas River and Arroyo Seco River channels is exempted if it is covered by a U.S. Army Corps of Engineers 5-year regional 404 permit, approved by the California Department of Fish and Game, and approved by the Monterey County Water Resources Agency.

In addition to grading ordinance provisions, the Zoning Code (Chapter 1.64.230) details specific regulations for development on slopes in excess of 30%, including conformance with the grading ordinance and erosion control requirements. Specific geotechnical or engineering geologic investigation requirements include the following:

1) Presentation of data regarding the nature, distribution, and strength of existing soils.
2) Recommended grading procedures and design criteria for corrective measures when necessary, including buttress fills.
3) Examination and recommendations to maintain slope stability.
4) Description of the site geology of the site and the effect of geologic conditions on the proposed development.
5) Incorporation of approved report recommendations in the grading plans and specifications. (Ord. 2535 110, 1979.).
6) Completion of a liquefaction study, where applicable and the potential for liquefaction, should there be:
    a) Shallow ground water at 50 feet (15.24 meters) or less,
    b) Unconsolidated sandy alluvium,
    c) Site within Seismic Zone 4.

Design standards in the ordinance include requirements for fill slopes, cut slopes, and drainage controls.

4.14.6 Project Impacts

This section describes the CEQA impact analysis relating to visual resources for the Project and alternatives. It describes the methods used to determine the Project's impacts and lists the thresholds used to conclude whether an impact would be significant. Federal and professional standards of visual assessment methodology have been used to determine potential impacts on aesthetic values of the project area. Measures to mitigate (avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

4.14.6.1 Methodology

In addition to using the concepts and terminology (described above) to categorize visual characteristics of the project area and the thresholds of significance (described below) to determine impacts to the visual characteristics, analysis of the visual effects of the project are based on:

- general familiarity with the region; and

- review of the project in regard to compliance with state and local ordinances and regulations and professional standards pertaining to visual quality.

4.14.6.2 Thresholds of Significance

Thresholds of Significance

Appendix G of the State CEQA Guidelines was used to derive the significance thresholds which are used to determine whether the proposed project would have a significant environmental effect. The proposed project may have a significant effect on visual resources under CEQA if it would:

- result in a substantial adverse effect on a scenic vista;
- result in degredation of scenic resources along a scenic highway;
- substantially degrade the existing visual character or quality of the site and its surroundings; or
- create substantial new sources of light and glare that would adversely affect day or nighttime views in the area.

4.14.6.3 Impact Analysis

Development under the 2007 General Plan up to the 2030 planning horizon and buildout in the year 2092 would affect scenic vistas, degrade scenic resources along scenic highways, degrade the visual character of Monterey County, and create substantial new sources of light and glare.

New development in the 2007 General Plan would alter topography, remove vegetation, and/or substantially change natural watercourses, resulting in significant adverse affects on scenic vistas and development could degrade scenic resources along scenic highways. The introduction of permanent urban uses on undeveloped land would substantially alter the visual character of the 2007 General Plan growth areas and result in the loss of natural aesthetic features. In addition, new sources of night time lighting resulting from new urban development in designated growth areas allowed by the implementation of the 2007 General Plan could result in light trespass, light pollution, and glare.

Scenic Vistas

Impact AES-1: Implementation of the 2007 General Plan would result in a substantial adverse effects on scenic vistas. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

Development under the 2007 General Plan up to the 2030 planning horizon would result in new urban development in undeveloped areas. See Exhibit 3.1 for an illustration of the types of land use that would be allowed in accordance with the 2007 General Plan. Depending on the particular projects pursued in the county, new development allowed by the 2007 General Plan could alter topography, remove vegetation, or substantially change natural watercourses that may impact scenic vistas. Scenic vistas of particular concern include the Gabilan Mountains near Pajaro, Castroville and Prunedale; Junipero Serra Peak near Chualar, San Lucas and Pine Canyon (King City); Carmel Valley near Lower Carmel Valley; and Mt. Toro near River Road/Las Palmas, San Benancio/Corral de Tierra, and Toro Park/Serra Village.

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized below set forth comprehensive measures to avoid and minimize adverse impacts on scenic vistas.

Land Use Element

Land Use Element Policies LU-1.1 through LU-1.9 and LU-2.2 help to limit development of greenfields and natural areas which might be a part of scenic vistas and help to direct future growth away from scenic areas that would be most impacted by urban development. Policies LU-1.1 (requires that the type, location, timing, and intensity of growth in the unincorporated area be managed), LU-1.2 (discourages premature and scattered development), LU-1.3 (stipulates that balanced development of the county be assured through designating adequate land for a range of future land uses), LU-1.4 (limits growth to areas where an adequate level of services and facilities exists or can be assured concurrent with growth and development), LU-1.5 (requires that land uses be designated to achieve compatibility with adjacent uses), LU-1.6 (development of review process for development siting, design, and landscaping), LU-1.7 (allows for clustering of residential development to those portions of the property most suitable for development), LU-1.8 (encourages voluntary reduction or limitation of development potential in the rural and agricultural areas through dedication of

scenic or conservation easements, transfer of development rights, and other appropriate techniques), LU-1.9 (prioritizes infill of vacant non-agricultural lands in existing developed areas and new development within designated urban service areas), and LU-2.2 (restriction of residential development in areas that are unsuited for more intensive development due to the need to protect natural resources) are intended to ensure that growth in the unincorporated county would occur in a planned fashion and would be compatible with existing land uses. These policies discourage urban development outside of the incorporated cities, except within identified Community Areas and Rural Centers. As many of the scenic vistas in the county occur in unincorporated areas, these policies serve to limit development in visually valuable areas and conserve scenic lands thereby reducing the potential for impacts to scenic vistas in these areas. Policy LU 1.10 (off-site advertising) would help to avoid visual clutter with future development and protect scenic vistas.

Open Space and Conservation Element

Open Space and Conservation Element Policies OS-1.1 through OS-1.12 contain measures designed to preserve and protect the county's scenic resources and help direct future growth away from scenic areas that would be most impacted by urban development. Policies OS-1.1 (encourage restriction of development in visually sensitive areas), OS-1.2 (development in visually sensitive areas is subordinate to area's natural features), OS-1.3 (in order to preserve county's scenic resources, ridgeline development not allowed), OS-1.4 (criteria to be developed to guide design and construction on ridgelines where exceptions are made in accordance with policy OS-1.3), OS-1.5 (new subdivisions must avoid ridgelines), OS-1.6 (ridgelines in specific plan areas must follow guidelines set out by specific plans), OS-1.7 (establishment of voluntary, transfer of development rights program to direct development away from areas with unique visual or natural features), OS-1.8 (establish development clustering programs to reduce impacts to visually sensitive areas), OS-1.9 (encourage development that protects and enhances county's scenic qualities), OS-1.10 (establishment of trails program), OS-1.11 (maintain GIS mapping for all lands with visually sensitive resources and corridors) and OS-1.12 (mitigation of significant disruption of views from scenic routes) reduce the potential for impacts to scenic vistas by protecting the county's scenic areas from development and encouraging preservation of these visually valuable areas. Policy OS-3.5 (development on slopes over 30% is prohibited) ensures that development on ridgelines of a certain grade does not occur, thereby protected scenic vistas of and from those ridgelines.

Agricultural Element

Agricultural Element Policies AG-1.1 through AG-1.12 establish land use guidelines designed to preserve existing agricultural operations. Policies AG-1.1 (prohibits land uses that would interfere with routine and ongoing agricultural operations on viable farmlands), AG-1.2 (establishes a regulatory framework allowing for the use of agricultural buffers to protect existing agricultural operations), AG-1.3 (limits the subdivision of Important Farmland and land designated as Farmlands, Permanent Grazing, or Rural Grazing), AG-1.4 (requires that viable agricultural land uses on Important Farmland be conserved, enhanced, and expanded through agricultural land use designations and encouragement of large-lot agricultural zoning), AG-1.5 (encourages the use of tax and economic incentives for farms and ranches), AG-1.6 (allows farm worker housing in areas designated for agricultural land use, under certain conditions), AG-1.7 (encourages the clustering of residential uses accessory to the agricultural use of the land in locations that will have minimal impact on the most productive land), AG-1.8 (requires that discretionary development projects on agricultural lands be reviewed by the County's Agricultural Advisory Committee), AG-1.9 (allows agricultural operations to be protected from nuisance claims), AG-1.11 (stipulates that permits for agricultural activities be integrated with applicable Resource Conservation District permit coordination (streamlining) programs), AG-1.12 (requires the County to establish a program to mitigate the loss of Important Farmland when a proposed change of land use designation would result in the loss of Important Farmland (as mapped by the California Department of Conservation), including annexation of agricultural land to an incorporated area) set forth general measures to promote the long-term protection and conservation of existing productive agricultural lands. Further, the policies ensure that surrounding uses are compatible with agricultural land uses. Implementation of these policies would promote protection scenic vistas associated with agricultural production.

Agricultural Element Policies AG-2.1 through AG-2.4, and AG-2.8 and AG-2.9 identify measures to promote the viability and financial feasibility of agricultural business in the county. These policies define appropriate and compatible uses of agricultural lands. Policies AG-2.1 (allows agricultural support facilities serving onsite and offsite farming and ranching activities to be established in the Farmlands, Permanent Grazing, and Rural Grazing land use designations), AG-2.2 (encourages the establishment and retention of a broad range of agricultural support businesses and services to enhance the full development potential of the agricultural industry in the county), AG-2.3 (allows agricultural processing facilities to be developed in the Farmlands, Permanent Grazing, and Rural Grazing land use designations, where compatible and appropriate), AG-2.4

(requires agriculture-related enterprises and agricultural support uses to be sited and designed to minimize the loss of productive agricultural lands and to minimize impacts on surrounding land uses), AG-2.8 (restricts compatible recreational uses to those that do not adversely impact long-term productivity of onsite or adjacent agricultural uses), and AG-2.9 (allows onsite farm equipment storage facilities within agricultural land use designations) reduce the potential for impacts to agricultural land by maintaining the viability of agricultural activities, and thereby help to preserve the scenic vistas in the county that are associated with agricultural land uses.

Agricultural Element Policies AG-3.1 through AG-3.3 are designed to prevent inappropriate limitations on routine and ongoing agricultural activities. Policies AG-3.1 (permits routine and ongoing agricultural activities, and stipulates that activities with the potential for significant impacts are subject to a greater level of review), AG-3.2 (encourages cooperation between the County, the agricultural industry, and state and federal agencies to streamline permit procedures for routine and ongoing agricultural activities), and AG-3.3 (identifies a non-exclusive list of routine and ongoing agricultural activities that the County may consider for exemption from selected General Plan policies based on development of an ordinance in order to provide flexibility for agricultural operations to continue in the county and to meet the changing demands of both regional and global competition) support typical, routine agricultural activities in a manner that would reduce the potential for agricultural land conversion by allowing for their continuation and economic viability and reduce the potential for impacts to scenic vistas associated with agricultural land uses.

Area Plan Policies

The North County Area Plan

North County Area Plan Policies NC-1.2 (mushroom operations/scenic quality), NC-1.3 (steep slopes/elevations and preservation), NC-3.1 (Scenic Highways and Visual Sensitivity Map and public views), NC-3.2 (Carpenteria Road) and NC-3.3 (native vegetation and conservation) require new development to avoid adverse aesthetic impacts in areas of high visual sensitivity.

Greater Salinas Area Plan

Greater Salinas Area Plan Policies GS-1.1 (Butterfly Village and design requirements), GS-1.4 (Spreckels/harmonious development), GS-.15 (Highway 68/Salinas River and screening), (Harrison Road/Highway 101 and screening), GS-3.1 (vegetation and slopes of 25%), GS-3.2 (native plants and screening), and GS-3.3 (trees and Speckels Blvd) require new development to avoid adverse aesthetic

impacts by being harmonious with existing developments and design requirements, utilize plants and trees to soften visual impacts of new development and protect vegetation on slopes of more than 25%.

Central Salinas Valley Area Plan

Central Salinas Valley Area Plan Policies CSV-3.1 (Scenic Highways and Visual Sensitivity Map and public views) and CSV-5.3 (Spencer/Potter Road and viewsheds) require that new development not disrupt public views in areas designated as sensitive or highly sensitive.

Greater Monterey Peninsula Area Plan

Greater Monterey Peninsula Area Plan Policy GMP-1.1 (overlay district) regulates location, height, and design of development which will help preserve the scenic corridor along Highway 68 and west of Laureles Grade. Policy GMP-1.4 (open space buffers) requires buffers in order to protect scenic resources. Policy GMP-1.5 (low density uses) encourages open space/low intensity uses in order to maintain areas of high visual sensitivity. Policy GMP-3.1 (public/private efforts) promotes efforts to restore the scenic beauty of visually impacted areas which will help expand the possibilities of successfully protecting these areas. Policy GMP-3.2 (site design) requires site design for development that will reduce the impact on scenic vistas. Policy GMP-3.3 (Visual Sensitivity Map) protects scenic vistas by stipulating that new development not disrupt public views in certain areas and promotes open space of highly sensitive areas on the map. Policy GMP-3.4 (screening) stipulates that plant materials be used to screen or soften the visual impact of new development. Policy GMP-4.1(steep slopes) preserves land with certain vegetation/trees exceeding 25% slope which helps to avoid the loss of visual amenities.

Carmel Valley Master Plan

Carmel Valley Master Plan Policy CV-1.8 (clustered development) requires development to be clustered which helps to protect visible open space in sensitive visual areas. CV-1.19 (screening of mines) requires that mines or quarries be screened from public view which will help preserve scenic vistas. CV-1.20 (overlay districts) ensures visual compatibility with the character of Carmel Valley and immediate surrounding areas. CV-1.21 (commercial developments) stipulates height limits and large trees for commercial developments which will help screen these developments from scenic vistas. CV-2.9 (roads and scarring) prohibits roads that cross slopes steeper than 30% unless visible scarring can be mitigated. CV-3.2 requires that public vista areas be provided and improved. Policy CV-3.3 (Carmel Valley viewshed and distant hills) prohibits new development from

blocking views of the Carmel River or the distant hills. CV-3.4 (alteration of hillsides/natural landforms) requires that the alteration of hillsides and landforms be minimized which will help preserve the natural setting. CV-3.5 (signage restrictions) requires that signs not block views, cause visual clutter, or detract from the natural beauty. CV-3.18 requires that new aboveground transmission facilities be and follow the least visible route which will help to preserve scenic vistas.

Toro Area Plan

Toro Area Plan Policies T-1.5 (subdivisions designed outside of viewshed), Policy T-1.6 (transfer development rights), Policy 3.1 (Visual Sensitivity Map), Policy T-3.2 (site design), Policy T-3.3 (County and State scenic routes), and Policy T-3.6 (preservation of higher elevations/steep slopes) require new development to avoid adverse aesthetic impacts by maintaining viewsheds, offering mechanisms such as transfer development rights, encouraging site design and location sensitive to scenic vistas, and the preservation of areas that could be included in scenic vistas.

Cachagua Area Plan

Cachagua Area Plan Policies CACH-3.1 (Cachagua Visual Sensitivity and Scenic Routes Map), CACH-3.3 (hillsides and natural landforms), CACH-3.5 (resource production operations and mitigation), CACH-3.7 (Carmel and Arroyo Seco Rivers) require new development to avoid adverse aesthetic impacts by not allowing development to disrupt public views, limiting the alteration of hillsides and natural landforms, requiring mitigation of visual impacts from resource production operations, and preserving the visual aspects of the Carmel/Arroyo Seco Rivers.

South County Area Plan

South County Area Plan Policy SC-1.2 encourages clustered development in all areas where development is permitted in order to make the most efficient use of land and to preserve agricultural land and open space.

Agricultural Winery Corridor Plan

Included in the 2007 General Plan is an AWCP that is designed to promote the development of an integrated wine industry in Monterey County. The plan designates three winery corridors in the Salinas Valley. Prominent ridgelines and topographical features are visible from all three corridors. Highway 68, which serves as the northern terminus of the River Road/Arroyo Seco Road/Central Avenue Corridor is the only State Scenic Highway within the AWCP

boundaries. The AWCP overlays the Toro, Central Salinas Valley, and South County Area Plans, and policies relating to visual resources are applicable to the AWCP under this plan.

Community Area Policies

Fort Ord Master Plan

Fort Ord Master Plan Recreation Policy B-1 and Program E-2.3 (landfill design review), Policy D-1 (park facilities and scenic vistas), Program B-1.3 (design guidelines and bluffs), and Program B-1.4 (design guidelines for areas surrounding Fort Ord in County jurisdiction) require development to avoid adverse aesthetic impacts by reviewing the design of the landfill so that it becomes a visual asset for Fort Ord, locating and designing park facilities to provide scenic vistas, implement design guidelines for development on bluffs and Fort Ord.

County of Monterey Grading Ordinance

The County grading ordinance (Chapter 16.08 of the Monterey County Code) generally regulates grading activities greater than 100 cubic yards and over 2 feet in height. Submittal requirements for a grading permit issued by the County building official include site plans, existing and proposed contour changes, an estimate of the volume of earth to be moved, and soils or geotechnical reports (or both). Projects involving grading activities over 5,000 cubic yards must be prepared by a civil engineer, and geotechnical reports may be required also. Grading is not allowed to cause degradation of a waterway, and erosion control measures are required. Grading within 50 feet of a watercourse or within 200 feet of a river is regulated in the Zoning Code Floodplain regulations. The Zoning Code, Chapter 21.64.230, details specific regulations for development on slopes in excess of 30%. The County building official has regulatory authority over grading activities, although the MCWRA also enforces drainage regulations.

CEQA Review

In addition, future discretionary development activities contemplated by the 2007 General Plan would be required to undergo environmental review pursuant to CEQA. This review would include assessment of potential impacts on scenic vistas.

Significance Determination

New development by itself could potentially result in adverse impacts to scenic vistas. Monterey County contains a variety of scenic vistas including views of valleys, ridgelines, vegetation, watercourses and the coast. The

location of these scenic resources throughout the county is illustrated in Exhibit 4.14.1. New development is proposed to be allowed in the areas illustrated in Exhibit 4.14.1 with implementation of the 2007 General Plan. However, the 2007 General Plan and Area Plan policies described above set forth comprehensive measures to avoid and minimize adverse impacts on scenic vistas.

The 2007 General Plan and Area Plan policies summarized above identify visually sensitive locations in a general sense, place restrictions on future development in those areas, and explain how impacts would be minimized. Moreover, the 2007 General Plan employs land use concepts such as city-centered growth and preservation of natural areas that would direct future growth away from scenic areas that would be most deleteriously impacted by urban development. The 2007 General Plan is a programmatic document intended to provide a framework for development in the county. It is speculative to analyze specific impacts to particular scenic vistas as those impacts will depend on the development pursued in the county in the coming years. T

The plans and policies set into place as a result of the 2007 General Plan would protect the scenic vistas, but further environmental analysis as required by CEQA would occur on a project specific basis and appropriate mitigation for each development site would be identified at that time in order to ensure that the policies set forth in the 2007 General Plan are followed and that scenic vistas are not significantly impacted. Therefore, with incorporation of the 2007 General Plan and Area Plan policies, impacts to scenic vistas as a result of the implementation of the 2007 General Plan up to the planning horizon of 2030 would be reduced to less than significant levels. Impacts in this regard would be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

The 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts on scenic vistas, as described above in the discussion of policies. Therefore, implementation of the policies would ensure that scenic vistas would not be significantly impacted by the 2007 General Plan development up to the 2030 planning horizon. Impacts in this regard would be less than significant.

Buildout

Impact of Development with Policies

Buildout of the 2007 General Plan in the year 2092 would result in new urban development in undeveloped areas beyond 2030 levels. See Exhibit 3.1 for an illustration of the types of land use that would be allowed

in accordance with the 2007 General Plan. Depending on the particular projects pursued in the county, new development allowed by the 2007 General Plan could alter topography, remove vegetation, or substantially change natural watercourses that may impact scenic vistas. Scenic vistas of particular concern include the Gabilan Mountains near Pajaro, Castroville and Prunedale; Junipero Serra Peak near Chualar, San Lucas and Pine Canyon (King City); Carmel Valley near Lower Carmel Valley; and Mt. Toro near River Road/Las Palmas, San Benancio/Corral de Tierra, and Toro Park/Serra Village.

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized above identify visually sensitive locations and place restrictions on future development in those areas.

Significance Determination

New development could result in adverse impacts to scenic vistas. Monterey County contains a variety of scenic vistas including views of valleys, ridgelines, vegetation, watercourses and the coast. The location of these scenic resources throughout the county is illustrated in Exhibit 4.14.1. New development is proposed to be allowed in the areas illustrated in Exhibit 4.14.1 with implementation of the 2007 General Plan, however, the 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts on scenic vistas to the maximum extent practicable. The preceding General Plan and Area Plan policy discussion explains how impacts would be reduced. The 2007 General Plan employs land use concepts such as city-centered growth and preservation of natural areas that would direct future growth away from scenic areas that would be most deleteriously impacted by urban development. At the time of buildout, it is estimated that most of the remaining land to be developed in the county would be contained in lots of record, which are generally located in what are currently less developed areas of the county. However, development of the lots of record would still be required to follow the 2007 General Plan policies which protect scenic areas in the county, therefore, the development of the lots of record would not present a significant impact to scenic vistas

The 2007 General Plan is a programmatic document intended to provide a framework for development in the county. No site-specific development projects are proposed as part of the 2007 General Plan. As a result, specific impacts to particular scenic vistas are unknown and would be speculative to analyze. Those impacts will depend on the character of the specific development projects pursued in the county in the coming years. The plans and policies set into place as a result of the 2007 General Plan would protect the scenic vistas, but further environmental analysis as required by CEQA would occur on a project specific basis and appropriate mitigation for each development site would be identified at that time in order to ensure that the

policies set forth in the 2007 General Plan are followed and that scenic vistas are not significantly impacted. With implementation of the 2007 General Plan policies, all future development in the county would be required to avoid scenic vistas, as explained in the General Plan and Area Plan policy section above. Therefore, scenic vistas would not be significantly impacted by buildout of the 2007 General Plan. Impacts in this regard would be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

The 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts on scenic vistas. Therefore, scenic vistas would not be significantly impacted by buildout of the 2007 General Plan. Impacts would be less than significant.

Scenic Highways

Impact AES-2: Implementation of the 2007 General Plan could result in the degradation of scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. (Less-Than-Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

The area within the 2007 General Plan contains scenic highways and eligible scenic highways, as described in Section 4.14.4, above. Designated or eligible scenic highways within the planning area that area of particular concern include Highway 156 near Castroville, Highway 1 near Lower Carmel Valley, and Highway 68 near River Road/Las Palmas, San Benancio/Corral de Tierra, and Toro Park/Serra Village. See Exhibits 4.14.2 through 4.14-6 for an illustration of the scenic highways within the county. Depending on the particular projects pursued in the county, new development allowed by the 2007 General Plan could occur along scenic highways where scenic resources such as trees, rock outcroppings and historic buildings are located. Impacts to these roadways would be potentially significant.

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized below set forth comprehensive measures to avoid and minimize adverse impacts on scenic highways.

Land Use Element

Land Use Element Policies LU-1.1 through LU-1.10 and LU-2.2 establish general land use concepts that emphasize city-centered growth, compatibility between adjacent land uses, and the conservation of natural areas. These policies are summarized under Impact AES-1. Collectively, these policies promote compact-urban growth in existing developed areas and discourage growth in natural areas where views from scenic highways would be most adversely impacted. Additionally, the 2007 General Plan Land Use Element emphasizes compact city-centered growth and discourages the encroachment of urban uses into undeveloped areas which will reduce the numbers of protected trees ultimately removed for development.

Open Space and Conservation Element

Open Space and Conservation Element Policies OS-1.1 through OS-1.12 set forth measures designed to preserve and protect the county's scenic resources. These policies are also summarized in detail under Impact AES-1. These measures include requirements prohibiting ridgeline development, encouraging the preservation of significant natural areas through the use of economic tools such as development credits and conservation easements, and a requirement that the disruption of views from designated scenic routes be mitigated through use of appropriate materials, scale, lighting and siting of development.

Policy OS-5.9 establishes that each Area Plan set forth tree removal permit requirements.

Policy OS-5.10 requires the establishment of regulations for tree removal, including Timberland Conversion, to be maintained by ordinance implementing Area Plan policies that address the following:

a. Criteria when a permit is required including:

    1. number of trees,

    2. minimum size of tree,

    3. Post Timberland conversion land-use

b. How size is measured for each protected species of tree, and what constitutes a landmark tree depending on the rate of growth for that species.

    c. Hazardous trees

    d. Pest and disease abatement

    e. Replacement criteria.

f. Ensure minimal removal

Policy OS-5.11 promotes conservation of large, continuous expanses of native trees and vegetation as the most suitable habitat for maintaining abundant and diverse wildlife.

Public Safety Element

Public Safety policies PS 12.1–12.17 support the protection and preservation of historic properties and buildings located within the county. These policies establish processes and implementation measures to assist in the identification, designation, and preservation of historic properties. In addition, the policies provide for tax incentives and other financial mechanisms to aid in the protection and management of historic structures. Please see Section 4.12, Cultural Resources, Impact: Historic Preservation for a more in-depth discussion of these policies.

Area Plan Policies

The Area Plans contain a number of policies designed to protect scenic resources, including views from scenic highways. In addition to the scenic resource policies summarized under Impact AES-1, the Area Plans contain specific policies for scenic highways.

The North County Area Plan

Policy NC-2.2 (protection of Old Stage Road) calls for the preservation of the historical value of Old Stage Road, which will ensure that the road maintains its historic integrity in spite of new development. Policy NC-3.1 (public views and Scenic Highways and Visual Sensitivity Map) and Policy NC-3.2 (protection of slopes) help to protect scenic resources on the on the Scenic Highways and Visual Sensitivity Map and along the southern approach to Aromas. Policy NC-3.4 discourages removal of healthy, native oak and madrone trees and requires a permit for the removal of any of these trees with a trunk diameter in excess of six inches at breast height. Trees removed must be replaced at a 1:1 ratio using nursery-grown trees of the same species that are a minimum of one gallon in size. Policy NC-3.6 (North County Historic Sites) lists sites to be considered for inclusion in a historical resources zoning district, which will encourage protection of such sites from destruction caused by future development.

Greater Salinas Area Plan

Policy 1.4 (restricted development of town of Spreckles) stipulates that future development projects in Spreckels be harmonious with the surrounding historic character and be reviewed by the Historic

Resource Review Board.Policy GS-2.3 (Highway 101 bypass) will incorporate sound deflection berms with appropriate landscaping which will help maintain scenic resources the highway. Policy GS-2.4 (Old Stage Road) will maintain scenic resources by requiring all new developments along Old Stage Road in the Greater Salinas Area Plan to be subject to design approval. Policy GS-3.3 (historic walnut tree maintenance and preservation) promotes preservation of the walnut trees along Spreckels Boulevard and encourages the use of private fund-raising efforts for tree maintenance. Implementation of these policies will help protect the town of Spreckels from possible destruction caused by future development. Policy GS-3.4 (support efforts to preserve historic resources) identifies the Boronda Adobe and Darrington Adobe as significant historical resources and promotes efforts of the Monterrey County Historic Resources Review Board (HRRB) to maintain and preserve these sites. This will contribute to the protection and preservation of Monterrey County's historic resources

Greater Monterey Peninsula Area Plan

Policy GMP-1.1 (overlays and other appropriate zoning designations), Policy GMP-2.6 (State Scenic Highway/County Scenic Route designations), and Policy GMP-3.3 (visually "sensitive" and "highly sensitive" areas generally visible from designated Scenic Highways), provide a variety of methods including zoning designations, easement dedications and restrictions of developments that help to protect scenic resources along scenic highways. GMP-3.5 requires development to be designed to prevent, to the maximum extent feasible, the destruction of native oak, pine, and redwood forest habitat.

Carmel Valley Master Plan

Policy CV-1.9 (clustered development), Policy CV-2.17(undergrounding utility lines), and Policy CV-3.1 (setbacks along Carmel Valley Road) help to improve scenic vistas through less clutter of utility lines and increased open space. Policy CV-3.11 discourages removal of healthy, native oak and madrone trees and requires a permit for the removal of any of these trees with a trunk diameter in excess of six inches at breast height. Trees removed must be replaced at a 1:1 ratio using nursery-grown trees of the same species that are a minimum of one gallon in size. The policy includes penalties for tree removal that occurs without a permit. Policy CV-3.13 (designation and protection of historic resources) stipulates that future development in Carmel Valley preserve the integrity of historical sites. Implementation of this policy will aid in preventing the damage or destruction of historic resources potentially caused by future development.

Toro Area Plan

Policy T-2.8 (County Scenic Route designations), Policy T-3.3 (scenic routes designated as critical viewshed), and Policy T-3.4 (undergrounding utility lines) improve scenic vistas by pursuing County Scenic Route designations, increasing the number of scenic routes as critical viewsheds and through less clutter of utility lines. Policy T-3.7 discourages the removal of healthy trees with diameters in excess of eight inches.

Cachagua Area Plan

Policy CACH-2.2 (County Scenic Route designations) encourages the County to pursue additional designations. CACH-3.4 discourages the removal of native trees and specified the conditions under which they are allowed to be removed. Policy CACH-3.6 promotes cooperation with the United States Forest Service and private property owners to ensure that Santa Lucia fir are protected.

South County Area Plan

Policy SC-2.1 states that additional scenic routes shall not be designated in the South County Planning Area.

Agricultural Winery Corridor Plan

Highway 68 is the only officially designated state scenic highway that could potentially be affected by the AWCP. The intersection of Highway 68 and River Road in the Las Palmas area is at the very northern end of the AWCP boundaries and is contemplated to be enhanced with a treatment identifying it as a gateway to the River Road winery corridor. This treatment would consist of a sign that identifies entry into the corridor and may be coordinated with a visitor center to provide other amenities such as kiosks. The treatment would be designed to be visually appealing and would be consistent with Highway 68's designation as an officially designated state scenic highway in this area.

The AWCP recognized that "important visual elements such as native trees, ridgelines, frontal slopes, and scenic road corridors are especially critical to give the Corridor its identity." In addition, to maintain the current rural character, road improvements should be limited to enhancing the scenic corridor and promoting safe circulation. Also, the AWCP has established design criteria that have been established with the intent to design the wineries to achieve continuity and establish a larger visual context that creates a sense of place and seeks to encourage creativity while creating an overall vision for the AWCP that is in keeping with the existing rural character.

The AWCP is a component of the 2007 General Plan and is consistent with its proposed goals and policies including those that pertain to scenic highways. These policies are summarized under Impact AES-2. Furthermore, all wineries and tasting rooms that would be developed in accordance with the AWCP would be required to comply with the County's applicable design requirements, policies, and ordinances that protect views from scenic highways (i.e., Highway 68). Therefore, views from Highway 68 would not be degraded by implementation of the AWCP. Accordingly, impacts would be less than significant.

The proposed AWCP boundaries contain existing agricultural areas of the Salinas Valley. No scenic vistas exist within these boundaries. Moreover, the AWCP is intended to facilitate the development of limited wineries and tasting rooms. These land uses are inherently agricultural supporting and would be consistent with the existing land uses of the Salinas Valley. The AWCP is a component of the 2007 General Plan and is consistent with its proposed goals and policies including those that pertain to protection of scenic vistas. These policies are summarized under Impact AES-1. All wineries and tasting rooms that would be developed in accordance with the AWCP would be required to comply with the applicable design policies and ordinances. Therefore, views from scenic vistas of the Salinas Valley would not be compromised by implementation of the AWCP.

Precise locations of future AWCP facilities are unknown at the time of this writing, and therefore, it is speculative to engage in further analysis of impacts on scenic vistas. Further analysis of potential scenic vista impacts will be done at the project level.

Community Area Plans

Fort Ord Master Plan

Commercial Land Use Policy F-1 and Institutional Land Use Policy D-1 (regional urban design guidelines) protect scenic resources along scenic highways through requiring the County of Monterey to support FORA in the preparation of regional urban design guidelines, including a scenic corridor design overlay area. Policy C-2 requires the County to encourage the preservation and enhancement of native oak woodland elements in the natural and built environments.

Federal and State Scenic Highway Preservation Programs

All future development activities contemplated by the 2007 General Plan would be required to comply with all applicated federal and state stratutes that concern the preservation of scenic roadways

(e.g., the National Scenic Byways Program and the California Scenic Highway Program).

Federal and State Historic Preservation Requirements

All future development activities contemplated by the 2007 General Plan would be required to comply with all applicable federal and state statutes that concern the preservation of historical resources (e.g., the National Historic Preservation Act).

CEQA Review

In addition, future discretionary development activities contemplated by the 2007 General Plan would be required to undergo environmental review pursuant to CEQA. This review would include assessment of potential impacts on scenic highways.

Significance Determination

New development could potentially result in adverse impacts to scenic highways. Monterey County contains many scenic highways, which can be seen in Exhibits 4.14.2 through 4.14.6. The location of specific scenic resources such as trees, rock outcroppings and historic buildings along the highways is not known at this time, however, a general depiction of the scenic resources in the county is illustrated in Exhibit 4.14.1. New development is proposed to be allowed in the areas illustrated in Exhibit 4.14.1 with implementation of the 2007 General Plan, however, the 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts on scenic resources within scenic highways. The General Plan and Area Plan policy discussion on the previous pages explains how impacts would be reduced. The existing federal and state historic preservation requirements protects historic buildings that may be located along scenic highways. The County's existing tree preservation ordinance also sets forth criteria for removal of certain types of significant trees, including those located along scenic highways. Moreover, the 2007 General Plan employs land use concepts such as city-centered growth and preservation of natural areas that would direct future growth away from scenic areas that would be most deleteriously impacted by urban development. The 2007 General Plan is a programmatic document intended to provide a framework for development in the county. It is speculative to analyze specific impacts to particular scenic resources along scenic highways as those impacts will depend on the development pursued in the county in the coming years. The plans and policies set into place as a result of the 2007 General Plan would protect the scenic resources along scenic highways, but further environmental analysis as required by CEQA would occur on a project specific basis and appropriate mitigation for each development site would be identified at that time in order to ensure that the policies set forth in the 2007 General Plan are followed and that scenic resources are not significantly impacted. Therefore, with incorporation of the 2007 General

Plan and Area Plan policies, impacts to scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings, as a result of the implementation of the 2007 General Plan up to the planning horizon of 2030 would be reduced to less than significant levels. Impacts in this regard would be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

Scenic highways would not be significantly impacted by the 2007 General Plan development up to the planning horizon of 2030. No mitigation beyond the 2007 General Plan policies is necessary. Impacts would be less than significant.

Buildout

Impact of Development with Policies

Future development envisioned by the 2007 General Plan could occur in areas within the viewshed of a scenic highway or eligible scenic highway beyond 2030 levels.

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized above identify set forth comprehensive measures to avoid and minimize adverse impacts on scenic highways to the maximum extent practicable.

Significance Determination

New development could potentially result in adverse impacts to scenic highways. Monterey County contains many scenic highways, which can be seen in Exhibits 4.14.2 through 4.14.6. The location of specific scenic resources such as trees, rock outcroppings and historic buildings along the highways is not known at this time; however, a general depiction of the scenic resources in the county is illustrated in Exhibit 4.14.1. New development is proposed to be allowed in the areas illustrated in Exhibit 4.14.1 with implementation of the 2007 General Plan, however, the 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts on scenic resources within scenic highways.

The preceding General Plan and Area Plan policy discussion explains how impacts would be reduced by 2007 General Plan policies. The existing federal and state historic preservation requirements protects historic buildings that may be located along scenic highways. The County's existing tree preservation ordinance also sets forth criteria for removal of certain

types of significant trees, including those located along scenic highways. Moreover, the 2007 General Plan employs land use concepts such as city-centered growth and preservation of natural areas that would direct future growth away from scenic areas that would be most deleteriously impacted by urban development. At the time of buildout, it is estimated that most of the remaining land to be developed in the county would be contained in lots of record, which are generally located in what are currently less developed areas of the county. However, development of the lots of record would still be required to follow the 2007 General Plan policies which protect scenic areas in the county, therefore, the development of the lots of record would not present a significant impact to scenic vistas.

The 2007 General Plan is a programmatic document intented to provide a framework for development in the county. As discussed above, the analysis of specific impacts to particular scenic resources along scenic highways would be speculative because those impacts will depend on the specific development projects pursued in the county in the coming years. The plans and policies set into place as a result of the 2007 General Plan would protect the scenic resources along scenic highways, but further environmental analysis as required by CEQA would occur on a project specific basis and appropriate mitigation for each development site would be identified at that time in order to ensure that the policies set forth in the 2007 General Plan are followed and that scenic resources are not significantly impacted. Therefore, with incorporation of the 2007 General Plan and Area Plan policies, impacts to scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings, as a result of the buildout of the 2007 General Plan. Impacts in this regard would be less than significant.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is necessary.

Significance Conclusion

With implementation of the 2007 General Plan and Area Plan policies, scenic highways would not be significantly impacted by buildout of the 2007 General Plan through 2092. No mitigation beyond the 2007 General Plan policies is necessary. Impacts in this regard would be less than significant.

Visual Character

Impact AES-3: Implementation of the 2007 General Plan would substantially degrade the existing visual character or quality of Monterey County. (Significant and Unavoidable Impact.)

2030 Planning Horizon

Impact of Development with Policies

New urban development in the proposed 2007 General Plan growth areas during the 2030 planning horizon would result in the permanent conversion of undeveloped land to urban uses. See Exhibit 3.1 for an illustration of the types of land use that would be allowed in accordance with the 2007 General Plan. Development actually occurring with the county would depend on the particular projects pursued in the county and cannot be determined at this time, but may include roads, utilities, structures, earthworks, and the results of other human activities. The introduction of permanent urban uses on undeveloped land as allowed by the 2007 General Plan could alter topography, remove vegetation, or substantially change natural watercourses that may substantially alter the visual character of the 2007 General Plan growth areas (Community Areas, Rural Centers, Affordable Housing Overlay Districts [AHOs] and lots of record) and result in the loss of natural aesthetic features. Below is a summary of the Community Areas, Rural Centers, AHOs and lots of record that would experience significant visual character impacts.

Chualar: The 2007 General Plan would allow urban-level development to this small rural agricultural community subject to further planning. Future growth would permanently convert agricultural land to urban uses, thereby irreversibly altering the visual appearance of the community and surrounding area.

San Lucas: The 2007 General Plan would allow additional urban development on agricultural land at the edge of the existing community. While San Lucas already contains urban development, the intensity of this new development could fundamentally alter the visual character of this area.

Rural Centers: While the 2007 General Plan contemplates only limited additional development in Rural Centers, certain ones—particularly those in rural parts of the county—would experience a greater visual change than others. Notable examples include Bradley, Lockwood, Pleyto, and San Ardo. Due to their distance from other communities as well as the low intensity of existing development, any new development in these Rural Centers would cause a fundamental change in the community's appearance.

Affordable Housing Overlay Districts (AHOs): In the AHOs, landowners would be encouraged to build affordable housing at high density. A property owner within an AHO may voluntarily propose an affordable housing project

rather than a use otherwise allowed by the underlying land use designation. There are three AHOs identified in the 2007 General Plan: Mid-Carmel Valley; Highway 68/Monterey Peninsula Airport; and Reservation Road/Highway 68. Although the AHOs are located in urban areas within the county, the increased density allowed in AHO may affect the visual character of the surrounding land.

Lots of Record: In addition to the nodes of urban development including Community Areas, Rural Centers and AHOs, there will be individual lots of record developming. Lots of records are individual lots with single family homes when developed. They would have a less intense affect on the environment than development in the urbanized nodes where higher densities would be allowed, however they would still pose a potential for affecting visual character due to their generally rural locations.

Generally, the visual character in Monterey County is associated with non-urban features such as agriculture, ocean views, and rugged natural areas. Additional urban growth in the Community Areas, Rural Centers, AHOs, and lots of record would alter the visual ambiance towards a more urban character. Accordingly, future development contemplated by the 2007 General Plan would be a significant impact.

2007 General Plan Policies

The 2007 General Plan contains goals and policies that address adverse impacts on the county's visual character from the 2007 General Plan development.

Land Use Element

Land Use Element Policies LU-1.1 through LU-1.10 and LU-2.2 establish general land use concepts that emphasize city-centered growth, compatibility between adjacent land uses, and the conservation of natural areas. These policies are summarized in detail under Impact AES-1. Collectively, these policies promote compact-urban growth in existing developed areas and therefore discourage growth in natural areas where urban development would have the most deleterious impact on visual character.

Open Space and Conservation Element

Open Space and Conservation Element Policies OS-1.1 through OS-1.12 set forth measures designed to preserve and protect the county's scenic resources. These policies are also summarized in detail under Impact AES-1. These measures help to reduce impacts on Monterey's visual character by including requirements that prohibit ridgeline development, encourage the preservation of significant natural areas through the use of economic tools such as development credits and conservation easements, and require that the disruption of

views from designated scenic routes be mitigated through use of appropriate materials, scale, lighting, and siting of development.

Area Plan Policies

The Area Plan contains a number of policies designed to protect scenic resources, including views from scenic highways and therefore help to reduce impacts on Monterey's visual character. These scenic resource policies are summarized under Impact AES-1 and Impact AES-2.

Agricultural Winery Corridor Plan

The AWCP would allow the development of a maximum of 40 artisan wineries, 10 full-scale wineries, and 10 stand-alone tasting rooms along the three corridors specified in the plan. In addition, the AWCP identifies the maximum number of each type of facility that can be developed on each corridor to balance development and avoid over concentration of facilities in one area. These limitations would largely maintain the existing visual character along the three corridors and prevent a substantial degradation of the agricultural character of the AWCP area. Moreover, all facilities developed in accordance with the AWCP would be agricultural-supporting and would complement the agricultural character of the area.

The AWCP recognized that "important visual elements such as native trees, ridgelines, frontal slopes, and scenic road corridors are especially critical to give the Corridor its identity." The AWCP has established design criteria have been established with the intent to design the wineries to achieve continuity and establish a larger visual context that creates a sense of place and seeks to encourage creativity while creating an overall vision for the AWCP that is in keeping with the existing rural character.

The AWCP is a component of the 2007 General Plan and is consistent with its proposed goals and policies including those that pertain to visual character. These policies are summarized under Impact AES-3. Furthermore, all wineries and tasting rooms that would be developed in accordance with the AWCP would be required to comply with the County's applicable design policies and ordinances, including those contained in the AWCP.

Precise locations of future AWCP facilities are unknown at the time of this writing, and therefore, it is speculative to engage in further analysis of visual character impacts. Further analysis of potential visual character impacts will be done at the project level.

CEQA Review

In addition, future discretionary development activities contemplated by the 2007 General Plan would be required to undergo environmental review pursuant to CEQA. This review would include assessment of potential impacts on visual character.

Significance Determination

Development and land use activities contemplated by the proposed 2007 General Plan would result in substantial changes to the county's visual character in the Community Areas, Rural Centers, AHOs and lots of record in the county. These areas would experience more intense urban development that would fundamentally change their visual appearance. Depending on the particular projects pursued in the county, new development allowed by the 2007 General Plan would vary and is not knowable at this time, although changes to valleys, vegetation, and watercourses could occur. While urban uses would primarily be sited in locations that already support urban development, the introduction of additional urban development in these areas would irreversibly alter the localized visual character of these portions of the unincorporated county.

The 2007 General Plan and Area Plan polices set forth comprehensive measures and land use concepts to avoid and minimize adverse impacts on visual character to the maximum extent practicable. The General Plan and Area Plan policy discussion on the previous pages explains how impacts would be reduced. These policies emphasize aesthetic compatibility through approaches such as city-centered growth and preservation of natural areas that would direct future growth away from scenic areas that would be most deleteriously impacted by urban development. The 2007 General Plan is a programmatic document intended to provide a framework for development in the county. It is speculative to analyze specific impacts to visual character in the Community Areas, Rural Centers, AHOs and lots of record as those impacts will depend on the development pursued in the county in the coming years. The plans and policies set into place as a result of the 2007 General Plan would protect the visual character of the county, but further environmental analysis as required by CEQA would occur on a project specific basis and appropriate mitigation for each development site would be identified at that time in order to ensure that the policies set forth in the 2007 General Plan are followed and that scenic resources avoided the greatest extent practicable. Furthermore, future development would be required to comply with all applicable zoning restrictions including those that pertain to setbacks, height restrictions, landscaping, and other aesthetic considerations.

Nonetheless, the 2007 General Plan would substantially and irreversibly degrade the existing visual character and quality of Monterey County in Community Areas, Rural Centers, AHOs and lots of record. State planning law, housing element provisions requires the County to provive sufficient development sites to meet its regional housing share. The growth centers

demonstrate that the County is meeting this state requirement. The County cannot prohibit new development, which would be the only way to reduce impacts to visual character to less than significant. Therefore, no mitigation is available to reduce the significance of this impact to a level of less than significant. Therefore, this is a significant and unavoidable impact.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is available.

Significance Conclusion

In summary, the 2007 General Plan and Area Plan polices set forth comprehensive measures and land use concepts to avoid and minimize adverse impacts on visual character to the maximum extent practicable. However, the alteration of Monterey County's localized visual character in designated growth areas would be an irreversible consequence of 2007 General Plan development up to the planning horizon of 2030. No mitigation is available to reduce the significance of this impact to a level of less than significant. Therefore, this is a significant and unavoidable impact.

Buildout

Impact of Development with Policies

New urban development under the proposed 2007 General Plan would result in the permanent conversion of undeveloped land to urban uses and alter the visual character of the 2007 General Plan growth areas beyond 2030 levels. After 2030, it is expected that the remaining land to be developed in the county would be the generally rurally located lots of record. Impacts to specific visual characteristics would be determined during the CEQA review process for each project proposed within the county and are not identifiable at this time because proposed future development cannot be projected. However, in a general sense it is possible to say that implementation of the 2007 General Plan would alter the visual character of the county.

2007 General Plan Policies

The 2007 General Plan contains goals and policies that address adverse impacts on the county's visual character from buildout of the 2007 General Plan and are discussed above.

Significance Determination

Buildout of the General Plan to 2092 would result in substantial changes to the county's visual character in the lots of record by substantially increasing the amount development in the county and the alteration of land use activities, primarily from agricultural to residential and commercial. These areas would experience more intense urban development that would fundamentally change their visual appearance. Depending on the particular

projects pursued in the county, new development allowed by the 2007 General Plan would vary and is not knowable at this time, although changes to valleys, ridgelines, vegetation and watercourses could occur. While urban uses would primarily be sited in locations that already support urban development, the introduction of additional urban development in these areas would irreversibly alter the localized visual character of these portions of the unincorporated county.

The 2007 General Plan and Area Plan polices set forth comprehensive measures and land use concepts to avoid and minimize adverse impacts on visual character to the maximum extent practicable. The General Plan and Area Plan policy discussion on the previous pages explains how impacts would be reduced. These policies emphasize aesthetic compatibility through approaches such as city-centered growth and preservation of natural areas that would direct future growth away from scenic areas that would be most deleteriously impacted by urban development. At the time of buildout, it is estimated that most of the remaining land to be developed in the county would be contained in lots of record, which are generally located in what are currently less developed areas of the county. However, development of the lots of record would still be required to follow the 2007 General Plan policies which protect scenic areas in the county.

The 2007 General Plan is a programmatic document intented to provide a framework for development in the county. It is speculative to analyze specific impacts to visual character in the lots of record as those impacts will depend on the development pursued in the county in the coming years. The plans and policies set into place as a result of the 2007 General Plan would protect the visual character of the county, but further environmental analysis as required by CEQA would occur on a project specific basis and appropriate mitigation for each development site would be identified at that time in order to ensure that the policies set forth in the 2007 General Plan are followed and that scenic resources are avoided the greatest extent practicable. Furthermore, future development would be required to comply with all applicable zoning restrictions including those that pertain to setbacks, height restrictions, landscaping, and other aesthetic considerations.

Nonetheless, the 2007 General Plan would substantially and irreversibly degrade the existing visual character and quality of Monterey County in lots of record. State planning law, housing element provisions requires the County to provide sufficient development sites to meet its regional housing share. The growth centers demonstrate that the County is meeting this state requirement. The County cannot prohibit new development, which would be the only way to reduce impacts to visual character to less than significant. Therefore, no mitigation is available to reduce the significance of this impact to a level of less than significant. Therefore, this is a significant and unavoidable impact.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is available.

Significance Conclusion

The 2007 General Plan and Area Plan polices set forth comprehensive measures and land use concepts to avoid and minimize adverse impacts on visual character to the maximum extent practicable. However, the alteration of Monterey County's localized visual character in lots of record would be an irreversible consequence of 2007 General Plan buildout through 2092. No mitigation is available to reduce the significance of this impact to a level of less than significant. Therefore, this is a significant and unavoidable impact.

Light and Glare

Impact AES-4: Implementation of the 2007 General Plan could create substantial new sources of light and glare that would adversely affect day or nighttime views in the area. (Significant Unavoidable Impact.)

2030 Planning Horizon

Impact of Development with Policies

New urban development in the proposed 2007 General Plan growth areas during the planning horizon would result in the permanent conversion of undeveloped land to urban uses. See Exhibit 3.1 for an illustration of the types of land use that would be allowed in accordance with the 2007 General Plan. Development actually occurring with the county would depend on the particular projects pursued in the county and cannot be determined at this time, but may include roads, utilities, structures, earthworks, and the results of other human activities. New sources of night time lighting resulting from new urban development in designated growth areas allowed by the implementation of the 2007 General Plan could result in light trespass, light pollution, and glare. Light trespass is unwanted light from a neighboring property or roadway and can be both a nuisance and a health and safety risk if it adversely affects visibility for tasks like driving. Light pollution has a broader and more cumulative impact than light trespass to county residents. Excessive nighttime lighting could result in sky glow, the haze of light that surrounds highly populated areas and reduces the ability to see the stars. This could change the appearance of the nighttime sky over the long term. New sources of light and glare in Community Areas and Rural Centers adjacent to agricultural areas would alter the visual appearance of these landscapes. Specific impacts to surrounding land uses from future development cannot be determined at this time due to the dependence of the impacts on the developments' design characteristics, orientation, location, and other project specific information. However, it is possible to say that collectively, these new sources of light and glare could degrade and diminish daytime and nighttime views of visual resources such as valleys, ridgelines, vegetation, watercourses, and coastlines. This would be a significant impact.

2007 General Plan Policies

The 2007 General Plan contains goals and policies that help reduce light and glare impacts.

Land Use Element

Land Use Element Policies LU-1.1 through LU-1.10 and LU-2.2 establish general land use concepts that emphasize city-centered growth, compatibility between adjacent land uses, and the conservation of natural areas. These policies are summarized in detail under Impact AES-1. Collectively, these policies promote compact-urban growth in existing developed areas and therefore discourage growth in natural areas where light and glare impacts would be most deleterious to nighttime views.

Land Use Element Policy LU-1.13 specifically addresses light and glare impacts. The policy requires that all exterior lighting shall be unobtrusive and constructed or located so that only the intended area is illuminated, long-range visibility is reduced, and offsite glare is fully controlled. The policy also stipulates that new criteria to guide the review and approval of exterior lighting be developed.

Open Space and Conservation Element

Open Space and Conservation Element Policies OS-1.1 through OS-1.12 set forth measures designed to preserve and protect the county's scenic resources. These policies are also summarized in detail under Impact AES-1. These measures help reduce light and glare impacts by prohibiting ridgeline development, encouraging the preservation of significant natural areas through the use of economic tools such as development credits and conservation easements, and a requirement that the disruption of views from designated scenic routes be mitigated through use of appropriate materials, scale, lighting, and siting of development.

Area Plan Policies

Area Plans contain a number of policies designed to protect scenic resources from light and glare. In addition to the Area Plan policies summarized under Impact AES-1, the following area plans include additional policies that specifically pertain to light and glare.

Central Salinas Valley Area Plan

There are no additional policies related to light and glare in the area plan.

Carmel Valley Master Plan

Policy CV-3.16 (outdoor sports) prohibits lighting for outdoor sports where it would be visible from offsite locations. Policy CV-3.17 (street lighting) stipulates that street lighting be unobtrusive and harmonious with the local character, constructed and located to illuminate only the intended area, and prevent offsite glare.

Toro Area Plan

Policy T-3.5 (minimize light sources) requires that exterior and outdoor lighting be located, designed, and enforced to minimize light sources and preserve the quality of darkness. The policy also requires that street lighting be as unobtrusive as practicable.

Cachagua Area Plan

Policy CACH-1.6 (night sky) reduces light and glare by not allowing exterior lighting to exceed the minimum required to assure safety.

Agricultural Winery Corridor Plan

New wine making and tasting facilities contemplated by the AWCP would emit new sources of light and glare from outdoor lighting and reflective building materials. However, as noted above, the AWCP prescribes a maximum number of wine-related facilities on each corridor to avoid over concentrating these facilities in one area. This would disperse new sources of light and glare in a manner that would substantially reduce adverse impacts to a level of less than significant.

The AWCP requires that parking areas that are generally visible from a public road landscaping shall be integrated to soften the appearance and to buffer headlights from shining onto the roadway. Lighting poles and fixtures will be designed, located and operated in a manner to focus light on the subject property and limit off-site glare. Also, entry signs will have no internal illumination or neon tubing and limited back lighting for visibility in fog and dim lighting.

The AWCP is a component of the 2007 General Plan and is consistent with its proposed goals and policies including those that pertain to light and glare. These policies are summarized under Impact AES-4. Furthermore, all wineries and tasting rooms that would be developed in accordance with the AWCP would be required to comply with the county's applicable light and glare policies and ordinances, including those contained in the AWCP.

Precise locations of future AWCP facilities are unknown at the time of this writing, and therefore, it is speculative to engage in further

analysis of light and glare impacts. Further analysis of potential light and glare impacts will be done at the project level.

Community Area Policies

Fort Ord Master Plan

Program A-4.3 (direction of lighting) reduces light and glare impacts by requiring that the County shall direct all lighting in the Community Park and in the residential areas west of the RV parcel away from the natural lands in the habitat corridor. Biological Resources Policy C-3 (lighting and wildlife) reduces light and glare impacts by requiring that lighting of outdoor areas shall be minimized and carefully controlled to maintain habitat quality for wildlife in undeveloped natural lands. Street lighting shall be as unobtrusive as practicable and shall be consistent in intensity throughout development areas adjacent to undeveloped natural lands. Program C-3.1 (development review) helps to reduce impacts by requiring that the County review lighting and landscape plans for all development applications to ensure consistency with Policy C-3.

CEQA Review

In addition, future discretionary development activities contemplated by the 2007 General Plan would be required to undergo environmental review pursuant to CEQA. This review would include assessment of potential impacts on light and glare.

Significance Determination

New urban development permitted by the 2007 General Plan would result in localized adverse light and glare impacts on nighttime views in designated growth areas. The 2007 General Plan and Area Plan polices set forth comprehensive measures and land use concepts to avoid and minimize adverse impacts from light and glare to the maximum extent practicable. The General Plan and Area Plan policy discussion on the previous pages explains how impacts would be reduced. These policies emphasize aesthetic compatibility through approaches such as city-centered growth and preservation of natural areas that would direct future growth away from scenic areas that would be most deleteriously impacted by urban development.

The 2007 General Plan is a programmatic document intended to provide a framework for development in the county. It is speculative to analyze specific impacts to particular scenic resources along scenic highways as those impacts will depend on the development pursued in the county in the coming years. The plans and policies set into place as a result of the 2007 General Plan would reduce impacts from light and glare, but further environmental analysis as required by CEQA would occur on a project

specific basis and appropriate mitigation for each development site would be identified at that time in order to ensure that the policies set forth in the 2007 General Plan are followed and that impacts from light and glare are avoided the greatest extent practicable. These mitigation measures are best implemented on a project specific basis as they will then be tailored to the specifics needs of the site, development, and surrounding land uses.

While the 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts from light and glare to the maximum extent practicable (see General Plan and Area Plan policies discussion on the previous pages explains how impacts would be reduced), it would still create a new source of substantial light and glare that would adversely affect day and nighttime public views. As this is a programmatic document, it is not feasible to develop mitigation that would apply effectively to all future development in the county due to the differences of each development in their location, orientation, design, and proposed land uses. No mitigation is available to reduce the significance of this impact to a level of less than significant. Therefore, this is a Significant Unavoidable Impact of the 2007 General Plan.

Mitigation Measures

No mitigation beyond the 2007 General Plan policies is available.

Significance Conclusion

The 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts from light and glare to the maximum extent practicable. No mitigation is available to reduce the significance of this impact to a level of less than significant. Therefore, this is a Significant Unavoidable Impact of the 2007 General Plan.

Buildout

Impact of Development with Policies

Buildout of the 2007 General Plan in 2092 would result in localized adverse light and glare impacts on nighttime views in lots of record from new urban development permitted by the General Plan. See Exhibit 3.1 for an illustration of the types of land use that would be allowed in accordance with the 2007 General Plan. Development actually occurring within the county would depend on the particular projects pursued in the county and cannot be determined at this time, but may include roads, utilities, structures, earthworks, and the results of other human activities. New sources of night time lighting resulting from new urban development in and around lots of development allowed by the implementation of the 2007 General Plan could result in light trespass, light pollution, and glare. Light trespass is unwanted light from a neighboring property or roadway and can be both a nuisance and a health and safety risk if it adversely affects visibility for tasks like driving. Light pollution has a broader and more cumulative impact than light trespass

to county residents. Excessive nighttime lighting could result in sky glow, the haze of light that surrounds highly populated areas and reduces the ability to see the stars. This could change the appearance of the nighttime sky over the long term. New sources of light and glare in and around lots of record adjacent to agricultural areas would alter the visual appearance of these landscapes. Specific impacts to surrounding land uses from future development cannot be determined at this time due to the dependence of the impacts on the developments' design characteristics, orientation, location, and other project specific information. However, it is possible to say that collectively, these new sources of light and glare could degrade and diminish daytime and nighttime views of visual resources such as valleys, ridgelines, vegetation, watercourses, and coastlines. This would be a significant impact.

2007 General Plan Policies

The 2007 General Plan contains goals and policies that address light and glare impacts from buildout of the 2007 General Plan are discussed above.

Significance Determination

Buildout of the 2007 General Plan to 2092 would result in localized adverse light and glare impacts on nighttime views in designated growth areas. The 2007 General Plan and Area Plan policies set forth comprehensive measures and land use concepts to avoid and minimize adverse impacts from light and glare to the maximum extent practicable. The General Plan and Area Plan policy discussion on the previous pages explains how impacts would be reduced. These policies emphasize aesthetic compatibility through approaches such as city-centered growth and preservation of natural areas that would direct future growth away from scenic areas that would be most deleteriously impacted by urban development. At the time of buildout, it is estimated that most of the remaining land to be developed in the county would be contained in lots of record, which are generally located in what are currently less developed areas of the county. However, development of the lots of record would still be required to follow the 2007 General Plan policies which reduce impacts from light and glare.

The 2007 General Plan is a programmatic document intended to provide a framework for development in the county. It is speculative to analyze specific impacts to particular scenic resources along scenic highways as those impacts will depend on the development pursued in the county in the coming years. The plans and policies set into place as a result of the 2007 General Plan would reduce impacts from light and glare, but further environmental analysis as required by CEQA would occur on a project specific basis and appropriate mitigation for each development site would be identified at that time in order to ensure that the policies set forth in the 2007 General Plan are followed and that impacts from light and glare are avoided the greatest extent practicable. These mitigation measures are best

implemented on a project specific basis as they will then be tailored to the specifics needs of the site, development, and surrounding land uses.

While the 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts from light and glare to the maximum extent practicable (see General Plan and Area Plan policies discussion on the previous pages explains how impacts would be reduced), it would still create a new source of substantial light and glare that would adversely affect day and nighttime public views. As this is a programmatic document, it is not feasible to develop mitigation that would apply effectively to all future development in the county due to the differences of each development in their location, orientation, design, and proposed land uses. No mitigation is available to reduce the significance of this impact to a level of less than significant. Therefore, this is a Significant Unavoidable Impact of the 2007 General Plan.

Mitigation Measures

No additional mitigation beyond the 2007 General Plan policies are available.

Significance Conclusion

Buildout of the General Plan in the year 2092 would create new sources of substantial light and glare that would adversely affect day and nighttime public views from urban development in lots of record. While the 2007 General Plan and Area Plan policies set forth comprehensive measures to avoid and minimize adverse impacts from light and glare to the maximum extent practicable, this would still remain an irreversible consequence of buildout of the General Plan in the year 2092. No mitigation is available to reduce the significance of this impact to a level of less than significant. Therefore, this is a Significant Unavoidable Impact of the 2007 General Plan.

4.14.7 Level of Significance after Mitigation

Alteration of the localized visual character (Impact AES-3) and the introduction of new sources of light and glare in designated growth areas (Impact AES-4) would be Significant and Unavoidable Impacts resulting from the implementation of the 2007 General Plan at the planning horizon in the year 2030 and at buildout in the year 2092. The Monterey County Board of Supervisors will be required to adopt a Statement of Overriding Considerations for these impacts if the proposed project is adopted. All other impacts would be less than significant and would not require mitigation.

4.15 Population and Housing

4.15.1 Abstract

Like most of California, Monterey County has increased in population over the past several decades. The 2000 U.S. Census reported that there were 401,762 persons in the County as of January 1, 2000. In its 2004 regional forecast, the Association of Monterey Bay Area Governments (AMBAG) estimates the County's overall population to be 432,600 as of 2005. (Association of Monterey Bay Area Governments 2004.) The unincorporated areas of the County account for approximately a quarter of that figure, while the cities account for the remaining three quarters. For the last several decades, the percentage of population residing in the unincorporated areas of the County has decreased in comparison to the population of the total County. Population projections for the Monterey Bay Area region forecast the unincorporated area of Monterey County sustaining the same historical level of growth. The County's five largest unincorporated communities are Prunedale, Castroville, Carmel Valley, Del Monte Forest, and Pajaro.

The 2007 General Plan is, by statutory requirement, growth inducing. It will have a significant and unavoidable impact on growth during both the 2030 planning horizon and 2092 full buildout. All potential population and housing impacts related to the displacement of housing units or people from development and land use activities contemplated by the 2007 General Plan would be less than significant and therefore would not require mitigation.

4.15.2 Existing Conditions

4.15.2.1 Population

Over the past several decades, Monterey County has seen a steady, if sometimes uneven, increase in population. Changes in the economy such as the closure of Fort Ord, the housing cost run-up and subsequent lending collapse, and the growing reuse of the former Fort Ord contribute to the ups and downs that mark the progress of Monterey County's growth. In the three decades between 1970 and 2000, the County's total population increased from 247,450 to 401,762 persons, a change of just over 62%. The decade with the largest percentage population growth was 1980–1990, when the population increased by 22%. Table 4.15-1 provides a graphical representation of population growth in Monterey County between 1970 and 2000.

Estimates of the County's existing population and future growth vary as statisticians attempt to correct for current downward trends in the economy. For example: AMBAG's 2004 regional forecast estimated the County's total 2005

population to be 432,600. (Association of Monterey Bay Area Governments 2004.) In December 2007, the California Department of Finance provisionally estimated the County's population to be 425,356 (7,244 residents less than the 2004 AMBAG estimate for 2005), as of July 1, 2007. (California Department of Finance 2007); and the AMBAG 2008 regional forecast estimated the County's population to be 422,632 (9.968 residents less than the 2004 AMBAG estimate) (Association of Monterey Bay Area Governments 2008b). The actual population is somewhere between these numbers.

As just noted, AMBAG has adopted a new regional forecast for growth to 2035, including projected growth for Monterey County. The 2008 regional forecast estimates the County's total 2005 population to have been 422,632 persons, 106,117 of whom lived in the unincorporated area. The 2008 forecast forecasts the County's 2030 population to be 515,549 persons; 113,628 of whom would live in the unincorporated area. (Association of Monterey Bay Area Governments 2008b)

For the purposes of this EIR, we will utilize AMBAG's 2004 population projections. There are several good reasons for doing so. First, AMBAG's 2004 projection forms the basis for the regionally approved traffic model. Using these projections provides consistency between population and traffic assumptions. Second, the adopted Housing Element of the Monterey County General Plan is based on the 2004 population projections. Using the same projections retains internal consistency between the elements of the General Plan. Third, the 2004 AMBAG projections are somewhat higher than those of both the California Department of Finance and AMBAG's 2008 projections. Using the higher projections for purposes of CEQA analysis leads to more conservative results. In other words, it may lead to overestimating the potential impacts. That is preferable to underestimating impacts. Last, the 2008 Air Quality Management Plan is based on the 2004 AMBAG projections. Using the same projections provides consistency between population and air quality assumptions.

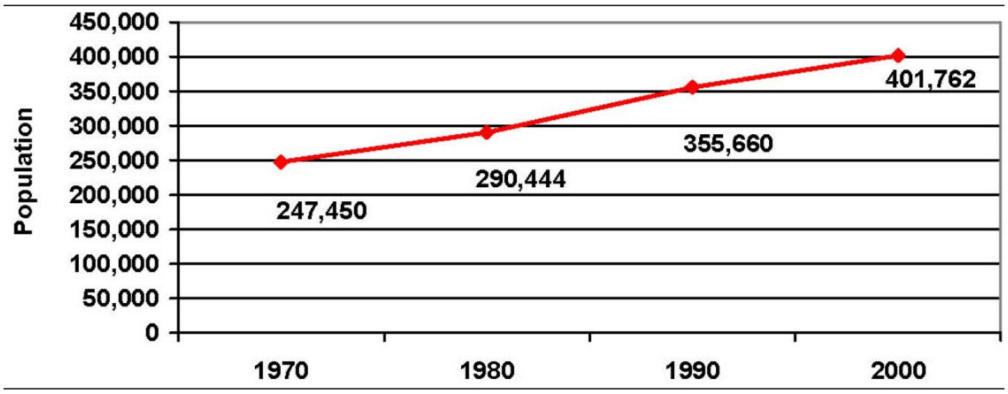
Utilizing the 2004 AMBAG projections does not commit the County to that level of growth. Projections do not limit or expand the policies established in the General Plan. As the differing projections illustrate, growth is the result of a variety of factors acting on the policy landscape created by the General Plan.

The 2004 AMBAG projections have been adjusted to provide an estimate for county population in 2006. This adjusted estimate of 2006 population, housing, and employment accounts for city annexations expected to occur between 2000 and 2030. In other words, areas expected to be annexed to the cities are shifted to the city's populations. A similar shift is made in the traffic model to ensure that the Traffic Analysis Zones (TAZs) reflect the correct jurisdiction.

Population estimates for the unincorporated county and incorporated cities for the past 25 years are summarized in Table 4.15-2. Overall, the County's total population increased by about 46% between 1980 and 2005, with most of that growth occurring in incorporated cities. In real numbers, the unincorporated

population increased by about 24,183 persons while the incorporated population grew by about 111,917 persons.

Table 4.15-1. County of Monterey Population 1970–2000



Source: U.S. Census Bureau 1970, 1980, 1990, 2000.

Table 4.15-2. Population Summary (1980–2005)

Jurisdiction	1980	1990	2000	2005	% Change (1980–2007)
Unincorporated Monterey County	85,900	100,461	105,673	110,083	28%
Incorporated Cities	210,600	255,199	293,631	322,517	53%
County Total	**296,500**	**355,660**	**399,304**	**432,600**	**46%**

Source: California Department of Finance 2005; Association of Monterey Bay Area Governments 2004.

For the last several decades, the percentage of population residing in the unincorporated areas of the County has decreased in comparison to the population of the County as a whole. In 1980, population in the unincorporated areas represented about 29% of the total countywide population. By 2000, that percentage had decreased to 25% of total countywide population. This indicates that the incorporated areas of the County are growing at a somewhat faster rate than the unincorporated areas. Table 4.15-3 shows the change in Monterey County's unincorporated population between 1980 and 2007.

Table 4.15-3. County of Monterey: Unincorporated Population as a Percentage of Total Population

	Total County Population (Incorporated and Unincorporated Areas)	Unincorporated Area Population	Unincorporated Population as a Percentage of Total County Population
1980	290,444	84,497	29%
1990	355,660	100,479	28%
2000	401,762	100,258	25%
2005	432,600	110,083	25%

Sources: U.S. Census Bureau 1980, 1990 and 2000; Association of Monterey Bay Area Governments 2004.

According to the 2000 U.S. Census, the most recently available count, approximately 49% (49,528 persons) of the County's unincorporated population resided in an unincorporated community, such as those listed in the table below. The largest of these communities is Prunedale, which had 16,432 residents in 2000. Table 4.15-4 lists the unincorporated communities by population in 2000.

Table 4.15-4. Population Distribution in Unincorporated Areas (2000)

Community	Population	Community	Population
Prunedale	16,432	Chualar	1,444
Castroville	6,742	Boronda	1,325
Carmel Valley Village	4,700	San Ardo	501
Del Monte Forrest	4,531	Spreckels	485
Pajaro	3,384	San Lucas	419
Las Lomas	3,078	Moss Landing	300
Aromas	2,797	Bradley	120
Toro Canyon	1,697	Remaining Unincorporated	50,730
Elkhorn	1,591	**Total**	**100,258**

Source: U.S. Census Bureau 2000.

Between 1970 and 2000, the County experienced a 62.3% increase in population. Annual growth averaged 1.7% during the 1970s; 2.2% during the 1980s; and 1.7% during the 1990s. Based on population growth forecasts issued by AMBAG, population growth in the total County and the unincorporated areas of the County is expected to sustain the same level of growth. (Association of Monterey Bay Area Governments 2004.)

Forecasted Population Growth

AMBAG is the designated Metropolitan Planning Agency for Monterey, Santa Cruz, and San Benito Counties. As such, it is responsible for establishing housing needs projections for these counties, as well as preparing the regional transportation plans. In conjunction with this work, AMBAG's *2004 Population, Housing Unit and Employment Forecasts* projects growth for the cities and the unincorporated area within each county. AMBAG has projected growth in Monterey County through 2030 in five-year increments, considering housing permits, the availability of water, and other factors, and allocated its growth projections accordingly. Thus, the Monterey Peninsula, which has significant water constraints, is projected to accommodate much lower levels of growth than the Salinas Valley, which is less constrained in terms of water supply.

For the reasons discussed above, this EIR will rely upon the 2004 AMBAG projections. Between 2000 and 2030, AMBAG projects that Monterey County will grow to a population of approximately 602,731, which translates to an average annual growth rate of 1.36%. AMBAG anticipates that the proportion of Monterey County residents living in the unincorporated areas of Monterey County will decrease between 2005 and 2010 because of future annexations to the cities. AMBAG projections are summarized below.

Table 4.15-5. AMBAG Growth Projections

Year	Monterey County Population	Change From Previous	Unincorporated County Population	Change From Previous
2000	401,312	–	100,252	–
2005	432,600	7.8%	110,803	9.8%
2010	464,847	7.5%	105,485	-4.2%
2015	495,961	6.7%	114,776	8.8%
2020	527,069	6.3%	124,067	8.1%
2025	564,903	7.2%	129,721	4.6%
2030	602,731	6.7%	135,375	4.4%

Source: Association of Monterey Bay Area Governments 2004.

Housing

Housing unit estimates for the unincorporated county and incorporated cities from 1990 to 2006 are summarized in Table 4.15-6. The 1990 and 2000 numbers reflect U.S. Census returns for those years; the 2006 number is the AMBAG estimate for the year 2005, with an additional year of development extrapolated. The County's housing stock increased by approximately 12.5% between 1990 and 2006. The estimated number of dwellings in the unincorporated area of the

County increased by about 4,313 units during that period. The number of dwellings in the incorporated cities increased by about 14,638 units during that period.

Table 4.15-6. Housing Summary (1990–2006)

Jurisdiction	1990	2000	2006	% Change (1990–2006)
Unincorporated Monterey County	34,342	37,139	38,655	12.5%
Incorporated Cities	86,882	94,569	101,520	16.8%
County Total	**121,224**	**131,708**	**140,175**	**15.6%**

Source: U.S. Census Bureau 1990, 2000; Association of Monterey Bay Area Governments 2004.

Annual Housing Report

The Monterey County Redevelopment and Housing Office annually prepares a report on housing demand, availability, and recommended strategies for meeting housing needs. The *Annual Housing Report 2008* found that in 2007 Monterey County as a whole was the second least affordable county in California (County of Monterey 2008). Current market conditions have depressed prices, and there are approved projects that are being delayed due to these conditions. Nonetheless, the relatively high prices and low supply, combined with the current credit crisis, mean that families and first-time buyers are having trouble entering the housing market.

In addition, the report found that Monterey County has a severe lack of multi-family rental housing (the 2007 vacancy rate was about 3%), and the need for affordable rental housing continues to increase. Very little rental housing has been built in the county, with only 37 units constructed in the unincorporated area in 2007. There is a lack of land in the unincorporated area that is zoned for higher density housing, so the cities have provided most of this supply.

Further, the increasing demand for special needs housing is outpacing the ability of non-profits to build new units. Farm workers, many of which are undocumented, often live in crowded, sub-standard housing conditions. The 2000 survey of agricultural workers reported in the 2001 *Farmworker Housing and Health Assessment Study of the Salinas and Pajaro Valleys* prepared for Monterey and Santa Cruz Counties (Applied Survey Research 2001) found that at that time, the median worker was spending at least 40% of their income on housing (30% is considered acceptable) that could not meet Housing and Urban Development Department quality standards. In addition, the average of 5.4 persons per household was about 50% higher than the average in the general population in the Salinas and Pajaro Valleys (Applied Survey Research 2001). The tight market, particularly in rental housing, only exacerbates the problems found in 2000.

In response, the county's housing strategy for 2008 will shift from simply encouraging housing programs and planning for additional housing, to producing actual housing units of the right type in the right place to serve identified needs. Ongoing planning activities include the East Garrison I project on the former Fort Ord, where the first phase of 414 residential units has been initiated. 30% of the residences in this phase will be affordable to households in the very low, low, moderate, and workforce income categories. Monterey County will continue work on the Castroville Community Plan by completing the process of amending the Local Coastal Program (LCP) for those areas within the Coastal Zone and programs to encourage planned development (the proposed LCP amendment is currently undergoing consideration by the Coastal Commission). The County will also continue the process of drafting the Boronda Community Plan.

New strategies for 2008 will include working with local employers to increase the supply of farmworker housing; working with housing developers, housing advocacy groups, and service providers to create affordable housing for special needs groups, including the disabled and mentally ill; and exploring the use of "green" building practices that would benefit low- and moderate-income households (County of Monterey 2008).

Regional Housing Needs Allocation

Pursuant to California planning law, each city and county's general plan must contain a housing element. The purpose of the housing element is to identify the potential need for housing among all segments of the population and to make provisions to accommodate that housing need over a five-year planning period. Each jurisdiction's housing need is determined through an allocation process undertaken by the regional Council of Governments, based on population and housing projections provided by the California Department of Housing and Community Development (HCD) from Department of Finance data. The city or county is required to amend its housing element in response to the new housing need allocations. The amended housing element must be submitted to HCD for review and certification.

In Monterey County, AMBAG prepares the Regional Housing Need Allocation (RHNA) for the local jurisdictions within Monterey and Santa Cruz Counties. This allocation is based on population growth forecasts, economic characteristics, and ability to accommodate growth. Each of these factors is considered and each jurisdiction is ultimately assigned a "fair share" allocation of the region's projected growth: a target number of new dwelling units to be provided by for all income levels (very-low, low, moderate, and above-moderate).

During 2001–2002, AMBAG developed the 2000–2007 RHNA and, in the fall of 2002, the AMBAG Board of Directors certified the final numbers. The estimated number of housing units needed as determined and certified by AMBAG reflect the planning period from January 1, 2000 to June 30, 2007. State legislation was adopted in 2003 extending the planning period for AMBAG communities to June 30, 2008. Therefore, the planning period used in the adopted Housing Element is

from January 1, 2000 through June 30, 2008, consistent with the AMBAG estimates.

After review by the County and cities, AMBAG adopted the 2007–2014 RHNA, with revisions, on April 12, 2008. On January 4, 2008, HCD had provided AMBAG with a revised Regional Housing Need Determination letter based on the enactment of Assembly Bill 1259. This legislation extended the regional planning period by one year. Accordingly, the new determination letter established 2007 to 2014 as the effective RHNA planning period. The new determination from HCD also reduced the regional housing need by approximately 40%, reflecting the Department of Finance's lowered population forecasts for Monterey County. AMBAG's 2007–2014 RHNA reflects both the Department of Finance's lowered population forecasts for Monterey County and a proportional allocation of an additional year of housing needs. Pursuant to Housing Element Law, the County will have until June 30, 2009 to update their housing element.

The 2007–2014 RHNA allocates 1,554 total dwelling units to unincorporated Monterey County. The number of dwelling units by income level is summarized in Table 4.15-7.

Table 4.15-7. Monterey County (Unincorporated) Dwelling Unit Allocation

Household Income Level	Dwelling Units
Very Low (< $88,440 year)	342
Low ($88,441 - $123,817)	264
Moderate ($123,818 - $227,000)	295
Above-Moderate (> $227,000)	653
Total	**1,554**

Source: Association of Monterey Bay Area Governments 2008.

Between October 1, 2004 and October 1, 2005 a total of 354 new housing units were constructed or were under construction in the unincorporated areas of the County. Of this figure, 250 were building permits for single-family residential units, 26 permits were for mobile home units on permanent foundations, and 78 were permits for multi-family residential units. All of the 78 multi-family units are within projects developed by non-profits with County assistance. As this data indicates, most of the housing being constructed in the County, particularly housing constructed by the private market, continues to be single-family units, most of which is on large lots, typically affordable to only to a small percentage of the existing population.

At the same time, the County has been making a concerted effort to provide smaller lots and multiple-family residences in newer development approvals. For example, the East Garrison Specific Plan described above includes small lot and multi-family components. "The Commons at Rogge Road" project (designated

as a pilot project for the Affordable/Workforce Housing Incentive Program) located east of Salinas includes 171 units on 12.5 acres. The revised Rancho San Juan project approved in 2008 will include 367 high-density residential units on approximately 20 acres. The Castroville Community Plan similarly includes approximately 265 units within areas designated as high- or high mixed-density.

The 2007–2014 RHNA allocates 11,913 total dwelling units to Monterey County and its cities. The number of dwelling units by income level is summarized in Table 4.15-8.

Table 4.15-8. Monterey County Dwelling Unit Allocations

	Income Category				
Jurisdiction	Revised Allocation	Very Low	Low	Moderate	Above Moderate
Carmel	32	7	5	6	14
Del Rey Oaks	150	33	26	29	63
Gonzales	689	151	117	131	289
Greenfield	538	118	91	102	226
King City	571	126	97	108	240
Marina	1,913	421	325	363	803
Monterey	657	145	112	125	276
Pacific Grove	120	26	20	23	50
Salinas	4,077	897	693	775	1,712
Sand City	120	26	20	23	50
Seaside	598	131	102	114	251
Soledad	897	197	152	170	377
Unincorporated County	1,554	342	264	295	653
Total	**11,913**	2,621	2,025	2,264	5,004

Source: Association of Monterey Bay Area Governments 2008.

Monterey County General Plan Housing Element (2003)

Monterey County adopted its current 2002–2008 Housing Element on November 4, 2003, in accordance with the State requirement that each local jurisdiction update its housing element every five years. The next edition of the County Housing Element is due to HCD by June 30, 2009 for review. It will reflect the allocations set out in the 2007–2014 RHNA for that seven-year time frame. The 2007 General Plan does not include revisions to the County's current Housing Element. Those will be drafted and adopted separately.

The 2003 Housing Element establishes the County's housing strategy for providing a range of housing types, as identified by AMBAG's 2000–2007 RHNA Plan. As of January 1, 2003, the County needed to produce 2,630 new dwelling units in the unincorporated area. The Housing Element shows an adjusted number of 2,511 units to account for units approved between the adoption of the 2000–2007 RHNA and the Housing Element. The 2003 Housing Element used the existing 1982 General Plan land use map as the basis for identifying potential housing opportunities. The Housing Element focuses on compact development within existing areas of development or adjoining existing development. These areas will be within community area plans that will provide the policy basis for compact development and the delivery of needed services. The most recent Annual Implementation Report for the Housing Element prepared by the Monterey County Resource Management Agency Office of Housing and Redevelopment (approved February 6, 2007) indicates that the County has made progress toward meeting the dwelling unit allocation targets.

The 2007–2014 RHNA numbers anticipate a need to produce substantially less housing within the unincorporated area of the county in the period between 2007 and 2014 than was allocated for the 2000–2007 period. This reflects the lowered population estimates and growth rates projected by both the California Department of Finance and AMBAG. The 2007 General Plan will provide for concentrations of growth in the Community Areas and Rural Centers. These are anticipated to meet the needs allocated by the 2007–2014 RHNA.

4.15.3 Regulatory Framework

4.15.3.1 California Housing Element Requirements

The Housing Element is one of seven elements required to be included in the County's General Plan. State law specifies that the Housing Element must assess housing needs and evaluate the current housing market in the County and then identify programs that will meet housing needs during a five-year planning period. The housing market evaluation includes a review of housing stock characteristics as well as housing cost, household incomes, special need households, availability of land and infrastructure, governmental constraints to housing production, and various other factors. In addition to this information, the Housing Element must evaluate and review its past housing programs and consider this review in planning future housing strategies. (Government Code Section 65580 et seq.) In addition, the housing element will have to demonstrate that sufficient areas in the county are zoned at high enough densities to accommodate very low- and low-income housing (20 units per acre) and as part of that inventory, demonstrate what can actually be achieved given site constraints such as the availability of infrastructure. (Government Code Section 65583.2) State law provides that housing elements are subject to review by HCD and must be updated every five years. However, in practice the planning period has been routinely extended by state law each time there is insufficient money in the State budget to cover the costs of the regional agencies' housing needs

allocation process. As a result, the housing element is currently based on a seven-year period.

As described above, the housing need to be addressed by the Housing Element comes from the adopted RHNA. Housing Element law does not obligate the County itself to provide the housing identified in the housing need. It does obligate the County to provide opportunities for the private sector to build that housing during the seven-year period.

4.15.3.2 California Relocation Law

California Relocation Law (Health and Safety Code Section 33410 et seq.) requires redevelopment agencies to provide replacement housing at comparable costs to any displaced residents. Pursuant to Health and Safety Code Section 33411.1: "no persons or families of low and moderate income shall be displaced unless and until there is a suitable housing unit available and ready for occupancy by such displaced person or family at rents comparable to those at the time of their displacement. Such housing units shall be suitable to the needs of such displaced persons or families and must be decent, safe, sanitary, and otherwise standard dwelling. The [redevelopment] agency shall not displace such person or family until such housing units are available and ready for occupancy."

4.15.3.3 Monterey County Housing Element

The Goals and Policies of the adopted Housing Element include policies that address population and housing growth in the unincorporated areas of the County and provide guidance for the balanced growth of population and housing so that it integrates into the existing housing stock and community neighborhoods. As discussed above, the Housing Element accommodates new and rehabilitated housing to meet the County's current RHNA.

4.15.3.4 Monterey County Inclusionary Housing Program

Monterey County has enacted a program requiring that at least 20% of new homes be price-restricted so that they will be sold or rented at below market rates to qualified households. Qualified households cannot make more than 120% of the median county income (defined as low- or moderate-income) in order to take part in the program.

4.15.4 Project Impacts

4.15.4.1 Methodology

This analysis is based on development pursuant to the 2007 General Plan within the 2030 planning horizon and, separately, on full buildout in the year 2092. The buildout analysis is qualitative.

The baseline for analyzing the impacts that may result from adopting an updated general plan is the existing condition, not the existing general plan. (*Environmental Planning and Information Council v. County of El Dorado* (1982) 131 Cal.App.3d 354) Therefore, the analysis will examine land use changes resulting from development under the 2007 General Plan over the periods from 2006–2030 and 2006–2092.

4.15.4.2 Thresholds of Significance

The 2007 General Plan would result in a significant impact on population and housing if it would:

- Induce substantial population growth, either directly or indirectly;
- Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere; or
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

2092 Impact Discussion

Population Growth

Impact POP-1: Implementation of the 2007 General Plan would induce population growth in unincorporated Monterey County. (Significant Impact.)

2030 Planning Horizon

Impact of Development With Policies

Compared to the baseline of existing conditions, implementation of the 2007 General Plan would create new opportunities for the development of residential, commercial, and industrial land uses. Future growth would be located primarily in the cities and the county's Community Areas, Rural Centers, and Affordable Housing Overlays (AHO). The Community Areas and Rural Centers provide opportunities for residential, commercial, and

industrial development. The AWCP would create new job opportunities at full-scale and artisan wineries and their related activities. These additional growth opportunities would induce growth directly (i.e., through the construction of new dwelling units) or indirectly (i.e., through the creation of new jobs). This is a significant impact.

The 2007 General Plan has a 2030 buildout potential of approximately 10,015 additional dwelling units within the unincorporated area between 2006 and 2030 county. According to AMBAG's projections, this number of units would house an estimated 25,292 residents.

2007 General Plan Policies

The General Plan provisions for development describe the potential for accommodating and managing growth. The 2007 General Plan has numerous policies that are intended to ensure that development occurs with consideration of natural resources limits such as water supply, groundwater, important farmland, and habitat; the availability of services; hazards such as slopes, floodplains, and wildfire; and the concurrent provision of infrastructure to serve development, particularly in the Community Areas and Rural Centers. These policies are described in the impact sections in Chapter 4 of this EIR. The policies act to encourage development in the Community Areas, Rural Centers, and AHOs by providing infrastructure, and discourage development in natural resource areas, hazardous areas, and steep slopes. These policies would reduce potential impacts from growth inducement by setting guidelines for allowable growth within the county's natural thresholds.

The AWCP would allow for the development of 40 artisan wineries, 10 full-scale wineries, and 10 stand-alone tasting rooms on three corridors in the Salinas Valley. No substantial numbers of residences are planned to be built in conjunction with these wineries. However, the AWCP designation would allow a single-family residence, a guest house, and up to three employee residences at each winery, which would reduce the potential impacts from growth inducement in the AWCP area. In comparison, the County's zoning ordinance allows up to three residences, one guesthouse, and, with an administrative permit, farm labor housing for up to five families or 12 persons in its "Farmlands" zoning district.

Monterey County's HCD-certified Housing Element would accommodate up to 2,511 new dwelling units in the unincorporated area at various income levels over the 2003–2008 planning cycle. Section 3 of the Housing Element identifies a specific need for 821 units for very low income (0–50% of median income), 608 for low income (51–80% of median income), 937 for moderate income (81–120% of median income), and 145 for above moderate income households. The County's 2007–2014 RHNA totals 1,554 dwellings for all income categories. The

2007 General Plan will not hinder the County's next Housing Element revision from meeting this housing need.

Area Plan Policies

The North County Area Plan

Policy NC-1.5 (development on properties with residential land use designations located within the North County Area will be limited to a single new residence on any legal lot of record) would reduce impacts from growth inducement by limiting new development.

Greater Salinas Area Plan Policy GS-1.1 (Butterfly Village Special Treatment Area would permit up to 1,147 residential units for various income levels, with at least 38% of these available at affordable/workforce levels) would reduce impacts from growth inducement by limiting new residential units to be developed in the Butterfly Village Special Treatment Area.

Policy GS-1.13 (development on properties with residential land use designations located within the Greater Salinas Area Plan north of the City generally between Williams Road and Highway 101 will be limited to a single new residence on any legal lot of record) would reduce impacts from growth inducement by limiting new residential development in the area between Williams Road and Highway 101.

Toro Area Plan

Policy T-1.7 (development on properties with residential land use designations located within the Toro Area along the Highway 68 corridor will be limited to a single new residence on any legal lot of record) would reduce impacts from growth inducement by limiting new development.

Significance Determination

The population growth that would occur as a result of development during the 2030 planning horizon would represent a substantial increase over the current population. Since one of the statutory purposes of a general plan is to identify areas of future growth in order to accommodate projected housing needs, this is to be expected.

The 2007 General Plan provides sufficient flexibility in terms of its ability to accommodate growth to allow for the 2003 Housing Element to be implemented without obstruction. In order to provide a reasonable opportunity to obtain the RHNA housing goal, adequate potential area for development of various housing types has been provided in the Community Areas, Rural Centers, and AHOs. The 2007 General Plan maintains the

potential area for development as considered in the 2003 Housing Element, and therefore, would not conflict with its housing objectives.

The 2007 General Plan has a buildout potential of approximately 10,015 additional dwelling units within the unincorporated area of the County between 2006 and the planning horizon. The 2007 General Plan has identified five Community Areas and seven Rural Centers where future growth can be accommodated, with varying levels of development intensity in each place. The 2007 General Plan buildout potential and range of locations that can accommodate growth would ensure that implementation of the 2003 Housing Element would not be jeopardized. In addition, because the 2007 General Plan largely retains the land use designations of the 1982 General Plan (which are the basis of the 2003 Housing Element), there would be no conflicts between the two plans. Potential for residential development in the Community Areas between 2006 and 2030 would include approximately 3,295 dwelling units in Fort Ord, 574 dwellings in Chualar, 259 dwellings in Pajaro, 278 dwellings in Boronda, and 625 dwellings in Castroville. The Rural Centers of Pine Canyon (652 units), Bradley (306 units), San Ardo (184 units), and River Road (149) would provide the greatest numbers of residential units among the Rural Centers.

The AHO designations would authorize increased densities, up to 30 dwelling units per acre where services are available, for qualifying projects. If developed at full potential (30 units per acre), the Mid-Valley AHO would accommodate 149 residential units on approximately 13 acres; the Highway 69/ Reservation Road AHO would accommodate 356 residential units on approximately 31 acres; and the Highway 68/Airport AHO would accommodate 976 residential units on approximately 85 acres. An AHO project would generally be required to provide affordable units as follows: 10% very low; 15% low; 15% moderate; 20% workforce I; and 40% workforce II housing. Therefore, the 1,481 high-density residential units authorized within three AHOs under ideal circumstances would result in approximately 148 new very low-income units, 222 low-income units, 222 moderate-income units, 296 workforce I units, and 592 workforce II residential units. Depending upon property owners' desires, AHO designations would also apply in Community Areas prior to adoption of a Community Plan and in Rural Centers prior to adoption of an Infrastructure and Financing Study.

AWCP-related development would not result in substantial population growth. A full scale winery can be expected, on average, to employ 25 people full time and approximately 25 people part-time during peak operations during September/October. An artisan winery would employ 12 people full-time and another 4 people part-time during peak operations. (County of Monterey 2004.) ACWP winery employment would be approximately 730 full-time employees, with a peak seasonal employment of approximately 1,140 (730 full-time and 410 seasonal) employees. Assuming three or four wineries are built and opened each year over the planning period, about 12 to 16 full-time residential units would be added to the

county housing stock annually. By the 2030 planning horizon, this would result in a total of 50 full-time residences, 50 part-time guest residences, and up to 150 employee residences spread across the AWCP area. The employee residences would help to meet the county's need for workforce housing.

Assuming that each job reflects a housing unit, this would be a total housing demand for 1,140 dwellings over the planning period. Given that the typical family is supported by more than one worker (some of the full time and seasonal workers may share the same residence), and that a substantial proportion of the winery workers can be expected to be hired from existing residents (who presumably occupy existing residences), the new housing demand from winery build-out can be expected to be substantially less than 1,140 units. Although this reflects the growth of the wine industry, it does not create a growth inducing impact beyond that embodied in the 2007 General Plan as a whole.

The AWCP workforce housing would be accommodated within the cities, Community Areas, and Rural Communities. As illustrated by the 2007–2014 RHNA numbers, the Salinas Valley cities are expected to accommodate sufficient affordable housing opportunities for approximately 2,639 total residential units in the very low-, low-income categories and 1,286 residential units in the moderate-income category by 2014 (Association of Monterey Bay Area Governments 2008b). This covers only a portion of the 2007 General Plan planning period, and more housing is expected to be brought on in the period from 2014 to 2030. Therefore, sufficient housing would be available to satisfy the needs of the ACWP workers.

Mitigation Measures

California Planning Law requires a general plan to provide housing opportunities to meet the projected demand of all income levels. Therefore, a general plan must be growth-inducing in order to comply with California statutes. As discussed in detail in this EIR, the 2007 General Plan has numerous policies that will channel most new growth into the Community Areas, Rural Centers, and AHOs, as well as the incorporated cities. These will not, however, stop growth. The County has no authority to prohibit in-migration, prohibit development on legal lots, or to limit natural population increases. As a result, there is no mitigation that would avoid growth.

Significance Conclusion

The 2007 General Plan will result in substantial growth during the 2030 planning horizon. This will be a significant and unavoidable impact.

Buildout

Impact of Development With Policies

Ultimately, the 2007 General Plan would accommodate up to 74,573 dwelling units by 2092 if all available parcels were developed as currently designated. Whether buildout would actually reach this level and when depends upon the availability of urban services within the Community Areas and Rural Centers, as well as economic factors such as the cost of development, viability of the housing market, availability of financing, and others. Given the limitations of water supply (including extending domestic supply to scattered residences), access, and sewer service, this level of buildout is unlikely. Because buildout would occur about 85 years from now, at the current growth rate and assuming that sufficient services were made available, its impacts are too remote and speculative to discuss further. 85 years is beyond the planning horizon and no reasonable assumptions can be made with regard to future impacts.

2007 General Plan Policies

The policies of the 2007 General Plan would have a similar effect on the buildout as on the 2030 planning horizon. Assuming that policies are the same or more restrictive over time, the policies in effect by 2092 will reflect the same concerns as the 2007 General Plan policies.

Significance Determination

The number of dwellings in unincorporated Monterey County at buildout (estimated at 74,573) would be nearly double the number existing in 2005 (estimated at 38,665 units). The 2007 General Plan would encourage substantial growth over existing levels. Of course, this growth would occur over a long period of time and there may be occurrences of unknown severity that act to limit it (i.e., water supply availability, sea water intrusion into aquifers, sea level rise flooding existing development along the coast, etc.). But, what can be foreseen is that growth will continue.

Mitigation Measures

Assuming that land use law and Constitutional requirements are similar to those in effect today, there would be no feasible means of avoiding growth.

Significance Conclusion

Buildout would result in significant, unavoidable impacts.

Housing Displacement

Impact POP-2: Buildout of the 2007 General Plan would result in the displacement of existing housing units, necessitating the construction of new housing elsewhere. (Less Than Significant Impact.)

2030 Planning Horizon

Impact of Development with Policies

The 2007 General Plan Land Use Element emphasizes compact city-centered growth and discourages the encroachment of urban uses into undeveloped areas. Approximately 31.4% of the population growth in the unincorporated county contemplated by the 2007 General Plan would occur in the five Community Areas, all of which contain existing dwelling units. The Boronda, Castroville, Fort Ord, and Pajaro Community Areas are located in county redevelopment areas. Future growth in these Community Areas is anticipated to include redevelopment of underutilized properties within the redevelopment area as well as urbanization of existing, vacant, agricultural land adjoining the existing urbanized communities. Future growth in the Chualar Community Area would primary occur on agricultural land, thereby limiting the possibility that existing dwelling units would be displaced by 2007 General Plan buildout activities. Finally, future growth in the Rural Centers at higher densities would result in some level of displacement of low-density dwelling units, depending upon the market.

2007 General Plan Policies

The 2007 General Plan and Area Plan policies summarized below set forth comprehensive measures to avoid and minimize adverse impacts on existing housing to the maximum extent practicable.

Housing Element

Several policies in the adopted Housing Element provide guidelines for the preservation, rehabilitation and conversion of the existing housing stock.

Policies H-1.1(intensification of already developed areas), H-1.2 (rehabilitation assistance with unincorporated areas) and H-1.3 (replacement of housing) of the adopted Housing Element help maintain the existing number of affordable units through preservation, rehabilitation, or replacement. These policies would reduce impacts from displacement of existing housing by making more effective use of already developed areas through redevelopment and intensification of residential areas, conversion of commercial and other land uses to mixed-use development, and rehabilitation of existing housing stock. As discussed above, the Housing Element is required to identify sites for housing all

segments of the population. Beyond that, it must also provide a regulatory process that allows the construction of very low-, low-, and moderate-income housing to meet the County's assigned RHNA. The County Redevelopment and Housing Office has numerous programs that assist very low-, low-, and moderate-income households in obtaining quality housing. (County of Monterey 2008.)

Land Use Element

Policy LU-2.12 (AHO program) describes the AHO designations that would result in substantial new affordable dwelling units being available during the 2030 planning horizon.

Policy LU-2.13 (County must establish a program for retaining affordable housing units within redevelopment project areas (Boronda, Castroville, Fort Ord, and Pajaro are specifically listed), as well as Community Areas and Rural Centers prior to adoption of their plans and AHOs) sets out specific requirements for long-term affordability of rental and owner-occupied units that would be made available under the program. The policy would reduce potential impacts from existing housing displacement by encouraging the retention of existing affordable housing units.

Policy LU-2.14 (Affordable Housing Ordinance make 25% of all new housing units affordable to very low-, low-, moderate-, and workforce-income households) establishes the specific percentages to be provided for each type of affordable unit. This policy would effectively ensure that a portion of low- or moderate-income housing that would be lost if its site was developed for above-moderate income housing would be replaced and would reduce potential displacement impacts for persons or families who must be relocated.

California Relocation Law

Any redevelopment activities undertaken by the County of Monterey that result in the displacement of housing, such as might occur in the Boronda, Castroville, and Pajaro Community Areas, would be subject to the California Relocation Law. This would require replacement housing to be made available at comparable costs to any displaced residents. The redevelopment agency is not allowed to displace a person or family until the replacement housing units are available and ready for occupancy. This law reduces displacement impacts for persons or families who must be relocated due to new development.

Inclusionary Housing Program

Monterey County's existing inclusionary housing program requires that at least 20% of new homes be price-restricted so that they will be sold or rented at below market rates to qualified households. The inclusionary housing program would effectively replace a portion of low- or moderate-income housing that would be lost if its site was developed for above-moderate income housing and would reduce potential displacement impacts for persons or families who must be relocated.

Significance Determination

The potential for buildout of the 2007 General Plan displacing substantial numbers of dwelling units is extremely low. While County-directed redevelopment activities would displace existing housing in some situations, they would be required to comply with 2007 General Plan policies LU-2.13 and LU-2.14, as well as California Relocation Law requirements, that would mitigate those impacts by retaining affordable units where possible and requiring comparably-priced replacement units for any dwelling units that are removed. Under these policies, displacement of existing dwelling units would be offset to some extent by the creation of new dwelling units by redevelopment activities.

In areas that are not subject to redevelopment, the Housing Element policies and Policy LU-2.12 discussed above would promote the preservation of existing housing whenever practicable, as well as the provision of substantial amounts of high-density housing in the AHOs, Community Areas, and Rural Centers. High-density housing tends to be more affordable than single-family residences on large lots. In addition, the County's existing Inclusionary Housing Program and the assistance programs of the Redevelopment and Housing Office facilitate the construction and rehabilitation of housing stock to be made available to very low-, low-, and moderate-income households.

Mitigation Measures

No mitigation is necessary.

Significance Conclusion

The 2007 General Plan's policies, in concert with existing state and county laws would ensure that displacement of existing housing as a result of new development will be minimized. In turn, this will minimize the need to build replacement housing. Displacement of housing as a result of 2007 General Plan buildout would be a less than significant impact.

Buildout

Impact of Development with Policies

Ultimately, the 2007 General Plan would result in the buildout of all the AHOs (at least to the extent that landowners choose to take advantage of the opportunities for increased density), Community Areas, and Rural Centers. Assuming that the California Relocation Law and the 2007 General Plan policies described above remain in effect, replacement housing available at comparable prices will be constructed as part of the buildout.

2007 General Plan Policies

The policies of the 2007 General Plan and requirements of state law would have a similar effect on the buildout as on the 2030 planning horizon. Assuming that policies remain the same or become more restrictive over time, the policies in effect by 2092 will offer at least the same level of protection from displacement as the 2007 General Plan policies.

Significance Determination Existing and proposed policies and regulations would avoid significant effects resulting from housing displacement by minimizing such displacement and providing comparable replacement housing when displacement does occur.

Mitigation Measures

No mitigation is necessary.

Significance Conclusion

Buildout would result in less than significant impacts.

Population Displacement

Impact POP-3: Buildout of the 2007 General Plan would result in the displacement of persons, necessitating the construction of new housing elsewhere. (Less Than Significant Impact.)

2030 Planning Horizon

Impact of Development With Policies

As discussed under Impact POP-2, buildout of the 2007 General Plan would result in the displacement of existing dwelling units, particularly in those Community Areas where redevelopment activities would facilitate growth.

2007 General Plan Policies

The policies described under Impact POP-2 apply equally to Impact POP-3.

Significance Determination

Displacement of residents by development and redevelopment activities contemplated by the 2007 General Plan would be mitigated by the availability of vacant dwelling units in Monterey County and the goals and policies of the Housing Element. Policy LU-2.13 requires the County to establish a program for retaining affordable housing units within redevelopment project areas (Boronda, Castroville, Fort Ord, and Pajaro are specifically listed), as well as Community Areas and Rural Centers prior to adoption of their plans and AHOs. Moreover, any development or redevelopment activity that would result in the displacement of persons would be required to comply with California Relocation Law requirements.

Mitigation Measures

No mitigation is necessary.

Significance Conclusion

Potentially significant impacts pertaining to the displacement of residents would be reduced to a level of less than significant through the action of California Relocation Law, and policies of the 2007 General Plan intended to retain affordable dwelling units.

Buildout

Impact of Development With Policies

Ultimately, the 2007 General Plan would result in the buildout of all the AHOs (at least to the extent that landowners choose to take advantage of the opportunities for increased density), Community Areas, and Rural Centers. Assuming that the California Relocation Law and the 2007 General Plan policies described above remain in effect, replacement housing available at comparable prices will be constructed as part of the buildout.

2007 General Plan Policies

The policies of the 2007 General Plan and requirements of state law would have a similar effect on the buildout as on the 2030 planning horizon. Assuming that policies remain the same or become more restrictive over time, the policies in effect by 2092 will offer at least the same level of protection from displacement as the 2007 General Plan policies.

Significance Determination

Existing and proposed policies and regulations would avoid significant effects resulting from housing displacement by minimizing such displacement and providing comparable replacement housing when displacement does occur.

Mitigation Measures

No mitigation is necessary.

Significance Conclusion

Buildout would result in less than significant impacts.

4.16 Climate Change

4.16.1 Abstract

This section describes how development and other activities associated with 2007 General Plan would contribute to global climate change and the effect of climate change on the County.

Many of the policies identified in the 2007 General Plan for land use, circulation, and open space and conservation will help reduce greenhouse gas (GHG) emissions, in particular, Policy OS-10.11, which requires development of a detailed GHG inventory and adoption of a GHG Reduction Plan. Additional mitigation measures are described in this section to further inform the GHG Reduction Plan and to begin to implement reduction strategies. By 2012 the state's regulations will be fully enacted and the 2007 General Plan requires completion of the County's Greenhouse Gas Reduction Plan prior to that time (assuming General Plan adoption at the latest in 2009). At that time, the framework will be in place to achieve substantial GHG emission reductions by 2020 that will be consistent with the overall state goals for reductions called for in AB 32. As the state and the County's efforts proceed to reduce emissions, the County's contribution would be less than considerable in 2020. Mitigation identified in this chapter requires extension of the GHG Reduction Plan to 2030 along with a 2030 reduction goal, which, when enacted will make the County's contribution less than cumulatively considerable for the 2030 planning horizon as well.

For buildout within the County beyond the 2030 planning horizon, not all of the technology has been developed to implement reductions to meet the goals of Executive Order S-3-05, which requires reduction of GHG emissions to levels 80 percent below 1990 levels. Mitigation identified in this chapter requires continuation of the GHG Reduction Plan beyond 2030 as well as adoption of a new General Plan by 2030 that would examine options to focus growth for the period after 2030. These measures would identify feasible means along with state and federal actions that might be able to reduce emissions to 80 percent below 1990 levels, but given that the means to effect such emissions are not known at present, buildout within the County beyond 2030 is determined to make a considerably contribution to cumulative GHG emissions and global climate change.

A certain amount of environmental change is inevitable in Monterey County due to current and unavoidable future increases in GHG emissions worldwide. The extent of such change on a local basis to Monterey County agriculture, water supplies, flooding, natural ecosystems, and environmental health, and other areas is not fully understood at present. Mitigation identified in this section calls for the development and implementation of a Climate Change Preparedness Plan for the County starting within 5 years of adoption of this General Plan. As

adaptation to climate change is more fully integrated into County planning over time, new development will be more resilient to these inevitable changes and would avoid subjecting persons or property to otherwise avoidable additional physical harm.

4.16.2 Introduction

In this chapter, the potential impacts associated with GHG emissions from development under the 2007 General Plan are described at a program level and the impacts of climate change on Monterey County are described at a program level. The impact analysis is quantitative (where data are reasonably available) and qualitative (otherwise) and is not site-specific because of the wide geographical area covered.

4.16.3 Environmental Setting

This environmental setting provides a background on GHG emissions, climate change, and global, California, and County GHG emissions.

4.16.3.1 Greenhouse Gases

Activities such as fossil fuel combustion, deforestation, and other changes in land use result in the accumulation of GHGs such as carbon dioxide (CO_2) in our atmosphere. An increase in GHG emissions results in an increase in the Earth's average surface temperature, which is commonly referred to as *global warming.* Global warming is expected, in turn, to affect weather patterns, average sea level, ocean acidification, chemical reaction rates, precipitation rates, etc., in a manner commonly referred to as *climate change.*

Since the industrial revolution, concentrations of GHGs in the Earth's atmosphere have been gradually increasing. Recently recorded increases in the Earth's average temperature are the result of increased concentrations of GHG in the atmosphere. (Intergovernmental Panel on Climate Change 2007)

The Intergovernmental Panel on Climate Change (IPCC) has been established by the World Meteorological Organization and United Nations Environment Programme to assess scientific, technical, and socioeconomic information relevant to the understanding of climate change, its potential impacts, and options for adaptation and mitigation. The IPCC's best estimates are that the average global temperature rise between years 2000 and 2100 could range from 0.6°C (with no increase in GHG emissions above year 2000 levels) to 4.0°C (with substantial increase in GHG emissions) (Intergovernmental Panel on Climate Change 2007). Large increases in global temperatures could have massive deleterious impacts on the natural and human environments.

According to the Federal Environmental Protection Agency (EPA), a GHG is any gas that absorbs infrared radiation in the atmosphere. This absorption traps heat within the atmosphere creating a "greenhouse" effect that is slowly raising global temperatures. GHGs include water vapor, CO_2, methane (CH_4), nitrous oxide (N_2O), halogenated chlorofluorocarbons (HCFCs), ozone (O_3), perfluorinated carbons (PFCs), and hydrofluorocarbons (HFCs). Naturally occurring GHGs include water vapor, CO_2, CH_4, N_2O, and O_3. Many human activities add to the levels of most of these naturally occurring gases. CO_2 is released to the atmosphere when solid waste, fossil fuels (oil, natural gas, and coal), and wood and wood products are burned. N_2O is emitted during agricultural and industrial activities, as well as during combustion of solid waste and fossil fuels. CO_2 and N_2O are the two GHGs released in greatest quantities from mobile sources burning gasoline and diesel fuel. Methane, a highly potent GHG, results from off-gassing associated with agricultural practices and landfills, among other sources.

Sinks of CO_2[1] (which absorb, rather than produce, CO_2), include uptake by vegetation and dissolution into the ocean. Worldwide GHG production greatly exceeds the absorption capacity of natural sinks. As a result, concentrations of GHG in the atmosphere are on the increase. (California Energy Commission 2006)

Climate change is a global problem, and GHGs are global pollutants, unlike criteria air pollutants (such as ozone precursors) and toxic air contaminants (TACs), which are pollutants of regional and local concern.

4.16.3.2 Climate Change Impacts in California

Climate change could impact the natural environment in California in the following ways, among others:

- Rising sea levels along the California coastline, particularly in San Francisco and the San Joaquin Delta due to ocean expansion;
- Extreme-heat conditions, such as heat waves and very high temperatures, which could last longer and become more frequent;
- An increase in heat-related human deaths, infection diseases and a higher risk of respiratory problems caused by deteriorating air quality;
- Reduced snow pack and stream flow in the Sierra Nevada mountains, affecting winter recreation and water supplies;
- Potential increase in the severity of winter storms, affecting peak stream flows and flooding;
- Changes in growing season conditions that could affect California agriculture, causing variations in crop quality and yield;

[1] A carbon dioxide sink is a resource that absorbs carbon dioxide from the atmosphere. The classic example of a sink is a forest in which vegetation absorbs carbon dioxide and produces oxygen through photosynthesis.

- Changes in distribution of plant and wildlife species due to changes in temperature, competition from colonizing species, changes in hydrologic cycles, changes in sea levels, and other climate-related effects.

These changes in California's climate and ecosystems are occurring at a time when California's population is expected to increase from 34 million to 59 million by the year 2040 (California Energy Commission [CEC] 2005). As such, the number of people potentially affected by climate change, as well as the amount of anthropogenic GHG emissions is expected to significantly increase. Similar changes as those noted above for California also would occur in other parts of the world, with regional variations in resources affected and vulnerability to adverse effects.

4.16.3.3 Emissions Summary

California Emissions

Worldwide, California is estimated to be the 12th to 16th largest emitter of CO_2 (California Energy Commission 2006) and is responsible for approximately 2 percent of the world's CO_2 emissions (California Energy Commission 2006).

The California Energy Commission's *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004* estimates that California is the second largest emitter of GHG emissions of the United States (only Texas emits more GHG). The CEC estimates that in 2004, California's gross GHG emissions were 492 million metric tons (MMT) of CO_2 equivalent (CO2E)[2]. The transportation sector produced approximately 41 percent of California's GHG emissions in 2004. Electric power production accounted for approximately 22 percent of emissions (including estimated emissions from out-of-state coal-fired power plants), the industrial sector contributed 21 percent of the total; agriculture and forestry contributed 8 percent, and other sectors contributed 8 percent (California Energy Commission 2006).

Transportation is responsible for 41 percent of the state's GHG emissions, followed by the industrial sector (23%), electricity generation (20%), agriculture and forestry (8%) and other sources (8%). California GHG emissions in 2004 (exclusive of land use changes and forestry) totaled approximately 484 MMT of CO2E (CARB 2007).

[2] Greenhouse gas emissions other than carbon dioxide are commonly converted into carbon dioxide equivalents which take into account the differing global warming potential (310) of different gases. For example, the IPCC finds that nitrous oxide has a GWP of 310 and methane has a GWP of 21. Thus emission of one ton of nitrous oxide and one ton of methane is represented as the emission of 310 tons of CO_2e and 21 tons of CO_2e respectively. This allows for the summation of different greenhouse gas emissions into a single total.

Monterey County

Existing direct emissions from vehicles and stationary sources in Monterey County are related to various residential, commercial, industrial, institutional and agricultural uses. Indirect emissions result from electricity consumption and landfill activity.

An inventory of current Monterey County GHG emissions was prepared estimated on the basis of estimated vehicle miles traveled, natural gas consumption, electricity use, industrial process activity, landfill activity, and agricultural equipment use and is presented in Table 4.16-1. The methodology for preparation of the current GHG inventory is presented in Appendix B. The inventory methodology for the local government operations is consistent with the California Climate Action Registry (CCAR) General Protocol (CCAR 2008) and The Climate Registry General Protocol (The Climate Registry 2008).

The geographic scope of the inventory was limited to emissions that occur within Monterey County with the exception of indirect emissions related to electricity. Per CCAR protocol, indirect electricity GHG emissions were estimated based on the mix of energy emissions related to PG&E generation sources on a regional basis.

Table 4.16-1. Monterey County Greenhouse Gas Emissions Estimate, 2006

Source	GHG Emissions	% of Total	Notes
Vehicle Emissions	647,175	46%	Includes miles on County roads and 25% of state highway miles.
Natural Gas Consumption	190,848	14%	Residential, commercial, and industrial consumption from PG&E.
Electricity Consumption	209,103	15%	Residential, commercial, and industrial consumption from PG&E.
Industrial Processes	201,290	14%	Based on MBUAPCD inventory data.
Landfill Emissions	32,829	2%	Based on CIWMB data.
Agricultural Equipment Fuel Use	113,159	8%	Based on farm acreage and state averages.
Total	**1,394,404**	**100%**	

Source: See Appendix B

The inventory does not include estimates of GHG emissions related to transportation outside the County, such as the transportation of goods to and from the County or tourist traffic when it occurs outside of the County. GHG "lifecycle" emissions are also not included in the inventory, such as the extraction and refining of fuel and the manufacture of vehicles, or the manufacture of construction building materials when they occur outside the county, which are also significant sources of domestic and international GHG emissions.

Comparing Monterey County to California, the 2006 emissions related to unincorporated Monterey County represent approximately 0.3 % of 2004 California emissions (CARB has not yet released a 2006 emissions estimate).

4.16.4 Regulatory Framework

The current regulatory setting related to climate change and GHG emissions is summarized below.

4.16.4.1 Federal Regulations

Twelve U.S. states and cities (including California), in conjunction with several environmental organizations, sued to force the U.S. Environmental Protection Agency (EPA) to regulate GHGs as a pollutant pursuant to the Clean Air Act (*Massachusetts vs. Environmental Protection Agency et al*. 549 U.S. 497 (2007). The court ruled that the plaintiffs had standing to sue, that GHGs fit within the CAA's definition of a pollutant, and that the EPA's reasons for not regulating GHGs were insufficiently grounded in the CAA.

In November 2007 and August 2008, the Ninth Circuit U.S. Court of Appeals ruled that a NEPA document must contain a detailed GHG analysis. (*Center for Biological Diversity v. National Highway Safety Administration* 508 F. 3d 508 (2007) was vacated and replaced by *Center for Biological Diversity v. National Highway Safety Administration* 2008 DJDAR 12954 (August 18, 2008)). Despite the Supreme Court and circuit court rulings, there are no promulgated federal regulations to date limiting GHG emissions.

4.16.4.2 State Regulations

SB 1078/SB 107—Renewable Portfolio Standard (RPS)

Established in 2002 under Senate Bill 1078 and accelerated in 2006 under Senate Bill 107, California's RPS obligates investor-owned utilities (IOUs), energy service providers (ESPs) and community choice aggregators (CCAs) to procure an additional 1% of retail sales per year from eligible renewable sources until 20% is reached, no later than 2010. The California Public Utilities Commission (CPUC) and California Energy Commission (CEC) are jointly responsible for implementing the program.

AB 1493—Greenhouse Gas Emission Standards for Automobiles

California Assembly Bill (AB) 1493 in 2002 required the California Air Resources Board (CARB) to develop and adopt the nation's first GHG emission standards for automobiles. The legislature declared in AB 1493 that global warming was a matter of increasing concern for public health and environment in the state. It cited several risks that California faces from climate change, including reduction in the state's water supply, increased air pollution creation by higher temperatures, harm to agriculture, and increase in wildfires, damage to the coastline, and economic losses caused by higher food, water energy, and insurance prices. Further the legislature stated that technological solutions to reduce GHG emissions would stimulate California economy and provide jobs.

The State of California in 2004 submitted a request for a waiver from federal clean air regulations (as the State is authorized to do under the Clean Air Act) to allow the State to require reduced tailpipe emissions of CO_2. In late 2007, the EPA denied California's waiver request and declined to promulgate adequate federal regulations limiting GHG emissions. In early 2008, the State brought suit against EPA related to this denial.

A recent CARB study (CARB 2008a) showed that in calendar year 2016, AB 1493 (also referred to as the Pavley standard or the Pavley rules) would reduce California's GHG annual emissions by 16.4 million metric tons (MMT) of carbon dioxide equivalents (CO2E). This is almost 50% more than the 11.1 MMT reduction produced by currently proposed federal fleet average standards for model years 2011 – 2015.

Further, by 2020, California is committed to implement revised, more stringent GHG emission limits, the Pavley Phase 2 rules (See discussion of scoping plan below). California's requirements would reduce California GHG emissions by 31.7 MMTCO2E in calendar year 2020, 45 percent more than the 21.9 MMTs reductions under the proposed federal rules in that year. Since the California rules are significantly more effective at reducing GHGs than the federal CAFE (fuel economy) program, they also result in better fuel efficiency – roughly 43 miles per gallon (mpg) in 2020 for the California vehicle fleet as compared to the new CAFE standard of 35 mpg.

Executive Order S-3-05—Greenhouse Gas Emission Reduction Targets

In 2005, Governor Schwarzenegger issued California Executive Order S-3-05 establishing the following GHG emission reduction targets for California:

- 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.

Executive Orders are binding only on State agencies. Accordingly, S-3-05 will guide state agencies' efforts to control and regulate GHG emissions, but have no direct binding effect on local efforts.

AB 32—The Global Warming Solutions Act of 2006

California AB 32, the "Global Warming Solutions Act of 2006," codifies the State's GHG emissions target by directing the CARB to reduce the State's global warming emissions to 1990 levels by 2020. CARB regulations are required to begin phasing in by 2012. AB 32 was signed and passed into law by Governor Arnold Schwarzenegger on September 27, 2006. Since that time, CARB, CEC, the Public Utilities Commission, and the Building Standards Commission have all been at work on regulations that will help meet the goals of AB 32 and S-3-05.

Key AB 32 milestones are as follows:

- June 30, 2007—Identification of "discrete early action GHG emissions reduction measures. *This has been completed and is discussed below*
- January 1, 2008—Identification of the 1990 baseline GHG emissions level and approval of a statewide limit equivalent to that level. Adoption of reporting and verification requirements concerning GHG emissions. *This has been completed. In December of 2007, CARB approved the 2020 emission limit of 427 million metric tons of carbon dioxide (CO2) equivalents (MMTCO2E) of GHGs.*
- January 1, 2009—Adoption of a scoping plan for achieving GHG emission reductions. *A draft scoping plan was released in June 2008 and is summarized below.*
- January 1, 2010—Adoption and enforcement of regulations to implement the "discrete" actions.
- January 1 1011—Adoption of GHG emission limits and reduction measures by regulation.
- January 1, 2012—GHG emission limits and reduction measures adopted in 2011 become enforceable.

AB 32 Early Actions Adopted in 2007

CARB adopted the following early actions on June 21, 2007:

- Group 1—Three new GHG-only regulations are proposed to meet the narrow legal definition of "discrete early action greenhouse gas reduction measures" in Section 38560.5 of the Health and Safety Code. These include the Governor's Low Carbon Fuel Standard, reduction of refrigerant losses from motor vehicle air conditioning maintenance, and increased methane capture from landfills. These actions are estimated to reduce GHG emissions

between 13 and 26 MMT of CO2E) annually by 2020 relative to projected levels. If approved for listing by the Governing Board, these measures will be brought to hearing in the next 12 to 18 months and take legal effect by January 1, 2010.

- Group 2—CARB is initiating work on another 23 GHG emission reduction measures in the 2007-2009 time period, with rulemaking to occur as soon as possible where applicable. These GHG measures relate to the following sectors: agriculture, commercial, education, energy efficiency, fire suppression, forestry, oil and gas, and transportation.
- Group 3—CARB staff has identified 10 conventional air pollution control measures that are scheduled for rulemaking in the 2007-2009 period. These control measures are aimed at criteria and toxic air pollutants, but will have concurrent climate co-benefits through reductions in CO2 or non-Kyoto pollutants (i.e., diesel particulate matter, other light-absorbing compounds and/or ozone precursors) that contribute to global warming.

In October 2007, CARB expanded the early actions to include the following measures.

- Group 1 Discrete Early Actions—SF6 reductions from non-electricity sector; reduction of emissions from consumer products; Smartway Truck Efficiency (require existing trucks and trailers to be retrofitted with devices that reduce aerodynamic drag); tire inflation (require tune-up and oil change technicians to ensure proper tire inflation as part of overall service); reduction of PFCs from semiconductor industry; and Green ports (allow docked ships to shut off their auxiliary engines by plugging into shoreside electrical outlets or other technologies).
- Group 2: Other Early Actions—refrigerant tracking, reporting and recovery program; energy efficiency of California cement facilities; blended cements; anti-idling enforcement; and research regarding nitrogen land application efficiency.

AB 32 Draft Scoping Plan

In June 2008, CARB released its Draft Scoping Plan which outlines an approach to meet AB 32's goal and is summarized in Table 4.16-2. The plan identified measures to reduce GHG emissions to 1990 levels which is approximately 30 percent from business-as-usual emission levels projected for 2020, or about 10 percent from today's (2008) levels. On a per-capita basis, that means reducing annual emissions of 14 tons of carbon dioxide for person in California down to about 10 tons per person by 2020. Below is a summary of the recommended reduction strategies.

The Proposed Scoping Plan, which will be released in October, 2008, will be based on additional staff modeling and analysis, consideration of public comment on the Draft Plan, recommendations from the advisory committees and other

experts. The Proposed Plan will have a 45-day comment period before CARB considers adoption at its November 2008 meeting. The Scoping Plan, even after Board approval, will remain a plan. The measures in the Scoping Plan must be adopted through the normal rulemaking process, with the necessary public input.

Table 4.16-2. Summary of AB 32 Draft Scoping Plan Recommendations

Recommended Reduction Strategies	Sector	2020 Reductions (MMTCO2E)
The Role of State Government Reduce carbon footprint Set an example	Various	1–2 (under evaluation)
California Cap-and-Trade Program Linked to WCI: Emissions cap of 365 MMTCO2E covering electricity, transportation, residential/commercial and industrial sources by 2020. Shaded reductions below contribute to achieving the cap.		
California Light-Duty Vehicle GHG Standards · Implement Pavley standards Develop Pavley II light-duty vehicle standards	Transportation	31.7
Energy Efficiency Building and appliance energy efficiency and conservation 32,000 GWh reduced electricity demand · 800 million therms reduced gas use Increase Combined Heat and Power (CHP) electricity production by 30,000 GWh Solar Water Heating (AB 1470 goal)	Electricity & Commercial and Residential	26.4
Renewables Portfolio Standard (33% by 2020)	Electricity	21.2
Low Carbon Fuel Standard	Transportation	16.5
High Global Warming Potential Gas Measures	High GWP	16.2
Sustainable Forests	Forests	5
Water Sector Measures	Water	4.8
Vehicle Efficiency Measures	Transportation	4.8
Goods Movement Ship Electrification at Ports System-Wide Efficiency Improvements	Transportation	3.7
Heavy/Medium Duty Vehicles Heavy-Duty Vehicle GHG Emission Reduction (Aerodynamic Efficiency) Medium-and Heavy-Duty Vehicle Hybridization Heavy-Duty Engine Efficiency	Transportation	2.5
Million Solar Roofs (Existing Program Target)	Electricity	2.1
Local Government Actions and Regional GHG Targets	Land Use and Local Government	2
High Speed Rail	Transportation	1
Landfill Methane Control	Recycling & Waste	1
Methane Capture at Large Dairies	Agriculture	1
Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	Industrial	TBD
Additional Emissions Reduction from Capped Sectors		35.2
Total Reductions		**169**

Source: California Air Resources Board 2008b.

Senate Bill 97 Chapter 185, Statutes of 2007

Senate Bill 97 (SB 97) requires that Office of Planning and Research (OPR) to prepare guidelines to submit to the California Resources Agency regarding feasible mitigation of greenhouse gas emissions or the effects of GHG emissions as required by CEQA. The California Resources Agency is required to certify and adopt these revisions to the State CEQA Guidelines by January 1, 2010. The Guidelines will apply retroactively to any incomplete environmental impact report, negative declaration, mitigated negative declaration, or other related document.

Executive Order S-01-07

Executive Order S-01-07 was enacted by Governor Schwarzenegger on January 18, 2007. The order mandates the following: 1) that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020; and 2) that a Low Carbon Fuel Standard (LCFS) for transportation fuels be established in California.

Draft Local Government Operations Protocol

In June, 2008, the California Air Resources Board, California Climate Action Registry, ICLEI - Local Governments for Sustainability, and the Climate Registry released a draft protocol for the preparation of GHG emissions inventories for local government municipal operations. The draft protocol does not contain recommendations for GHG reductions by local governments (CARB 2008c).

4.16.4.3 Local Regulations

The Monterey Bay Unified Air Pollution District presently has no guidance concerning CEQA evaluation of GHG emissions and no regulatory requirements.

4.16.4.4 Monterey County Programs

Monterey County is currently implementing the following programs and initiatives that will, in part, help to reduce GHG emissions from municipal operations and other sources:

- Municipal Energy Audit—The County has initiated an energy audit of its existing building, beginning with the oldest structures to evaluate feasible energy and water retrofits.

- Lighting Retrofit—The County recently completed a lighting retrofit at the Adult Rehab Facility which reduced electricity consumption by approximately 686,000 kwh.
- Energy and Water Efficiency Standards for New Municipal Building Construction—The County will be including energy and water efficiency criteria in all of its Requests for Proposals for new construction and remodeling of County buildings.
- Carpools—The County is running two vanpools 5 days per week, twice a day (to and from the office)
- Fleet Vehicles—The County currently has 49 vehicles that are fuel efficient or hybrids.
- Goods Movement Planning—The County has entered into a partnership with AMBAG and the City of Salinas to evaluate the viability of converting up to 25% of its agricultural goods movement from truck to rail.
- Blueprint for Growth—The County is a partner with AMBAG in the Blueprint for Growth Plan development that was initiated in July 2008. The focus of the effort will be to further enhance regional plans for alternative transportation and inter-city route planning.

4.16.5 Project Impacts

4.16.5.1 Methodology

An inventory of GHG emissions was prepared for development allowed within unincorporated Monterey County for the planning horizon of 2030 and for buildout. The scope of the inventory was to include emissions due to new development in unincorporated areas when they occur within Monterey County, except for indirect emissions associated with electricity generation which are included based on PG&E generation sources on a regional basis.

GHG emissions were estimated for increases in vehicle traffic, electricity and natural gas consumption related to new residential, commercial, and industrial development, and landfill emissions due to increased waste disposal. The methodology is described in Appendix B.

4.16.5.2 Thresholds of Significance

CEQA and the State CEQA Guidelines require the disclosure of the significant cumulative environmental effects, whether the project will make a cumulatively considerable contribution to any such effects, and, if so, mitigation measures intended to reduce the project's contribution (Section 15130 of the State CEQA Guidelines). A cumulative effect is one that results from past, present, and probable future projects. A project that has a less-than-significant direct effect

on the environment may nonetheless make a considerable contribution to a cumulative effect. The decision in *Communities for a Better Environment, et al v. California Resources Agency* (2002) 103 Cal.App.4th 98 put the approach to evaluating a project's contribution to a cumulative impact succinctly: "In the end, the greater the existing environmental problems are, the lower the threshold should be for treating a project's contribution to cumulative impacts as significant."

There are two fundamental questions regarding climate change under CEQA:

- *Does development allowed by the 2007 GP result in cumulative considerable GHG emissions and related climate change effects?*
- *Is development allowed by the 2007 GP prepared for the reasonably foreseeable changes in climate that will occur regardless of local, state, and global GHG reduction efforts?*

These are each addressed below separately.

Greenhouse Gas Emissions

AB 32 states, in part, that "Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." Because global warming is the result of GHG emissions, and GHGs are emitted by innumerable sources worldwide, global climate change is clearly a significant cumulative impact. However, the global increase in GHG emissions that has occurred and will occur in the future are the result of the actions and choices of individuals, businesses, local governments, states, and nations. Thus, the analysis below should be understood as an analysis of cumulative contributions to a significant global impact.

The Governor's Office of Planning and Research (OPR) is developing, and the California Resources Agency (Resources Agency) will certify and adopt amendments to the CEQA Guidelines on or before January 1, 2010, pursuant to Senate Bill 97 (Dutton, 2007). These new CEQA Guidelines will provide regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents.

In the interim, OPR has released a technical advisory (*CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review*, Office of Planning and Research, June 19, 2008). OPR offers informal guidance regarding the steps lead agencies should take to address climate change in their CEQA documents. This guidance was developed in cooperation with the Resources Agency, the California Environmental Protection Agency (Cal/EPA), and the CARB. The technical advisory provides the following guidance regarding significance determination:

- *"When assessing a project's GHG emissions, lead agencies must describe the existing environmental conditions or setting, without the project, which*

normally constitutes the baseline physical conditions for determining whether a project's impacts are significant.

- *As with any environmental impact, lead agencies must determine what constitutes a significant impact. In the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a "significant impact", individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice.*
- *The potential effects of a project may be individually limited but cumulatively considerable. Lead agencies should not dismiss a proposed project's direct and/or indirect climate change impacts without careful consideration, supported by substantial evidence. Documentation of available information and analysis should be provided for any project that may significantly contribute new GHG emissions, either individually or cumulatively, directly or indirectly (e.g., transportation impacts).*
- *Although climate change is ultimately a cumulative impact, not every individual project that emits GHGs must necessarily be found to contribute to a significant cumulative impact on the environment. CEQA authorizes reliance on previously approved plans and mitigation programs that have adequately analyzed and mitigated GHG emissions to a less than significant level as a means to avoid or substantially reduce the cumulative impact of a project."*

CEQA currently has no thresholds for GHG emissions. As described by the OPR technical advisory, in absence of regulatory guidance or standards, lead agencies must undertake a project-by-project analysis, consistent with available guidance and current CEQA practice. What follows is Monterey County's significance criteria framework for this EIR on the 2007 General Plan

Scientific studies (as best represented by the IPCC's periodic reports) demonstrate that climate change is already occurring due to past GHG emissions. Forecasting of future growth and related GHG emissions under "business as usual (BAU)[3] conditions indicates large increases in those GHG emissions accompanied by an increasing severity of changes in global climate. Thus, the best scientific evidence concludes that global emissions must be reduced below current levels.

[3] "Business as usual" (BAU) conditions are defined as population and economic growth in the future using current (2008) building practices and current (2008) regulatory standards. For this EIR, reference to BAU conditions are specifically defined as including current mandatory requirements such as Title 24 (Energy Efficiency Standards), current federal vehicle mileage standards (but not California AB1493 vehicle emission standards which are not currently in force due to lack of issuance of a federal waiver), current renewable portfolio standards (RPS, SB 1078/SB107) for California regulated utilities, current County water efficiency requirements, and other existing local and state requirements. BAU conditions presume no improvements in energy efficiency, water efficiency, fuel efficiency beyond that existing today or as required by existing (2008) statute. Specifically, BAU conditions do not include the GHG reduction measures included in the CARB Draft Scoping Plan (June 2008) which are not yet enacted in statute.

On a state level, AB 32 identified that an acceptable level of GHG emissions in California 2020 is 427 million metric tons of CO_2e, which is the same as 1990 GHG emissions level, is about 11% less than current (480 million metric tons CO_2e in 2004) GHG emissions, and is about 28% less than projected 2020 BAU conditions (596 million metric tons CO_2e).

Thus, on a state level, if California can achieve these reductions, California as a whole will not contribute considerably to global GHG emissions. California's emissions in 2020 will still make a cumulative contribution to global GHG emissions, but relative to current baseline emissions will be substantively reduced.

In order to achieve these GHG reductions, there will have to be widespread reductions of GHG emissions from sources in many various sectors across the California economy including in Monterey County. Some of those reductions will need to come from the existing sources of emissions in the form of changes in vehicle emissions and mileage, changes in the sources of electricity, and increases in energy efficiency by existing residential, commercial, industrial, and agricultural development as well as other measures. While County action can help to promote GHG reductions from the existing economy, existing development is not under the discretionary land use authority of the County, and thus most of these reductions will come as the result of state and federal mandates. The remainder of the necessary GHG reductions will need to come from requiring new development to have a lower carbon intensity than BAU conditions. County land use discretion can substantially influence the GHG emissions from new development.

In terms of determining whether GHG emissions in Monterey County will be cumulatively considerable, one has to evaluate whether Monterey County, is doing its part to ensure that California, as a whole, meets the AB 32 target. While there can and likely will be variation in how much reductions each city or county or region can realistically achieve by 2020, on the average, they must all be approximately 30 percent compared to BAU conditions.

Thus, the simplest measure of whether Monterey County emissions will contribute considerably to GHG emissions in 2020 is whether they are 28 % less than BAU conditions. If they are, Monterey County would not contribute considerably to state or global GHG emissions and related climate change effects. Put another way, if Monterey County emissions are greater than 72% percent of BAU GHG emissions, then the emissions of new development allowed by the 2007 GP (along with the ongoing emissions of existing development) would contribute considerably to state and global GHG emissions and related climate change effects.

Thus, for this EIR, the 2007 GP would result in a cumulatively considerable contribution to a significant cumulative impact if:

- GHG emissions associated with unincorporated Monterey County (including the GHG emissions of Monterey County government and the GHG emissions

in unincorporated part of the County) are greater than 72 percent of forecasted BAU GHG emissions.

The 2007 GP requires preparation of a detailed current GHG inventory and GHG forecast for the County for 2020 within 24 months of GP adoption. As discussed below, the recommended goal for the GHG reduction plan required by Policy OS 10.11 is to reduce County GHG emissions by 28% relative to BAU emissions in 2020.

For the interim, this EIR will rely on the estimate of GHG emissions prepared for this EIR for 2030, adjusted to the year 2020. As discussed below, based on estimated BAU emissions, the 2007 GP will result in GHG emissions that exceed the significance criteria. Mitigation measures are included accordingly. As discussed above, in the next years the State will be adopting comprehensive regulations to reduce the GHG emissions from vehicles, industry, building, and other sources. These regulations are expected to play a major part in reaching the goal of reducing currently projected 2020 emissions levels by twenty-eight percent.

Climate Change Adaptation

A certain amount of environmental change is inevitable in Monterey County due to current GHG emissions and unavoidable future increases in GHG emissions worldwide. Change on a local basis to Monterey County agriculture, water supplies, flooding, wildfire potential, environmental health, and other areas is reasonably foreseeable, although not quantifiable in many aspects as present. New development allowed by the 2007 GP could place persons and property at higher levels of risk to climate change effects if it does not anticipate reasonably foreseeable changes in environmental conditions. Thus, for this EIR, the 2007 GP would result in a cumulatively considerable contribution to a significant cumulative impact if:

- Development allowed by the 2007 GP is unprepared for reasonably foreseeable environmental changes that will occur due to climate change and thus subjects property and persons to additional risk of physical harm related to flooding, public health, wildfire risk and other impacts.

4.16.5.3 Impact Analysis

Contribution to Global Climate Change

Impact CC-1: Development of the 2007 General Plan would contribute considerably to cumulative GHG emissions and global climate change as the County in 2020 would have GHG emissions greater than 72 percent of BAU conditions (Mitigated to Less Than Considerable for 2030 Planning Horizon, but Cumulatively Considerable with Mitigation for Buildout)

2030 Planning Horizon

Impact of Development with Policies

New GHG Emissions from transportation and direct and indirect energy consumption from residential, commercial, and industrial growth were estimated for the 2030 Planning Horizon for development allowed by the 2007 General Plan and are shown in Table 4.16-3. Emissions associated with land use change were not estimated for the reasons discussed below.

Transportation Emissions

New vehicle carbon dioxide emissions will result from new residential, commercial, industrial and public service development. The results of the EMFAC2007 modeling indicate that as of 2030, vehicular traffic within the Monterey County planning area with implementation of the 2007 General Plan (without consideration of City or adjacent County growth) would increase CO_2e emissions by 136,000 metric tons in 2030.

Taking into account the adopted AB 1493 standards for GHG emissions, there could be a reduction of 11% in the carbon dioxide emissions of light duty vehicles and therefore the increased emissions for 2030 would be 126,000 metric tons instead of 136,000 tons.

The AB-32 Draft Scoping Plan calls for implementation of AB 1493 standards (commonly called Pavley I) for GHG emissions and a more stringent enhancement named Pavley II, which would result in a reduction in GHG emissions from passenger vehicles of 20% by 2020. In addition, the Scoping Plan includes the implementation of a Low Carbon Fuel Standard that will reduce GHG emissions from passenger vehicles by 10%. The Pavley I and II efforts and Low Carbon Fuel Standard would result in an increase in GHG emissions of 109,000 metric tons in 2030 instead of 136,000 tons.

Table 4.16-3. Monterey County Greenhouse Gas Increase in Emissions, 2020 and 2030

Source	GHG Emissions	% of Total	Notes
Business as Usual Conditions			
Vehicle Emissions	136,476	55%	Based on growth in VMT
Natural Gas Consumption	26,000	10%	Residential, commercial, and industrial consumption.
Electricity Consumption	24,935	10%	Residential, commercial, and industrial consumption.
Industrial processes	51,230	21%	Based on growth in industrial employment
Landfill Emissions	8,987	1%	Based on growth in population.
Agricultural Emissions	No change	NA	Assumed no overall change in agricultural acreage.
Total from New Development 2030	247,628	100%	
Total from New Development 2020	144,450		Scaled based on years (+14 years to 2020/+24 years to 2030)
Total from Existing Development	1,394,404		Assumed no change since 2006.
Total for 2020	1,538,853		
Percent Change relative to 2006		*10%*	
With AB 1493 vehicle emissions standards and SB 1078, SB 107 RPS requirement of 20% renewable energy			
Vehicle Emissions	126,477	54%	Adjusted for Pavely 1
Natural Gas Consumption	26,000	11%	Not adjusted
Electricity Consumption	22,940	10%	Adjusted for SB 1078/SB 107
Industrial processes	51,230	22%	Not adjusted for potential improvements in process efficiency.
Landfill Emissions	8,987	4%	Not adjusted for potential improvements in landfill capture.
Agricultural Emissions	No change	NA	Assumed no overall change in agricultural acreage.
Total from New Development 2030	235,634	100%	
Total from New Development 2020	137,453		Scaled based on years (+14 years to 2020/+24 years to 2030)

Total from Existing Development	1,306,486		Assumes similar percentage reduction for existing development relative to BAU as estimated for new development (due to Pavely 1 and SB 1078/SB 107).
Total for 2020	1,443,939		
Percent Change relative to 2006		*-4%*	
Percent of 2020 BAU		*94%*	
With Pavley II vehicle emissions standards, Governor's Low Carbon Fuel Standard and Draft Scoping Plan RPS goal of 33% renewable energy			
Vehicle Miles Emissions	109,206	51%	Adjusted for Pavely 1, 2 and low-carbon fuel standard
Natural Gas Consumption	26,000	12%	Not adjusted
Electricity Consumption	19,699	9%	Adjusted for Scoping Plan RPS goal of 33%
Industrial processes	51,230	24%	Not adjusted for potential improvements in process efficiency.
Landfill Emissions	8,987	4%	Not adjusted for potential improvements in landfill capture.
Agricultural Emissions	No change	NA	Assumed no overall change in agricultural acreage.
Total from New Development 2030	215,122	100%	
Total from New Development 2020	125,488		Scaled based on years (+14 years to 2020/+24 years to 2030)
Total from Existing Development	1,156,340		Assumes similar percentage reduction for existing development relative to BAU as estimated for new development due to Paveley 2, LCFS and RPS goal of 33%
Total for 2020	1,281,828		
Percent Change relative to 2006		*-8%*	
Percent of 2020 BAU		*83%*	

Direct Energy Consumption Emissions

New buildings allowed by the 2007 General Plan would consume natural gas for heating, cooking, and other processes and other area sources. By 2030, residential, commercial and industrial development allowed by the 2007 General Plan would result in estimated new annual carbon dioxide emissions of 26,000 metric tons.

Indirect Electricity GHG Emissions

New buildings allowed by the 2007 General Plan would also consume electricity. By 2030, residential and commercial development allowed by the 2007 General Plan would result in estimated increase in annual indirect GHG emissions of 25,000 metric tons related to electricity under BAU conditions

Taking into account the adopted SB0178/SB107 RPS standards, there could be a reduction of 8% in the GHG emissions related to electricity production by PG&E and thus the increase in indirect GHG emissions would be reduced to 23,000 metric tons.

The Scoping Plan calls for an increase in RPS standards to 33%, which would result in a reduction of 21% in the GHG emissions related to electricity production by PG&E and thus the increase in indirect GHG emissions would be reduced to 20,000 metric tons.

Industrial Emissions

New industries would also consume fossil fuels and other GHGs for industrial processes. The nature of new industrial development is unknown, and thus no specific estimate was made of 2030 industrial process GHG emissions. However, an estimate was made based on scaling the current industrial GHG emissions based on the projected increase in industrial employment. Based on employment data, there would be an increase of industrial employment by 25% by 2030. Industrial process emissions in 2006 were estimated as 201,000 metric tons of CO2e. Thus increased GHG emissions in 2030 due to new growth are estimated to be 51,000 metric tons of CO2e.

Emissions Associated With Landfills

Development allowed by the 2007 General Plan would result in increased generation of waste which would require disposal in a landfill, which would increase methane emissions.

Based on population data, there would be an increase of population in the unincorporated County by 27% by 2030 and by 95% at buildout. Landfill emissions in 2006 were estimated as 33,000 metric tons of CO2e. Thus

increased GHG emissions by 2030 due to new growth are estimated to be 9,000 metric tons of CO2e.

Given the current and planned implementation of landfill gas capture and use of waste to energy technology in the future, future waste disposal may not contribute substantial amounts of methane. However, until full capture and reuse of landfill gas is achieved, there will be increased emissions associated with additional waste disposal.

Agricultural Emissions

Based on trends in agricultural employment (AMBAG 2004; AMBAG 2008), no net expansion in agricultural development is projected for 2030 or buildout as virtually no increase in agricultural employment is forecast by AMBAG to 2030 for the Monterey County in the most recent (2008) and the immediately prior (2004) economic forecasts. Thus, no estimate of additional agricultural emissions was made.

Traffic, electricity demand, and direct energy use for agricultural sector, including the new wineries is taking into account broadly in the calculation of vehicle emissions and of growth in electricity and direct energy use related emissions. Specific process emissions associated with new wineries were not estimated. Although emissions associated with wineries may rise compare to baseline, on a broad scale, with no increase in agricultural employment overall, it is expected that overall, there will not be substantial changes on overall agricultural emissions.

Emissions Associated With Land Use Changes

Development allowed by the 2007 General Plan would result in the conversion of natural vegetation and agricultural lands that would result in the loss of carbon sinks. Given the uncertainties associated with estimated GHG fluxes associated with natural vegetation and agricultural lands, the potential loss of carbon sinks was not quantified, but would nevertheless contribute GHG emissions along with other sources. As discussed below a number of 2007 General Plan policies seek to limit the amount of natural land conversion due to urban growth.

2007 General Plan Policies

The policies in the 2007 General Plan that relate to reduction of GHGs (compared to BAU) are referenced below by element and concern six different subjects: land use, transportation, water efficiency, energy, open space/conservation, and waste reduction. These policies address focusing growth in a limited number of communities that can provide services, jobs and housing. This is intended to result in a reduction in vehicle miles traveled. These policies also would result in a limitation on the conversation of agricultural land to residential and commercial development.

Land Use Element

The General Plan land use policies related to reduction of GHGs support higher density in the urban areas, transfer of development rights and credits, affordable housing, jobs/housing balance, and mixed use and transit oriented development. Land use related GP policies include:

LU-1.1 requires management of the type, location, timing, and intensity of growth in the unincorporated area shall be managed. LU-1.2 discourages premature and scattered development. LU-1.7 encourages clustering of residential development. LU-1.8 promoted voluntary reduction or limitation of development potential in the rural and agricultural areas through dedication of scenic or conservation easements, Transfer of Development Rights (TDR). LU-1.9 establishes a priority of infill of vacant non-agricultural lands in existing developed areas and new development within designated urban service areas. LU-1.19 establishes a priority of development within the focused growth areas (Community Areas, Rural Centers and Affordable Housing Overlay districts) and includes a Development Evaluation System for other areas that includes criteria that consider proximity to a City, Community Area, or Rural Center mixture of uses, proximity to multiple modes of transportation and jobs-housing balance within the community and between the community and surrounding areas.

LU-2.3 directs that high density residential areas shall be designated closest to urban areas. LU-2.4 directs that areas designated for residential use shall be located with convenient access to employment, shopping, recreation, and transportation and that higher density residential areas should be located with convenient access to public transit. LU-2.12 encourages and directs the development of affordable and workforce housing projects through the establishment of an Affordable Housing Overlay Program. LU-2.13 establishes a program for retaining affordable housing units. LU-2.15 directs the county to work with AMBAG and cities to direct the majority of urban growth including higher density housing development into cities and their spheres of influence with an emphasis on redevelopment and infill. LU-2.17 directs that, in coordination with the cities, sufficient land shall be designated to locate new housing as close to employment centers as feasible. LU-2.21 and LU 2.23 promote mixes use, transit, and jobs-housing balances in Community Areas.

LU-4.5 encourages a mix of residential and commercial uses in commercial areas.

Circulation Element

The General Plan transportation policies related to reduction of GHGs support public transportation and alternative transportation modes, reduce vehicle miles traveled, and promote transit oriented developments.

C-2.2 requires protection of existing and proposed public transportation facilities. C-2.4 encourages a reduction of the number of vehicle miles traveled per person. C-2.5 encourages overall land use patterns that reduce the need to travel by automobile. C-2.6 encourages bicycle and automobile storage facilities in conjunction with public transportation facilities. C-2.7 directs that new development shall be located and designed with convenient access and efficient transportation for all intended users, and where possible consider alternative transportation modes.

C-3.1 requires that the transportation modes be planned and strategies developed to, among other requirements, reduce the consumption of fossil fuels. C-3.4 supports strategies to encourage travel in non-peak hours. C-3.5 encourages transportation alternatives such as bicycles, car pools, public transit, and compact vehicles to be accommodated within and outside the public right-of-way and may be included as part of an Area Plan.

C-4.3 requires that the needs of bicyclists, and pedestrians, where appropriate, be provided in all public rights-of-way. C-4.5 directs that new public local and collector roads among, other requirements provide for bicycle and pedestrian traffic within the right-of-way. C-4.7 requires, where appropriate, that bicycle paths shall be separated from major roads and highways and be provided between adjacent communities.

C-6.1 endorses the efforts of transit operators to improve their services and equipment, including aggressive marketing and education campaigns. C-6.2 requires that major traffic generating events encourage the use of mass transit options. C-6.3 supports concentration of new development along major transportation corridors and near cities to make transit services to these areas more feasible. C-6.4 requires coordinated transit services. C-6.5 encourages use of public transit and alternative modes of transportation through land use designations and zoning which cluster employment centers with a mix of other uses, and project design that incorporates car pool areas, “park and ride” facilities and similar incentives. C-6.6 requires transit and bus parking facilities at major hotels, motels, convention centers, other tourist-serving areas and events.

C-8.1 requires protection of the potential for future rail transportation. C-8.3 encourages passenger rail, light rail, or bus rapid transit service to urban centers. C-8.4 encourages transit-oriented development around existing and future rail, light rail, or bus rapid transit stations.

C-10.1 requires an integrated system of suggested bicycle routes for Monterey County. C-10.2 requires coordination of a comprehensive bicycle plan. C-10.3 requires consideration of improved bike routes during construction or expansion of roadways within major transportation corridors. C-10.4 requires the integration of bicycle systems with other public transportation modes. C-10.5 encourages bicycling as a viable transportation mode for visitor-serving areas. C-10.6 encourages visitor-serving facilities to provide adequate and secure bicycle parking facilities. C-10.7 requires that new and improved multi-modal transfer facilities, such as transit centers and park-and-ride lots, include adequate and secure bicycle parking facilities.

Open Space and Conservation Element

The General Plan open space and conservation related policies related to GHG emissions reductions support open space networks, require tree conservation, promote alternative energy and energy efficiency and reduction of travel through concentrated development.

OS-5.11 promotes conservation of large, continuous expanses of native trees and vegetation.

OS-9.1 encourages the use of solar, wind and other renewable resources for agricultural, residential, commercial, industrial, and public buildings . OS-9.2 directs development toward cities, Community Areas, and Rural Centers where energy expended for transportation can be minimized. OS-9.3 requires that areas of urban concentration provide convenient access for employment, commercial, and other activities. OS-9.4 requires lots to be oriented to maximize the energy gains from solar and/or wind resources in order to minimize energy losses where possible. OS-9.5 promotes clustered development where such development will conserve energy. OS-9.6 requires development to incorporate features that reduce energy used for transportation, including pedestrian and bicycle pathways, access to transit, and roadway design as appropriate. OS-9.7 encourages weatherization of existing buildings. OS-9.8 requires solar heating as the primary source for heat in all new swimming pools where it is proven most cost-effective.

OS-10.2 encourages mass transit, bicycles and pedestrian modes of transportation and other transportation alternatives to automobiles. OS-10.3 supports conservation of naturally vegetated and forested

areas.OS-10.4 supports industrial and commercial development to be concentrated in areas that are more easily served by public transit. OS-10.5 encourages mixed land uses that reduce the need for vehicular travel.

OS-10.10 requires consideration of sustainable land use strategies for the design of future development within Community Areas and Rural Centers, to reduce energy consumption, minimize GHG emissions, and foster healthier environments for people including: design development to take advantage of solar-orientation; employ systematic water conservation measures including high efficiency appliances; Promote Transit Oriented Development (TOD) to increase mobility and reduce auto dependency. The policy supports design of future development to maximize energy efficiency and accommodate energy infrastructure (i.e., transmission lines, power plants and pipelines, and fueling stations), including the potential for distributed renewable generation.

OS-10.11 required that within 24 months of the adoption of the General Plan, Monterey County will develop a Greenhouse Gas Reduction Plan to reduce emissions by 2020 to the 1990 level. At a minimum, said Plan will establish an inventory of current emissions in the County of Monterey and include an inventory of emissions as of 1990.

Public Services Element

The Public Services Element includes policies that promote water conservation and efficiency (which saves pumping energy), waste reduction/recycling (which reduces landfill –related GHG emissions and emissions associated with goods fabrication), and compact development.

Water conservation and efficiency policies include the following:

PS-2.8 requires all projects be designed to maintain or increase the site's pre-development absorption of rainfall (minimize runoff), and to recharge groundwater where appropriate. PS-3.3 requires specific criteria for proof of a long term sustainable water supply for new residential or commercial. PS-3.12 requires the County to establish an ordinance identifying conservation measures that reduce agricultural water demand. PS-3.13 requires the County to establish an ordinance identifying conservation measures that reduce potable water demand. PS-3.14 promotes the maximization of recycled water use as a potable water offset by increasing the use of treated water, working with the agricultural community to develop new uses for tertiary recycled water and increase the use of tertiary recycled water for irrigation of lands currently being irrigated by groundwater pumping; working with urban water providers to emphasize use of

tertiary recycled water for irrigation of parks, playfields, schools, golf courses, and other landscape areas to reduce potable water demand; working with urban water providers to convert existing potable water customers to tertiary recycled water as infrastructure and water supply become available. PS-4.4 encourages groundwater recharge through the use of reclaimed wastewater.

Waste reduction related policies include the following

PS-5.1 supports programs to reduce the amount of waste generated in the County to the maximum extent feasible including increased recycling, establishment of yard waste collection services, and encouraging the participation of residents and businesses in other waste diversion programs. PS-5.2 supports the designation, development and maintenance of efficient disposal sites. PS-5.3 requires the implementation of programs to facilitate recycling/diversion of waste materials at new construction sites, demolition projects, and remodeling projects. PS-5.4 promotes the maximum use of solid waste source reduction, reuse, recycling, composting, and environmentally-safe transformation of wastes, consistent with the protection of the public's health and safety. PS-6.1 requires that future waste disposal County contracts require efficient, cost-effective solid waste disposal sites and diversion programs. PS-6.5 requires that site development plans shall include adequate solid waste recycling collections areas.

Policies that support reduction of vehicle miles travelled (by motor vehicle) include:

PS-7.2 requires that school sites should be located so that they are served by adequate infrastructure including vehicle, pedestrian and bicycle access. PS-8.7 promotes compact, mixed use development utilizing the concepts of the walkable community, which are designed to encourage physical activity and fitness by permitting walking and bicycle riding to shopping, work and entertainment venues as an alternative to the use of motor vehicles.

Area Plan Policies

Cachagua Area Plan

CACH-3.4 discourages the removal of native trees. CACH-3.8 supports dedication of trail easements as a condition of development approval.

Carmel Valley Master Plan

CV-1.6 limits new residential subdivision in Carmel Valley to creation of 266 new lots with preference to projects including at least

50% affordable housing units. Given the location of much of Carmel Valley far from centers of commerce and employment, the limitation overall of development in remote areas supports development in areas with shorter travels for services and work.

CV-2.1 requires exploration of public transit and new development to include a road system adequate for bus (both transit and school), pedestrian, and bicycle traffic as well as vehicles. CV-2.3 requires all new road work or major work on existing roads within the commercial core areas to provide room for use of bicycles and separate pedestrian walkways and the provision of bicycle routes on the shoulders between development areas throughout the Carmel Valley. CV-2.4 requires that all new bridge construction or remodeling include provision for pedestrians and bicyclists. CV-2.15 requires that new major developments with access adjacent to Carmel Valley Road provide space for the transit buses to stop, the parking of cars and facilities for the safe storage of bicycles.

CV-3.11 discourages removal of native trees. CV-3.14 encourages a network of shortcut trails and bike paths to interconnect neighborhoods, developments and roads. CV-3.19 supports potential dedication of trail easements as a condition of development approval.

CV-5.3 requires development to incorporate designs with water reclamation and conservation. CV-5.4 supports the use of reclaimed water to replace potable water in landscape irrigation.

Central Salinas Valley Plan

CSV-3.2 encourages the development and utilization of renewable energy sources such as solar, wind generation, and biomass technologies in the Central Salinas Valley. CSV-6.1 encourages energy-efficient business and agricultural practices.

Greater Monterey Peninsula Plan

GMP-2.7 encourages new sites for office employment, services, and local conveniences to be located to allow use of alternate modes of transportation such as public transit buses, bicycles and walking. GMP-2.9 encourages provision of separate bike paths during construction and expansion of all highways and major arterials. GMP-3.13 supports potential dedication of trail easements as a condition of development approval.

North County Area Plan

NC-3.4 discourages removal of healthy trees. NC-3.7 requires development of a Trails Plan consistent with General Plan Policy OS-1.10.

South County Area Plan

SC-1.2 encourages clustered development in all areas where development is permitted in order to make the most efficient use of land and to preserve agricultural land and open space. SC-3.1 notes that co-generation facilities may be allowed in conjunction with other industrial uses and oil and gas removal as a means of energy conservation on lands designated for industrial use, subject to a use permit in each case.

Toro Area Plan

T-2.4 supports improvement of public transit roadway improvements, and improved bicycle safety measures at the earliest time that funding becomes available. T-2.6 requires improvements to Corral de Tierra, River and San Benancio Roads to accommodate bicycles, horses, and people where possible. T-2.10 requires increasing accessibility of Toro residents to mass transit, either through maintenance of existing park and ride lots or new bus service, particularly in the Corral de Tierra, San Benancio, and River Road areas. T-3.7 discourages the removal of oak trees.

Significance Determination

Many of the policies identified in the 2007 General Plan for land use, circulation, and open space and conservation, and public services will help reduce GHG emissions. In particular, Policy OS -0.11 requires development of a detailed GHG inventory and adoption of a Greenhouse Gas Reduction Plan.

As shown above in Table 4.16-3, GHG emissions in Monterey County under BAU conditions would result in 2020 emissions that are 10% higher than current (2006) GHG emissions without consideration of currently adopted programs (AB 1493 and SB 1078/SB 107). With consideration of currently adopted programs, County GHG emissions would be 4% less than current (2006) GHG emissions and would be an estimated 94% of BAU GHG emissions. This amount exceeds the significance threshold of 72% of BAU GHG emissions.

Implementation of the GHG Reduction Plan by the County would reduce emissions to the significance threshold. However, preparation of the plan is at least 24 months in the future, and current policies do not provide a comprehensive framework for reducing GHG emissions in the County for discretionary development, and thus without the articulation of specific requirements for GHG reductions, the 2007 General Plan would result in a considerable contribution to cumulative GHG emissions and global climate change.

The following mitigation measures are recommended for implementation by the County.

Mitigation Measures

Mitigation Measure CC-1a: Modify Policy OS-10.11 regarding the Greenhouse Gas Reduction Plan

Revise Policy OS-10.11 as follows:

OS-10.11 - Within 24 months of the adoption of the General Plan, Monterey County will develop a Greenhouse Gas Reduction Plan with a target to reduce emissions by 2020 by 28 percent relative to estimated "business as usual" 2020 emissions.

At a minimum, the Plan shall:

a. establish an inventory of current (2006) GHG emissions in the County of Monterey including but not limited to residential, commercial, industrial and agricultural emissions;

b. forecast GHG emissions for 2020 for County operations;

c. forecast GHG emissions for areas within the jurisdictional control of the County for "business as usual" conditions;

d. identify methods to reduce GHG emissions;

e. quantify the reductions in GHG emissions from the identified methods;

f. requirements for monitoring and reporting of GHG emissions;

g. establish a schedule of actions for implementation;

h. identify funding sources for implementation; and

i. identify a reduction goal for the 2030 Planning Horizon.

During preparation of the Greenhouse Gas Reduction Plan, the County shall also evaluate potential options for changes in County policies regarding land use and circulation as necessary to further achieve the 2020 and 2030 reduction goals and measures to promote urban forestry and public awareness concerning climate change.

Mitigation Measure CC-2: Add Policy OS-10.12: Adoption of a Green Building Ordinance

OS-10.12 - Within 24 months of the adoption of the General Plan, the County shall adopt a Green Building Ordinance to require green building practices and materials for new civic buildings and new private residential, commercial, and industrial buildings that will include, but are not limited to, the following:

- All new County government projects and major renovations shall meet, at a minimum, LEED-Silver standards or an equivalent rating system
- All new commercial buildings shall be certified under the LEED rating system for commercial buildings or an equivalent rating system.
- All new residential projects of 6 units or more shall meet the GreenPoint Rating System for residential buildings, or an equivalent alternate rating system.
- The County shall require consideration of solar building orientation, solar roofs, cool pavements, and planting of shade trees in development review of new commercial and industrial projects and new residential projects of 6 units or more.
- Prioritized parking within new commercial and retail areas for electric vehicles, hybrid vehicles, and alternative fuel vehicles shall be provided for new commercial and institutional developments.
- New commercial and industrial projects greater than 25,000 square feet shall be required to provide on-site renewable energy generation as part of their development proposal. This requirement can be met through a solar roof or other means.

Mitigation Measure CC-3: New Policy OS-10.13 - Promote Alternative Energy Development

OS-10.13: The County shall use Geographic Information Systems (GIS) to map and assess local renewable resources, the electric and gas transmission and distribution system, community growth areas anticipated to require new energy services, and other data useful to deployment of renewable technologies.

The County shall adopt an Alternative Energy Promotion ordinance that will:

- identify possible sites for production of energy using local renewable resources such as solar, wind, small hydro, and, biogas;
- consider the potential need for exemption from other General Plan policies concerning visual resources, ridgeline protection, biological resources;
- evaluate potential land use, environmental, economic, and other constraints affecting renewable energy development; and
- adopt measures to protect both renewable energy resources, such as utility easement, right-of-way, and land set-asides as well as visual and biological resources.

The County shall also complete the following:

- Evaluate the feasibility of Community Choice Aggregation (CCA) for the County. CCA allows cities and counties, or groups of them, to aggregate the electric loads of customers within their jurisdictions for purposes of procuring electrical services. CCA allows the community to choose what resources will serve their loads and can significantly increase renewable energy.
- If CCA is ultimately not pursued, the County shall evaluate the feasibility of purchasing renewable energy certificates to reduce the County's contribution to GHG emissions related to County electricity use.
- The County shall develop a ministerial permit process for approval of small-scale wind and solar energy systems for on-site home, small commercial, and farm use.

Mitigation Measure CC-4: New Policy PS-5.5 - Promote Recycling and Waste Reduction

PS-5.5: The County shall promote waste diversion and recycling and waste energy recovery as follows:

- The County shall adopt a 75% waste diversion goal.
- The County shall support the extension of the types of recycling services offered (e.g., to include food and green waste recycling).
- The County shall support waste conversion and methane recovery in local landfills to generate electricity.
- The County shall support and require the installation of anaerobic digesters for winery facilities and wastewater treatment facilities under County jurisdiction.

Mitigation Measure CC-5: Adopt GHG Reduction Plan for County Operations

Within 12 months of adoption of the General Plan, the County shall quantify the current and projected (2020) GHG emissions associated with County operations and adopt a GHG Reduction Plan for County Operations. The goal of the plan shall be to reduce GHG emissions associated with County Operations by at least 28% relative to BAU 2020 conditions.

Potential elements of the County Operations GHG Reduction Plan shall include, but are not limited to, the following measures: an energy tracking and management system; energy-efficient lighting; lights-out-at-night policy; occupancy sensors; heating, cooling and ventilation system retrofits; ENERGY STAR appliances; green or reflective roofing; improved water pumping energy efficiency; central irrigation control system; energy-efficient vending machines; preference for recycled materials in purchasing; use of low or zero-emission vehicles

and equipment and recycling of construction materials in new county construction; conversion of fleets (as feasible) to electric and hybrid vehicles; and solar roofs.

Environmental Impacts Associated with Mitigation Measures

Many of the measures described above, for example, improved energy-efficiency for residential and commercial developments, will have little to no secondary environmental impacts. However, some of the measures described above, such as new renewable energy facilities could have significant secondary environmental impacts. New utility-scale wind power could have significant impacts related to noise and biology. New utility-scale wind and solar installations could have impacts related to aesthetics and ridgeline development. New recycling facilities could have impacts related to land use compatibility and odor. Environmental impacts would be reviewed in accordance with General Plan policies and under CEQA (for discretionary projects). For the proposed ministerial permit program for small-scale wind and solar installations, CEQA review would be completed for the program as a whole and environmental conditions incorporated into the program to avoid, minimize, and compensate for any identified significant environmental impacts.

Significance Conclusion

Many of the policies identified in the 2007 General Plan for land use, circulation, and open space and conservation, and public services will help reduce GHG emissions, in particular Policy OS-10.11 which requires development of a detailed GHG inventory and adoption of a Greenhouse Gas Reduction Plan. New Policies OS-10.12, OS-10.13, and PS-5.5 are proposed above as mitigation along with a GHG Reduction Plan for Municipal Operations.

As shown above in Table 4.16-3, with consideration of currently adopted programs, County GHG emissions would be 2% higher than current (2006) GHG emissions and would be an estimated 93% of BAU GHG emissions. This amount exceeds the significance threshold of 72% of BAU GHG emissions. The GHG reductions associated with full implementation of 2007 General Plan policies and the proposed mitigation have not been quantified but will be quantified during the GHG reduction planning required by Policy OS-10.11 and recommended mitigation,

By 2012 the state's regulations will be fully enacted and the 2007 General Plan requires completion of the County's Greenhouse Gas Reduction Plan prior to that time (assuming General Plan adoption at the latest in 2009). At that time, the framework will be in place to achieve substantial GHG emission reductions by 2020 that will be consistent with AB 32. As the state and County's efforts proceed to reduce emissions, the County's contribution would less than considerable at 2020. Mitigation identified in this chapter

requires extension of the Greenhouse Gas Reduction Plan to 2030 along with a 2030 reduction goal, which, when enacted will make the County's contribution less than cumulatively considerable for the 2030 planning horizon as well.

Buildout

Impact of Development with Policies

Beyond 2020 and 2030, substantial further reductions in GHG emissions will be necessary to stabilize atmospheric GHG concentrations to eventually halt anthropogenic-induced climate change. A number of researchers have proposed reduction of GHG emissions in the developed world by 80 percent below 1990 levels by 2050. California Executive Order S-3-05, signed by the current governor, adopts this reduction level as the goal for the state; however as an Executive Order it only applies to state agencies – not to the actions of local governments. Nevertheless, for this analysis, substantive reductions in emissions are assumed necessary after 2020 and 2030 in order to address cumulative GHG emissions and associated climate change effects.

While emissions were estimated for buildout as shown below in Table .16-4, these estimates are considered highly speculative as the likelihood of 100 percent buildout is very low and the character of residential, commercial, and industrial development and transportation technology more than 80 years in the future is unknown.

Transportation Emissions

The results of the modeling indicate that at buildout (assumed to be 2092), under BAU conditions, vehicular traffic in the Monterey County planning area would result in increased CO_2e emissions related to increased VMT would be 400,000 metric tons at buildout.

Taking into account the proposed Pavley II standards and the Low Carbon Fuel Standard, there could be a reduction of 30% in the carbon dioxide emissions of passenger vehicles compared to BAU. If Pavley II and the Low Carbon Fuel Standard are implemented as part of the ARB Draft Scoping Plan, the increased emissions would be 320,000 metric tons compared to 400,000 metric tons under BAU conditions.

Direct Energy Consumption Emissions

New buildings would consume natural gas for heating, cooking, and other processes and other area sources. At buildout, residential, commercial and industrial development allowed by the 2007 General Plan would result in estimated new annual carbon dioxide emissions of 92,000 metric tons.

Table 4.16-4. Monterey County Greenhouse Gas Increase in Emissions, Buildout

Source	GHG Emissions	% of Total	Notes
Business as Usual Conditions			
Vehicle Emissions	399,713	50%	Based on growth in VMT
Natural Gas Consumption	92,251	11%	Residential, commercial, and industrial consumption.
Electricity Consumption	89,282	11%	Residential, commercial, and industrial consumption.
Industrial processes	194,226	24%	Based on growth in industrial employment
Landfill Emissions	31,243	4%	Based on growth in population.
Agricultural Emissions	No change	NA	Assumed no overall change in agricultural acreage.
Total from New Development	806,715	100%	
Total from Existing Development	1,394,404		Assumed no change since 2006.
Total	2,201,119		
Percent Change relative to 2006		*58%*	
With Pavley II vehicle emissions standards, Governor's Low Carbon Fuel Standard and Draft Scoping Plan RPS goal of 33% renewable energy			
Vehicle Emissions	319,739	45%	Adjusted for Pavely 1, 2 and low-carbon fuel standard
Natural Gas Consumption	92,251	13%	Not adjusted
Electricity Consumption	70,533	10%	Adjusted for Scoping Plan RPS goal of 33%
Industrial processes	194,226	27%	Not adjusted for potential improvements in process efficiency.
Landfill Emissions	31,243	4%	Not adjusted for potential improvements in landfill capture.
Agricultural Emissions	No change	NA	Assumed no overall change in agricultural acreage.
Total from New Development	707,992	100%	
Total from Existing Development	1,156,340		Assumes similar percentage reduction for existing development relative to BAU as estimated for new development for Pavely 2, LCFS and RPS goal of 33%.
Total	1,864,332		
Percent Change relative to 2006		*34%*	

Although the efficiency of natural gas consumption and other areas will likely improve dramatically by buildout, there are no current programs included in the AB 32 draft scoping plan or early action items concerning direct natural gas consumption.

Indirect Electricity GHG Emissions

New buildings would also consume electricity. At buildout, residential, commercial and industrial development allowed by the 2007 General Plan would result in estimated increase in annual indirect GHG emissions of 89,000 metric tons related to electricity under BAU conditions

Taking into account the proposed 33% RPS standard in the AB 32 Draft Scoping Plan, there could be a reduction of 21 % in the GHG emissions related to electricity production by PG&E and thus the indirect GHG emissions would be further reduced to 71,000 metric tons. It is likely that the carbon intensity of electricity generation 80 years in the future will be far lower than that resultant from full implementation of the 33% RPS standard.

Industrial Emissions

Based on employment data, there would be an increase of industrial employment by 96% at buildout. Industrial process emissions in 2006 were estimated as 201,000 metric tons of CO2e. Thus increased GHG emissions at buildout due to new growth are estimated to be 194,000 metric tons of CO2e. A number of the proposed measures in the AB 32 Draft Scoping Plan would help to reduce industrial GHG emissions but the potential amount of reduction has not been estimated.

Agricultural Emissions

While economic forecasting of agricultural employment was available for the 2030 planning horizon, the amount of expansion or contraction of the agricultural economy over 80 years in the future is unknown. Further, there are substantive uncertainties in estimating GHG emissions associated with diverse agricultural practices and crops. Thus, no estimate of GHG emissions associated with potential agricultural expansion at buildout was prepared.

Emissions Associated With Land Use Changes

Development allowed by the 2007 General Plan through buildout would result in the conversion of natural vegetation and agricultural lands that would result in the loss of carbon sinks. Given the uncertainties associated with estimated GHG fluxes associated with natural vegetation and agricultural lands, the potential loss of carbon sinks was not

quantified, but would nevertheless contribute GHG emissions along with other sources. As discussed below a number of 2007 General Plan policies seek to limit the amount of natural land conversion due to urban growth.

Emissions Associated With Waste Processing

Development allowed by the 2007 General Plan would result in increased generation of waste which would require disposal in a landfill, which would increase methane emissions.

Based on population data, there would be an increase of population in the unincorporated County by 95% at buildout. Landfill emissions in 2006 were estimated as 33,000 metric tons of CO2e. Thus increased GHG emissions by buildout due to new growth are estimated to be 31,000 metric tons of CO2e.

Given the current and planned implementation of landfill gas capture and use of waste to energy technology in the future, future waste disposal may not contribute substantial amounts of methane. However, until full capture and reuse of landfill gas is achieved, there will be increased emissions associated with additional waste disposal.

2007 General Plan and Area Policies

The 2007 General Plan and Area Plan policies summarized above would apply to buildout after 2030.

Significance Determination

There are substantial uncertainties as to the technical means to implement substantial reductions to meet future post-2020 goals, which could be a reduction of GHG emissions to levels 80 percent below 1990 levels. The 2007 General Plan focuses growth in Community Areas, Rural Centers, and Affordable Housing Areas, but growth in these areas will occur early in the life of the General Plan and later growth would be dispersed across the County primarily on lots of record, thus resulting in greater travel distances and greater energy uses. Policy OS-10.11 only has a goal of GHG reductions up to 2020 (matching the AB 32 horizon), but further substantive reductions in GHGs will be required beyond 2030 in order to avoid even worse consequences of climate change. Thus, for the period after 2030, development under the 2007 General Plan would result in a considerable contribution to cumulative GHG emissions and global climate change.

The following mitigation measures are recommended for implementation by the County.

Mitigation Measures

Mitigation Measure CC-11 (Same as BIO-1.9): By 2030, prepare an Update to the General Plan to identify expansion of existing focused growth areas and/or to identify new focused growth areas to reduce loss of natural habitat in Monterey County and vehicle miles traveled.

The County shall update the County General Plan by no later than January 1, 2030 and shall consider the potential to expand focused growth areas established by the 2007 General Plan and/or the designation of new focused growth areas. The purpose of such expanded/new focused growth areas would be to reduce the loss of natural habitat due to continued urban growth after 2030. The new/expanded growth areas shall be designed to accommodate at least 80% of the projected residential and commercial growth in the unincorporated County from 2030 to buildout.

Mitigation Measure CC-12: Greenhouse Gas Reduction Plan Requirements Beyond 2030

In parallel with the development and adoption of the 2030 General Plan, Monterey County will develop and adopt a Greenhouse Gas Reduction Plan with a target to reduce 2050 GHG emissions by 80 percent relative to 1990 emissions.

At a minimum, the Plan shall establish an inventory of current (2030) GHG emissions in the County of Monterey; forecast GHG emissions for 2050 for County operations and areas within the jurisdictional control of the County; identify methods to reduce GHG emissions; quantify the reductions in GHG emissions from the identified methods; identify requirements for monitoring and reporting of GHG emissions; establish a schedule of actions for implementation; and identify funding sources for implementation.

Significance Conclusion

For buildout within the County beyond the 2030 planning horizon, there are substantial uncertainties as to the technical means to implement reduction of greenhouse gas emissions to levels 80 percent below 1990 levels. Mitigation identified in this chapter requires continuation of the Greenhouse Gas Reduction Plan beyond 2030 as well as adoption of a new General Plan by 2030 that would examine options to focus growth for the period after 2030. These measures would identify feasible means along with state and federal actions that might be able to reduce emissions to 80 percent below 1990 levels, but given that the means to effect such emissions are not known at present, buildout within the County beyond 2030 is determined to make a considerable and unavoidable contribution to cumulative GHG emissions and global climate change

Adverse Effects of Climate Change on Monterey County

Impact CC-2: Development Allowed by the 2007 General Plan May Subject Property and Persons to Otherwise Avoidable Physical Harm in Light of Inevitable Climate Change. (Mitigated to Less Than Considerable)

2030 Planning Horizon and Buildout

Impact of Development with Policies

Existing and new development and the natural environment in Monterey County will be subject to climate change impacts resultant from past, present, and future GHG emissions regardless of the success of local, state, national, or international in reducing future GHG emissions due to the existing concentrations of GHG emissions in the atmosphere and the inevitable additional emissions before GHG reductions plans provide reductions.

Without further planning, current requirements may provide inadequate protection against adverse physical impacts and may not anticipate changed conditions resultant from climate change.

"Scenarios of Climate Change in California: An Overview" (Climate Scenarios report), was published in February 2006 (California Climate Change Center 2006). The Climate Scenarios report uses a range of emissions scenarios developed by the IPCC to project a series of potential warming ranges with temperature increases from 3.0 to 10.5 degrees Fahrenheit. The Climate Scenarios report then presents analysis of future climate in California under each warming range. Substantial temperature increases would result in a variety of impacts to the people, economy, and environment of California. The description of potential impacts for California from this report were used to generally characterize potential impacts to Monterey County, that would include but are not limited to the following:

Sea Level Rise

Rising sea levels, more intense coastal storms, and warmer water temperatures will increasingly threaten the County's coastal regions. Under the higher warming scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude could inundate coastal areas with salt water, accelerate coastal erosion, potentially harm coastal aquifers, and disrupt coastal wetlands and natural habitats.

Agriculture

Agriculture, along with forestry, is the sector of the California economy that may be most be affected by a change in climate. Regional analyses of climate trends over agricultural regions of California suggest that climate change is already in motion. Over the period 1951 to 2000, the growing season has lengthened by about a day per decade, and warming temperatures have resulted in an increase of 30 to 70 growing degree days per decade, with much of the increase occurring in the spring. Climate change affects agriculture directly through increasing temperatures and rising CO2 concentrations, and indirectly through changes in water availability and pests (California Climate Change Center 2006).

Crop growth models show that a warming from a low to a higher temperature generally raises yield at first, but then becomes harmful. Possible effects of excessively high temperature include: decreased fruit size and quality for stone fruits, premature ripening and possible quality reduction for grapes, reduced fruit yield for tomatoes, increased incidence of tipburn for lettuce, and similar forms of burn for other crops. From a variety of studies in the literature, photosynthesis increases when a plant is exposed to a doubling of CO2. However, whether this translates into increased yield of economically valuable plant product is uncertain and highly variable. Also, elevated CO2 levels are associated with decreased concentrations of mineral nutrients in plant tissues, especially a decrease in plant nitrogen, which plays a central role in plant metabolism. Some crops may benefit in quality from an increase in CO2 while some crops are harmed by an increase in CO2. Growth rates of weeds, insect pests, and pathogens are also likely to increase with elevated temperatures, and their ranges may expand (California Climate Change Center 2006).

Over time, new seed varieties could be developed that are better adapted to the changed climate and pest conditions, and entirely new crops may be found to meet pharmaceutical or energy supply needs. However, some of these adaptations may require publicly supported research and development if they are to materialize (California Climate Change Center 2006).

Public Health and Safety

Climate change could affect the health of County residents by increasing the frequency, duration, and intensity of conditions conducive to air pollution formation, heat, and wildfires. The primary concern is not the change in average climate, but rather the projected increase in extreme conditions that are responsible for the most serious health consequences. In addition, climate change has the potential to influence asthma symptoms and the incidence of infectious disease (California Climate Change Center 2006).

Wildland Fire Risk

With climate change, the potential for wildland fires may change due to changes in fuel conditions (transitioning forests to chaparral/grasslands for example), precipation (longer dry seasons, higher extreme temperatures), and wind (affecting potential spread), among other variables.

Westerling and Bryant (2006) estimated future statewide wildfire risk from a statistical model based on temperature, precipitation, and simulated hydrologic variables. These are conservative estimates because they do not include effects of extreme fire weather, but implications are nonetheless quite alarming. Projections made for the probabilities of "large fires"—defined as fires that exceed an arbitrary threshold of 200 hectares (approximately 500 acres)—indicate that the risk of large wildfires statewide would rise almost 35% by mid-century and 55% by the end of the century under a medium-high emissions scenario, almost twice that expected under lower emissions scenarios. Estimates of increased damage costs from the increases in fire season severity (Westerling and Bryant 2006) are on the order of 30% above current average annual damage costs.

A second study explored, through a case study in Amador and El Dorado Counties, the effects of projected climate change on fire behavior, fire suppression effort, and wildfire outcomes (Fried et al. 2006). Climate and site-specific data were used in California Department of Forestry and Fire Protection (CDF) standard models to predict wildfire behavior attributes such as rate of spread and burning intensity. The study found an increase in the projected area burned (10%–20%) and number of escaped fires (10%–40%) by the end of century, under the drier climate scenarios. However, the less dry model showed little change.

Hydrology/Flooding

At present, it is uncertain whether coastal areas like Monterey County will experience increases, decreases, or no change in precipitation due to climate change. Regional (as in on the scale of Northern California as a whole) climate change modeling shows mild (5 to 10%) increases and decreases in precipitation depending on the climate change scenarios studied (Anderson 2006).

Localized studies of potential changes in storm intensity have not been done for Monterey County. On a broad (California level), there is a potential increase in the severity of winter storms due to climate change (Dettinger 2007). If this were to occur, peak stream flows and flooding may increase the risk of flooding beyond the risk levels currently anticipated in the County.

Water Supplies

While much of California is dependent on the Sierra Nevada snowpack for its water supply (and the snowpack could be heavily altered by climate change), Monterey County is not. Nevertheless, the County's water resources could be altered due to warming which may affect evaporation levels for existing reservoirs (such as Nacimiento and San Antonio reservoirs) and may affect sea levels, resulting in salination of coastal aquifers (although no study of the potential effects have been conducted). As noted above, it is unknown at present whether there may be changes in precipitation within the County due to climate change and thus water supplies could increase, decrease, or stay the same depending on the net effect of climate change.

Natural Ecosystems

Climate changes and increased CO2 concentrations are expected to alter the extent and character of natural ecosystems. The distribution of species is expected to shift; the risk of climate-related disturbance such as wildfires, disease, and drought is expected to rise; and forest productivity is projected to increase or decrease—depending on species and region. In Monterey County, these ecological changes could have significant implications for fire suppression, public health, and the sustainability of the County's natural ecosystems.

2007 General Plan and Area Policies

Although the 2007 General Plan and Area Plans have numerous policies about flooding, water supplies, habitat protection, and environmental health, there are no specific policies integrating climate change considerations into planning for these subject areas.

Significance Determination

Without further mitigation, development allowed under the 2007 General Plan, as well as existing development, could subject to people and property to otherwise avoidable physical harm related to sea level rise, flooding, agriculture, public health, and natural ecosystems.

The following mitigation measure is recommended for implementation by the County to promote adaptation planning as integral part of advance planning.

Mitigation Measures

Mitigation Measure CC-13: Develop and Integrate Climate Change Preparedness Planning for Monterey County

Monterey County shall prepare and implement a Climate Change Preparedness Plan to prepare proactively for the impacts of climate change to the County's economy and natural ecosystems and to promote a climate resilient community.

A useful guide to climate resiliency planning is *Preparing for Climate Change: A Guidebook for Local, Regional, and State Governments*. (The Climate Impacts Group, King County, Washington, and ICLEI – Local Governments for Sustainability 2007), which outlines the following steps:

- Scope the climate change impacts to major County sectors and building and maintain support among stakeholders to prepare for climate change.
- Establish a climate change preparedness team.
- Identify planning areas relevant to climate change impacts.
- Conduct a vulnerability assessment based on climate change projections for the region, the sensitivity of planning areas to climate change impacts, and the ability of communities to adapt to climate change impacts
- Conduct a risk assessment based on the consequences, magnitude, and probability of climate change impacts, as well as on an evaluation of risk tolerance and community values.
- Establish a vision and guiding principles for climate resilient communities and set preparedness goals in priority planning areas based on these guiding principles.
- Develop, select, and prioritize possible preparedness actions.
- Identify a list of important implementation tools
- Develop an understanding of how to manage risk and uncertainty in the planning effort.
- Develop measures of resilience, and use these to track the results of actions over time
- Review assumptions and other essential information to ensure that planning remains relevant to the most salient climate change impacts.
- Update plans regularly.

Potential areas of emphasis for preparedness planning may include risk of wildfires, agricultural impacts, flooding and sea level rise, salt water intrusion; and health effects of increased heat and ozone, through appropriate policies and programs.

Potential implementation steps could include adopting land use designations that restrict or prohibit development in areas that may be

more severely impacted by climate change, e.g., areas that are at high risk of wildfire, sea level rise, or flooding; adoption of programs for the purchase or transfer of development rights in high risk areas to receiving areas of equal or greater value; and support for agricultural research on locally changing climate conditions.

To be effective, preparedness planning needs to be an ongoing commitment of the County. The first plan shall be completed no later than 5 years after the adoption of the General Plan and shall be updated at least every 5 years thereafter.

Significance Conclusion

A certain amount of environmental change is inevitable due to current and unavoidable future increases in GHG emissions worldwide. The extent of such change on a local basis to Monterey County agriculture, water supplies, flooding, natural ecosystems, and environmental health, and other areas is not fully understood at present. With implementation of the policies in the Climate Change Preparedness Plan over time, new development will be resilient to these inevitable changes and would avoid additional physical harm to persons and property resultant from climate change effects. Thus, with mitigation, the 2007 General Plan would not make a considerable contribution to a cumulative impact related to adaptation to climate change effects.

Chapter 5
Alternatives to the 2007 General Plan

5.1 Introduction

In accordance with CEQA Guidelines Section 15126.6, this EIR contains a comparative impact assessment of alternatives to the proposed project. The primary purpose for this section is to provide decision makers and the public with a reasonable degree of feasible project alternatives that could attain most of the basic project objectives, while avoiding or reducing any of the project's significant adverse environmental effects. CEQA Guidelines Section 15126.6 sets forth the following parameters for the analysis of project alternatives:

- an EIR need not consider every conceivable alternative to a project;
- an EIR should identify alternatives that were considered by the lead agency, but rejected as infeasible during the scoping process;
- reasons for rejecting an alternative include:
  - failure to meet most of the basic project objectives;
  - infeasibility; and/or
  - inability to avoid or reduce any of the project's significant environmental effects.

The CEQA Guidelines state that the discussion of alternatives shall focus on alternatives to the project or its location, which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly. The feasibility of an alternative may be determined based on a variety of factors including, but not limited to: site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and site accessibility and control. This section also identifies the environmentally superior alternative. As required by CEQA, if the environmentally superior alternative is the No Project Alternative, this chapter identifies an environmentally superior alternative among the other alternatives.

As stated in Section 3.0, Project Description, the objectives of the 2007 General Plan are to:

- provide direction for growth that supports continued viability of agricultural production and preserves as much of the County's scenic and environmental resources as possible;
- provide decision makers, County staff, and the public with an updated General Plan that accurately reflects the existing physical conditions and constraints in the County and provides a range of comprehensive policies to guide future development based upon those conditions and constraints;
- modify existing land use designations to patterns that accommodate the most-recent population growth, housing, and employment projections in an orderly manner that minimizes environmental impacts as feasible while meeting the County's obligations under California Planning Law to provide housing for all income levels
- direct new development to Community Areas and Rural Centers to facilitate the efficient provision of infrastructure and services while reducing the impacts of population growth, additional housing and employment opportunities on agriculture, water supplies, and environmental resources.
- establish policies that will conserve limited water supplies for current and projected future uses, incljuding urban, rural and agricultural uses
- establish new comprehensive policies and modify existing policies in the existing 1982 General Plan that reflect the latest legal, statutory, scientific, and technical changes and advances; and
- consider advice, concerns, and suggestions regarding future growth and development from all segments of the County population and, to the extent feasible, address these issues through new or modified goals, policies, or land use concepts.
- Support the continued viability of the agricultural industry by allowing routine and ongoing agricultural uses to proceed subject to standard regulations
- Establish the AWCP to facilitate the development of wineries along a corridor in the central and southern Salinas Valley to achieve a balance between the wine-grape production and wine processing capacity within the County.

This Section provides a qualitative analysis of five alternatives to the 2007 General Plan that is intended to provide a relative comparison between the potential impacts of the 2007 General Plan and each alternative. In some cases, the significance conclusion of an impact may be the same under each scenario when compared to the Thresholds of Significance. However, the actual degree of impact may be slightly different.

The discussion provides a numeric comparison of development under each alternative based upon implementation to the Year 2030. The qualitative comparative analysis will focus on the differences between each alternative and GP2007 based upon development to the 2030 planning horizon. This EIR has provided a methodology for determining the date of potential full buildout, and

assumes that could occur by 2092. However, to determine with any precision when full buildout might occur for the other alternatives would be very difficult and entirely speculative. For example, because the GPI alternative requires voter approval of future amendments the County would not be able to predict whether voters would approve future amendments allowing additional growth to accommodate affordable housing. For another example, the EIR certified for the 1982 General Plan assumed that full buildout could have added about 30,000 additional residential units in the County and assumed that would occur at a relatively early date. Yet 25 years later, actual growth has been closer to 6,000 additional units. Basing a comparison on 30,000 would not provide a meaningful analysis to the public or decision-makers. A comparison of full buildout would likely result in a comparison of the dates into the next century when hypothetical buildout would occur, rather than a realistic comparison of the impacts of those alternatives.

The estimates of new residential development to 2030 under the various alternatives are based on two sources. The 1982 General Plan, GPI, and GPU 4 alternatives' estimates reflect the February 2007 report prepared by Bay Area Economics comparing the effects of those three alternatives in anticipation of placing the GPI on the countywide ballot. The GPU3 estimate is derived from applying the historic residential growth rate (based on AMBAG forecasts) to the available land under that alternative. The TOD estimate is, by the nature of the alternative, the same as the 2007 General Plan.

5.2 Description of Alternatives

The principal criteria for selecting the alternatives studied in the EIR are to comply with CEQA, to describe a reasonable range of alternatives that could feasibly accomplish most of the basic project objectives and avoid or substantially lessen one or more of the significant effects of the project, and to ensure that the impact analysis provides sufficient information to the public and public officials to make informed decisions about the 2007 General Plan. An EIR conceivably could analyze an infinite number of alternatives or variations on alternatives. However, CEQA directs EIR preparers to analyze a "reasonable range" of alternatives to the project or project location, including the No-Project alternative.

Monterey County started the process of a comprehensive general plan update in 1999. Since then, there have been multiple versions of a general plan prepared, including a community-based plan prepared as a ballot initiative. This Supplemental EIR examines five alternatives to the 2007 General Plan as presently proposed.

In order to offer decision-makers and the public a comparison of the most recent prior versions of the General Plan update, this EIR examines two alternatives—GPU 3 and GPU 4—that would not otherwise meet all three criteria for being among the range of alternatives. While these two alternatives are potentially

feasible and meet the project objectives, they do not substantially reduce the potential significant effects of the 2007 General Plan.

The five alternatives are listed below with a summary description following the list:

- No Project Alternative (Existing 1982 General Plan)
- 21st Century Monterey County General Plan, February 2004 Alternative (GPU3)
- General Plan Initiative Alternative (GPI)
- 2007 General Plan Alternative (GPU4)
- TOD (Transit-Oriented Development)

The No Project Alternative considers an option to not accept any updates and retain the existing 1982 General Plan. This alternative consists of the 1982 General Plan with an amended Housing Element adopted in 2003. It also includes the existing four Local Coastal Programs (North County Land Use Plan, Del Monte Forest Land Use Plan, Carmel Land Use Plan, and the Big Sur Coast Land Use Plan) and eight Area Plans that are considered subsets of the 1982 General Plan.

The projected level of development under the 1982 General Plan is somewhat uncertain. The 1982 General Plan's EIR estimated that it would accommodate up to 63,735 new dwelling units. More recently, the 2007 report prepared for the Monterey County Board of Supervisors comparing the GPI to the 1982 General Plan estimated that future development would total 13,570 new residential units. (Bay Area Economics 2007)

The focus of growth under the 1982 General Plan is in urban areas (cities). New residential growth is to be concentrated in areas already committed to a degree of residential development and provide for an adequate level of services. Much of this would occur at low or rural density. The Plan also designates four "Area of Development Concentration Study Areas" and establishes an urban reserve overlay area, which would be developed through annexation to an incorporated city. There are ten Special Treatment Areas (STAs) identified in the 1982 General Plan.

GPU3 is the third version of a comprehensive General Plan Update. This version was considered, but not adopted, by the Board of Supervisors in 2004. A Draft EIR was prepared and circulated for this document but not certified. GPU3 consolidates the four Local Coastal Programs into a single new Coast Area Plan. The county's eight Area Plans are incorporated into GPU3, but are amended with their own sets of vision statements, policies, and goals. Estimated new residential development under GPU3 to the 2030 horizon year is 13,675 residential units.

GPU3 establishes eight Community Areas as targets for urban growth. These are unincorporated communities that have already begun to develop at urban

densities, or have been planned for urban development for many years. These include Boronda, Castroville, Pajaro, a portion of Fort Ord, Rancho San Juan, Pine Canyon, San Lucas, and an expanded area of Rancho San Juan. Pine Canyon and the expanded area of Rancho San Juan would be developed in a second phase of Community Plan development. There are also 18 Rural Centers identified in this alternative that could ultimately be converted to Community Areas in the future, based upon a tiered system of phased growth. Policies establishing an agricultural wine corridor are proposed as part of this alternative. GPU3 included 16 Special Treatment Areas or"STAs" (including the 10 existing STAs from the 1982 General Plan).

GPI is a proposed General Plan Initiative that was placed on the June 2007 countywide ballot, but did not pass. It amends part of the existing 1982 General Plan (primarily Chapter IV Area development, and the 2003–2007 Housing Element as well as the North County Coastal Land Use Plan and sections of each of the inland area plans). The remaining coastal plans would not be amended. Estimated new development under the GPI to the 2030 horizon year is 13,973 residential units. (Bay Area Economics 2007)

The GPI limits all new growth in the unincorporated area to five Community Areas: Boronda, Castroville, Pajaro, East Garrison portion of Fort Ord, and Chualar. Growth in Chualar is limited to 100 acres. No Rural Centers would be created. Subdivisions outside Community Areas are significantly constrained. A net increase in lots would require voter approval of a separate countywide initiative. Property owners are permitted to construct single-family residences on legal lots of record.

GPU4 is the 2006 General Plan update adopted by the Board of Supervisors in January 2007. It makes no changes to any of the Local Coastal Programs. GPU4 establishes 6 Community Areas and 11 Rural Centers in locations where populations have developed over the past 20 or more years. GPU4 also proposes 17 Special Treatment Areas (including the 10 existing STAs in the 1982 General Plan) totaling 7,832 acres, plus three Study Areas to be**.** evaluated for possible future designation as STAs. A separate agricultural wine corridor plan (ACWP) would be enacted in conjunction with GPU4.

The estimated development of new residential units under GPU4 to the 2030 planning horizon year is 16,900 dwelling units. (Bay Area Economics 2007)

TOD is an alternative that focuses new development along existing and future transportation corridors. These corridors would be served by high-capacity and high-frequency public transportation. Public transportation in this alternative includes fixed-route bus service, rail, express bus service and Bus Rapid Transit (BRT). Development in these corridors would be concentrated at "nodes" adjoining public transportation stations.

Under the TOD Alternative, new development outside the Community Areas, Rural Centers, and AHOs would be restricted to the first single-family home on existing legal lots of record in the North County, Greater Monterey Peninsula

(along the Route 68 corridor only) Greater Salinas, and Toro (along the Route 68 corridor) Area Plans. The Bradley and Lockwood Rural Centers would be considered third tier development priority areas. They would not be developed until the transit system is funded and built to King City. Otherwise, this alternative would share the same policies as the 2007 General Plan. Areas subject to subdivision restrictions would be designated as "sending" sites under a Transfer of Development Rights (TDR) program, with cities, Community Areas, Rural Centers, and AHOs identified as "receiving" areas. In effect, development credits could be transferred from the sending areas to the receiving areas, resulting in more intense development at the latter.

Table 5-6, Summary of 2007 General Plan Alternatives, in the discussion of the Environmentally Superior Alternative that follows compares the relative impacts of the alternatives to the impacts of the 2007 General Plan.

5.2.1 Growth Projections under the Alternatives

The residential growth projections to 2030 for most of the alternatives are taken from the 2007 Bay Area Economics report *Analysis of Monterey County General Plans and Quality of Life Initiative* prepared for the County Board of Supervisors. The two exceptions are the GPU3 and TOD alternatives.

Growth to 2030 under GPU3 is estimated on the basis of the 10,567 dwelling units described as potential development in the draft of GPU3 before the Board of Supervisors added more Community Areas, with an additional increment added to conservatively estimate the residential units that might be allowed in the additional Community Areas and un-built lots. This additional 28 percent increment is based on the ratio of development potential for the 2007 General Plan under full buildout to the development potential in 2030.

The Alternatives impacts are not individually analyzed at buildout in 2092. The method of estimating 2092 growth for the 2007 General Plan has been to apply the historic growth rate (expressed in housing units per year) within the unincorporated area of the county. Using this approach, each of the alternatives would add 25,903 residences by 2092. As a result, the relative degree of impact when the alternatives are compared to one another would remain essentially the same as during the 2030 planning horizon.

5.3 No Project Alternative—Existing 1982 General Plan

5.3.1 Description

Under this alternative, the existing 1982 General Plan would be retained as the County's blueprint for growth. No land use designations would change, and it is assumed that existing undeveloped lots of record ultimately would be built out to their highest use, as envisioned by the 1982 General Plan land use map. The 1982 General Plan is designed to encourage growth in the 12 incorporated cities. The 1982 General Plan includes the STA overlay that allows for unique land use concepts that reflect site-specific constraints or features. Ten STAs are included in the 1982 General Plan and the Rancho San Juan Area of Development Concentration Study Area. In comparison, the 2007 General Plan would establish five Community Areas and seven Rural Centers where populations have developed over the past 20 or more years, while also encouraging growth in the cities.

The 1982 General Plan does not include an Agricultural Winery Corridor, and the development of wine-related facilities would continue in accordance with current practices.

5.3.1.1 Development Comparison-

A comparison of potential new residential development between the existing 1982 General Plan (as amended) and the 2007 General Plan over the planning horizon of 2030 is provided in Table 5-1. Implementation of the 1982 General Plan would result in about 130 more dwelling units than development of the 2007 General Plan to the 2030 planning horizon. For all intents, implementation of the two plans would be approximately the same.

Table 5-1. Comparison: No Project Alternative and Proposed Project to 2030

Category	Existing 1982 General Plan	2007 General Plan	Difference* (No Project vs. 2007 General Plan)
Residential	13,570 dwelling units	13,420 dwelling units	130more dwelling units

* Difference in projected new dwelling units is based on the difference between the estimated housing units within the unincorporated County from 2005 to 2030 for the No Project Alternative and from 2006 to 2030 for the 2007 General Plan.

Source: Bay Area Economics. 2007. *Analysis of Monterey County General Plans and Quality of Life Initiative.* February; Association of Monterey Bay Area Governments (2004).

The difference in development potential between the two plans, as well as the difference in goals and policies, will serve as the basis for the analysis of the 1982 General Plan (No Project) alternative. The analysis below is based in part upon the *Analysis of the Monterey County General Plans and Quality of Life Initiative* prepared by Bay Area Economics and dated February 2007.

5.3.2 Environmental Effects

5.3.2.1 Land Use

The existing land use pattern provided in the 1982 General Plan and subsequent amendments would remain in effect. Although not designated as Community Areas per se, the communities of Pajaro, Boronda, and Castroville are designated for high-density residential, commercial, and industrial uses and could proceed consistent with 1982 General Plan policies. Also, the Specific Plans adopted for Fort Ord and Rancho San Juan (Butterfly Village) could proceed in accordance with those plans. As required under State Planning Law (Government Code Section 65300 et seq.), the 1982 General Plan provides for future development to meet anticipated growth. Overall, impacts under the No Project Alternative would be significant and unavoidable.

The 2007 General Plan provides more specific and extensive development policies than the 1982 General Plan. The 1982 General Plan does not include a designation for Rural Centers; however, these areas would remain subject to the policies of the plan with respect to maintaining low densities and provision of services. In contrast, the 2007 General Plan would allow development at a density of 1 to 5 residential units per acre, or up to 10 to 15 units per acre if processed as part of an Affordable/Workforce Housing Incentive Program. The 2007 General Plan would also establish Affordable Housing Overlays(AHOs) allowing higher densities in selected areas. Both plans require that adequate water and wastewater facilities be provided concurrently with development. The 2007 General Plan also states that Rural Centers should have a commercial focal point, and expansion of Rural Centers may be considered only after preparation of a Capital Improvement and Financing Plan.

Accordingly, because, the 2007 General Plan establishes more detailed policies specifying where new growth would be directed and has more specific policies guiding activities for Commercial, Industrial, Agricultural, and Open Space land

use, there is greater assurance that land use conflicts can be avoided or reduced under the 2007 General Plan.

As such, the more detailed policies contained in the 2007 General Plan would better prevent adverse land use impacts such as division of established communities or conflicts with adopted land use plans than would the 1982 General Plan. Therefore, the 1982 General Plan would have greater impacts on land use than the 2007 General Plan.

5.3.2.2 Agriculture Resources

The 1982 General Plan is generally protective of agricultural uses, discouraging "premature and scattered development" and providing that growth areas will be designated only where adequate levels of urban services and infrastructure can be provided. In addition, it includes policies calling for the prevention of non-agricultural uses that could interfere with normal agricultural operations and the establishment of permanent, well-defined buffer areas as part of new non-agricultural development proposals located next to agricultural uses. The buffer areas are to be dedicated in perpetuity and sufficiently large to protect agricultural operations from incompatible development. The 1982 General Plan limits the subdivision of viable, important farm land to divisions necessary to agricultural purposes or when demonstrated to not be detrimental to the agricultural viability of adjoining parcels. The 1982 General Plan also provides that the County is to make every effort to preserve, enhance, and expand viable agricultural uses on important farmland. Nonetheless, the growth projected under the No Project Alternative would convert substantial amounts of farmland to urban uses. This is a significant and unavoidable impact.

The 2007 General Plan contains more specific policies intended to channel development into existing cities, Community Areas, and Rural Centers, in that order. The policies of the 2007 General Plan would focus growth into higher density Community Areas as the first tier for new development, with subsequent growth in Rural Centers (second tier for new development). The 2007 General Plan also provides for agricultural buffers and identifies specific criteria by which to establish those buffers, but does not require that all buffers by permanent or dedicated in perpetuity. Other policies state that agriculture is to be the "the top land use priority for guiding future economic development on agricultural lands" and require the County to establish a program that requires mitigation for the conversion of important farmland that is to be annexed to cities, with specified exceptions. The 2007 General Plan also establishes policies intended to avoid regulatory constraints on "routine and ongoing agricultural activities." This is meant to encourage continued agricultural activities. Along this line, the ACWP would authorize wineries within its boundaries that would enhance tourism and provide additional income to wine grape growers.

The existing 1982 General Plan, because of its more generalized policy approach would have slightly greater impacts on agriculture resources than the 2007 General Plan, which directs future development to cities or specifically identified

growth areas and requires a mitigation program for annexing important farmlands. Although the 1982 General Plan has a stronger buffer policy (requiring permanent buffers), the policy in the 2007 General Plan is more detailed with regard to the requirements for buffer areas, compensation for loss of agricultural lands and a stronger provision with respect to preventing the subdivision of agricultural lands for non-agricultural purposes. Furthermore , the 2007 General Plan has incentives for the continuation of agricultural uses including numerous policies in the Agricultural Element. Accordingly, the 1982 General Plan would have greater impacts on agricultural lands than the GP2007.

5.3.2.3 Water Resources

The existing 1982 General Plan contains general policies intended to protect water quality and avoid groundwater overdraft. This includes a policy prohibiting "water consuming development in areas which do not have proven adequate water supplies." The 1982 General Plan lacks goals and policies that stipulate additional erosion control requirements, water conservation measures, or the preparation of a drainage design manual, all of which are found in the 2007 General Plan. The impact would be significant and unavoidable.

The potential effects of the 1982 General Plan on groundwater overdraft would appear to be greater than 2007 General Plan. Although the 1982 General Plan contemplates about the same level of new development during the planning period as the 2007 General Plan, the 1982 General Plan does not include provisions for requiring a sustainable water supply prior to development.

The effects of implementation of the 1982 General Plan would be greater than those of the 2007 General Plan with regard to soil erosion and sedimentation from construction and agricultural land use activities, wastewater disposal (i.e., septic tanks), groundwater overdraft, seawater intrusion, well competition and interference, and levee and dam failure. All of these are existing significant problems that are not addressed in the 1982 General Plan at the level of policy detail found in the 2007 General Plan. In addition, the 2007 General Plan includes several sections in the Public Services Element and Open Space Element that specifically address water quality protection, water consumption, long term water supply, and erosion protection that are not in the 1982 General Plan. Therefore, the 1982 General Plan would have more impacts on water resources than the 2007 General Plan.

5.3.2.4 Geology, Soils, and Seismicity

The existing 1982 General Plan moderates the exposure of persons and property to geologic, soil, and seismic hazards through policies requiring geologic and soils reports prior to subdivision of land and in areas of potential instability. The 2007 General Plan contains more specific and extensive policies that would avoid substantial adverse effects, such as the establishment of a Geologic

Constraints and Hazards Database to identify hazardous areas. Therefore, potential adverse impacts on geology, soils, and seismicity from the 1982 General Plan would be greater than those of the proposed 2007 General Plan.

5.3.2.5 Mineral Resources

Oil production in the southern Salinas Valley and South County is the only mineral resource extraction activity that may be affected by development and land use activities. Economic conditions and legal constraints make it highly unlikely that either the existing 1982 General Plan or the proposed 2007 General Plan would result in the premature termination of oil extraction operations in these areas. Therefore, the 1982 General Plan Alternative would have a less-than-significant effect on mineral resources, as would the 2007 General Plan.

5.3.2.6 Transportation

The existing 1982 General Plan includes general policies encouraging land use patterns that would reduce the need for driving and requiring proposed development to remain "within an acceptable level of service." The 1982 General Plan does not include any mechanism to require that new development activities fund transportation improvements necessitated by the traffic generated by those activities. As a result, the traffic impacts resulting from the No Project Alternative would be significant.

The 2007 General Plan would establish, with specific exceptions, LOS D as the standard for maximum allowable congestion within the County. The proposed policies would include a commitment to prepare Capital Improvement and Facilities Plans, by benefit area, to finance road improvements. The proposed policies include a prohibition on projects that would result in congestion exceeding LOS D unless improvements are being installed concurrently. Nonetheless, there will be significant impacts on road congestion.

All of the roadways contemplated as AWCP corridors currently operate at acceptable levels of service. The AWCP would accelerate the current pace of development of wine-related facilities, which would result in a corresponding increase in traffic. Absent new wineries, grape production would continue to be exported out of the County creating regional truck traffic during certain times of the year. The AWCP would not eliminate this traffic, but would contain it locally, thus reducing trip lengths. The AWCP would also generate new visitor traffic along the corridor, but that traffic would occur outside the wine industry's peak periods. Such local traffic would not be expected to be substantial enough to cause roadway performance to operate at deficient levels.

The No Project scenario represents buildout of the County to the year 2092 under the 1982 General Plan currently in effect. Table 4.6-24 earlier compared the housing, population and employment forecasts between the 1982 and 2007

General Plans. The comparison indicated that buildout of the 2007 General Plan would result in a net increase in daily trips greater than what would be generated at buildout of the 1982 General Plan. Therefore the LOS impacts of buildout of the 2007 General Plan would be greater than those of the 1982 General Plan.

The absence of a fee or mechanism from the 1982 General Plan is expected to result in deficient roadway performance conditions that will worsen with future development activities. The absence of the regional and local fee mitigation measures as well as the increased development and sprawl potential of the 1982 General Plan would lead to the conclusion that the potential adverse impacts on transportation from the 1982 General Plan would be greater than those of the 2007 General Plan.

5.3.2.7 Air Quality

The North Central Coast Air Basin, which includes Monterey County, is not in attainment for the state ozone (O_3) standard. The existing 1982 General Plan includes general policies that encourage development to meet air quality standards. However, these policies are not sufficient to avoid a significant effect on air quality from implementation of the No Project Alternative.

In comparison, the 2007 General Plan contains policies that are consistent with the air quality objectives of the North Central Coast Air Basin 2004 Air Quality Management Plan (AQMP). Moreover, the 2007 General Plan's policies requiring a Traffic Impact Fee and linking occupancy of new development to related roadway improvements would significantly reduce idling on roadways, which would result in a corresponding reduction in adverse air quality impacts. Additionally, future wineries under the ACWP would introduce new sources of air emissions. These would be subject to permitting by the Monterey Bay Unified Air Pollution Control District.

The combination of a lack of transportation improvement mechanisms, and absence of more specific air quality protection policies in the 1982 General Plan would result in potential adverse impacts on air quality greater than those of the proposed 2007 General Plan.

5.3.2.8 Noise

The existing 1982 General Plan includes general policies requiring new construction to meet noise standards established in the General Plan and to be enforced through a future noise ordinance. This includes conformity between new development and noise limits established in the 1982 General Plan. The increase in development that would be allowed under the No Project Alternative would result in a significant and unavoidable noise impact, particularly along major roads.

The proposed 2007 General Plan similarly establishes policies and would be implemented through a future noise ordinance. The 2007 General Plan contains policies establishing the contents of the noise ordinance. Its policies also set out standards for requiring acoustical and vibration analyses as part of the environmental review process for projects.

Both the 1982 General Plan and the proposed 2007 General Plan would increase exposure of residents to noise by virtue of allowing additional growth within the County. The 2007 General Plan's policies address noise impacts more comprehensively than do the policies in the 1982 General Plan. Accordingly, potential adverse noise impacts from implementation of the 1982 General Plan would be somewhat greater than those of the 2007 General Plan.

5.3.2.9 Biological Resources

Implementation of the existing 1982 General Plan would result in development with significant impacts on sensitive habitats, wetlands, riparian areas, wildlife movement, and tree preservation. The current trend of conversion of grazing lands, which provide wildlife habitat, to intensive agricultural cultivation, which provides little habitat value, would continue. The policies of the 1982 General Plan encourage the conservation and maintenance of native plant communities near new development and promote the conservation of large contiguous areas of native vegetation to provide wildlife habitat. The policies also call for careful planning of areas that are of value to wildlife to maintain that habitat. Nonetheless, the No Project Alternative would result in extensive new development that would have a significant and unavoidable impact on biological resources.

In comparison, the proposed 2007 General Plan would not substantially increase the rate of conversion of grazing land to more intensive agricultural uses, however, the 1982 General Plan Area Plans have more restrictive policies regarding the conversion of land on steep slopes. Additional policies are proposed in the 2007 General Plan to inventory natural habitats, avoid state and federally listed wildlife species, including designated federal critical habitat, and evaluate and mitigate impacts on special status species or their critical habitat that are not included in the 1982 General Plan. The 2007 General Plan also contains a policy committing the County to develop and implement a future program for mitigating the loss of critical habitat as a result of new projects. Mitigation of losses would also be required under state and federal law. The 1982 General Plan and 2007 General Plan would be somewhat comparable on balance with respect to impacts on biological resources; however, with the imposition of the mitigation measures proposed in this EIR with respect to special status species, kit fox habitat mitigation, stream setbacks, oak woodland protection and raptor protection, the 1982 General Plan would have greater impacts to biological resources than the 2007 General Plan.

5.3.2.10 Cultural Resources

The existing 1982 General Plan includes policies that encourage the conservation of historical resources, including the preparation of a historic inventory. There are no policies for the protection of archaeological or paleontological resources. However, state law is protective of archaeological resources to the extent that it requires consultation with appropriate Native American representatives and proper reburial in the event of the discovery of Native American human remains. Under the current General Plan, protection relies primarily on CEQA compliance. Absent a comprehensive approach, the 1982 General Plan would result in significant effects on archaeological and paleontological resources.

In comparison, the proposed 2007 General Plan includes specific policies to inventory resources, survey in sensitive areas, and protect important representative and unique archaeological sites and features. Similar policies are included in the 2007 General Plan relative to paleontological resources. In addition, the 2007 General Plan contains policies to encourage the conservation of Native American cultural sites, sacred places, and burial sites, including provisions for consultation with tribal representatives. The 2007 General Plan would be more protective of these resources; therefore, the 1982 General Plan would have a greater impact on cultural resources.

5.3.2.11 Public Services and Utilities

Implementation of the existing 1982 General Plan would result in adverse impacts from new or expanded fire protection, sheriff's protection, schools, libraries, medical facilities, wastewater, and solid waste facilities. The 1982 General Plan does not provide for concentrating new development within the unincorporated County within Community Areas and Rural Centers. If desired levels of services were to be maintained, more facilities, albeit smaller, might be required than under the proposed 2007 General Plan. Domestic water supplies are limited in several areas of the County, including the Monterey Peninsula and Pajaro area. The 1982 General Plan includes policies encouraging coordination among water service providers to assure that groundwater is not overdrafted, prohibiting water-consuming development in areas that do not have proven adequate water supplies, and requiring new development to connect to existing water suppliers, where feasible. The 1982 General Plan has not been effective in avoiding this significant effect.

The 2007 General Plan, in comparison, would result in the same impacts from new or expanded services and infrastructure.

With respect to potable water supply, the 2007 General Plan includes policies for the development of a Hydrologic Resources Constraints and Hazards Database to assist in managing conservation and water quality improvement. Additional 2007 General Plan policies will require that all projects be designed to increase the site's predevelopment absorption of rainfall and to recharge groundwater

where appropriate, and to require the management of construction of impervious surfaces in important groundwater recharge areas through discretionary permits. Therefore, potential adverse impacts on potable water supply from the 1982 General Plan would be greater than those of the proposed 2007 General Plan.

5.3.2.12 Parks and Recreation

The existing 1982 General Plan contains policies that encourage park planning, the equitable distribution of County parks, the formation of a self-supporting park system, and facilitating the acquisition and operation of community parks by other agencies. The development of future parks will result in impacts such as traffic, noise, and lighting, depending upon the location and recreational opportunities provided. Parks tend to be built in urbanized areas, so their impacts are not expected to be significant. However, the No Project Alternative would not provide adequate levels of new parks. This would have a significant effect through overuse of existing facilities.

By comparison, the 2007 General Plan includes additional policies, including the establishment of Adequate Public Facilities and Service standards, that will be used to obtain park and recreation facilities along with residential subdivisions and require that Community Area Plans identify adequate park and recreation facility sites. These standards do not, however, establish a specific level of service for parks and recreation facilities, which weakens their effectiveness. The potential adverse impacts on parks and recreation from the 1982 General Plan would be the same as those of the 2007 General Plan. However, Mitigation Measure PAR-1 in this EIR would require the County to enact a general policy establishing a ratio for acreage to population. This would make the impacts of the 1982 General Plan greater than those of the project.

5.3.2.13 Hazards and Hazardous Materials

The existing 1982 General Plan does not contain policies that avoid potential impacts from hazardous materials, emergency response, and wildland fire protection. As a result, the No Project Alternative would have a significant effect in these areas of concern.

The 2007 General Plan contains new goals and policies to address these areas, including extensive policies concerning fire hazards and emergency preparedness. Therefore, the 1982 General Plan has greater adverse impacts on hazards and hazardous materials relative to the proposed 2007 General Plan.

5.3.2.14 Aesthetics, Light, and Glare

The existing 1982 General Plan does not contain explicit policies that would reduce aesthetic impacts from implementation. Visual character and light and

glare would experience significant adverse impacts as a result of development under the 1982 General Plan.

In comparison, the 2007 General Plan includes general policies intended to reduce the impacts of development within designated visually sensitive areas. Additional policies restrict ridgeline development, encourage transfer of development rights to direct development away from areas with unique visual features, encourage new development to direct lighting away from sensitive neighbors, and commit to mapping of visually sensitive resources to assist in reducing impacts. New wine-related facilities would alter the visual character of agricultural areas and would introduce new sources of light and glare in those rural areas.

In either case, new development will result in a significant effect from increased light and glare. Because it would not provide protective policies, the aesthetic, light, and glare impacts of the 1982 General Plan would be greater than those of the 2007 General Plan.

5.3.2.15 Population and Housing

The existing 1982 General Plan is a local land use plan that prescribes where and at what intensity future growth will occur. Pursuant to state law, it must provide opportunities for future residential growth to meet anticipated residential demand. As such, the No Project Alternative would induce future growth and result in a significant effect. To the extent that development would displace existing residents, the requirements of state law (Government Code Section 7260, et seq.) would apply to limit the adverse effects.

Neither the No-Project Alternative nor the 2007 General Plan is expected to result in the displacement of substantial numbers of dwelling units or persons. Therefore, the 1982 General Plan's impacts on population and housing would be essentially the same as those of the proposed 2007 General Plan.

5.3.3 Conclusion

The No Project Alternative (Existing 1982 General Plan) would preserve the existing land use patterns, continue existing policies, and maintain the current development potential for the unincorporated areas of the County. This would result in greater environmental impacts as compared to the 2007 General Plan on land use, agricultural resources, water resources, geology and soils, transportation, air quality, noise, biological resources, cultural resources, public services, parks and recreation, hazardous materials, and light and glare. Impacts of the two plans with respect to mineral resources and population and housing are largely the same. With adoption of the proposed mitigation measure for parks and biological resources, the 2007 General Plan would have less impact on parks

and recreation and biological resources than the 1982 General Plan (No-Project Alternative).

The No Project Alternative does not meet any of the objectives of the 2007 General Plan because it maintains the existing 1982 General Plan and does not update its policies or land use map to account for changing economic conditions, land use patterns, socioeconomic changes, or technological advancements.

5.4 21st Century Monterey County General Plan, February 2004 Alternative (GPU3)

5.4.1 Description

The 21st Century Monterey County General Plan February 2004 Alternative (GPU3) is a version of Monterey County's effort to update the existing 1982 General Plan; it was considered but ultimately not adopted by the Monterey County Board of Supervisors.

GPU3 employs the Community Area concept that is incorporated into the 2007 GPU with a few differences. GPU3 establishes eight Community Areas: Boronda, Castroville, Fort Ord (Specific Plan area), Pajaro, Pine Canyon (King City), 4,000 acre Rancho San Juan, Rancho San Juan Expansion, and San Lucas. Growth in Boronda, Castroville, and Pajaro would be facilitated by redevelopment activities, while entirely new communities would be established at Ford Ord and Rancho San Juan. These five areas would be where most of the initial Community Area growth would be concentrated. The Pine Canyon (King City), San Lucas, and Rancho San Juan Expansion Community Areas would be developed later in the life of GPU3 (second phase).

In GPU3, future growth, though on a limited basis, would also occur in areas designated as Rural Centers. Under GPU3, 18 Rural Centers would be designated under a three-tier system. Tier I areas are Rural Centers that could ultimately be converted to Community Areas. There are two Tier I Rural Centers: Bradley and San Ardo. Tier II areas are Rural Centers that could potentially support infill and limited subdivision within their boundaries once infrastructure improvements are completed. The nine Tier II Rural Centers are Aromas, Chualar, Del Monte Forest, Las Lomas, Lockwood, Moss Landing, Mouth of Carmel Valley, Pleyto, and Prunedale. Tier III Rural Centers are areas that are built out and areas where there is no local interest for new subdivisions or intensification of existing land uses. The seven Tier III Rural Centers are Carmel Highlands, Carmel Valley Village, Corral de Tierra/San Benancio, Mid-Carmel Valley, River Road, Spreckles, and Toro Park.

GPU3 includes an Affordable Housing Overlay designation to promote the development of affordable housing. The overlay designation in GPU3 allows for

higher densities (10 to 30 dwelling units per acre) than would otherwise be allowed by the land use designation and zoning requirements. To take advantage of the overlay designation, 100% of a proposed residential development must meet affordability requirements to facilitate the co-location of jobs and housing. The overlay has a potential to apply to 27,891 acres and would be implemented in two phases. Phase I consists of a total overlay potential of 12,285 acres in the following areas: Greater Monterey Peninsula along Highway 68, Lower Carmel Valley, Fort Ord, Rancho San Juan, and Boronda. Phase II consists of a total overlay potential of 6,876 acres in the following areas: Castroville, Pajaro, Pine Canyon (King City), San Lucas, Aromas, Pleyto, Moss Landing, River Road, San Ardo, San Benancio/Corral de Tierra, Spreckles, and Toro Park.

In addition, GPU3 includes a STA overlay to allow for unique land use concepts that reflect site-specific constraints or features. Ten STAs were originally included in the existing 1982 General Plan, and six more (for a total of sixteen) are proposed in GPU3.

GPU3 includes Winery Corridor policies that are similar to the AWCP proposed as part of the 2007 General Plan. Both plans divide the corridor into three segments. The number of wine-related facilities permitted within the corridor was established in the GPU3 Draft EIR. As a result, differences between the two plans are relatively minor and pertain primarily to implementation. Differences include the following: GPU 3 would authorize up to 8 bed and breakfasts associated with wineries, while the 2007 General Plan would instead authorize up to 8 inns. GPU 3 would allow up to 40 single-family homes and an additional 40 guest houses among the wineries; the 2007 General Plan would allow up to 50 single-family homes, 50 guest houses, and 150 workers' residences. Regarding residences, the Monterey County zoning ordinance (Chapter 21.30) actually has a more liberal policy for other farmland properties, authorizing up to three single-family residences, one guest house, and five residences for farmworker families (or housing for up to 12 workers in a group residence) on any parcel.

Finally, GPU3 amends the four Land Use Plans that are part of the four Local Coastal Programs in effect in Monterey County (North County Land Use Plan [includes Moss Landing Community Plan], the Del Monte Forest Land Use Plan, the Carmel Land Use Plan, and the Big Sur Coast Land Use Plan) and consolidates them under a new Coast Area Plan. Amendments to the Local Coastal Programs would be subject to review and final approval by the California Coastal Commission.

5.4.1.1 Development Comparison

A comparison of development potential between GPU3 and the 2007 General Plan during the 2030 planning horizon is provided in Table 5-2. In comparison to projected growth under the 2007 General Plan during the planning horizon, implementation of GPU3 would result in 3,650 fewer new dwelling units.

Table 5-2. Comparison: GPU3 and Proposed Project (2030)

Category	GPU3	2007 General Plan	Difference* (GPU3 vs. 2007 General Plan)
Residential	13,675 dwelling units	10,015 dwelling units	3,650 more dwelling units

*Difference in projected dwelling units is based on the difference between the estimated housing units within the unincorporated County from 2005 to 2030 for GPU3 and from 2006 to 2030 for the 2007 General Plan.

Source: Association of Monterey Bay Area Governments (2004).

The difference in development potential between the two plans, as well as the difference in goals and policies, will serve as the basis for the analysis of the GPU3 alternative.

5.4.2 Environmental Effects

5.4.2.1 Land Use

GPU3 provides for substantial growth during its planning horizon. It would provide for growth beyond existing development levels in the Rancho San Juan area and 18 designated Rural Centers that would result in conflicts with nearby land uses. In addition, the Affordable Housing Overlay would allow higher density development in low-density residential and agricultural areas covering up to 27,891 acres, creating the potential for land use conflicts. As a result, GPU3 would have a significant effect on land use.

In comparison, the 2007 General Plan limits development in Rancho San Juan to the approved Butterfly Village and provides for seven Rural Centers. The 2007 General Plan would designate Chualar as a Community Area, allowing urbanization, but otherwise does not have as expansive an urban development pattern as proposed under GPU3. The proposed 2007 General Plan would require an Infrastructure and Financing Study to ensure that growth is properly served with utilities and public services. Growth outside of Community Areas and rural centers would be subject to a residential Development Evaluation System that will be provide a "pass-fail" system of ensuring the development has sufficient services. As a result, although the potential for significant land use impacts is not eliminated by the policies of the 2007 General Plan, it is less than under GPU3.

GPU3 also contains policies designed to limit the unmitigated expansion of cities. GPU3 sets forth a policy that the County will oppose City annexation requests if housing development outpaces job growth and roadway impacts are not properly mitigated. This set of policies may reduce many potential land use impacts from city growth on unincorporated county lands.

Overall, GPU3 envisions substantially more growth than the 2007 General Plan and proposes to accommodate it through a variety of approaches. In terms of

development potential, GPU3 would accommodate 3,650 more new dwelling units than the 2007 General Plan. While GPU3 does contain a rigorous annexation policy that would address city-county land use conflicts, this would not fully address the land use conflicts created in the unincorporated county because of the number of Rural Communities established. In addition, GPU3-proposed amendments to the coastal zone land use plans have the potential to create land use conflicts with the Local Coastal Program. Therefore, GPU3 would have greater impacts on land use than would the 2007 General Plan.

5.4.2.2 Agriculture Resources

Development and land use activities contemplated by GPU3 would result in the conversion of approximately 32,900 acres of Important Farmland. Most of this loss of farmland would occur as a result of the Affordable Housing Overlay, which would affect as much as 27,900 acres. Additional losses would be incurred with development of the 18 Rural Centers and the 4,000-acre Rancho San Juan. GPU3's policy regarding city annexation could indirectly limit the loss of Important Farmland by slowing city growth; however, this policy would only partially offset the conversion within unincorporated areas. Overall, GPU 3 would have a significant effect on agricultural resources.

In comparison, urban development proposed as part of the 2007 General Plan would result in a loss of approximately 5,500 acres of Important Farmland. Therefore, GPU3 would have greater impacts on agriculture resources than would the 2007 General Plan.

5.4.2.3 Water Resources

GPU3 would have significant impacts on soil erosion and sedimentation from construction and agricultural land use activities, wastewater disposal (i.e., septic tanks), groundwater overdraft, seawater intrusion, well competition and interference, and levee and dam failure. GPU3 would prohibit development in 100-year flood plains, establish a Comprehensive Integrated Water Management Plan, require long-term water supplies for new development, and expand the Watershed Permit Coordination Program. GPU3 also has strong policies protecting water resources in the Coastal Areas. GPU3 shares with the 2007 General Plan an increased demand on groundwater resources and potential for exacerbating overdraft conditions. It is unlikely that these policies would be sufficient to solve the water supply and overdraft problems identified in this EIR and therefore, GPU 3 would have a significant and unavoidable impact.

The 2007 General Plan policies, with the exception of the long-term sustainable water requirement, are less stringent. However, the proposed 2007 General Plan would restrict development in floodplains, limits development where there is no long-term sustainable water supply, and would establish groundwater overdraft monitoring systems. It is therefore likely that, on balance given the greater

development potential under GPU3, the significance level of potential GPU3 overall impacts on water resources would be similar to those of the 2007 General Plan.

5.4.2.4 Geology, Soils, and Seismicity

GPU3 includes specific policies that reduce geologic risk by limiting development near fault zones, requiring geologic reports in areas identified as having geologic hazards or constraints, and requiring geotechnical reports for subdivisions in areas of risk. These policies, in concert with building codes and the County Erosion Control Ordinance (Chapter 16.12 of the Monterey County Code), would avoid a significant effect on the environment.

The 2007 General Plan has similar policies to minimize geologic risk and would also work with existing County building codes and ordinances to minimize soil erosion. Based on its greater development area (eight Community Areas and 18 Rural Centers), GPU3 has the potential to expose more persons and property to geologic, soil, and seismic hazards than does the proposed 2007 General Plan. Therefore, potential GPU3 impacts on geology, soils, and seismicity would be greater than those of the 2007 General Plan.

5.4.2.5 Mineral Resources

Oil production in the southern Salinas Valley and South County is the only mineral resource extraction activity that may be affected by development and land use activities contemplated by GPU3. Economic conditions and legal constraints make it highly unlikely that GPU3 would result in the premature termination of oil extraction operations in these areas. Therefore, GPU3 would have the same impacts on mineral resources as those of the proposed 2007 General Plan.

5.4.2.6 Transportation

GPU3 establishes a standard of LOS C for County roads outside Community Areas. If successfully implemented, this would result in less congestion than the proposed 2007 General Plan, which would adopt LOS D as the standard. However, in order to maintain traffic flow at LOS C, extensive road widening would be needed. The widening would likely result in significant indirect effects on noise, biology, agricultural land conversion, and land use. GPU3 would allow more new development during the planning horizon than would the proposed 2007 General Plan and sets a lower congestion threshold (LOS C). It is reasonable to conclude that potential adverse indirect impacts from GPU3 would be greater to those of the 2007 General Plan because the former would allow more residential development in more places. GPU3 would, however, have less traffic congestion than the proposed 2007 General Plan, assuming that financing

would be available for the road improvements needed in order to meet the LOS C standard.

5.4.2.7 Air Quality

The North Central Air Basin is not in attainment for the State O_3 standard. Ozone is the product of NO_X and SO_X emissions mixing in the presence of sunlight. Implementation of GPU3 would allow for 13,675 new dwelling units, as well as other development that will, in turn, result in additional emissions of ozone precursors from vehicle exhaust. This would be a significant effect.

GPU3 would allow an estimated 3,650 more new dwelling units by 2030 than are proposed under the 2007 General Plan. As a result, there would be less traffic congestion once roadways attained LOS C, but potential air quality impacts related to vehicular sources of emission would likely be greater than what would occur under implementation of the 2007 General Plan as a result of more automobiles and presumably more vehicle miles travelled under GPU3. The potential adverse impacts on air quality from GPU3 would be greater than those of the 2007 General Plan.

5.4.2.8 Noise

GPU3 includes strong policies intended to ensure that new development of sensitive receptors will not be exposed to excessive noise (i.e., noise levels exceeding County standards), including noise from roadway improvement projects. However, the policies also prohibit the use of masonry sound walls in rural areas. This prohibition may act to make roadway improvement noise attenuation infeasible where existing rural residences adjoin those roads. As a result, GPU3 would be expected to have a significant effect on noise in rural areas where roads are widened to meet the LOS C congestion standard.

The proposed 2007 General Plan has similar noise policies, with additional policies intended to limit noise and vibration from construction activities. The 2007 General Plan would also discourage the use of masonry walls for noise attenuation in rural areas. Although the 2007 General Plan would probably not require the road widening associated with GPU3, it would allow greater congestion on County roads, and therefore would result in higher noise levels along roads that become more congested.

Implementation of GPU3 would allow for 3,650 more dwelling units than the 2007 General Plan. As a result, the potential for noise impacts would be greater than the 2007 General Plan. Because GPU3 lacks policies limiting construction noise, short-term construction-related noise and vibration impacts would also be expected to be correspondingly less. Accordingly, potential adverse noise impacts from implementation of GPU3 would be less than those of the 2007 General Plan.

5.4.2.9 Biological Resources

Overall, the 8 Community Areas and 18 Rural Centers established under GPU3 would result in new urban development within those areas. In some cases, this development will occur on or near natural habitats inhabited by special status wildlife and plant species, or affect open lands currently used by special status species as foraging habitat or movement corridors. In addition, the road widening needed to maintain LOS C into the future may also affect habitats such as wetlands and riparian areas. At the same time, GPU3 contains strong policies for the protection of biological resources. These include requiring analysis and mitigation of impacts in conjunction with development in Community Areas, limiting development in rural areas to "building envelopes" that minimize effects on critical habitats, and designing new development to avoid sensitive resources where possible. Development on rural lands or in Rural Centers would also be required to comply with setbacks from habitat areas to minimize development impacts. These policies would reduce the potential effects of new development but may not be sufficient to reduce all effects below a level of significance.

In comparison, the biological resources policies of the 2007 General Plan would require inventorying sensitive habitats and avoiding impacts on state and federally listed species and designated critical habitat. The CEQA process would be used to mitigate impacts from individual development projects, as such projects are proposed. The 2007 General Plan also would require preparation and implementation of a program to comprehensively mitigate the loss of critical habitat.

The 2007 General Plan contains less restrictive standards for protection of biological resources than GPU3. With the addition of the proposed mitigation measures to the 2007 General Plan, the two alternatives become more comparable with respect to protecting biological resources. Accordingly, balancing differences in growth with stringency of protection policies, the impacts of GPU3 on biological resources would be similar to that of GPU2007.

5.4.2.10 Cultural Resources

GPU3 includes strong policies for the identification and evaluation of cultural resources, including historical resources and archaeological sites. However, its policies for protecting those resources are vague and largely dependent upon the CEQA process. Previously undiscovered burials would be managed under the state law for the treatment of buried remains. Taken as a whole, the policies in GPU3, CEQA, and state law would avoid a significant effect on cultural resources.

In comparison, the 2007 General Plan has a similar set of policies for archaeological and paleontological resources, with additional policies governing the protection of burial sites. The proposed 2007 General Plan does not have specific policies for the protection of historic resources, but the County's adopted

Historic Preservation Plan and Historic Preservation Ordinance reduce the need for such policies.

Therefore, the 2007 General Plan would have a less-than-significant effect on cultural resources. GPU3 and the 2007 General Plan would have basically the same potential impacts on cultural resources.

5.4.2.11 Public Services and Utilities

GPU3 contains a rigorous requirement for the concurrent provision of public services and utilities. This would avoid significant effects. In comparison, the proposed 2007 General Plan has similar policies. Because the design and location of future services and utilities are largely unknown, the impacts of the construction and operation of new facilities cannot be reasonably ascertained at this time. These facilities will probably be built within the cities, Community Areas, and Rural Centers that they would serve. As a result, their impacts would be part of the overall impact of urbanization. Both GPU3 and GP2007 includes provisions for mitigation the impacts of construction of new facilities. Therefore, GPU3 impacts on public services and utilities are similar to those of the 2007 General Plan.

5.4.2.12 Parks and Recreation

GPU3 would require the adoption of park development guidelines, a parks inventory, and park acquisition priorities (by area) in conjunction with new park development, thereby ensuring the provision of park and recreational facilities concurrent with new development. These provisions would avoid a significant effect as a result of insufficient parks and the overuse of existing facilities. The 2007 General Plan has practically the same requirements, by comparison, lacking only the specificity of the park acquisition priorities. However, Mitigation Measure PS-1 would revise the 2007 General Plan's policies to clearly establish dedication standards for on-site park facilities to ensure that future subdivision approvals exact parks and recreation facilities or in-lieu fees. Therefore, GPU3's impacts to parks and recreational resources are relatively similar to those that would result from implementation of GP2007, with mitigation.

5.4.2.13 Hazards and Hazardous Materials

GPU3 contains policies addressing potential impacts on hazardous materials that reflect state law for inventory, avoidance, and clean-up of hazardous materials. The policies also require a site contamination study where contamination is suspected. GPU3 also includes policies concerning emergency response and wildland fire protection, including fire service standards, design requirements, and defensible space requirements for new development. However, absent

stronger policy restrictions on development in high hazard fire areas, GPU3 would have a significant effect.

The 2007 General Plan contains similar policies. In addition, it includes detailed policies requiring annexation to fire districts, and addressing emergency evacuation routes, coordination between emergency response agencies, fire flows, fire vehicle access, and fuel modification zones in areas of high and very high fire hazard. These policies would avoid significant effects. Thus, GPU3 with its larger developed area and greater potential for residential development would have greater adverse impacts on hazards and hazardous materials than the 2007 General Plan.

5.4.2.14 Aesthetics, Light, and Glare

Implementation of GPU3 would have significant impacts on scenic vistas, scenic highways, visual character, and light and glare because of the more intense land uses envisioned under this alternative compared to the existing setting. By comparison, the 2007 General Plan would have similarly significant impacts, albeit over a smaller developable area with fewer Rural Centers. Accordingly, potential impacts on aesthetics, light, and glare would be greater under GPU3 than under the 2007 General Plan.

5.4.2.15 Population and Housing

Both GPU3 and the proposed 2007 General Plan are local land use plans that prescribe where and at what intensity future growth will occur. Pursuant to state law, a general plan must provide for sufficient new development to accommodate projected housing demand. As such, both plans would induce future growth by accommodating future development. Neither plan is expected to result in the displacement of substantial numbers of dwelling units or persons. Given its greater potential for development, GPU3's impacts on population and housing would be greater than those of the 2007 General Plan.

5.4.3 Conclusion

The GPU3 Alternative would be the most growth accommodating option of the alternatives, with eight Community Areas and 18 Rural Centers; more so than the 2007 General Plan. GPU3 has greater impacts on land use, agricultural resources, geology and soils, transportation, air quality, noise, hazardous materials, aesthetics, and population and housing than the 2007 General Plan. It has similar impacts on water resources, minerals, biological resources, cultural resources, public services, and parks and recreation. This alternative would not reduce any of the impacts identified for the 2007 General Plan.

As required by CEQA, this alternative meets all of the objectives of the 2007 General Plan. It would update the existing 1982 General Plan policies and land use map to account for changing economic conditions, land use patterns, socio-economic changes, or technological advancements. With respect to providing for the continued viability of the agricultural industry, it includes provides a wine corridor plan, but does not include an Agricultural Element with as many specific policies targeting the enhancement and protection of the agricultural industry.

5.5 General Plan Initiative Alternative (GPI)

5.5.1 Description

The General Plan Initiative Alternative (GPI) would amend parts of the existing 1982 General Plan, the 2003–2007 Housing Element, and the North County Land Use Plan. The GPI would restrict growth in the unincorporated areas of the County by requiring existing infrastructure deficiencies to be addressed before allowing new development and prohibiting any intensification of land use (e.g., subdivision) outside cities or Community Areas with an adopted Community Plan unless approved by initiative countywide vote. In addition, the GPI is designed to limit maximum potential development to the minimum number of housing units identified in the Regional Housing Needs Assessment. The GPI would create five types of land use categories: Cities, Community Areas, Rural Lands, Agricultural Lands, and Public Lands. With the exception of the Community Area designation, the GPI does not contemplate intensifying the level of land use in the four other land use categories and would not establish any Rural Centers.

The Community Area concept in the GPI is similar to that contained in GPU3 and the 2007 General Plan. However, instead of the eight Community Areas included in GPU3, the GPI proposes the same five identified in the proposed 2007 General Plan: Boronda, Castroville, Chualar, Fort Ord, and Pajaro. Future growth in the unincorporated areas of the County would be limited to Community Areas, and any intensification of use or changes to the boundaries of these identified areas would require prior approval of a majority of County voters. Growth in Boronda, Castroville, Fort Ord, and Pajaro would be facilitated by redevelopment and reuse activities; growth in Chualar would occur on existing agricultural lands, which would be limited to no more than 100 acres at a later timeframe in the life of the General Plan. In addition, the GPI emphasizes that future growth in Community Areas must be phased to first occur where infrastructure currently exists. Outside of Community Areas, only existing lots of record could be developed.

The GPI also contains land use restrictions requiring that any future General Plan amendments be approved by a majority of the County electorate, and a directive that the County work with the Monterey County Local Agency Formation

Commission to promote compact, urban development patterns within the existing boundaries of incorporated cities.

The GPI would also amend the existing Housing Element (last updated in 2003) to include more expansive inclusionary affordable housing requirements. The existing 20% affordable housing requirement would be increased to 30% of units by adding two tiers of workforce housing: Workforce I (5%) and Workforce II (5%). In certain situations, the GPI would require that as much as 40% affordable housing be included in proposed residential developments. In addition, the Housing Element would be amended to include a new right-of-first-refusal program for persons living or working in Monterey County who wish to rent or purchase new housing units.

The GPI includes policies concerning farmworker housing on Agricultural and Rural Lands. Housing for farmworkers would be permitted under the GPI's policies on an existing legal lot of record, if housing will support agricultural uses on site; housing is located to minimize interference with agricultural uses and to minimize impacts; housing complies with all health and safety codes; housing is permanently restricted to farmworker housing; a deed restriction has been recorded defining all units as accessory to the agricultural use on site; and all necessary services can be provided to support the farmworker housing.

In addition, the GPI amends the North County Coastal Plan but exempts the Del Monte Forest Land Use Plan, the Carmel Land Use Plan, and the Big Sur Coast Land Use Plan from the major policy changes in the Initiative with respect to land use classifications, growth and housing policies, and the requirement for voter approval to any Plan changes.

5.5.1.1 Development Comparison

A comparison of development potential between GPI and the 2007 General Plan over the 2030 planning horizon is provided in Table 5-3. Development under the GPI would result in approximately 5,901 more dwelling units than the proposed 2007 General Plan.

Table 5-3. Comparison: GPI and Proposed Project to 2030

Category	GPI	2007 General Plan	Difference (GPI vs. 2007 General Plan)
Residential	13,973 dwelling units	10,015 dwelling units*	5,901 dwelling units

*Difference in projected dwelling units is based on the difference between the estimated housing units within the unincorporated County from 2005 to 2030 for GPU3 and from 2006 to 2030 for the 2007 General Plan.

Source: Bay Area Economics. 2007. *Analysis of Monterey County General Plans and Quality of Life Initiative.* February

The difference in development potential between the two plans, as well as the difference in goals and policies, will serve as the basis for the analysis of the GPI alternative. The analysis below is based in part upon the Analysis of the Monterey County General Plans & Quality of Life Initiative prepared by Bay Area Economics and dated February 2007.

5.5.1.2 Land Use

The GPI policies encourage most new development to occur within the County's cities. The GPI would effectively preclude new urban development in Rancho San Juan and San Lucas, and instead concentrate denser development in the five remaining Community Areas. The GPI does not include the land use concept of Rural Centers found in some of the other alternatives. It would require that future General Plan amendments be approved by a majority of the County electorate, which would likely result in fewer amendments and the possibility that future amendments necessary to update the Housing Element would be problematic.

The GPI will result in urbanization within the cities and the Community Areas. As discussed earlier, by law a general plan must include sufficient provisions for growth to accommodate projected housing demand. As a result, the GPI will be growth-inducing. In this regard, it would have a similar significant impact as the proposed 2007 General Plan.

However, the GPI places greater restrictions on land use than the 2007 General Plan, limiting growth in the unincorporated County area to a smaller geographic area than is proposed under the 2007 General Plan. By concentrating growth in cities and existing urbanized areas, there is less likelihood to create conflicts with existing land uses. However, by amending the North County Coastal Plan, there is some potential for inconsistency between the GPI and existing County ordinances, and the potential for the Coastal Commission to determine that this element is inconsistent with the Coastal Act. Nonetheless, the GPI would have less potential to result in conflicts between land uses than the 2007 General Plan.

5.5.1.3 Agriculture Resources

The GPI's development potential is limited to the existing cities, the five Community Areas, and legal lots of record. As a result, it is reasonable to expect that a smaller overall amount of agricultural lands would be converted to non-agricultural uses under the GPI than under the proposed 2007 General Plan. Furthermore, the GPI's voter approval requirement for future General Plan Amendments is likely to make it much more difficult to convert agricultural lands under the jurisdiction of the County to non-agricultural uses. GPI does not have the specific policies addressing mitigation of impacts from the conversion of agricultural land either within the unincorporated County or as a result of annexation of agricultural land to cities as are included in the 2007 General Plan.

However, these county restrictions would not stop future growth in the cities. AMBAG projections indicate that Monterey County's total population will continue to grow in the future. The cities currently hold approximately 75% of the County's population. The GPI would likely direct an even greater proportion of this population growth to the existing cities than has occurred in the past. Future expansions of the boundaries of the Salinas Valley cities, which are surrounded by Prime Agricultural land, will result in the conversion of a significant amount of those lands to urban uses.

For example, according to the Final EIR certified in 2002 for the Salinas General Plan, the City of Salinas has an existing residential density of approximately 9 dwelling units per acre. In order to accommodate the housing growth currently projected by the *2004 AMBAG Population, Housing Unit and Employment Forecasts* to occur between 2005 and 2030 (approximately 17, 644 new units), the City will need to develop approximately 1,960 acres of land. This does not include the amount of land needed for roads, commercial development, parks, and other related urban development, nor does it include the development that might otherwise have occurred in the County absent the GPI. Therefore, the GPI will have a significant indirect effect on annexation and the conversion of agricultural lands that adjoin cities. This effect will occur primarily in the Salinas Valley where there is sufficient water supply to serve projected growth to 2030, but it is on the most productive agricultural lands.

By comparison, the 2007 General Plan would authorize more extensive urbanization within the County than does the GPI, particularly in areas designated as Rural Centers. However, the Community Areas and Rural Centers designated in the 2007 General Plan are generally less productive lands and grazing lands. Therefore, development under the GPI and under the 2007 General Plan would result in similar levels of conversion and significant effects on agricultural land. GPI would have greater indirect effects on productive agricultural lands based upon the potential growth that would result in cities.

5.5.1.4 Water Resources

The GPI would direct most new development to the existing cities. Additional development would be accommodated within five Community Areas under the regulatory control of the County. The GPI retains the policies of the existing 1982 General Plan with respect to soil erosion and sedimentation from construction and agricultural land use activities, wastewater disposal (i.e., septic tanks), groundwater overdraft, seawater intrusion, well competition and interference, and levee and dam failure. The Erosion Control Ordinance (Chapter 16.12 of the Monterey County Code) would remain in place.

All of these are significant problems that would also result from development under the 2007 General Plan. While the potential effects of the GPI would be less than those of the 2007 General Plan by virtue of the greater compactness of the urban development contemplated, the GPI lacks many of the comprehensive water resource goals and policies contained in the 2007 General Plan. Moreover,

there is greater total development under GPI to the year 2030 than for GP 2007 with significant reliance of providing housing on lots of record throughout the unincorporated area. This would result in greater impacts to water resources overall although it could be offset by the greater intensity of growth in the few community areas and cities. Taking these factors into consideration, development to the 2030 planning horizon under the GPI would have a slightly greater impact on water resources than would the 2007 General Plan.

5.5.1.5 Geology, Soils, and Seismicity

The GPI would center urban development in and adjacent to the existing cities and five Community Areas. Development would be subject to the policies of the 1982 General Plan, plus existing regulations such as the County Erosion Control Ordinance, state Alquist-Priolo Seismic Zone Act, and California Building Code development standards. Additionally, the GPI would prohibit all development on slopes over 25%, and no new agricultural cultivation on slopes over 15%. These would avoid significant effects from implementation of the GPI.

Compared to the 2007 General Plan, the GPI would reduce the exposure of persons and property to geologic, soil, and seismic hazards by virtue of its more compact development pattern. This is exemplified by elimination of the Rural Centers as development nodes. Further, its restrictions on hillside development reduce the potential for soil erosion to occur and for slope instability to adversely affect development. Therefore, potential adverse impacts on geology, soils, and seismicity from the GPI would be less than those of the 2007 General Plan.

5.5.1.6 Mineral Resources

Oil production in the southern Salinas Valley and South County is the only mineral resource extraction activity that may be affected by development and land use activities contemplated by the GPI. Economic conditions and legal constraints make it highly unlikely that either the GPI or the 2007 General Plan would result in the premature termination of oil extraction operations in these areas. Therefore, the GPI would have the same impacts on mineral resources as the 2007 General Plan.

5.5.1.7 Transportation

The GPI retains all of the policies of the existing 1982 General Plan with respect to circulation. The GPI would require that new development within the urban development boundaries of the Community Areas be phased so that all public infrastructure is completed prior to or concurrent with new development. However, because development would continue within Monterey County under the GPI, albeit primarily within the cities and Community Areas, traffic levels would increase over existing conditions. This will be a significant effect.

The GPI has a stricter concurrency policy than the 2007 General Plan. As a result, development in the Community Areas will be supported by necessary local road improvements as it occurs. However, this will not reduce the impacts on regional roads that are expected to occur as a result of new development, nor will it reduce the indirect impacts on the cities as a greater proportion of the County's growth is directed to incorporated areas. The 2007 General Plan commits the County to developing, in cooperation with the Transportation Agency of Monterey County (TAMC) and other agencies, a regional mitigation ee with the goal of achieving LOS D on the regional roadway system. That fee program has been adopted and is currently in effect.

The GPI does not include an AWCP that would encourage future wineries to locate along the AWCP's three road corridors. Assuming that wineries will continue to be built to process the grapes being produced in the County, the GPI would encourage a more dispersed pattern of winery locations than would the 2007 General Plan. To the extent that clustering wineries along three road corridors would result in greater congestion than would dispersed wineries, the GPI would have less impact than the 2007 General Plan.

The GPI would result in a more compact pattern of urbanization than is proposed under the 2007 General Plan although there would be potential traffic from the sprawl of development on lots of record. Concentration of growth would tend to reduce vehicle miles travelled by reducing the number of traffic generators and destinations. Traffic is likely to be more concentrated in the cities which would increase local congestion, but taken as whole, the potential adverse impacts on transportation on regional and county roads from the GPI would be less than those of the 2007 General Plan.

5.5.1.8 Air Quality

The GPI retains air quality policies from the existing 1982 General Plan and does not set a specific LOS standard for County roads. By virtue of its direct and indirect impacts on traffic and urban development, the GPI can be expected to have a significant effect on air quality.

In comparison, the 2007 General Plan contains policies that are consistent with the air quality objectives of the 2004 AQMP. Moreover, the 2007 General Plan's local traffic impact fee and prohibition on occupancy of new development until all roadways operate at LOS D or better would significantly reduce idling on local roadways, which would result in a corresponding reduction in adverse air quality impacts. However, the extent of new traffic expected to be generated by the 2007 General Plan, combined with other sources of emissions resulting from urban development and the ACWP, will result in a significant effect on air quality.

The GPI would result in a more compact pattern of development than the 2007 General Plan. Compact development patterns tend to result in fewer vehicle trips than in less compact settings although air quality in urban areas may deteriorate.

Compact development patterns allow pedestrian, bicycle, and transit trips to substitute for short automobile trips (Urban Land Institute 2008). Accordingly, the GPI may be expected to have less of an impact on air quality than the 2007 General Plan.

5.5.1.9 Noise

The GPI would result in a compact pattern of development and would carry forward the noise policies of the 1982 General Plan. These are intended to be protective of sensitive receptors, but do not include standards for reducing construction noise. Under implementation of the GPI, noise would be generated primarily by new construction, the operation of new urban development in the Community Areas and cities, and additional traffic on roads (particularly in the rural areas where noise levels are generally low). In general, noise impacts would be significant in locations where new construction in the Community Areas adjoins sensitive receptors, and on the urban/rural interface where new urban development and new or widened roads carrying substantial amounts of traffic abut existing residences.

In comparison, the 2007 General Plan would result in the same types and levels of noise impacts but in more areas of concentrated growth. Noise in urban areas in greater than in less intensely developed areas. On balance, weighing difference in the number of growth centers, against the intensity of growth of the more compact areas, GPI impacts with respect to noise would be similar to that of the 2007 General Plan.

5.5.1.10 Biological Resources.

The GPI retains the vegetation and wildlife policies contained in the existing 1982 General Plan. Compliance with these policies would result in development with significant impacts on sensitive habitats, wetlands, riparian areas, wildlife movement, and tree preservation. Conversion of grazing lands, which provide wildlife habitat, to intensive agricultural cultivation, which provides little habitat value, would continue in the flatter portions of the County. However, the GPI would prohibit new agricultural cultivation on slopes over 15%. This would also act to limit the conversion of hilly grazing land to agricultural use, thereby reducing impacts on wildlife in those areas. Additionally, the GPI policies concentrate new development in the cities and the Community Areas, thereby minimizing the conversion of habitat by urban uses. Conversion on lots of record would potentially be greater, however.

In comparison, the 2007 General Plan would allow development over a more extensive area and would likely result in a greater level of conversion of grazing lands to cultivated agricultural land on steeper lots. There would likely be less development on lots of record that contain potential special status species up to the 2030 timeframe under GP 2007, however. With the addition of the mitigation

measures proposed in this EIR for protection of biological resources that are more protective than the policies in GPI (existing 1982 General Plan policies) the GPI would have more adverse impacts on biological resources than the 2007 General Plan.

5.5.1.11 Cultural Resources

The GPI would retain the 1982 General Plan policies for cultural resources. In addition to these policies, development would be required to comply with the County's adopted Historic Preservation Plan and Historic Preservation Ordinance. The GPI does not contain goals and policies addressing paleontological resources and Native American burial sites. To a certain extent, impacts on burials are reduced by California law regulating the treatment of burials found during construction activities. However, the lack of policies concerning paleontological resources and burial sites creates the potential for these resources to be damaged or destroyed and for a significant impact to occur.

The proposed policies of the 2007 General Plan, by comparison, are more protective of these resources than are the provisions of the GPI. In addition, GPI results in the development of more housing units the year 2030. Therefore, the GPI would have greater impacts on cultural resources as the 2007 General Plan.

5.5.1.12 Public Services and Utilities

Development under the GPI would result in a greater demand for public services and utilities than currently exists. In the future, the GPI's policies would result in a compact development pattern focusing on the five Community Areas and expansion of the existing cities. New demand for services and utilities would be concentrated in those areas. The GPI's requirements that new development in Community Areas be phased to occur first in areas with adequate public services and utilities would further lessen potential development impacts.

Because the GPI would direct a substantial amount of future development to the cities, it would avoid the need for the levels of County services that would be necessary to serve the 2007 General Plan implementation. Accordingly, this is expected to result in fewer adverse impacts from new or expanded fire protection, sheriff's protection, schools, libraries, medical facilities, potable water, wastewater, and solid waste facilities. Therefore, potential adverse impacts on public services and utilities under the GPI would be less than the 2007 General Plan. Both GPI and 2007 General Plan have less restrictive policies for development on lots of record, although projected growth on lots of record under GPI is anticipated to be greater under GPI to the year 2030. Accordingly, on balance, one would conclude that the impacts that would result from the construction of new public facilities would be less for GPI than for the 2007 General Plan.

5.5.1.13 Parks and Recreation

As with public services and utilities, development under the policies of the GPI would push most new development into the cities and the five Community Areas. The development in the cities would increase the need for parks and recreation facilities in those jurisdictions. Typically, that demand would be met by the affected cities through impact fees or other financing mechanisms applied in the course of approving development projects. The same would be true for the County in the Community Areas. As a result, the GPI would not result in a significant effect.

The area of future concentrated development in the unincorporated area is smaller under the GPI than under the 2007 General Plan. Less development in the unincorporated areas would translate to less demand for new parks and recreation facilities. Because future growth and the associated residential development will instead be channeled into the cities, there will be an increase in demand for new city parks and recreation facilities, as well as increased demand on existing facilities. The level of increased demand in the cities would depend upon the amount of growth that would be transferred and is not reasonably predictable. The 2007 General Plan, with mitigation requiring adoption of recreational facilities standards for new subdivision, would somewhat balance this impact.

Accordingly, the potential adverse impacts on parks and recreation from the GPI would be somewhat less than the 2007 General Plan in the unincorporated areas of the County but have greater indirect impact in the cities.

5.5.1.14 Hazards and Hazardous Materials

The GPI does not contain policies that adequately address potential impacts on hazardous materials, emergency response, and wildland fire protection. Although the GPI would effectively limit growth in rural areas to existing lots of record, that restriction would not offset the lack of comprehensive wildland fire protection goals and policies. The GPI would have a significant effect in these areas.

The 2007 General Plan contains new goals and policies to address these areas including extensive policies concerning fire hazards and emergency preparedness. Therefore, the GPI would result in potentially greater adverse impacts from hazards and hazardous materials in rural areas than the 2007 General Plan.

5.5.1.15 Aesthetics, Light, and Glare

The GPI would limit future urban growth in a manner that would preserve significant visual resource areas (agricultural fields, ridgelines, natural areas,

etc.) and minimize adverse impacts from new sources of light and glare. Nonetheless, the GPI would result in major new sources of light and glare being built within the cities and the Community Areas. These would adversely affect nearby rural and agricultural areas.

The more compact development pattern, in comparison to development under the 2007 General Plan, would result in fewer adverse impacts on scenic vistas, scenic highways, visual character, and light and glare. Impacts on visual character and light and glare would be significant and unavoidable as result of implementation of the 2007 General Plan. Because it would result in a more compact development pattern, aesthetics, light, and glare impacts of the GPI would be less than those of the 2007 General Plan.

5.5.1.16 Population and Housing

The GPI and the proposed 2007 General Plan are local land use plans that prescribe where and at what intensity future growth will occur. Pursuant to state law, a general plan must provide for sufficient new development to accommodate projected housing demand. As such, both plans would induce future growth by accommodating future development. Neither plan is expected to result in the displacement of substantial numbers of dwelling units or persons. In the near term, the GPI would have similar impacts on population and housing to those of the 2007 General Plan. However, if the voter approval requirement of the GPI resulted in the county being unable to amend its Housing Element to comply with the requirements for housing availability under State Housing Element Law, the County would be placed under legal threat for being out of compliance with that law.

5.5.2 Conclusion

The GPI Alternative would amend the policies of the existing 1982 General Plan to limit growth outside of Community Areas. While this alternative would allow only slightly more growth than the 1982 General Plan which it amends, its stringent land use and transportation infrastructure requirements would effectively curtail future urban expansion in the unincorporated County. The GPI would have a greater impact on cultural resources, hazardous materials and water resources, biological resources and agricultural resources. than the proposed 2007 General Plan. It would have similar impacts with respect to mineral resources, noise, public services and and population and housing. It would have lesser impacts on land use, geology and soils, transportation, air quality, parks and recreation, and aesthetics, light, and glare than the proposed 2007 General Plan.

The GPI Alternative meets three of the five objectives of the 2007 General Plan. It would provide an updated General Plan that reflects the existing physical conditions and constraints in the County and provides a range of comprehensive

policies to guide future residential development based on those conditions and constraints. It does not establish new comprehensive policies and modify existing policies in the existing 1982 General Plan that reflect the latest legal, statutory, scientific, and technical changes and advances. It contains minimal policies with respect to address future employment growth and economic growth in the County in general or more specifically with respect to the agricultural industry. The GPI Alternative would also accommodate forecasted growth, albeit in a different manner than the 2007 General Plan. The GPI Alternative does contain strict limitations on growth outside of designated areas that would limit the County's flexibility in accommodating growth to the planning horizon by requiring that amendment to the General Plan be approved by a majority of the voters.

5.6 2006 General Plan (GPU4)

5.6.1 Description

GPU4 was the basis for the proposed 2007 General Plan that is the subject of this EIR. Accordingly, it shares many of the 2007 General Plan's proposed goals and policies. A discussion of the key differences between GPU4 and the 2007 General Plan follows at the end of this subsection.

GPU4 includes amendments to the seven Area Plans; including them as sections in the General Plan and deleting any Area Plan policies that are otherwise addressed on a County-wide level in the General Plan. This focuses the policies on provisions that are unique to each Area Plan. GPU4 does not propose to amend the County's certified Local Coastal Program or any of its local coastal plans. The 2007 General Plan shares this approach.

GPU4 provides for a range of land uses and densities for the unincorporated areas of Monterey County that are not in federal or state ownership. GPU4 policies encourage most future development to take place within the incorporated cities, with an "urban reserve" designated around each city identifying unincorporated lands that may be available for annexation. Growth areas within the County would be designated where an adequate level of public services is available or "can be assured concurrent with growth and development." The 2007 General Plan shares this approach.

GPU4 provides for limited urban development to occur in selected areas of the unincorporated area of the County. In addition to the previously adopted Carmel Valley and Fort Ord Master Plans, GPU4 establishes six Community Areas where future urban development will be focused. In addition, nine Rural Centers are identified in areas that already contain a concentration of higher intensity uses than are typically found in rural areas. These Rural Centers would evolve into Community Areas over the life of GPU4 should infrastructure and services become available. Urbanization of Rural Centers is intended to be secondary in priority to development in the Community Areas and would be contingent upon

the prior preparation of a Capital Improvement and Financing Plan (CIFP) to ensure that adequate urban services can be provided. There are 17 Special Treatment Areas in GPU4 (including the existing 10 STAs in the 1982 General Plan) and 4 Study Areas. Implementation of GPU4 would result in approximately 8,336 more dwelling units than the proposed 2007 General Plan.

Under GPU4, the CIFP would address benefit areas, the cost of improvements over the life of the general plan, financing/funding sources to accommodate those costs (including a traffic impact fee), a schedule for completion of improvements, and coordination with the TAMC's regional traffic impact fee program, when adopted. GPU4 policy commits the County to reviewing the CIFP every five years after adoption of the General Plan.

GPU4 commits the County to preparing a Residential Development Evaluation System (DES) "to provide a systematic, consistent, predictable, and quantitative method for decision-makers to evaluate residential developments of five or more lots or units in areas of the unincorporated County outside of Community Areas and Rural Centers, and in Rural Centers prior to the preparation of the required Infrastructure and Financing Study." The DES would regulate these developments on the basis of site suitability; infrastructure availability; resource management; proximity to a city, Community Area, or Rural Center; affordable housing; environmental impacts; jobs-housing balance; and other factors. The DES would not be a "pass-fail" system under GPU4. Projects of five or more units in a Rural Center prior to adoption of an Infrastructure and Financing Study would be required to include 35% affordable/workforce housing. Such projects outside of a Community Area or Rural Center would be required to provide at least 50% affordable/workforce housing.

Other goals and policies address such subjects as biological resource conservation; cultural resources preservation; reduction of seismic, geological, and wildland fire hazards; provision of public utilities; and transportation needs. The titles of the elements of GPU4 reflect its comprehensive scope: land use, circulation, conservation/open space, safety, public service, agriculture, and economic development. This is shared with the 2007 General Plan.

In addition to discouraging urban uses outside of cities and Community Areas, GPU4 contains an agricultural element with goals and policies that are intended to be protective of agriculture. These include policies limiting the regulation of "routine and ongoing agricultural activities," authorizing agricultural support uses in agricultural areas, limiting the subdivision of agricultural land, establishing agricultural buffers to separate agricultural uses from urbanization, and committing to adopt a program for mitigating the loss of farmland to urbanization or city incorporation.

GPU4 would require the establishment of a permit process for development on slopes exceeding 25%, or that contain mapped geologic hazards or constraints. A grading permit would be required for the conversion of slopes in excess of 25% to agricultural use. A ministerial permit process would be established for

proposed development on slopes between 15 and 24%, and 10 to 15% on highly erodible soils.

A separate *Agricultural Winery Corridor Plan* (ACWP) that implements General Plan policies is also included in GPU4. The ACWP designates three segments of a winery corridor in the Central Salinas Valley, South County, and Toro areas along River Road, Metz Road, and Jolon Road. GPU4 establishes land use policies to guide the establishment of a defined number of wineries and tasting rooms. Land use policies to guide the development of the Agricultural Winery Corridor include standards that regulate the size and location of wineries. The policies are intended to allow for the development of an Agricultural Winery Corridor that is consistent with the existing agricultural land uses as well as the provisions of the Williamson Act. Under the full development of the AWCP, up to 40 "artisan" wineries, and 10 tasting rooms would be developed, along with 3 restaurants, 5 delicatessens, 8 bed-and-breakfasts, a business cluster, and up to 2 visitor centers. GPU4 specifies the number of each wine-related facility that would be allowed on each of the three segments in order to avoid overcrowding. However, it does not identify specific locations for any facilities within a segment.

5.6.1.1 Differences between GPU4 and the 2007 General Plan

While GPU4 contains many of the same policies as the project, it differs from the 2007 General Plan in the following key areas:

- The 2007 General Plan would commit the County to adopting a Greenhouse Gas Reduction Plan within 24 months of adopting the General Plan. The purpose of the plan would be to quantify County greenhouse gas emissions and establish a set of policies and implementation measures that would reduce projected greenhouse gas emissions to 1990 levels. No such plan is proposed under GPU4.
- The 2007 General Plan would establish five Community Areas rather than the six proposed under GPU4 (San Lucas would be designated a Rural Community under the 2007 General Plan).
- The 2007 General Plan would establish seven Rural Centers rather than the nine proposed under GPU4 (Prunedale, Mouth of the Carmel Valley, San Benancio/Corral de Tierra, and Toro Park Estates/Serra Village would be deleted). In addition, the River Road Rural Center would be reduced in area.
- The 2007 General Plan would limit additional residential subdivision in Carmel Valley to 266 new lots. It would also prohibit the conversion of previously uncultivated land on slopes in excess of 25%.
- The 2007 General Plan includes revisions to the Greater Salinas, North County, and Toro Area Plans that would limit development on properties with residential land use designations to the first single-family residence on

each legal lot of record. In contrast, GPU 4 would allow subdivision of these legal lots when consistent with the plan.

- Under the 2007 General Plan, the DES would be a pass-fail system for sites outside of Community Areas, Rural Centers, and AHOs. The 2007 General Plan would further specify that these developments (as well as development within Rural Centers before adoption of the required Infrastructure and Financing Study) would be required to include at least 35% affordable/workforce housing, or 30% affordable/workforce housing if at least 15% of the housing is for farmworkers.
- The 2007 General Plan proposes specific criteria for development that uses the voluntary TDR program, which GPU4 does not have. These include site suitability; infrastructure availability; resource management; proximity to a city, Community Area, or Rural Center; environmental impacts; proximity to transportation; and avoidance of impacts on productive farmland.
- The 2007 General Plan establishes a voluntary AHO program not found in GPU4 to create an incentive for higher density, affordable housing at particular locations in the County. Three specific AHO districts are identified (Mid-Carmel Valley, Highway 68/Monterey Peninsula Airport, and Reservation Road/Highway 68), and the Community Areas and Rural Centers would be considered AHOs until adoption of their community plans and Infrastructure and Financing Studies. Within an AHO, the residential density would be from 5 to 30 units per acre, with a minimum average of at least 10 units per acre. The 2007 General Plan would require the infrastructure necessary to serve the AHOs to be installed concurrent with development of the affordable housing project.
- The 2007 General Plan would require the Capital Improvement and Financing Plan to be adopted within 18 months of approval of the General Plan.
- Both the 2007 General Plan and GPU4 require the construction of road improvements on impacted roads concurrently with development. The 2007 General Plan would exempt the first single-family residence, non-habitable accessory structure, second unit, and non-discretionary commercial uses from this requirement.
- The 2007 General Plan would prohibit development on slopes greater than 30%, with limited exceptions. Rather than a grading permit for agricultural conversion on slopes exceeding 25%, as in GPU4, the 2007 General Plan would require the County to develop an Agricultural Permit process. The 2007 General Plan sets out a list of criteria (i.e., water quality and supply, biological resources, cultural resources, erosion control, drainage, and flood hazards) that would be weighed to establish whether the agricultural permit might be ministerial.
- The 2007 General Plan would specify that well-defined buffer areas must be provided as partial mitigation for new non-agricultural development located adjacent to important farmland. The criteria for establishing buffers are essentially the same as proposed under GPU4. However, where GPU4

presumes that buffers are not meant to be permanent, the 2007 General Plan would allow permanent buffers as well.

- The 2007 General Plan expands upon GPU4's provisions for adopting a program to mitigate the loss of important farmland to development or annexation. It further provides that mitigation mechanisms will be based on a graduated value of farmland, with the greatest mitigation for prime farmland. It also includes encouragement for non-profit land trusts to assist in implementing the program through voluntary acquisition of development rights.
- The 2007 General Plan would integrate the AWCP, rather than adopting it separately. The 2007 General Plan would allow up to 10 full-scale wineries within the agricultural wine corridors, in addition to the uses identified in GPU4. These would be limited to up to five wineries on the River Road segment, two on the Metz Road segment, and three on the Jolon Road segment. Each full-scale winery would be allowed to include a tasting room and to hold events without a separate permit.

5.6.1.2 Development Comparison

Table 5-4. Comparison: GPU4 and Proposed Project (2030)

Category	GPU 4	2007 General Plan	Difference (GPU4 vs. 2007 General Plan)
Residential	16,900 dwelling units	10,015 dwelling units*	8,828 more dwelling units

*Difference in projected dwelling units is based on the difference between the estimated housing units within the unincorporated County from 2005 to 2030 for GPU3 and from 2006 to 2030 for the 2007 General Plan.

** Employment is based on the same time periods.

Sources: Bay Area Economics. 2007 *Analysis of Monterey County General Plans and Quality of Life Initiative*. February; AMBAG 2004.

5.6.2 Environmental Effects

5.6.2.1 Land Use

GPU4 would pursue a general policy of encouraging most new development to occur within the cities, including within areas of future annexation. Community Areas and Rural Centers would provide first and second preference for urban density growth within the unincorporated County. GPU4 includes policies intended to avoid land use conflicts between incorporated and unincorporated areas through coordination with the cities and the Local Agency Formation Commission. The Urban Reserve land use designation is one way in which unincorporated areas near the cities will be prepared for future annexation and urbanization. Another way is to authorize buffers between agriculture and

incompatible uses, and to encourage mitigation for the loss of important farmland through annexation or conversion.

GPU4 provides for substantial new development over the existing conditions. This is consistent with state law requiring general plans to contain sufficient growth potential to accommodate future housing needs. This growth would be a significant effect.

GPU4's policies regarding city-centered growth, providing for buffers between agricultural and future urban uses, and encouraging compact form through the Community Areas and Rural Centers, will reduce the potential for conflicts between land uses. The potential for land use conflicts is less than significant.

GPU4 contemplates more extensive urbanization than does the proposed 2007 General Plan. By way of comparison, the 2007 General Plan would not designate Community Areas at Rancho San Juan or San Lucas. San Lucas is instead designated as a Rural Center. Rancho San Juan is a Special Treatment Area. The 2007 General Plan also eliminates GPU4's Rural Center designations for Prunedale, San Benancio/Corral de Tierra, and Toro Park Estates/Serra Village. These changes would reduce the area otherwise designated as either a Community Area or Rural Center under GPU4 by approximately 1,831 acres.

Further, GPU4 would allow more extensive development to occur outside of the urbanizing nodes than the 2007 General Plan. GPU4 would allow the further subdivision of existing lots of record within the Greater Salinas, North County, and Toro Area Plans. The 2007 General Plan would limit development on properties with residential land use designations to the first single-family residence on each legal lot of record. Similarly, by creating a pass-fail DES, the 2007 General Plan would restrict development of five units or more on sites outside of the identified Community Areas, Rural Centers, and AHOs. Therefore, GPU4 has a greater latent residential development potential in these areas than does the 2007 General Plan.

In comparison, the proposed 2007 General Plan would specify that AHO districts are also preferred areas for future development. The 2007 General Plan identifies sites in Mid-Carmel Valley (approximately 13 acres), Highway 68/Monterey Peninsula Airport (approximately 85 acres), and Reservation Road/Highway 68 (approximately 31 acres) as voluntary AHO districts, as well as Community Areas prior to adoption of a community plan and Rural Centers prior to adoption of an Infrastructure and Financing Study. The 2007 General Plan sets out detailed policies for considering the acceptability of AHO projects. By virtue of their increased density, the three AHO districts may conflict with the land use expectations of existing residents of lower-density developments. They may result in localized significant effects from land use conflicts. GPU4 would also propose fewer total wineries than the 2007 General Plan.

GPU4 would have a greater effect on growth than the 2007 General Plan by virtue of allowing more expansive residential growth to occur, particularly on lands outside of the Community Areas and Rural Centers. While development

under GPU4 would result in localized land use conflicts, these would be reduced by the policies discussed above. The more expansive growth under GPU4 would be offset by the additional potential for land use conflict under the 2007 General Plan at the full-scale winery sites and the AHOs. As a result, GPU-4 would have essentially the same effect on land use conflicts as the proposed 2007 General Plan.

5.6.2.2 Agriculture Resources

Under GPU4, a net loss of approximately 5,497 acres of Important Farmland and 6,785 acres of Williamson Act lands would occur. The policies of GPU4 would focus growth into higher density Community Areas as the first tier for new development, along with policies that manage subsequent growth in Rural Centers (second tier for new development). Several of the Community Areas encompass agricultural land, including Boronda, Castroville, Chualar, and Rancho San Juan. For the most part, the Rural Community areas avoid high quality agricultural lands. GPU4 would be accompanied by the ACWP, encouraging wineries and related activities along three corridors. The ACWP would lead to the conversion of Important Farmland depending upon the location of future wineries and other facilities.

GPU4 contains numerous policies in its Agricultural Element intended to minimize the potential impacts of incompatible development on agricultural lands. These include criteria for establishing non-permanent buffers, creating tax incentives for agricultural uses, limiting subdivisions, and a commitment to establish an agricultural land mitigation program. A set of policies limiting County regulation of "routine and on-going" agricultural uses is intended to encourage the continuation and economic viability of agricultural operations. Nonetheless, due to the expected conversion of Important Farmlands and lands currently under Williamson Act contract, GPU4 would have a significant effect on agricultural resources.

In comparison, the proposed 2007 General Plan contains similar policies with regard to agriculture. Notable differences include a stronger buffer policy, a more restrictive policy governing the subdivision of agricultural lands and a more detailed program for mitigating the loss of Important Farmland. The 2007 General Plan would also limit residential development within the Greater Salinas, North County, and Toro Area Plans to the first single-family residence on each legal lot of record. Similarly, by creating a pass-fail DES, the 2007 General Plan would restrict development of five units or more on sites outside of the identified Community Areas, Rural Centers, and AHOs. These policies and development criteria would reduce the 2007 General Plan's potential to convert important agricultural lands in comparison to GPU4. In addition, by eliminating Rancho San Juan as a Community Area, the 2007 General Plan result in less conversion of agricultural lands to urban uses..

At the same time, the 2007 General Plan would authorize up to 10 full-scale wineries along the AWCP road segments. This would result in a greater potential

for the conversion of Important Farmland than GPU4, depending upon the location of future wineries and other facilities.

Overall, GPU4 would have a somewhat greater impact on agricultural resources than would the proposed 2007 General Plan.

5.6.2.3 Water Resources

GPU4 would direct most new development in the County to its existing cities. Additional development would be accommodated within the Community Areas and Rural Centers. GPU4 includes policies that would require establishment of a permit process for development on slopes in excess of 25% or that have known geologic hazards/constraints (with less restrictive provisions for conversion of previously uncultivated lands to agricultural use) in order to reduce erosion hazards. The County's existing Erosion Control Ordinance (Chapter 16.12 of the Monterey County Code) would remain in place. As a result, impacts on water quality are expected to be less than significant.

With regard to water supply, GPU4 policies require new development to demonstrate the concurrent availability of adequate public facilities and service (including water supply) before approval can be granted. GPU4 would require the County to develop a Hydrologic Resources Constraints and Hazards Database to identify important groundwater recharge areas, areas with limited groundwater, and areas unsuitable for septic tanks. GPU4 policy would prohibit approval of new development (except for the first single-family residence on an existing lot of record) without proof of availability of a "long-term, sustainable water supply, both in quality and quantity" to serve the development. GPU4 establishes criteria that may show proof of a long-term water supply.

In addition, GPU4 requires the County to develop a program as part of the Capital Implementation and Financing Plan that would eliminate overdraft of water basins. Other GPU4 policies would require that all projects be designed to maintain or increase the site's predevelopment absorption of rainfall and to recharge groundwater where appropriate, that the County use its discretionary permit authority to manage the construction of impervious surfaces in important groundwater recharge areas in order to maintain recharge capacity, and that the County encourage the use of recycled water where possible.

Outside of Community Areas, Rural Centers, and AHO districts, GPU4 commits the County to establish a Development Evaluation System to ensure that development of five or more lots or units considers infrastructure availability, among other things. No such provision is made for the first house built on existing vacant lots of record.

Despite its protective policies, development under GPU4 would have a significant impact on water resources, primarily from its contribution to the existing severe cumulative effect on limited groundwater supplies and overdraft conditions.

In comparison, the water resources-related policies of the proposed 2007 General Plan are similar to, but in some cases more restrictive than, those in GPU4. For example, the 2007 General Plan further specifies that the DES is to be a pass-fail system, thereby requiring disapproval of residential developments that cannot show sufficient infrastructure availability. In addition, based on the smaller number of Community Areas and Rural Centers, the 2007 General Plan would authorize future urban development over a smaller area than GPU4, thereby reducing the number of individual wells and making water conservation programs easier to administer. Further, the 2007 General Plan would limit development to the first residence on existing vacant lots of record within the Greater Salinas, North County, and Toro Area Plans. This would reduce the overall development up to the 2030 planning horizon in comparison to GPU4.

At the same time, while reducing water demand in those areas, the 2007 General Plan would increase potential water demand over GPU4 in the following ways. It would establish three AHOs that would offer participating landowners the opportunity to increase residential densities. This potential increase would be tempered by the fact that such projects at the Mid-Carmel Valley and Highway 68/Monterey Peninsula Airport AHOs would be restricted by the restricted water availability within the Monterey Peninsula Water Management District. The 2007 General Plan would authorize up to 10 full-scale wineries within the Agricultural Winery Corridor. These would result in an incremental increase in f water use for their operations over what would be allowed in GPU4 in the AWCP. This will be tempered by policies requiring evaluation and approval of the adequacy of all new wells (PS-3.4 and PS-3.5).

Overall, potential implementation of the 2007 General Plan to the 2030 planning horizon would have less impact on water resources than of GPU4 to 2030.

5.6.2.4 Geology, Soils, and Seismicity

GPU4 includes policies that would require establishment of a permit process for development on slopes in excess of 25% or that have known geologic hazards/constraints (with less restrictive provisions for conversion of previously uncultivated lands to agricultural use), The County's existing Erosion Control Ordinance (Chapter 16.12 of the Monterey County Code) would remain in place. Development would also be subject to other existing regulations such as the state Alquist-Priolo Seismic Zone Act, and California Building Code development standards. These would avoid significant effects from implementation of GPU4.

Compared to the 2007 General Plan, GPU4 would have greater exposure of persons and property to geologic, soil, and seismic hazards by virtue of its more extensive development. This includes the additional Community Area and four Rural Centers not included in the 2007 General Plan. Additionally, the 2007 General Plan includes restrictions on residential development within the Greater Salinas, North County, and Toro Area Plans that would reduce the potential for additional subdivisions in those areas.

Additionally, GPU4 would allow more development on steeper slopes without permits than would the 2007 General Plan, since GPU2007 includes a provision governing restricting development on slopes over 30% unless there are no other feasible alternatives. Also, the DES under GPU4 would allow approval of projects with environmental impacts whereas the "pass-fail" aspect of the DES under the 2007 General Plan would encourage denial of such projects. Therefore, potential adverse impacts on geology, soils, and seismicity from GPU4 would be greater than those of the 2007 General Plan, but would still be less than significant.

5.6.2.5 Mineral Resources

Oil production in the southern Salinas Valley and South County is the only mineral resource extraction activity that may be affected by development and land use activities contemplated by GPU4. Concentration of development in the San Ardo and Bradley Rural Communities would meet housing needs without encroaching into mineral production areas. Economic conditions and legal constraints make it highly unlikely that either GPU4 or the 2007 General Plan would result in the premature termination of oil extraction operations in these areas. GPU4 and the 2007 General Plan do not have policy differences that would differentiate their impacts on mineral resources. Therefore, GPU4 would have the same impacts on mineral resources as the 2007 General Plan.

5.6.2.6 Transportation

GPU4 provides that, with the exceptions for Community Areas and Carmel Valley,, LOS D will be the standard level of acceptable congestion within the County. GPU4 commits the County to preparing a CIFP that will address the local road improvements needed to maintain acceptable levels of service, and to adopting a County traffic impact fee addressing development in cities and the unincorporated areas. In addition, GPU4 provides that projects that would reduce traffic flow below the acceptable standard would be required to implement a phasing plan that would allow road improvements to be built concurrently with the development. This is intended to avoid a lag between new traffic generation and the installation of road improvements. The concurrency policy would not apply to the first single-family residence on a lot of record, accessory units, or non-discretionary commercial development. GPU4 commits the County to developing, in cooperation with TAMC and other agencies, a regional mitigation fee with the goal of achieving LOS D on the regional roadway system. Localized traffic congestion will be a significant effect of GPU4.

The proposed 2007 General Plan contains nearly the same transportation policies as GPU4. The following are the exceptions. The 2007 General Plan would mandate adoption of the CIFP within 18 months of the general plan's adoption and require a review of the degree to which development is approaching buildout

as governed by the individual traffic fee programs. This would reduce the potential for projects to be built without concurrent improvements. The 2007 General Plan would exempt the following types of projects from the phased concurrency requirement of GPU4: first single-family dwelling, accessory dwellings allowed under state law, and ministerial commercial development. As a practical matter, these are largely exempt under GPU4 as well because the County has limited or no discretionary permitting authority over these uses that would allow it to impose the concurrency policy.

GPU4 would propose a more extensive development pattern than the proposed 2007 General Plan. As a result, the potential adverse impacts on transportation from GPU4 would be greater than those of the 2007 General Plan.

5.6.2.7 Air Quality

GPU4 promulgates air quality policies that are consistent with the air quality objectives of the Monterey Bay Unified Air Pollution District's 2004 AQMP. Moreover, GPU4's local traffic impact fee and prohibition on occupancy of new development until all roadways operate at LOS D or better would significantly reduce idling on local roadways. This would result in a corresponding reduction in adverse air quality impacts. However, the extent of new traffic expected to be generated by the project, combined with other sources of emissions resulting from urban development and the ACWP, will result in a significant effect on air quality.

In comparison, the proposed 2007 General Plan includes the same air quality policies as GPU4. In addition to the air quality policies, however, the 2007 General Plan would require the County to prepare and adopt a Greenhouse Gas Reduction Plan within two years of adoption of the 2007 General Plan. While directing Monterey County to reduce its emissions of greenhouse gases to 1990 levels by 2020, the Greenhouse Gas Reduction Plan will likely include measures that will coincidentally reduce impacts on local air quality. These would probably include programs to reduce motor vehicle use (which would reduce the amount of tailpipe emissions) and to improve the efficiency of water use (which reduces the need to burn natural gas in water heaters). Accordingly, GPU4 may be expected to have a greater impact on air quality than the 2007 General Plan.

5.6.2.8 Noise

GPU4 includes strong policies intended to ensure that new development of sensitive receptors will not be exposed to excessive noise (i.e., noise levels exceeding County standards), including noise from roadway improvement projects. GPU4 also includes policies intended to limit noise and vibration from construction activities. However, the policies prohibit the use of masonry sound walls in rural areas. This prohibition may act to make roadway improvement noise attenuation infeasible where existing rural residences adjoin those roads.

As a result, GPU4 would be expected to have a significant effect on noise in rural areas where roads are widened to meet the LOS C congestion standard.

The proposed 2007 General Plan contains the same noise policies as GPU4. Because GPU4 provides for a more extensive development pattern, particularly with four additional Rural Centers, potential adverse noise impacts from implementation of GPU4 would be greater than those of the 2007 General Plan.

5.6.2.9 Biological Resources

The biological resources policies of GPU4 would require inventorying sensitive habitats and avoiding impacts to state and federally listed species and designated critical habitat. The CEQA process would be used to mitigate impacts from individual development projects, as such projects are proposed. GPU4 also would require preparation and implementation of a program to comprehensively mitigate the loss of critical habitat. These policies would be coordinated with the preparation of Area Plans. The current trend of conversion of grazing lands, which provide wildlife habitat, to intensive agricultural cultivation, which provides little habitat value, would continue under GPU4. All together, GPU4 would have a significant effect on biological resources.

The 2007 General Plan contains many of the the same policies as GPU4, although it would allow development over a less extensive area than GPU4. The proposed mitigation measures identified in this EIR with respect to special status species, stream set-back, kit fox mitigation, protection of woodlands and raptors would provide significantly more protection of biological resources than GPU4. Therefore, based upon the additional conversion of habitat and weaker policies protecting biological resources, GPU4 would have greater adverse impacts on biological resources than the 2007 General Plan.

5.6.2.10 Cultural Resources

GPU4 includes specific policies to inventory archaeological resources, survey in sensitive areas, and protect important representative and unique archaeological sites and features. GPU4 commits the County to adopting a uniform set of guidelines for archaeological assessment and recovery programs and consultations with Native Americans. Similar inventory, survey, and recovery policies are included to protect paleontological resources. GPU4 also contains policies to encourage the conservation of Native American cultural sites, sacred places, and burial sites, including provisions for consultation with tribal representatives. Historic resources are protected by the County's adopted Historic Preservation Plan and Historic Preservation Ordinance. As a result, impacts would be less than significant.

The proposed policies of the 2007 General Plan are identical to those in GPU4. The only differentiating impact factor is that GPU4 would allow more extensive

development. However, the policies would be sufficient to avoid significant impacts. Therefore, GPU4 would have the same potential impacts on cultural resources as the 2007 General Plan.

5.6.2.11 Public Services and Utilities

GPU4 contains a rigorous requirement for the concurrent provision of adequate public services and facilities as development occurs. This would avoid significant effects, except as noted under the water resources discussion. Outside of Community Areas and Rural Centers, GPU4 commits the County to establish a Development Evaluation System to ensure that development of five or more lots or units considers infrastructure availability, among other things. No such provision is made for the first house built on existing vacant lots of record.

The proposed 2007 General Plan has similar policies, although it further specifies that the DES is to be a pass-fail system. This will prohibit new projects that cannot meet the DES criteria, reducing the impact in comparison to GPU4. In addition, the 2007 General Plan would limit development within the Greater Salinas, North County, and Toro Area Plans to a single residence on lots of record. This would reduce the potential for additional subdivisions in those areas in comparison to GPU4 and the necessity of constructing new public facilities to serve those subdivisions. Therefore, GPU4 impacts on public services and utilities are greater to those of the 2007 General Plan.

5.6.2.12 Parks and Recreation

As with public services and utilities, development under the policies of GPU4 would place most new development in the cities and the Community Areas and Rural Centers. Development in the cities would increase the need for parks and recreation facilities in those jurisdictions. That demand would be met by the affected cities through impact fees or other financing mechanisms applied in the course of approving development projects. The same would be true for the County in the Community Areas and Rural Centers under GPU4's Adequate Public Facilities and Services standards.

GPU4 does not contain specific standards for the provision of park and recreation facilities for new development, although there is an existing ordinance requiring compliance under the Quimby Act. This may result in the overuse of other parks and a significant effect on parks and recreation.

The proposed 2007 General Plan contains the same policies as GPU4. Mitigation Measure PAR-1, which would require the County to adopt a general plan policy requiring a specific ratio of park acreage to population, would enable the County to require parks and recreation facilities as conditions of subdivision approval. Therefore, potential adverse impacts on parks and recreation from GPU4 would be slightly greater than those under the 2007 General Plan, as mitigated.

5.6.2.13 Hazards and Hazardous Materials

GPU4 contains policies that address public safety relative to seismic and geologic hazards (including inventorying and requiring geotechnical reports prior to development in areas of risk), flood hazards, hazardous materials, emergency response, and wildland fire protection (including standards for development to achieve an acceptable level of risk). GPU4 also establishes minimum service levels for emergency responders and identifies evacuation routes in case of a disaster. As a result of these policies, GPU4 would not have a significant effect in this area.

The 2007 General Plan contains the same goals and policies as GPU4. Although GPU4 has more extensive development, the additional Community Area and Rural Centers are not in areas that are particularly hazardous. Therefore, GPU4 would result in the same impacts as the 2007 General Plan.

5.6.2.14 Aesthetics, Light, and Glare

GPU4 would limit future urban growth in a manner that would preserve significant visual resource areas (agricultural fields, ridgelines, natural areas, etc.) and minimize adverse impacts from new sources of light and glare. Effective policies include restrictions on ridgeline development, encouragement of "clustered" development in rural areas, and the voluntary transfer of development rights away from areas with unique visual features. Nonetheless, GPU4 would result in major new sources of light and glare being built within the cities and the County's Community Areas, Rural Centers, and artisan wineries. These would adversely affect nearby rural and agricultural areas. GPU4 would have a significant effect on aesthetics, light, and glare.

The proposed 2007 General Plan contains the same policies as GPU4 on this impact issue. By reducing the number of Community Areas and Rural Centers, the 2007 General Plan reduces the development potential proposed in GPU4.as, thereby somewhat reducing aesthetics, light, and glare impacts that would have otherwise occurred under GPU4. The AHO areas identified in the 2007 General Plan are located near existing urban areas and would have minimal additions to existing levels of light and glare.

At the same time, the 2007 General Plan would authorize up to 10 full-scale wineries (in addition to the 40 artisan wineries allowed under GPU4) along the River Road, Metz Road, and Jolon Road segments. These would introduce new sources of light and glare to these rural areas.

Based on the above discussion, the impacts of GPU4 would be somewhat greater with respect to light and glare than for the proposed 2007 General Plan.

5.6.2.15 Population and Housing

GPU4 and the proposed 2007 General Plan are local land use plans that prescribe where and at what intensity future growth will occur. Pursuant to state law, a general plan must provide for sufficient new development to accommodate projected housing demand. As such, both plans would induce future growth by accommodating future development. Neither plan is expected to result in the displacement of substantial numbers of dwelling units or persons.

As a result of its additional Community Area, Rural Centers, and allowance of residential subdivisions within the Greater Salinas, North County, and Toro Area Plans, GPU4 would have a somewhat greater growth-inducing impact on population and housing to those would the 2007 General Plan.

5.6.3 Conclusion

The GPU4 Alternative is similar to the proposed 2007 General Plan. GPU4 would have a greater impact on agriculture resources; water resources, geology, soils, and seismicity; transportation; air quality; noise; biological resources; public services and utilities; parks and recreation; ; light and glare and population and housing. GPU4 would have similar impacts to the proposed 2007 General Plan with respect to land use; water mineral resources; hazardous material. and cultural resources. It would have not any impacts that are less than those expected to result from the proposed 2007 General Plan.

The GPU4 Alternative meets all of the objectives of the 2007 General Plan.

5.7 Transit-Oriented Development Alternative

5.7.1 Description

The Transit-Oriented Development (TOD) Alternative focuses new development along existing and future transportation corridors. These corridors would be served by high-capacity and high-frequency public transportation. Public transportation in this alternative combines fixed-route bus service with rail, express bus service and Bus Rapid Transit (BRT). Development in these corridors would be concentrated at “nodes” adjoining public transportation stations. Under this alternative, new development outside the Community Areas, Rural Centers, and AHOs would be restricted to the first single-family home on existing legal lots of record in the North County, Greater Monterey Peninsula (along the Route 68 corridor only) Greater Salinas, and Toro (along the Route 68 corridor) Area Plans. The Bradley and Lockwood Rural Centers would be considered third tier development priority areas. They would not be developed until the transit system is funded and built to King City. Otherwise, this alternative would share the same policies as the 2007 General Plan.

For this alternative, the County would develop a Transfer of Development Rights (TDR) program, expanding on that described in Policy LU-1.8. The TDR program would specifically provide for the transfer of development credits from , North County, Greater Monterey Peninsula (along the Route 68 corridor only) Greater Salinas, and Toro (Route 68 corridor) Area Plans to the TODs as receiving areas. This would include TODs in any of the Community Areas and Rural Centers (with the aforementioned limitation on the Bradley and Lockwood Rural Centers).

TOD is defined as "moderate to high-density development, located within an easy walk of a major transit stop (typically up to ½-mile), generally with a mix of residential, employment, and shopping opportunities designed for pedestrians without excluding the auto. TOD can be new construction or the redevelopment of one or more buildings whose design and orientation facilitate transit use," according to the Statewide Transit-Oriented Development Study – Factors for Success in California (California Department of Transportation, 2002). Studies have demonstrated that TOD increases transit ridership and reduces Vehicle Miles of Travel (VMT) when compared to similar intensities of development in areas that are poorly served by transit.

The public transportation serving the TODs would be a combination of fixed-route bus systems, express bus, and BRT systems connecting major activity centers, and regional and intercity rail systems connecting major activity centers within the region and adjacent regions. The TOD Alternative envisions a tiered public transportation system, as follows:

- Tier 1 – local-serving public transportation comprised of fixed-route bus systems primarily serving intra-city and inter-city travel, and rural communities. This tier forms the finest grained public transportation network and is similar to the existing Monterey-Salinas Transit (MST) system. This tier also includes demand responsive service (e.g., paratransit), and local shuttles operated by private or public employers.
- Tier 2 – sub-regional and regional-serving public transportation comprised of express bus and BRT serving key corridors within cities that will connect cities, community areas, and rural communities to major activity and employment centers. This tier of public transportation travels longer distances and relies on high frequency and high quality (e.g., newer comfortable coaches, stations with amenities) of service resulting in a system that is competitive with the automobile. Express buses and BRT lines would operate within High-Occupancy Vehicle (HOV) lanes or exclusive transitways within the public right-of-way. Stops and stations are more widely spaced than in Tier 1 in order to minimize delay. This tier would tie into a system of Park and Ride facilities throughout the County.
- Tier 3 – inter-regional-serving public transportation comprised of express bus, BRT, regional commuter rail, and intercity light rail transit connecting major activity centers in Monterey County to centers in adjacent counties including Santa Cruz, San Benito and Santa Clara Counties. Express bus and BRT lines would operate within High-Occupancy Vehicle (HOV) lanes or exclusive transitways. Rail service would include the following projects

currently being planned or studied by the Transit Agency of Monterey County (TAMC):

- Extension of Caltrain service from Gilroy to Monterey County, including stops in Pajaro, Castroville, and Salinas.
- The Monterey Branch line between Castroville and Monterey connecting the planned Caltrain service in Castroville to the Monterey Peninsula, with stations in Monterey, Seaside, Sand City, Marina/CSUMB, and Castroville. The right-of-way may accommodate express bus service, BRT, or light rail.
- Passenger rail service on the Santa Cruz Branch line extending from Pajaro/Watsonville to Davenport (Santa Cruz County), which would connect to the Monterey County intercity rail service described above.

The three tiers would be linked with inter-modal transit centers at key public transportation junctions. The areas adjoining the inter-modal transit centers would be developed as nodes of transit-oriented development containing a mix of housing types, commercial uses providing everyday services, and jobs.

Primary transit corridors include:

- Route 101 from King City to Salinas (fixed-route and express bus service to the Salinas inter-modal transit center with connection to a series of Park and Ride transit centers along the Route 101 corridor)
- Route 101 from Salinas to San Jose (express bus service with connection to a series of Park and Ride transit centers along the Route 101 corridor)
- Route 68 from Salinas to Monterey (fixed-route, express bus, and BRT service between the Salinas inter-modal transit center and Monterey inter-modal transit center)
- Route 156 from Prunedale to Castroville and Monterey (fixed-route and express bus service with connections to CalTrain and inter-city rail in Castroville)
- Route 1 from Marina to Monterey (express bus and BRT with connections to CalTrain and inter-city rail in Castroville, Marina, and Monterey)
- Route 1 between Watsonville/Pajaro and Monterey (express bus and BRT with connections to Caltrain and inter-city rail along the Route 1 corridor)

This alternative includes transit corridors on County and city roads and streets served by fixed-route bus service, express buses, and limited BRT.

Nodes of TOD would be located along primary transit corridors and centered around inter-modal transit centers and other stops and stations. A target of 30% of growth in unincorporated Monterey County would occur in these nodes (approximately ½-mile radii around transit stops). This target would require higher densities and intensities of land use than currently allowed under the 2007 General Plan. Residential densities would range from a minimum of 15-30 dwelling units per acre in urbanized areas, with at least 50 percent and not more

than 75 percent of the development within the TOD being residential. Commercial uses would require Floor Area Ratios (FARs) ranging from 1.0 to 3.0. Horizontal multi-use (e.g., multiple uses on a floor) and vertical mixed-use (e.g., different types of uses on different floors) development would be encouraged.

Primary TOD nodes would be located in the following areas, but no specific sites have been identified:

- Castroville
- Pajaro
- Former Fort Ord
- Route 68 Corridor

5.7.2 Development Comparison

A comparison of development potential between the TOD Alternative and the 2007 General Plan during the 2030 planning horizon is provided in Table 5-5. The table also identifies the target amount of residential and non-residential development that would occur within transit nodes and corridors. Implementation of the TOD Alternative is equal to the 2007 General Plan, with a shift of development intensity to transit nodes and corridors.

Table 5-5. Comparison: TOD Alternative and Proposed Project (2030)

Category	TOD Alternative	2007 General Plan	Difference (TOD vs. 2007 General Plan)
Residential	21,666 dwelling units	21,666 dwelling units	0 dwelling units
Target housing in Transit Nodes and Corridors (30%)	6,500 dwelling units		

5.7.3 Environmental Effects

5.7.3.1 Land Use

The TOD Alternative would increase densities at the selected nodes. This would decrease intensity elsewhere in the County. While the development would be consistent with the proposed 2007 General Plan, it may conflict with the existing lower-intensity land uses surrounding the nodes. The conflicts would result from increased activity, noise, and light and glare, as discussed below. Unless the TODs are located in existing urbanized areas, this would be a significant and unavoidable impact. Therefore, the TOD alternative would have greater potential impacts with respect to land use than the 2007 General Plan.

5.7.3.2 Agriculture Resources

The TOD alternative would limit future subdivision of land and development to the first single-family resident on existing lots of record within the North County, Greater Monterey Peninsula (along the Route 68 corridor only) Greater Salinas, and Toro (Route 68 corridor) Area Plans. The TDR component would focus development into the TODs. This would reduce development pressures in the unincorporated area. As a result, this alternative would have a lesser impact on agricultural resources than the 2007 General Plan.

5.7.3.3 Water Resources

The TOD Alternative would not reduce the number of potential water users since it would allow the same number of residences as the 2007 General Plan. However, it would substitute medium- to high-density development for low-density development. The higher densities would result in less area for landscaping and a corresponding reduction in water demand.

The TOD Alternative would reduce the intensity of development on existing lots of record throughout the county. That would result in a marginal reduction in water quality impacts from development, since those impacts are already well regulated by the County grading ordinance and the Central Coast RWQCB's regulations.

In sum, this alternative would have a lesser impact on water resources than the 2007 General Plan.

5.7.3.4 Geology, Soils, and Seismicity

The TOD Alternative would reduce the intensity of development on existing lots of record throughout the county. That would result in a marginal reduction in erosion impacts from development, in comparison to the 2007 General Plan, since those impacts are already well regulated by the County grading ordinance and the Central Coast RWQCB's regulations. The impacts of this alternative on geology and seismicity would be the same as the 2007 General Plan since it would result in the same level of development (although covering a smaller geographical area) and the same level of risk.

5.7.3.5 Mineral Resources

There are no differences with respect to development of mineral resources between the TOD and the 2007 General Plan, Therefore, the TOD Alternative would have the same level of impact as the 2007 General Plan.

5.7.3.6 Transportation

A primary objective of the TOD Alternative is to shift people from single occupant vehicles to alternate modes of travel or, by creating walkable mixed-use nodes, to eliminate the need to travel long distances for some trip purposes. Research indicates that TOD can generate about 50 to 75% of the traffic generated by the same amount of land use in typical suburban development patterns poorly served by transit. Conservatively using the lower end of the range, implementation of the TOD Alternative in 2030 could generate fewer daily trips than the 2007 General Plan, and an associated reduction of about 110,000 vehicles miles of travel (VMT) per day.

The TOD Alternative would result in level of service impacts to county roadways, regional roadways and the state highway system. These impacts would be the result of two conditions:

1. Traffic generated by development of allowed land uses in the TOD Alternative, including traffic generated by the TOD itself, would cause county and regional roadways to exceed the LOS D standard, but to a lesser extent than the 2007 General Plan. In addition, although a TOD generates less traffic than the same amount of conventional development, the higher intensity and density of TOD within a relatively small area can create localized traffic impacts.

2. The TOD Alternative calls for the designation of exclusive transitways and HOV lanes on county, city, and regional roadways in order to make public transportation an attractive and competitive option to the automobile. Exclusive transit facilities and HOV facilities on these roadways would utilize travel lanes normally used by automobiles, thereby, while increasing the person capacity of the facility, the transit facilities reduce their automobile capacity. This reduction in capacity would cause some roadways to exceed the LOS D standard.

The TOD Alternative would create impacts related to transportation infrastructure funding. The public transportation system envisioned in this alternative requires a substantial capital investment in transit infrastructure and fleet vehicles, as well as ongoing operations and maintenance costs. The initial capital costs may exceed the capital costs of adding conventional vehicle capacity (i.e., roadway widening), but the investments are more sustainable over a longer period of time than conventional capacity improvements. This alternative, therefore, may create a transportation funding shortfall that is greater than the shortfall associated with conventional transportation funding.

In conclusion, however, the TOD alternative would reduce traffic generation by design and therefore have significantly less impacts with respect to transportation than the 2007 General Plan or any of the other alternatives.

5.7.3.7 Air Quality

The TOD Alternative would reduce VMT throughout the county by reducing the need for short auto trips by locating residences in proximity to day to day services, and by substituting transit trips for auto trips. Where congestion is increased locally, there may be additional emissions of carbon monoxide in comparison to the 2007 General Plan. However, that impact is dependent upon levels of traffic and time at idle. Because the locations and development intensities of the TODs are not known at this time, whether these localized emissions would exceed the air district standards cannot be determined. Overall, by reducing VMT, the TOD Alternative would result in a reduction in the severity of air quality impacts from traffic in comparison to the 2007 General Plan.

5.7.3.8 Noise

This alternative would have a greater noise impact than the 2007 General Plan as a result of improved train service. Sensitive land uses located along the train corridors would be subjected to higher levels of noise as the frequency of passenger trains increases. Some mitigation of this type of transit noise is typically possible, but without information about the types of trains, their frequency, and routes, it is not possible to quantify or qualify the level of mitigation that might be possible. Similarly, without specific information about these noise generators, it would be speculative to attempt to design effective mitigation at this time.

More frequent bus service and BRT along transit corridors would produce noise impacts, particularly as buses accelerate and decelerate at stops. But, increases in bus noise would be intermittent and limited to corridors that already generate vehicle noise. Further, the TODs themselves would be high-density development nodes that would be expected to have urban levels of ambient noise. The reduction in traffic along these roads would tend to reduce the level of noise being produced by individual passenger vehicles, but that change is unlikely to be noticeable. Vehicle noise impacts would be essentially the same as those of the 2007 General Plan.

However, the combination of increased noise in compact TOD areas, and noise from transit would result in potentially greater noise impacts than the 2007 General Plan.

5.7.3.9 Biological Resources

The TOD Alternative would reduce the intensity of development on existing lots of record throughout the county. That would result in a marginal reduction in impacts on biological resources from development in comparison to the 2007 General Plan.

5.7.3.10 Cultural Resources

The TOD Alternative would concentrate development within a smaller area than would the 2007 General Plan. As a result, the potential to disturb cultural resources and result in a significant impact would be less under this alternative.

5.7.3.11 Public Services and Utilities

The TOD Alternative would concentrate most new development occurring outside of the Community Areas, Rural Centers, and AHOs around transit stations. This would make the provision of public services and utilities easier under the General Plan policies requiring services and utilities for new development, the preparation of financing plans for that development, and concurrent installation of services and utilities as development proceeds. The Pajaro Community Area is subject to flood hazard, which would be increased if densities were increased to accommodate a TOD. However, Safety Element Policy S-3.4 would require compliance with Federal Emergency Management Agency floodplain restrictions. This would ensure that development would not increase flood hazards.

The TOD Alternative would result in few impacts from the construction of public facilities. Potentially, there would also be less construction impacts from expansion of roads. There would be impacts from construction of transit hub facilities, but on balance the impacts from the TOD Alternative with respect to public services and utilities would be less than for the 2007 General Plan.

5.7.3.12 Parks and Recreation

The TOD Alternative would result in the same growth in population, demand for parks recreation facilities, and pressure on existing parks and recreation facilities as the 2007 General Plan. Assuming that the mitigation measure including a parks ratio is included in the TOD Alternative, its impacts would be the same as the 2007 General Plan.

5.7.3.12 Hazards and Hazardous Materials

The TOD Alternative would result in the same growth in population as the 2007 General Plan. The potential for exposure to hazards and hazardous materials, with the exception of wildfire hazard, would be essentially the same as the 2007 General Plan, so its impacts would also be the same.

By reducing the potential level of growth on existing rural lots of record within some areas of the county and transferring that potential to the TODs, this alternative would reduce the number of future residences that might be endangered by wildfire. By placing more dwelling units in development nodes,

the alternative would simplify the delivery of fire protection services. This would be a lesser impact than under the 2007 General Plan.

5.7.3.13 Aesthetics, Light, and Glare

The TOD Alternative would result in the same growth in population as the 2007 General Plan, but would increase the number of development nodes beyond the Community Areas, Rural Centers, and AHOs identified in the proposed General Plan. The higher density of development would result in a greater aesthetic impact where TODs are located near rural areas, and a similar increase in light and glare. Policy LU-1.13 of the 2007 General Plan requiring lighting to be unobtrusive would be more effectively applied under the TOD Alternative because it would act to limit light from a limited number of discrete locations, rather than from more intensive development across existing lots of record under the 2007 General Plan. The overall impact would be the same as the 2007 General Plan.

5.7.3.14 Population and Housing

The TOD Alternative would result in the same net growth in population as the 2007 General Plan, but would decrease the number of development nodes by delaying development in the most southern Rural Centers. . Expanded bus and train service, as well as the introduction of BRT, would occur on existing road or rail rights of way and are not expected to result in the displacement of substantial numbers of existing residences. The protections for displaced residents that are discussed above for the 2007 General Plan would similarly apply to the alternative. Therefore, its impacts would be the same as the 2007 General Plan.

5.7.4 Conclusion

The TOD Alternative would further concentrate future development in the unincorporated area into discrete, higher density nodes. While some TODs may overlap the Community Areas and Rural Centers; others may be located in the cities where transit centers would be logically located. This alternative would refocus growth that might have occurred on lots of record by making TODs more attractive to future residents because of the transit improvements, further restricting subdivision in the Greater Monterey Peninsula Area and delaying development of the southernmost Rural Centers in unincorporated County.

The TOD Alternative would reduce impacts on, agricultural resources, water resources, biological resources, air quality, cultural resources, public services and utilities and wildfire hazard relative to the levels described for the 2007 General Plan. It would significantly reduce impacts with respect to traffic as compared to the 2007 General Plan and all of the other alternatives. The impacts on geology, soils and seismicity; mineral resources, parks and recreation; aesthetics, light,

and glare; and population and housing would be essentially the same as the 2007 General Plan. The TOD Alternative would result in greater impacts than the 2007 General Plan in the areas of potential land use conflicts and noise.

The TOD alternative meets all of the objectives of the 2007 General Plan.

5.8 Environmentally Superior Alternative

The qualitative environmental effects of each alternative in relation to the 2007 General Plan are summarized in Table 5-6. The TOD alternative would be the environmentally superior based on the number of reductions to 2007 General Plan impacts.

Table 5-6. Summary of 2007 General Plan Alternatives. .

Topical Area	2007 General Plan	No Project	GPU3	GPI	GPU4	TOD Alternative
Land Use	Significant	Greater	Greater	Less	Same	Greater
Agriculture Resources	Significant	Greater	Greater	Greater	Greater	Less
Water Resources	Significant	Greater	Same	Greater	Same	Less
Geology, Soils, and Seismicity	Less Than Significant	Greater	Greater	Less	Greater	Same
Mineral Resources	Less Than Significant	Same	Same	Same	Same	Same
Transportation	Significant	Greater	Greater	Less	Greater	Less
Air Quality	Significant	Greater	Greater	Less	Greater	Less
Noise	Significant	Greater	Greater	Same	Greater	Greater
Biological Resources	Significant	Greater	Same	Greater	Greater	Less
Cultural Resources	Less Than Significant	Greater	Same	Greater	Same	Less
Public Services and Utilities	Less Than Significant	Greater	Same	Same	Greater	Less
Parks and Recreation	Significant	Greater	Same	Less	Greater	Same
Hazards and Hazardous Materials	Less Than Significant	Greater	Greater	Greater	Same	Less
Aesthetics, Light, and Glare	Significant	Greater	Greater	Less	Greater	Same
Population and Housing	Significant	Same	Greater	Same	Greater	Same

Section 6
Other CEQA Required Sections

6.1 Significant Environmental Effects That Cannot Be Avoided

According to Section 15126.2(a) (b) of the State CEQA Guidelines, an EIR shall identify and focus on the significant environmental effects of the proposed project, including effects that cannot be avoided if the proposed project were implemented. Each of the preceding impact sections has identified those significant impacts that cannot be reduced below a level of significance. The significant, unavoidable impacts are summarized in Table 6-2 at the end of this chapter.

The reader is directed to the various impact sections of this EIR for a more detailed discussion of each of these significant, unavoidable impacts.

6.2 Significant Irreversible Environmental Effects

The environmental effects of the 2007 General Plan are summarized in Section 1.0 (Executive Summary) and are analyzed in detail in Section 4.0 (Impacts and Mitigation Measures) of this EIR.

As mandated by the State CEQA Guidelines Section 15127, an EIR for a general plan must address any significant irreversible environmental change that would result from implementation of that plan. Specifically, per the Guidelines (Section 15126.2[c]), such an impact would occur if:

- the project would involve a large commitment of nonrenewable resources;
- irreversible damage can result from environmental accidents associated with the project; and
- The proposed consumption of resources is not justified (e.g., the project results in the wasteful use of energy.)

Approval and implementation of actions related to the 2007 General Plan would result in an irretrievable commitment of nonrenewable resources such as energy supplies and construction-related materials. The energy resource demands would be used for construction, heating and cooling of buildings, transportation of

people and goods, heating and refrigeration, lighting, and other associated energy needs.

Environmental changes with implementation of the 2007 General Plan would occur as the physical environment is altered through continued commitments of land and construction materials to urban and rural development. There would be an irretrievable commitment of labor, capital, and materials used in construction and a permanent loss of open space. Nonrenewable resources would be committed primarily in the form of fossil fuels and would include oil, natural gas, and gasoline used to support the additional development associated with implementation of the 2007 General Plan.

The consumption of other nonrenewable or slowly renewable resources would result from the development of the 2007 General Plan. These resources would include, but not be limited to, lumber and other forest products, sand and gravel, asphalt, steel, copper, lead, and water. Because alternative energy sources such as solar, geothermal, or wind energy are not currently in widespread local use, it is unlikely that real savings in nonrenewable energy supplies (e.g., oil and gas) could be realized in the immediate future.

Development in unincorporated Monterey County as envisioned by the 2007 General Plan would result in the construction of structures, facilities, or infrastructure on lands that are currently undeveloped. Development of lands generally would result in their future and permanent commitment to urban uses.

6.3 Growth Inducement

CEQA requires a discussion of the ways in which the 2007 General Plan could be growth-inducing. State CEQA Guidelines Section 15126.2(d) identifies a project as growth-inducing if it fosters economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. New employees from commercial and industrial development and new population from residential development represent direct forms of growth. These direct forms of growth have a secondary effect of expanding the size of local markets and inducing additional economic activity in the area. Examples of development that would indirectly facilitate growth are the installation of new roadways and the construction or expansion of water delivery or treatment facilities.

A project could indirectly induce growth by removing barriers to growth, by creating a condition that attracts additional population or new economic activity, or by providing a catalyst for future unrelated growth in the area. While a project may have a potential to induce growth, it does not automatically result in growth. Growth can happen only through capital investment in new economic opportunities by the public or private sectors.

Typically, the growth-inducing potential of a project is considered significant if it fosters growth or a concentration of population in excess of the existing setting or

baseline. Growth may be induced through the provision of infrastructure or service capacity that would accommodate new development.

By law, Monterey County is required to adopt "a comprehensive, long-term general plan for the physical development of the county" (Government Code Section 65300). The general plan's housing element is required to include

> An identification and analysis of existing and projected housing needs and a statement of goals, policies, quantified objectives, financial resources, and scheduled programs for the preservation, improvement, and development of housing. The housing element shall identify adequate sites for housing, including rental housing, factory-built housing, mobile homes, and emergency shelters, and shall make adequate provision for the existing and projected needs of all economic segments of the community. (Government Code Section 65583)

On a regular basis (generally every 5 to 7 years), the Association of Monterey Bay Area Governments (AMBAG) is responsible for adopting the Regional Housing Needs Assessment or RHNA that establishes the share of projected future housing growth that the County must accommodate in its general plan. Unincorporated Monterey County's current RHNA housing share is 1,554 dwelling units for the current 2007 - 2014 housing element cycle. The current housing element is based on the prior 2000-2007 share and will be amended as necessary to account for the new allocations. A county that does not amend its housing element to reflect the RHNA share is subject to litigation (Government Code Section 65587).

6.3.1 Conclusion

In order to comply with state general plan law, in particular the housing element statute, the 2007 General Plan must provide sufficient opportunities for new residential growth to accommodate its RHNA share. Based on the definition of growth inducement, a general plan is inherently growth-inducing because it must accommodate at least projected housing demand. The 2007 General Plan and related comprehensive land use plans will provide the framework by which public officials will be guided in making decisions relative to development in Monterey County. However, it is the implementation of land use policies that will incrementally increase demands for public services, utilities, and infrastructure.

6.4 Cumulative Impacts

6.4.1 In General

Cumulative impacts result from individually minor, but collectively significant, impacts occurring over a period of time. State CEQA Guidelines Section 15130 requires that an EIR include a discussion of the potential cumulative impacts of a proposed project. Cumulative impacts are defined as two or more individual effects that, when considered together, are significant. The cumulative impact

from several projects is the change in the environment that results from the incremental impact of the development when added to other closely related past, present, and reasonably foreseeable or probable future developments.

As defined in State CEQA Guidelines Section 15355,

> …a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. An EIR may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant. A project's contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact.
>
> The following elements are necessary to an adequate discussion of significant cumulative impacts:
>
> Either:
>
> 1. A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or
> 2. A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document, which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

The determination of a project's cumulative effects involves the identification of the following:

- direct and indirect effects of the proposed action and other projects causing related impacts;
- which resources, ecosystems, and human communities are affected; and
- Whether these effects are cumulatively significant.

State CEQA Guidelines Section 15065(c) states that a mandatory finding of significance is required if the project will make a cumulatively considerable contribution to a cumulative impact. The importance of a project's contribution must be viewed in the context of the cumulative effect. Case law has held that even a small contribution may be cumulatively considerable if the cumulative effect is particularly acute (*Communities for a Better Environment* v. *California Resources Agency* (2002) 103 Cal.App.4th 98)

Because of the broad project objectives associated with the implementation of the 2007 General Plan, the cumulative analysis presented in this EIR does not

evaluate the site-specific impacts of individual projects. Project-level analyses will be prepared by implementing agencies on a project-by-project basis.

6.4.2 Approach to this Analysis

The cumulative impact analysis in this EIR relies upon the projections approach. Unless so stated, it considers the potential for cumulative contributions at both the horizon year of the general plan in 2030 and buildout of the 2007 General Plan estimated to be in 2092. There are numerous uncertainties about the state of the environment in 2030 and 2092, as well as the protective laws and regulations that may be in effect at that time. Accordingly, the following assessment of cumulative impacts is strictly qualitative because of the infeasibility of predicting the timing, design features, and density of future projects. Many future projects will be the subject of separate environmental studies.

For the most part, the area addressed in the cumulative impact analysis is Monterey County, including its incorporated cities. There are a few notable exceptions to this general statement. The air quality analysis is based on the Monterey Bay air basin. The three-county AMBAG region is the area of analysis for transportation and population/housing since those issues have regional effects. Because biological resources analysis in general assesses cumulative impacts that naturally occur over a larger area than a single county, it is also based on a larger geographic area.

The cumulative impact analysis is based on population growth figures published by AMBAG in its 2004 regional forecast of population, housing, and employment (refer to Chapter 3, Project Description). The 2004 forecast is somewhat higher than AMBAG's recently released 2008 regional forecast. Using the 2004 forecast offers a more conservative view of growth potential. Therefore, using the 2004 AMBAG figures in this analysis would not result in understating the 2007 General Plan's potential for cumulatively considerable contributions.

Population growth and the development associated with it are the major factors contributing to direct impacts on land use, agriculture resources, water resources, transportation, air quality, noise, public services and utilities, and population and housing. In addition, growth can cause secondary impacts on these and other areas, such as biological resources. Therefore, using forecast population growth as a basis for analyzing cumulative impacts is the preferred approach when examining a large project area such as a county general plan.

The interpretation of cumulative impacts is such that, in the presence of a severe cumulative impact, a project's contribution may be considerable even if it is only more than one molecule (*Communities for a Better Environment* v. *California Resources Agency* (2002) 103 Cal.App.4th 98). This analysis errs on the side of considerable contributions. Where there is a severe cumulative impact, the conclusion is that the 2007 General Plan would make a considerable contribution if it contributes at all.

The magnitude of the 2007 General Plan's contributions to cumulative impacts is different in 2030 than at buildout in 2092. However, the 2007 General Plan would contribute to the same cumulative effects under the both the 2030 planning horizon and 2092 buildout. The following discussion notes any situations where this general rule is not the case.

6.4.2.1 Non-cumulative Impacts

In each of the following instances the 2007 General Plan's contribution does not rise to the level of being considerable.

Geology, Soils, and Seismicity

This is a site specific impact that affects individual development projects and that is adequately mitigated on an individual basis. As discussed in Chapter 4.4, Geology, Soils, and Seismicity, there are numerous state and local regulations that act to reduce geologic and seismic risks to acceptable levels. Project design and building standards avoid the aggregation of individual effects into a significant combined impact. Therefore, there would be no cumulative impact. Soil erosion is the exception to this and is discussed under water quality.

Mineral Resources

By virtue of their location along rivers and in lightly settled portions of the county, the county's mineral resources are not being impacted by overall development and will not have an impact on development.

Cultural Resources

These resources are site-specific and generally of individual value. The exception is where the resource is part of a designated historic district or landscape. In that situation, the cumulative loss of key or contributing resources would lead to eventual loss of the district's or landscape's defining characteristics. There is only one historic districts or landscapes within the lands under county jurisdiction – the town of Spreckles. Otherwise, where such districts exist within Monterey County, they are within cities. City, not county, actions would be the driving force of any potential erosion of those districts.

Spreckles is subject to the county's HR (Historic Review) overlay zone (Monterey County Code Section 21.54.010). This zoning ordinance requires a discretionary conditional use permit prior to structural alterations within the district. The conditional use permit is subject to review by the County's Historic Resources Review Board, as well as the approving authority, in order to ensure that historic integrity is preserved. Therefore, implementation of the 2007 General Plan would not contribute to the loss of those resources.

In addition, the 2007 General Plan has a number of specific policies that will avoid the loss of individual cultural resources. They include the following:

- Policy OS-6.1 provides that important representative and unique archaeological sites and features shall be identified and protected for all parcels with undisturbed natural conditions (i.e., ungraded properties) consistent with State Historic Preservation Office guidelines and definitions employed on a state-wide basis including Phase I, II, and III studies.
- Policy OS-6.2 requires that information on the location and significance of the County's archaeological resources shall be compiled and used in the environment and development review process. The County shall rely on and participate in the state-wide inventory work of the Native American Heritage Commission and the State Office of Historic Preservation. All Phase I, II, and III studies and records of Native Californian consultation shall be filed with appropriate state agencies and local tribes as well as local data source compilations maintained by the County. The County shall work with local tribes to update County GIS maps showing high, moderate and low archaeological sensitivity areas.
- Policy OS-6.3 provides that mew development proposed within moderate or high sensitivity zones, or within 150 feet of a known recorded archaeological and/or cultural site, shall complete a Phase I survey including use of the regional State Office of Historic Preservation Clearinghouse or the Native American Heritage Commission's list of sacred and traditional sites.
- Policy OS-6.5 requires the county to establish policies and procedures that encourage development to avoid impacts to sensitive archaeological sites including:
  - designing or clustering development to avoid archaeological site deposits, historic sites and resources, and Native Californian cultural sites;
  - dedicating permanent conservation easements shall be required where subdivisions and other developments can be planned to provide for such protective easements.
- Policy OS-6.6 requires the county to adopt a uniform set of guidelines to define Phase I, II, and III significance assessment and data recovery programs. Similar guidelines will be created to set standards for requirements for consultation with Native Californian descendents to determine procedures for determining the presence or absence of sacred or traditional sites. These guidelines will address monitoring requirements and participation in cultural resource data recovery programs.

In addition, Monterey County Code Section 21.66.050 establishes Standards for Archeological Resource Areas that require preparation of an archeological resource report prior to development, avoidance of known resources when feasible, and implementation of a mitigation plan when avoidance is not feasible. The mitigation plan must include preservation measures. Further, the existing provisions of CEQA protect sites from adverse impacts.

Public Services and Utilities

With the exception of solid waste capacity, these facilities serve particular areas and impacts to one are individual, not cumulative. The provisions of the 2007 General Plan requiring concurrent provision of services to new development (Policies PS-1.1 [Adequate Public Facility and Services (APFS) requirements] through PS-1.6 [Only those developments that have or can provide adequate concurrent public services and facilities shall be approved]) avoid the potential for cumulative impacts. As discussed in Chapter 4.11, Public Services and Utilities, these facilities will have individual construction and operational impacts. They are not, however, expected to be significant. School impacts are not considered significant provided that school impact fees are paid in accordance with Government Code Section 65995. Solid waste is discussed in the following section.

Parks and Recreation

As discussed in Chapter 4.12, Parks and Recreation, the county's supply of parks and recreation facilities far exceeds its target ratio of 3 acres per 1,000 residents. Development under the 2007 General Plan would not exceed that ratio and therefore, would not result in a cumulative effect on parks and recreation.

Hazards and Hazardous Materials

These impacts, with the exception of wildfire hazard, are project- and site-specific and generally of individual concern. The existing provisions of CEQA protect developments from adverse impacts. In addition, as discussed in Chapter 4.13, Hazards and Hazardous Materials, federal, state, and local laws and regulations protect against accidental exposure. Where exposure occasionally occurs, it is individual, not cumulative. Wildfire hazard is discussed in the following section,

6.4.3 2007 General Plan Cumulative Impacts

6.4.3.1 Land Use

There is no cumulative impact on land use, based on the thresholds identified in Chapter 4.1, Land Use. The 2007 General Plan is written to accommodate existing development trends and would not physically divide communities. As discussed in Chapter 4.1, Land Use, instead the 2007 General Plan would center future urban development in existing cities and in Community Areas, Rural Centers, and AHOs where some level of urbanization already exists. Nor would the 2007 General Plan conflict with land use plans. The 2007 General Plan accommodates the existing HCPs in the county. HCPs and NCCPs operate separately from the general plan and future resource conservation plans would be project specific and not conflict with the 2007 General Plan's land uses. Policies BIO-1.2 (Salinas Valley Conservation Plan for kit fox) and BIO-1.5 (Prepare Comprehensive County Natural Communities Conservation Plan by 2030) will

ensure that HCP and NCCP activities are coordinated with land use planning in the future.

Therefore, the project would not make a considerable contribution to a cumulative land use impact.

6.4.3.2 Agriculture Resources

Impact CUM-1 Agricultural Resources.
As discussed in Section 4.2, Agricultural Resources, the Department of Conservation's Farmland Mapping and Monitoring Program has documented a steady trend of loss of prime farmland to other uses statewide. Therefore, loss of farmland is a significant cumulative impact in California. In Monterey County, farmland will be converted to urban uses over time, particularly with the expansion of cities in the Salinas Valley. County land use regulations will limit the loss of farmland on the coastal plain, with the exception of lands within the Castroville Community Area. Development and land use activities under the 2007 General Plan would contribute to the cumulative conversion of Important Farmland to nonagricultural uses illustrated by the Farmland Mapping and Monitoring Program's data.

Implementation of 2007 General Plan goals and policies would partially reduce the impacts resulting from conversion of agricultural lands to urban uses by fostering continued agricultural production through policies such as the AWCP, and through specific policies including the following:

- Policy AG-1.1: prohibits activities that would conflict with on-going agricultural activities.
- Policy AG-1.2: requires buffers adjoining new non-agricultural uses.
- Policy AG-1.3: limits subdivisions in agricultural areas to those that would not conflict with agricultural uses.
- Policy AG-1.12: requires the county to develop a mitigation program with the cities.
- Policies AG-3.1- 3.3: authorize the partial exemption of routine and ongoing agricultural use from county regulations.

Further, the identified Community Areas and Rural Centers to which growth is channeled are mostly located on less productive lands. As discussed under the GPI Alternative in Chapter 5, Alternatives, the housing element mandates under California Planning Law require cities and counties to accommodate future housing need based on growth projections and make infeasible any mitigation or alternative that would prohibit all farmland conversion.

Past trends in Monterey County agriculture indicate that agricultural acreage will remain the same as current conditions or decrease slightly over time. Nonetheless, future conversion of Important Farmland, particularly in the Salinas Valley as its cities grow onto adjoining farmland, remains a significant

unavoidable cumulative impact. While the policies of the 2007 General Plan reduce the potential for additional contributions to this impact from county actions, they will not eliminate losses. Accordingly, the 2007 General Plan will make a considerable contribution to this impact.

6.4.3.3 Water Resources

Water Quality

Impact CUM-2. Surface Water Quality
Activities within the county and cities can affect surface water quality by releasing contaminants through point sources or through stormwater runoff. As discussed in the Project Description, AMBAG has projected continued growth throughout the region, including Monterey County, its cities, and those parts of Santa Cruz County that drain into the Pajaro River and its groundwater basin. The growth of the cities and those county areas identified for urbanization would increase the potential for new point sources, expanded point sources (such as wastewater treatment plants), and urban runoff. Rural and agricultural activities can similarly contribute contaminants from runoff. As discussed in Section 4.3, Water Resources, the SWRCB has listed numerous waterways within the county as "impaired waterways" under Section 303(d) of the Clean Water Act. Discharges to impaired waterways are regulated under the Central Coast RWQCB's Basin Plan, which includes TMDLs for the impaired waterways. Over time, the Central Coast RWQCB will adopt TMDLs for all impaired waterways in the County. In turn, county and city regulations will be required to limit discharges to the limits set by the TMDLs.

The RWQCB's conditional agricultural waiver program is preventing sediment-laced runoff from agricultural lands. These regulations are or will be in addition to the County's existing grading, slope development, and erosion control ordinances. Further, the 2007 General Plan will impose additional requirements on development that will reduce the release of contaminants to surface waters, including the following:

- Policies OS-3.5 and -3.6: require slope development regulations to be adopted.
- Policy S-3.8: requires the county to provide public education/outreach and technical assistance programs on erosion and sediment control.
- Policy OS-3.9: will establish a program that will address the potential cumulative hydrologic impacts of the conversion of hillside rangeland areas to cultivated croplands.
- Policy OS-5.7, as well as state and County regulation of timber harvesting will also limit potential discharges to streams from forestry activities.

These state and local regulations will mitigate the 2007 General Plan's impact to surface water quality and therefore, the 2007 General Plan's contribution will not be cumulatively considerable.

Impact CUM-3. Groundwater Quality

Most groundwater supplies and demand originate and exist within the county. The major exception is the Pajaro groundwater basin, which Santa Cruz County and the city of Watsonville share with portions of northern Monterey County. The analysis in Chapter 4.3, Water Resources, considers groundwater supplies in each of the county's groundwater basins (including the Pajaro basin, taking into account the influence of the Santa Cruz county jurisdictions) taking into account the demands of incorporated areas as well as the unincorporated county. Accordingly, this cumulative analysis reflects the entire groundwater basin.

As discussed in Chapter 4.3, Water Resources, a number of Monterey County's groundwater basins have high levels of salt (from seawater intrusion into the aquifer) and other contaminants. Chapter 4.3, Water Resources, describes the numerous projects currently underway or planned (i.e., SVWP, CSIP, Watsonville Water Recycling Project, etc.) that are addressing the issue of seawater intrusion. In addition, the following 2007 General Plan policies would limit groundwater overdraft and minimize resultant seawater intrusion:

- Policy PS-2.6: would establish a Hydrologic Resources Constraints and Hazards Database that would help the county track problem areas.
- Policy PS-3.3: will require the county to develop and apply specific criteria for proof of a long term sustainable water supply for new residential or commercial subdivisions, including water quality, effects on wells in the immediate vicinity, existing groundwater conditions, cumulative impacts and planned growth in the area, and other factors.
- Policy PS-3.6: would restrict the drilling or operation of any new wells in known areas of saltwater intrusion as identified by Monterey County Water Resource Agency until such time as a program has been approved and funded which will minimize or avoid expansion of salt water intrusion into useable groundwater supplies in that area.

Nitrates and other groundwater contaminants enter the aquifers from septic systems, municipal wastewater treatment systems, urban runoff, and routine agricultural practices. Regulations promulgated by the Central Coast RWQCB under the NPDES program limit contamination from the first three sources. The RWQCB's conditional agricultural waiver program limits agricultural runoff as a source. Routine fertilizer use, however, remains a contributor. As discussed earlier, agricultural use is expected to remain the same or decline slightly from existing conditions. As a result, routine fertilizer use is not expected to increase with implementation of the 2007 General Plan. The 2007 General Plan does not contain any explicit policies on the topic of groundwater contaminants other than those identified above for water quality.

While existing regulations and the implementation of the 2007 General Plan policies would reduce impacts to groundwater quality, they would not completely eliminate contributions from new development under the Plan. Therefore, implementation of the 2007 General Plan would result in a cumulatively considerable contribution to the existing cumulative impact of groundwater quality.

The following proposed mitigation measures will also reduce impacts on groundwater quality:

> **Mitigation Measure WR-1: Support a Regional Solution for the Monterey Peninsula in addition to the Coastal Water Project. This will require cooperation on a long-term, regional solution to groundwater overdraft and other issues. That, in turn, will reduce seawater intrusion.**
>
> **Mitigation Measure WR-2: Initiate Planning for additional Supplies to the Salinas Valley. This will begin the task of bringing long-term water supplies to the Salinas Valley over the buildout 2092 time frame. This would have reducing seawater intrusion and groundwater overdraft among its objectives.**

Mitigation Measures WR-1 and WR-2 hold promise for a long-term solution to the related problems of overdraft and seawater intrusion. Their implementation would reduce, but not eliminate the contribution of 2007 General Plan implementation.

Water Supply

Impact CUM-4. Water Supply
This examines the impacts of the 2007 General Plan on water demand and supply, and the potential to adversely affect groundwater levels. Chapter 4.3, Water Resources, describes the various agency plans that lay out the available water storage, ongoing and future water demand, and existing overdraft conditions within Monterey County, its cities, and the adjoining jurisdictions in the Pajaro Valley. The discussion in Chapter 4.3 considers water supplies by groundwater basin and sub-basin, thereby including affected contributing cities and counties. In the Pajaro basin, this includes Watsonville and a portion of Santa Cruz County.

Cumulative impacts would occur through the existing and projected gaps between water supplies and demand. As discussed in Chapter 4.3, a number of projects are underway or planned that would expand water supplies and reduce overdraft (i.e., Coastal Water Project, CSIP, Watsonville Water Recycling Project, SVWP, etc.). Nonetheless, there will be insufficient supply to support development to the 2030 planning horizon and beyond on the Monterey Peninsula and in the Pajaro Valley. Long term supply in the Salinas Valley will depend upon a future phase of the SVWP to secure additional water from the Salinas River. Mitigation measures WR-1 and WR-2 described above would bring the county together with other agencies to pursue long-term solutions to water supply and maintenance of groundwater levels.

In addition, the 2007 General Plan contains the following policies that would help match water demand to supply and reduce overdraft.

- Policy OS-10.10 would require consideration of sustainable land use strategies (including water conservation and greywater reuse) in the design of future development within Community Areas and Rural Centers.
- Policy PS-2.6 would establish a Hydrologic Resources Constraints and Hazards Database that would help the county to track problem areas.
- Policies PS-3.1 to -3.3 would require proof of availability of a sustainable water supply before new development is allowed. This would slow the growth of demand in the county.
- Policy PS-3.9 would require a program to eliminate overdraft of water basins be developed as part of the Capital Implementation and Financing Plan (CIFP).
- Policies PS-3.13 and -3.14 would establish an ordinance identifying conservation measures to reduce potable water demand and would maximize the use of recycled water as a potable water offset and in agricultural areas where allowed by state regulations.

Nonetheless, future growth planned in the cities (including Watsonville in Santa Cruz County), Community Areas, Rural Centers, Affordable Housing Overlay zones, and wineries will exacerbate the existing water supply and overdraft problems. By 2092 and full buildout, the constraints on the water supply will be even more acute. These policies and mitigation measures WR-1 and WR-2 described above will reduce, but cannot be certain of solving the long-term water supply shortage. Buildout of the 2007 General Plan would make a cumulatively considerable contribution to this cumulative impact.

Impact CUM-5. Indirect Impacts of Water Supply Projects
There are a number of existing and planned projects that are intended to increase water supplies and/or reduce overdraft conditions. These projects would reasonably be expected to have significant environmental impacts. Reasonably foreseeable water supply projects include the desalination plants of the Coastal Water Project and Pajaro/Sunny Mesa Community Services District proposed at Moss Landing. Both of these projects are in the planning stage and no draft EIR has been released for either of them. The SVWP is partially in operation and its impacts are disclosed in and being mitigated under the EIR/EIS prepared for that project by the MCWRA. The CSIP is in operation, as is the Watsonville Water Recycling Plant. Water distribution systems are being installed for both the SVWP and the water from the Watsonville plant. The water distribution pipelines will be installed in agricultural areas and are not expected to have significant effects.

Project impacts would include construction-related air quality emissions, traffic increases, and sediment release; brine disposal during operation (desalination plants); biological impacts (desalination plants); and increased electrical demand (desalination plants). A number of safeguards exist that will act to reduce most of these indirect impacts below the level of significance. For example:

- The Monterey Bay Unified APCD requires construction to follow BMPs to reduce dust. If the construction would exceed the APCD's threshold,

additional measures will be required to ensure that dust does not exceed the threshold. This will avoid contributing to the cumulative impact.

- The EIRs prepared for the desalination plants are expected to require that construction equipment use alternative fuels or other means to reduce their emissions of ozone precursors. Although, depending upon the intensity of construction, there is the potential for a significant impact on air quality from ozone precursors.
- County erosion control regulations and the requirements of the Central Coast RWQCB will prohibit the release of sediment beyond project boundaries. This would avoid contributing to surface water quality impacts.
- Brine from the desalination process is expected to be diluted with cooling water from the Moss Landing power plant and discharged into Monterey Bay. The Central Coast RWQCB will require that brine disposal meet regulatory limits to avoid conflict with the CWA. Therefore, this is not expected to make a considerable contribution to water quality impacts.

Biological impacts, particularly from the release of brine into the Monterey Bay National Marine Sanctuary, are unknown at this point, but would potentially be cumulatively considerable. The effectiveness of any future mitigation measures developed in the EIRs to be prepared for the desalination projects is unknown.

Desalination plants typically are large consumers of electrical energy. The power consumption of the proposed plants would potentially result in a significant effect on electrical supply. This would be analyzed in the EIRs to be prepared for the plants.

Taking a conservative view, the indirect impacts of the water supply projects to be built would potentially make considerable contributions to air quality, biological, and electrical energy use.

6.4.3.4 Transportation

Impact CUM-6. Transportation
Development anticipated by the 2007 General Plan and city growth cumulatively would generate additional traffic volumes that would worsen existing deficient performance conditions on Monterey County roadways. The cumulative contribution of the 2007 General Plan to traffic conditions is analyzed and disclosed in Chapter 4.6, Transportation, and therefore is not repeated here.

6.4.3.5 Air Quality

Impact CUM-7. Air Quality
The Monterey Bay Unified APCD's Air Quality Management Plan (AQMP) establishes the projections of air quality that would result from development within this air basin. The North Central Coast Air Basin is in attainment for all criteria pollutants except ozone (state standard). The significance thresholds set out in the Monterey Bay Unified APCD's CEQA guide are based on the AQMP

and what would be the limits of allowable emissions that would stay within state and federal attainment requirements. The thresholds are essentially indicators of a project's individual and cumulative impacts.

The 2007 General Plan is generally consistent with the objectives of the North Central Coast Air Basin 2008 AQMP. However, vehicle traffic associated with growth under the 2007 General Plan and winery development under the General Plan's AWCP would exceed thresholds for ozone precursors. Policy C-1.2 of the 2007 General Plan requires adoption of a comprehensive Capital Improvement and Facilities Plan that will identify road improvements needed to reduce congestion and supports use of County traffic impact fee to fund related transportation projects. This ultimately would reduce idling and have a corresponding reduction in mobile-source air quality emissions. However, this will not avoid contributions of ozone precursors along roads that will suffer increased congestion as a result of the 2007 General Plan and city growth, nor would it reduce vehicle miles travelled. Further mitigation is infeasible, as discussed in Chapter 4.6, Transportation.

The 50 wineries proposed under the AWCP component of the 2007 General Plan would together emit VOCs in excess of the individual daily limit of 137 pounds established by the AQMP. As discussed in Chapter 4.7, Air Quality, there is no feasible mitigation for winery VOCs.

Therefore, implementation to the 2030 horizon and buildout of the 2007 General Plan in 2092 would make a considerable contribution to the cumulative impact on air quality.

There is also the reasonable possibility that, at the project level, there may be future individual developments whose construction emissions will exceed the APCD's standards. Such cases are rare in that large projects are practically always subject to discretionary permits that require CEQA review. As part of the CEQA process, future mitigation measures would be developed in cooperation with the Monterey Bay Unified APCD to bring construction emissions below the APCD's standards. This is unlikely to contribute to the cumulative effect on air quality.

Further, odiferous future projects such as composting yards or confined animal facilities that are not proposed as part of the 2007 General Plan, but that would be allowable under its provisions, could be installed. If these are clustered in one or more areas of the county, they will have cumulative effects on local air quality. That these uses might occur under the General Plan establish the possibility of additional considerable contributions at buildout of the 2007 General Plan.

6.4.3.6 Noise

Impact CUM-8. Noise
The EIR does not identify any significant direct noise impacts that would result from implementation of the 2007 General Plan at either the 2030 planning horizon or 2092 buildout. A cumulative noise impact exists when the applicable

noise standard is exceeded by 1 dbA or more. Although a 1 dbA change is unnoticeable, it contributes measurably to a significant effect.

Overall traffic volumes across the county are forecast to be about 45% greater than volumes under 2030 conditions. This generally corresponds to a 1 to 2 dB increase in traffic noise. Table 4.8-3 (Traffic Noise Modeling Results) in Chapter 4.8, Noise, illustrates that there will be cumulative significant noise impacts along a number of road segments. The column entitled "2030 Cumulative with Project minus No Project" and "Buildout minus 2030 Cumulative with Project"reflect those places where the county noise standard is forecast to be exceeded by 1 dbA or more. Keep in mind that because traffic is not limited to residents of the unincorporated county, not all of the cumulative impacts along these roads are attributable to the 2007 General Plan. These results are summarized in Table 6-1 below.

Table 6-1. Cumulative Noise Impacts

Segment	Existing Ldn	2030 Cumulative (with Project) Ldn	2030 Cumulative with Project minus No Project	Buildout minus 2030 Cumulative with Project
Espinosa Rd to E Boronda Rd	74	76	1	0
Chualar Rd to Old Stage Rd	72	75	0	2
SR-183 to SR-156	69	71	2	0
Del Monte Blvd to Imjin Pkwy	75	75	0	2
17 Mile Dr to Skyline Forest Dr	67	67	0	1
Canyon del Rey Blvd to Bit Rd	63	64	0	1
Spreckels Blvd to E Blanco Rd	67	68	-1	3
County Road G-15 to Stonewall Canyon Rd	53	54	0	3
Castroville Blvd to US-101	70	70	0	1
Cooper Rd to S Davis Rd	67	70	0	1
US-101 to Cattlemen Rd	45	48	-1	2
Carlton Dr to SR-68	61	62	0	1
Salinas Rd to San Miguel Canyon Rd	54	58	0	1
Strawberry Rd to Castroville Blvd	63	67	2	0
US-101 to San Lucas Rd	52	55	0	2
Carmel Rancho Blvd to Rio Rd	64	65	0	1
Robinson Canyon Rd to Miramonte Rd	61	62	0	2
Las Palmas Rd to Las Palmas Pkwy	60	61	1	3
Drake Ave to Lighthouse Ave	62	65	0	2
Pacific Ave to Forest Ave	56	57	0	2
Forest Ave to David Ave	56	54	0	1
Washington St to Camino Aguajito	66	67	0	2
Abrego St to Camino Aguajito	64	65	0	1
Soledad Dr to Via Zaragoza	64	65	1	2
Playa Ave to Fremont Blvd	61	62	-1	3
N Del Monte Blvd to SR-1	59	59	-1	3
Reindollar Ave to Reservation Rd	67	68	0	2
Casa Verde Wy to SR-218	65	66	0	3
US-101 to Abbott St	65	65	0	2
San Juan Grade Rd to W Laurel Dr	65	66	0	2

Segment	Existing Ldn	2030 Cumulative (with Project) Ldn	2030 Cumulative with Project minus No Project	Buildout minus 2030 Cumulative with Project
US-101 to N Main St	60	63	0	2
Romie Ln to E Blanco Rd	62	62	0	2
Abbott St to US-101	65	65	-1	2
Davis Rd to N Main St	62	62	0	2
W Laurel Dr to SR-183	62	62	0	1
W Alisal St to SR-68	57	57	0	3
SH 101 to Salinas City Line	67	68	0	2
SR-183 to Commercial Pkwy E	60	61	0	0
Reservation Rd to Cooper Rd	68	69	0	1
Carmel Rancho Ln to Rio Rd	53	53	-1	2
Serra Ave to SR-1	58	58	0	3
Blanco Rd to Reservation Rd	65	68	-1	0
Spreckels Blvd to Abbott St	61	63	0	2
Carmel City Line to SR-1	57	57	0	2
San Juan Rd to Santa Cruz County Line	65	67	0	1
Carmel City Line to SR-1	57	58	0	2
SR-1 to Fruitland Ave	60	63	1	1
Salinas City Line to Russell Rd	57	62	0	3
SR-68 to Harkins Rd	57	60	0	1

As discussed in Chapter 4.8, Noise, there are a number of measures that can be taken to attenuate noise impacts to meet county standards. These measures would be equally useful in attenuating cumulative impacts. Noise attenuation is very specific to the circumstances of the area where noise levels are being exceeded, so identifying specific measures to avoid cumulative impacts is neither practical nor effective. The 2007 General Plan includes a number of policies that will act to reduce these increases when applied to individual projects and avoid contribution to the impact. They include, but are not limited to, the following:

- Policy S-7.1: New noise-sensitive land uses may only be allowed in areas where existing and projected noise levels (*Figures 22 A-H and 23 A-E*) are "acceptable" according to *Table S-2* ("Land Use Compatibility for Community Noise"). A Community Noise Ordinance shall be established that addresses, but is not limited to the following: (1) capacity-related roadway improvement projects; (2) construction-related noise impacts on adjacent land uses; (3) new residential land uses exposed to aircraft

operations at any airport or air base; (4) site planning and project design techniques to achieve acceptable noise levels such as: building orientation, setbacks, earthen berms, and building construction practices; (5) design elements necessary to mitigate significant adverse noise impacts on surrounding land uses; and (6) impulse noise. The use of masonry sound walls for noise control in rural areas shall be discouraged.

- S-7.2: Proposed development shall incorporate design elements necessary to minimize noise impacts on surrounding land uses and to reduce noise in indoor spaces to an acceptable level.
- S-7.4: New noise generators may be allowed in areas where projected noise levels (*Figures 22 and 23*) are "conditionally acceptable" only after a detailed analysis of the noise reduction requirements is made and needed noise mitigation features are included in project design.
- S-7.5: New noise generators should generally be discouraged in areas identified as "normally unacceptable." Where such new noise generators are permitted, mitigation to reduce both the indoor and outdoor noise levels will be required.
- S-7.6: Acoustical analysis shall be part of the environmental review process for projects when: (a) Noise sensitive receptors are proposed in areas exposed to existing or projected noise levels that are "normally unacceptable" or higher according to *Table S-2* ("Land Use Compatibility for Community Noise") or (b) Proposed noise generators are likely to produce noise levels exceeding the levels shown in the adopted Community Noise Ordinance when received at existing or planned noise-sensitive receptors.
- S-7.7: All discretionary projects which propose to use heavy construction equipment that has the potential to create vibrations that could cause structural damage to adjacent structures within 100 feet would be required to submit a pre-construction vibration study prior to the approval of a building permit. Specified measures and monitoring identified to reduce impacts would be incorporated into construction contracts. Pile driving or blasting are illustrative of the type of equipment that could be subject to this policy.

With implementation of these policies at the project level, the 2007 General Plan will not make a cumulatively considerable contribution to cumulative noise impacts.

6.4.3.7 Biological Resources

Impact CUM-9. Biological Resources
Development of natural lands, whether by urbanization, construction of single-family residences in sensitive habitats, or conversion of woodlands or grazing land to intensive agricultural use results in the loss of natural habitats and associated biological resources. Seawater intrusion may also affect special status species through change in habitat. Implementation of the 2007 General Plan will be one of the factors affecting biological resources. In addition, development of

the cities will impact these resources directly through loss of habitat, and indirectly through increased water demand and its relationship to seawater intrusion.

The state and federal Endangered Species Acts (ESAs), as well as related listings of special status species by the Department of Fish and Game and its federal counterparts, provide a projection of those species that are adversely affected by loss of habitat and other impacts resulting from development throughout their local, state or federal range. These species are identified in Chapter 4.9, Biological Resources. Resources subject to cumulative impact are: special status species; sensitive natural communities, riparian habitat and wetlands; wildlife movement corridors; and potential loss or disturbance of nesting migratory birds and raptors. The 2007 General Plan provides a projection of the cumulative impact of future development on these species, habitats, and resources.

There are a number of current laws and regulations that reduce the impacts of development on biological resources. These include the state and federal ESAs, additional regulations such as streambed alteration agreements (DFG) and wetland permitting (Corps of Engineers, Central Coast RWQCB), the county tree protection ordinance, and CEQA as it applies to individual discretionary projects. The 2007 General Plan proposes a number of policies that would reduce the impact of its implementation. These include the following:

- Policy PS-3.6 provides that the County and all applicable water management agencies will not allow the drilling or operation of any new wells in known areas of saltwater intrusion as identified by Monterey County Water Resource Agency until such time as a program has been approved and funded which will minimize or avoid expansion of salt water intrusion into useable groundwater supplies in that area.
- Policy OS-4.3 requires the protection of estuaries, salt and fresh water marshes, tide pools, wetlands, sloughs, river and stream mouth areas in accordance with state and federal laws. This would avoid impacts to special status species dependent on those habitats.
- Policy OS-5.1 promotes the conservation of critical habitat. This would reduce impacts to special status species (as otherwise defined in Section 15380 of the CEQA Guidelines) to the extent that they are covered under the Federal Endangered Species Act and critical habitat has been identified.
- Policies OS-5.3 and 5.4 encourage careful design of new development and the avoidance of State and federally listed plant and animal species and designated critical habitat for federally listed species. This would similarly reduce impacts to state and federally listed species, but not those special status species (as otherwise defined in Section 15380 of the CEQA Guidelines) that are not included on the state or federal endangered species lists.
- Policy OS-5.16 requires biological surveys and mitigation as part of project consideration. These would implement the above policies.

- Policy OS-5.17 requires the county to mitigate los of critical habitat in consultation with state and federal agencies. This would reduce impacts to special status species (as otherwise defined in Section 15380 of the CEQA Guidelines) to the extent that they are covered under the state and federal Endangered Species Acts and critical habitat has been identified.

As discussed in Chapter 4.9, Biological Resources these policies would not avoid significant effects and, by implication, cumulatively considerable contributions.

In addition, this EIR recommends the adoption of a number of mitigation measures to address the impacts of the 2007 General Plan. These include:

- BIO-1.1: Baseline Inventory of Landcover, CEQA-Defined Special Status Species Habitat, Sensitive Natural Communities, Riparian Habitat, and Wetlands in Monterey County. This would identify areas of concern so that they could be avoided in project design. That would reduce the potential for significant effects.
- BIO-1.2: Salinas Valley Conservation Plan to preserve habitat for the San Joaquin kit fox in the Salinas Valley. This would provide long-term protection for the species while authorizing development in particular areas. It would avoid cumulative contributions to impacts on this species before the 2030 planning horizon.
- BIO-1.3: Project Level Biological Survey and Avoidance, Minimization, and Compensation for Impacts to CEQA-defined Special-Status Species and Sensitive Natural communities. This would expand considerations of species beyond those formally listed under the state and federal Endangered Species Acts to approximate the list in Section 15380 of the CEQA Guidelines. This would minimize impacts, including cumulative contributions, before the 2030 planning horizon.
- BIO-1.4: By 2030, prepare an Update to the General Plan to identify expansion of existing focused growth areas and/or to identify new focused growth areas to reduce loss of natural habitat in Monterey County. This would provide similar protections to those of mitigation measure BIO-1.4.
- BIO-1.5: By 2030, prepare a Comprehensive County Natural Communities Conservation Plan (NCCP). This would provide similar protections to those of mitigation measure BIO-1.2, but for multiple species. Depending on the species included in the NCCP, this has the potential to avoid cumulative contributions for all special status species (as otherwise defined in Section 15380 of the CEQA Guidelines) in the county.
- BIO-2.1: Stream Setback Ordinance. This will protect riparian habitats and the species that depend on them.
- BIO-2.2 – Oak Woodlands Mitigation Program. This will protect this habitat and the species that depend upon it.
- BIO-2.3 – Add Considerations Regarding Riparian Habitat and Stream Flows to Criteria for Long-Term Water Supply and Well Assessment. This would

expand the types of permits requiring consideration of habitat and stream flows. This would benefit riparian-dependent and fish species.

- BIO-3.1: Project-Level Wildlife Movement Considerations. This would expand protections to species that are not listed, such as deer, but that would otherwise be affected by development by loss of movement corridors.
- BIO-3.2: Remove Vegetation During the Nonbreeding Season and Avoid Disturbance of Nesting Migratory Birds, Including Raptors, as Appropriate (generally September 16 to January 31). This would expand protections for non-listed, special status birds in keeping with the definition in Section 15380 of the CEQA Guidelines. That would avoid a cumulative contribution.

Together, these would reduce the 2007 General Plan's contribution to cumulative impacts, but in some cases these impacts would still remain considerable. As development continues toward buildout, particularly development of existing lots of record, low-intensity development will cover larger expanses of the county's jurisdiction (federal lands such as Fort Hunter Liggett and Los Padres National Forest and state parks, which provide substantial areas of habitat within the county would not be affected). Similarly, expansion of the cities, which is outside the control of Monterey County, will impact habitats adjoining urban areas. Non-discretionary activities, such as the conversion of grassland to intensive agriculture, will also continue to contribute to the larger impact on these resources. Because the extent and species coverage of the future NCCP is unknown, there is a potential for cumulative impacts on special status species not covered by the NCCP. As a result, there would be a considerable contribution to cumulatively significant biological impacts.

6.4.3.8 Public Services and Utilities

Impact Cum-10. Solid Waste
As discussed in Section 4.11, Public Services and Utilities, future growth anticipated with build out of the 2007 General Plan would exceed landfill capacity, as tracked by the California Integrated Waste Management Board, by buildout in 2092. Landfills serve both city and county dwellers and businesses.

The Integrated Waste Management Act will continue to require reduction, recycling, and reuse to reduce the amount of waste sent to landfills. Future efforts to reduce greenhouse gas emissions are likely to include regulations requiring the further reduction and recycling of solid waste, including building materials. This should reduce the wastestream requiring disposal in landfills. Nonetheless, existing landfill capacity will be exceeded by 2092. To be conservative, the long-term contribution of 2007 General Plan buildout is expected to be considerable.

Assuming that landfills will be constructed between 2008 and buildout, development of a new or expanded landfill typically results in numerous environmental impacts. Construction impacts typically include air quality emissions from dust and machinery, temporary increases in traffic, and effect on

surrounding biological resources. Landfills are typically located away from sensitive receptors, so noise impacts would be minimal during construction and operations. Operational impacts can include air quality impacts resulting from odors and the release of landfill gases, biological impacts on the area of the expansion or location, traffic impacts from trucks going to and from the landfill, water quality impacts from storm runoff or leaching, and aesthetics impacts resulting from removal of existing vegetation and landfill cover.

Existing air quality regulations and standard traffic control measures would reduce construction impacts. However, depending upon the intensity of construction, there is the potential for significant effects. Similarly, existing regulations of the Monterey Bay Unified APCD would regulate odors and the release of landfill gas such that air quality standards would not be exceeded. Similarly, the Central Coast RWQCB and the California Integrated Waste Management Board would regulate landfill operations so that no runoff escapes the site and landfill design and monitoring wells ensure that no leachate is released to either surface or groundwater. These sets of regulations would reasonably be expected to avoid a contribution to cumulative air and water quality impacts.

Biological impacts, although dependent upon the sensitivity of the area chosen for the expansion or new landfill would potentially be significant and would contribute to cumulative impacts on biological resources. Aesthetics impacts, again dependent upon the visibility of the landfill site, would potentially be significant and contributors to visual impacts.

6.4.3.9 Wildfire Hazard

Impact CUM-11. Wildfire Hazard
Portions of Monterey County, particularly west of the Salinas Valley, are highly susceptible to wildfire. The risk of wildfires is acute in areas of high fuel loading; somewhat less so in moderate fuel loaded areas. As described in Chapter 4.13, Hazards and Hazardous Materials, the 2007 General Plan and the Fort Ord Master Plan contain detailed requirements for and limitations on future development to avoid contributing to fire risk, limiting damage through provision of defensible space, and funding fire suppression services.

In the recent past, the Basin Fire and Indian Fire devastated areas around Big Sur and inland southern portions of the Salinas Valley. These are only the latest of many catastrophic wildfires originating in rugged terrain along the coast. The state parks and National Forest have suffered the brunt of the damage from these fires, primarily because populations are low and communities in the area are small. The 2007 General Plan would encourage development within several Rural Centers that would place additional residents in areas that have the potential for wildfires. In addition, development to 2092 buildout would include existing rural lots of record, some in areas of high or moderate fire hazard; placing new residents in the literal line of fire.

Chapter 4.13, Hazards and Hazardous Materials, describes the voluminous policies and requirements that will be applied to new development under the 2007 General Plan. In the interest of space, the reader is referred to that chapter. These policies, implemented well before 2030 and in place long before 2092, would greatly reduce the potential contribution of the 2007 General Plan to the risk of wildfires. However, the 2007 General Plan cannot eliminate the risk of catastrophic wildfires originating on public lands sweeping across Rural Communities and, more particularly, individual lots of record, despite the best efforts of fire fighters to slow or halt their approach. The 2007 General Plan would make a cumulatively considerable contribution to this risk.

6.4.3.10 Aesthetics, Light and Glare

Impact CUM-12. Aesthetics, Light, and Glare
Future growth in Monterey County and development in surrounding areas would result in the intensification of existing urban uses as well as conversion of open space into urban land uses and the introduction of new sources of light and glare. City growth also would have a cumulatively considerable contribution in this regard. Aesthetics impacts occur as a result of substantial changes in pleasant views. Light and glare are impacts where undeveloped or rural lands adjoin urbanized development or where new sources of light and glare are introduced into a dark environment. The county General Plan and city general plans essentially describe the factors that will change the existing landscape and result in aesthetics, light, and glare impacts. Individual projects under these county and city plans that result in the urbanization of open lands, development on ridgelines, and expansion of urban areas all contribute to the incremental loss of aesthetically pleasing views or the introduction of incompatible light and glare.

Development under the 2007 General Plan would be primarily centered on the existing cities, and the county's designated Community Areas, Rural Centers, and AHOs. For the most part, these would minimize aesthetics impacts caused by the conversion of open lands to urban development by building adjacent to existing development. Nonetheless, particularly in cities in the Salinas Valley where the surrounding land use is agricultural fields, there will be an incremental change in the visual character of the area. Also, buildout of the county's individual lots of record will result in a more expansive distribution of low-intensity development than exists today.

The 2007 General Plan has a number of policies to reduce its contribution to visual impacts. They include the following:

- Policy LU-1.10 will discourage new off-site advertising to enhance public safety and to avoid visual clutter and scenic intrusion. Off site advertising may only be considered in heavy commercial and industrial zoning districts and not abutting residential districts.
- Policy LU-1.13 provides that all exterior lighting is to be unobtrusive and constructed or located so that only the intended area is illuminated, long

range visibility is reduced of the lighting source, and off-site glare is fully controlled (based on design criteria to be developed by the county).

- Policy OS-1.3 restricts new development on ridgelines.
- Policy OS-1.7 will lead to a transfer of development rights program to direct development away from areas with unique visual or natural features.
- Policies OS-1.9 and -1.11 require the establishment of an inventory of viewsheds and encourage project design that protects those views.

Nonetheless, the slow transition of areas away from agriculture and open lands, and the expansion of the urban edge, where light and glare intrude on nearby less-developed lands; will result in a considerable contribution to the cumulative loss of landscape aesthetic quality. Because of California Planning Law requires counties and cities to provide for projected housing needs and the associated urban growth, this contribution cannot be fully avoided.

6.4.3.11 Population and Housing

Impact CUM-13. Population and Housing
The cumulative contribution of population and housing growth in Monterey County will be examined to the year 2030 planning horizon since "buildout" numbers are not available for Santa Cruz and San Benito Counties, the other counties in the AMBAG region. However, the type of contribution at buildout is not expected to differ greatly from the type of contribution in 2030 because these contributions are common to long-term growth, whether the term is 20 years or 80 years.

The AMBAG 2004 regional forecast estimates that by 2030 the total population of Monterey County (including the cities) will total 602,731 persons residing in 187,001 dwelling units. Of this, the unincorporated county would accommodate 135,375 persons (about 22% of the total) and the cities would accommodate 467,356 persons (about 78% of the total). Region-wide (Santa Cruz, Monterey, and San Benito Counties), the population is expected to grow to 991,370 persons by 2030. This would represent a 39% increase between 2000 and 2030, for an annual growth rate of 1.3 %, By comparison, the California Department of Finance currently projects that the State's annual growth rate between 2000 and 2030 will be about 1.5% (State of California, Department of Finance 2007). Growth in Monterey County and its neighboring counties is cumulatively significant. Although the 30-year annual rate of growth is projected to be less than the statewide average, the adverse changes inherent in growth here (e.g., aesthetics, water supply, traffic congestion) and the controversy over Monterey County growth indicate that it is a significant cumulative impact.

As discussed previously in Chapter 4.15, Population and Housing, the 2007 General Plan is growth-inducing by nature of its role in accommodating new housing opportunities under California Planning Law. Because California Planning Law mandates that each city and county plan for its fair share of the regional housing need and that need is based on projections of population growth, there is no feasible mitigation for the resultant increase in population and

dwelling units. Therefore, the 2007 General Plan would make a considerable contribution to this cumulative effect.

There is no cumulative impact with regard to residential displacement or housing replacement. As discussed in Chapter 4.15, Population and Housing, the 2007 General Plan would not result in substantial displacement, nor would it require substantial replacement housing as a result of displacement.

6.4.3.12 Climate Change

Impact CUM-14. Climate Change
Climate change is a global phenomenon driven by myriad individual actions, large and small, in every country. As explained in Chapter 4.16, Climate Change, no individual project within Monterey County is large enough in itself to trigger global climate change. However, most individual projects contribute to the greenhouse gas emissions that fuel climate change. Climate change is a cumulative impact. Accordingly, the climate change analysis in Chapter 4.16 is an analysis of the project's contribution to this cumulative impact. The reader is directed to that chapter and no additional discussion is needed here.

Table 6-2. Significant and Unavoidable Impact Table

Issues/Impacts	Mitigation Measures	Level of Significant after Mitigation
4.2 Agriculture Resources		
Impact AG-1: Implementation of the 2007 General Plan would result in the conversion of Important Farmland to non-agricultural use. **[Also cumulative impact]**	No feasible mitigation beyond the 2007 General Plan goals and policies is available.	2030 - Significant Unavoidable Impact. Buildout – Significant Unavoidable Impact.
Implementation of the 2007 General Plan would involve other changes in the existing environment which, due to their location or nature, would result in conversion of farmland to non-agricultural use. **[Also cumulative impact]**	No feasible mitigation beyond the 2007 General Plan goals and policies is available.	2030 - Significant Unavoidable Impact. Buildout – Significant Unavoidable Impact.
4.3 Water Resources		
Impact WR-4: Land uses and development consistent with the 2007 General Plan would exceed the capacity of existing water supplies and necessitate the acquisition of new supplies to meet expected demands. **[Also cumulative impact]**	**2030 Mitigation** **WR-1:** Support a Regional Solution for the Monterey Peninsula In Addition to the Coastal Water Project **2092 Mitigation** **WR-1:** Support a Regional Solution for the Monterey Peninsula In Addition to the Coastal Water Project **WR-2:** Initiate Planning for Additional Supplies to the Salinas Valley **BIO-2.3:** Add Considerations Regarding Riparian Habitat and Stream Flows to Criteria for Long-Term Water Supply and Well Assessment. (see Section 4.9 Biological Resources, below).	2030 - Significant Unavoidable Impact (In some portions of the County). Buildout – Significant Unavoidable Impact (In some portions of the County).
Impact WR-5: Land uses and development consistent with the 2007 General Plan would increase the demand for water storage, treatment, and conveyance facilities that could have significant secondary impacts on the environment.	The General Plan and Area Plan goals and policies will apply. Future projects will be subject to CEQA and have specific mitigation measures. As the experience with existing large-scale water supply projects shows, impacts cannot always be mitigated to a less than significant level.	2030 –Significant Unavoidable Impact. Buildout – Significant Unavoidable Impact.

Issues/Impacts	Mitigation Measures	Level of Significant after Mitigation
Impact WR-6: Land uses and development consistent with the 2007 General Plan would increase demand on groundwater supplies in some areas; the associated increased well pumping would result in the continued decline of groundwater levels and accelerated overdraft in portions of the county. **[Also cumulative impact]**	**2030 Mitigation** **WR-1:** Support a Regional Solution for the Monterey Peninsula In Addition to the Coastal Water Project **2092 Mitigation** **WR-1:** Support a Regional Solution for the Monterey Peninsula In Addition to the Coastal Water Project **WR-2:** Initiate Planning for Additional Supplies to the Salinas Valley	2030 - Significant Unavoidable Impact (In some portions of the County). Buildout – Significant Unavoidable Impact.
Impact WR-7: Land uses and development consistent with the 2007 General Plan would increase demand on groundwater supplies in areas currently experiencing or susceptible to saltwater intrusion. Increased groundwater pumping in certain coastal areas would result in increased saltwater intrusion in some areas of the county. **[Also cumulative impact]**	**2030 Mitigation** **WR-1:** Support a Regional Solution for the Monterey Peninsula In Addition to the Coastal Water Project **2092 Mitigation** **WR-1:** Support a Regional Solution for the Monterey Peninsula In Addition to the Coastal Water Project **WR-2:** Initiate Planning for Additional Supplies to the Salinas Valley	2030 - Significant Unavoidable Impact (In some portions of the County). Buildout – Significant Unavoidable Impact (In all of the County).
Impact WR-12: Land uses and development consistent with the 2007 General Plan would allow continued development in 100-year flood hazard areas.	**2092** Extent and locations of future impact are unknown; no mitigation is feasible.	Buildout – Significant Unavoidable Impact.
Impact WR-13: The placement of land uses and structures within Special Flood Hazard Areas would impede or redirect flood flows, resulting in secondary downstream flood damage, including bank failure.	**2092** Extent and locations of future impact are unknown; no mitigation is feasible.	Buildout – Significant Unavoidable Impact.
Impact WR-14: Potential failure of levees or dams would expose people and structures to inundation and result in the loss of property, increased risk, injury, or death.	**2092** Extent and locations of future impact are unknown; no mitigation is feasible.	Buildout – Significant Unavoidable Impact.
4.6 Transportation		
Impact TRAN-1B: Development of the land uses allowed under the 2007 General Plan would create traffic increases on County and Regional roadways which would cause the LOS to exceed the LOS		Less Than Significant Impact.

Issues/Impacts	Mitigation Measures	Level of Significant after Mitigation
standard, or contribute traffic to County and Regional roads that exceed the LOS standard without development.		
	TRAN-1B-a: Circulation Element Policy C-1.2 shall be amended to state: C-1.2 The standard for the acceptable level of service (LOS) is to be achieved by 2026. That LOS standard is to be achieved through the development and adoption of Capital Improvement and Financing Plans (CIFP) and implementing ordinances that: a. Define benefit areas to be included in the CIFP. Benefit areas could include Planning Areas, Community Areas, or the County as a whole. b. Identify and prioritize the improvements to be completed in the benefit areas over the life of the General Plan. c. Estimate the cost of the improvements over the life of the General Plan. d. Identify the funding sources and mechanisms for the CIFP to include, but not limited to, a Traffic Impact Fee (TIF). e. Provide an anticipated schedule for completion of the improvements. f. Coordinate with TAMC regional fee program. g. A TIF shall be implemented to ensure a funding mechanism for transportation improvements to county facilities. The TIF shall be imposed on development in cities for the improvement of major County roads in accordance with the Monterey County 2007 General Plan. The CIFP shall be reviewed every five (5) years in order to evaluate the effectiveness of meeting the LOS standard for County roads. Road segments or intersections identified to be approaching or below LOS D shall be a high priority for	Significant Unavoidable Impact.

Issues/Impacts	Mitigation Measures	Level of Significant after Mitigation
	funding. **TRAN-1B-b:** Circulation Element Policy C-1.8 shall be amended to state: C-1.8 "Development proposed in cities and surrounding jurisdictions shall be carefully reviewed to assess the proposed development's impact on the County's circulation system. The County, in consultation with TAMC and Monterey County cities, shall develop a Traffic Impact Fee that addresses impacts of development in cities and unincorporated areas on major County roads."	
Impact TRAN-1B: Development of the land uses allowed under the 2007 General Plan would create traffic increases on County and Regional roadways which would cause the LOS to exceed the LOS standard, or contribute traffic to County and Regional roads that exceed the LOS standard without development.	No mitigation is feasible.	2030 -- Significant Unavoidable Impact.
Impact TRAN 1-E: Growth in land uses allowed under the 2007 General Plan would result in inadequate emergency access.	**TRAN-1E:** Revise Safety Element S-4.27 on increasing roadway connectivity to enhance emergency access. S-4.27 The County shall continue to review the procedure for proposed development, including minor and major subdivisions, and provide for an optional pre-submittal meeting between the project applicant, planning staff, and fire officials. In addition, the County shall review Community Area and Rural Center Plans, and new development proposals for roadway connectivity that provides multiple routes for emergency response vehicles. At the time of their update, Community Area and Rural Center Plans shall identify primary and secondary response routes. Secondary response routes shall be required to accommodate through traffic and may be existing roads, or may be new roads required as part of development proposals. The emergency route and connectivity plans shall be coordinated with the appropriate Fire District.	2030 – Significant Unavoidable Impact.
Impact TRAN-2B: Development of the land uses allowed under the 2007 General Plan cumulatively with development in incorporated	No mitigation is feasible for County and Regional roadways	2030 – Cumulatively

Issues/Impacts	Mitigation Measures	Level of Significant after Mitigation
cities and in adjacent counties would create traffic increases on County and Regional roadways which would cause the LOS to exceed the LOS D standard, or contribute traffic to County and Regional roads that exceed the LOS standard without development.	outside of the CVMP. **TRAN-2B:** Revise policies in the Carmel Valley Master Plan as follows: Policy CV-2.10. The following are policies regarding improvements to specific portions of Carmel Valley Road: a) Via Petra to Robinson Canyon Road. Every effort should be made to preserve its rural character by maintaining it as a 2-lane road with paved shoulders, passing lanes and left turn channelizations at intersections where warranted. b) Robinson Canyon Road to Laureles Grade. Every effort should be made to preserve its rural character by maintaining it as a 2-lane road with paved shoulders, passing lanes and left turn channelizations at intersections where warranted. c) Carmel Valley Road/Laureles Grade. A grade separation should be constructed at this location instead of a traffic signal. The grade separation needs to be constructed in a manner that minimizes impacts to the rural character of the road. An interim improvement of an all-way stop or stop signal is allowable during the period necessary to secure funding for the grade separation. d) Laureles Grade to Ford Road. Shoulder improvements and widening should be undertaken here and extended to Pilot Road, and include left turn channelization at intersections as warranted. e) East of Esquiline Road. Shoulder improvements should be undertaken at the sharper curves. Curves should be examined for spot realignment needs. f) Laureles Grade improvements. Improvements to Laureles Grade should consist of the construction of shoulder widening, spot realignments, passing lanes and/or paved turn-outs. Heavy vehicles should be	Considerable Impact (most of county).

Issues/Impacts	Mitigation Measures	Level of Significant after Mitigation
	discouraged from using this route. Policy CV-2.12: To accommodate existing and future traffic, the following road improvements are recommended: a) Add a northbound climbing lane between Rio Road and Carmel Valley Road; b) Laureles Grade - undertake shoulder improvements, widening and spot realignment; c) Carmel Valley Road, Robinson Canyon Road to Ford Road - add left turn channelization at all intersections. Shoulder improvements should be undertaken. Policy CV-2.18 : To implement traffic standards to provide adequate streets and highways in Carmel Valley, the County shall conduct and implement the following: a) Twice yearly monitoring by Public Works (in June and October) of peak hour traffic at the following 12 locations: ▪ Carmel Valley Road - ▪ East of Holman Road ▪ Holman Road to Esquiline Road ▪ Esquiline Road to Ford Road ▪ Ford Road to Laureles Grade ▪ Laureles Grade to Robinson Canyon Road ▪ Robinson Canyon Road to Schulte Road ▪ Schulte Road to Rancho San Carlos Road ▪ Rancho San Carlos Road to Rio Road ▪ Rio Road to Carmel Rancho Boulevard ▪ Carmel Rancho Boulevard to SR1 Other Locations - ▪ Carmel Rancho Boulevard between Carmel Valley Road and Rio Road	

Issues/Impacts	Mitigation Measures	Level of Significant after Mitigation

- Rio Road between its eastern terminus and SR1

b) A yearly evaluation report (December) shall be prepared jointly by the Public Works and Planning Departments and shall evaluate the peak-hour level of service (LOS) for these 12 locations to indicate segments approaching a traffic volume which would lower levels of service below the LOS standards established below under CV 2-18(d).

c) Public hearings shall be held in January immediately following a December report in (b) above in which only 100 or less peak hour trips remain before an unacceptable level of service (as defined by CV 2-18(d)) would be reached for any of the 12 segments described above.

d) The traffic LOS standards (measured for peak hour conditions) for the CVMP Area shall be as follows:

- Signalized Intersections – LOS of "C" is the acceptable condition.
- Unsignalized Intersections – LOS of "F" or meeting of any traffic signal warrant are defined as unacceptable conditions
- Carmel Valley Road Segment Operations:
  - LOS of "C" for Segments 1, 2, 8, 9, and 10 is an acceptable condition;
  - LOS of "D" for Segments 3, 4, 5, 6, and 7 is an acceptable condition.

During review of development applications which require a discretionary permit, if traffic analysis of the proposed project indicates that the project would result in traffic conditions that would exceed the standards described above in CV 2-18(d) after the analysis takes into consideration the Carmel Valley Traffic Improvement Program to be funded by the Carmel Valley Road Traffic Mitigation Fee, then approval of the

Issues/Impacts	Mitigation Measures	Level of Significant after Mitigation
	project shall be conditioned on the prior (e.g. prior to project-generated traffic) construction of additional roadway improvements OR an Environmental Impact Report shall be prepared for the project. Such additional roadway improvements must be sufficient, when combined with the projects programmed in the Carmel Valley Traffic Improvement Program, to allow County to find that the affected roadway segments or intersections would meet the acceptable standard upon completion of the programmed plus additional improvements. This policy does not apply to the first single-family residence on a legal lot of record. Policy CV-2.19: Carmel Valley Traffic Improvement Program (CVTIP) a) The CVTIP shall include the following projects (unless a subsequent traffic analysis identifies that different projects are necessary to maintain the LOS standards in Policy CV-2.18(d): ▪ Left-turn channelization on Carmel Valley Road west of Ford Road; ▪ Shoulder widening on Carmel Valley Road between Laureles Grade and Ford Road; ▪ Paved turnouts, new signage, shoulder improvements, and spot realignments on Laureles Grade; ▪ Grade separation at Laureles Grade and Carmel Valley Road (an interim improvement of an all-way stop or stop signal is allowable during the period necessary to secure funding for the grade separation); ▪ Sight Distance Improvement at Dorris Road; ▪ Passing lanes in front of the proposed September Ranch development; ▪ Passing lanes opposite Garland Park;	

Issues/Impacts	Mitigation Measures	Level of Significant after Mitigation
	▪ Climbing Lane on Laureles Grade; ▪ Upgrade all new road improvements within Carmel Valley Road Corridor to Class 2 bike lanes; ▪ Passing lane (1/4 mile) between Schulte Road and Robinson Canyon Road; and ▪ Passing lane (1/4 mile) between Rancho San Carlos Rd and Schulte Road. b) The County shall adopt an updated fee program to fund the CVTIP. c) All projects within the CVMP area and within the "Expanded Area" that contribute to traffic within the CVMP area shall contribute fair-share traffic impact fees to fund necessary improvements identified in the CVTIP, as updated at the time of building permit issuance. d) Where conditions are projected to approach unacceptable conditions (as defined by the monitoring and standards described above under CV 2-18(d)), the CVTIP shall be updated to plan for and fund adequate improvements to maintain acceptable conditions.	
Impact TRAN-2E: Growth in land uses allowed under the 2007 General Plan, cumulatively with development in incorporated cities and adjacent counties, would result in inadequate emergency access.	No additional mitigation beyond 2007 General Plan policies and Mitigation Measure TRAN-1E (described above) is available.	2030 – Cumulatively Considerable Impact
Impact TRAN-3B: Buildout of the 2007 General Plan would increase traffic on County and Regional roadways which would cause the LOS to exceed the LOS D standard, or contribute traffic to County and Regional roads that exceed the LOS standard without development.	No additional mitigation beyond 2007 General Plan policies and Mitigation Measure TRAN-2B (described above) is feasible.	Buildout – Significant Unavoidable Impact.
Impact TRAN-3E: Buildout of the 2007 General Plan would result in inadequate emergency access.	No additional mitigation beyond 2007 General Plan policies and Mitigation Measure TRAN-1E (described above) is available.	Buildout – Significant Unavoidable Impact.

Issues/Impacts	Mitigation Measures	Level of Significant after Mitigation
Impact TRAN-4B: Buildout of the 2007 General Plan cumulatively with development in incorporated cities and in adjacent counties would create traffic increases on County and Regional roadways which would cause the LOS to exceed the LOS D standard, or contribute traffic to County and Regional roads that exceed the LOS standard without development.	No additional mitigation beyond 2007 General Plan policies and Mitigation Measure TRAN-2B (described above) is feasible.	Buildout – Significant Unavoidable Impact.
Impact TRAN-4E: Buildout of the 2007 General Plan, cumulatively with development in incorporated cities and adjacent counties, would result in inadequate emergency access.	No additional mitigation beyond 2007 General Plan policies and Mitigation Measure TRAN-1E (described above) is available.	Buildout – Significant Unavoidable Impact.
4.7 Air Quality		
Impact AQ-1: Buildout of the 2007 General Plan would conflict with applicable Air Quality Management Plans and Standards.		
Impact AQ-3: Net Change in Ozone Precursor (ROG and NOx) and Particulate Matter.	**2030 and 2092 Mitigation** **CC-2 and CC-3.** See these measures under Climate Change, below. **AQ-3:** Implement MBUAPCD Mitigation Measures for Commercial, Industrial, and Institutional Land Uses **AQ-4:** Implement MBUAPCD Mitigation Measures for Residential Land Uses **AQ-5:** Implement MBUAPCD Mitigation Measures for Alternative Fuels	2030 –Significant Unavoidable Impact. Buildout – Significant Unavoidable Impact.
4.8 Noise		
	N-1: A new policy shall be added to the Noise Hazards section of the Safety Element that states the following: S-7.x All proposed discretionary residential projects that are within roadway noise contours of 60 CNEL or greater shall include a finding of consistency with the provisions of the Noise Hazards section of the Safety Element and, where appropriate, a project-specific noise impact analysis conducted before final approval. If impacts are identified, a "reasonable and	Less Than Significant Impact.

Issues/Impacts	Mitigation Measures	Level of Significant after Mitigation
	feasible" mitigation analysis shall be conducted using published Caltrans/Federal Highway Administration guidelines. Any mitigation measures meeting these tests shall be concurrently funded and constructed as part of the roadway improvement.	
	N-2: A new policy shall be added to the Noise Hazards section of the Safety Element that states the following: S-7.x All discretionary projects which propose to use heavy construction equipment within 50 feet of a residence, or pile drivers or blasting within 100 feet of a residence (or similar sensitive use) shall be required to submit a pre-construction vibration study prior to project approval. Any specified mitigation and monitoring shall be incorporated into construction contracts.	Less Than Significant Impact.
	N-3A: A new policy shall be added to the Noise Hazards section of the Safety Element that states the following: S-7.x No construction activities 500 feet of a noise sensitive land use during the evening hours of Monday through Saturday, or anytime on Sunday or holidays shall be allowed prior to completion of a noise mitigation study. Noise protection measures, in the event of any identified impact, may include: ▪ Constructing temporary barriers, ▪ Using quieter equipment than normal, or, ▪ Temporarily relocating affected persons (hotel vouchers). **N-3B:** A new policy shall be added to the Noise Hazards section of the Safety Element that states the following: S-7.x Standard noise protection measures shall be incorporated into all construction contracts. These measures shall include: ▪ Construction shall occur only during times allowed	Less Than Significant Impact.

Issues/Impacts	Mitigation Measures	Level of Significant after Mitigation
	by ordinance/code unless such limits are waived for public convenience; ▪ All equipment shall have properly operating mufflers; and ▪ Lay-down yards and semi-stationary equipment such as pumps or generators shall be located as far from noise-sensitive land uses as practical.	
	No mitigation beyond the 2007 General Plan policies is required.	Less Than Significant Impact.
4.9 Biological Resources		
Impact BIO-1: Potential Adverse Impact on Special-Status Species. **[Also Cumulative Impact]**	*All Special Status Species – Program Level* **Mitigation Measure BIO-1.1:** Baseline Inventory of Landcover, Special Status Species Habitat, Sensitive Natural Communities, Riparian Habitat, and Wetlands in Monterey County **Mitigation Measure BIO-1.2:** Salinas Valley Conservation Plan to preserve habitat for the San Joaquin kit fox in the Salinas Valley *All Special Status Species – Project Level* **Mitigation Measure BIO-1.3:** Project Level Biological Survey and Avoidance, Minimization, and Compensation for Impacts to Non-Listed Special-Status Species and Sensitive Natural Communities. **Mitigation Measure BIO-1.4:** By 2030, prepare an Update to the General Plan to identify expansion of existing focused growth areas and/or to identify new focused growth areas to reduce loss of natural habitat in Monterey County. **Mitigation Measure BIO-1.5**: By 2030, prepare a Comprehensive County Natural Communities Conservation Plan.	2092 -- Significant Unavoidable Impact.
Impact BIO-2: Potential Adverse Effects on Sensitive Riparian Habitat, Other Sensitive Natural Communities and on Federal and State	**Mitigation Measure BIO-1.1, 1.2, 1.3, 1.4, and 1.5** as described above under Impacts to Special Status Species.	2092 - Significant

Issues/Impacts	Mitigation Measures	Level of Significant after Mitigation
Jurisdictional Waters and Wetlands **[Also Cumulative Impact]**	**Mitigation Measures BIO-2.1, 2.2 and 2.3** as described above.	Unavoidable Impact.
4.11 Public Services and Utilities		
Impact PSU-8: Development and land use activities contemplated in the 2007 General Plan may result in a need for new solid waste facilities or non-compliance with waste diversion requirements. Future solid waste facilities would have a significant effect on the environment.	**2092** The County will add the following policy to the 2007 General Plan: Policy PS-5.5 The County will review its Solid Waste Management Plan on a 5-year basis and institute policies and programs as necessary to exceed the wastestream reduction requirements of the California Integrated Waste Management Act. The County will adopt requirements for wineries to undertake individual or joint composting programs to reduce the volume of their wastestream. Specific mitigation measures to reduce the impacts of future solid waste facilities are infeasible because the characteristics of those future facilities are unknown.	Buildout - Significant Unavoidable Impact.
4.12 Parks and Recreation		
	No mitigation beyond the 2007 General Plan policies is necessary.	Less Than Significant Impact.
	No mitigation beyond the 2007 General Plan policies is necessary.	Less Than Significant Impact.
4.13 Hazards and Hazardous Materials		
	No mitigation beyond the 2007 General Plan policies is necessary.	Less Than Significant Impact.
	No mitigation beyond the 2007 General Plan policies is necessary.	Less Than Significant Impact.
	No mitigation beyond the 2007 General Plan policies is necessary.	Less Than Significant Impact.
.	No mitigation beyond the 2007 General Plan policies is	Less Than

Issues/Impacts	Mitigation Measures	Level of Significant after Mitigation
	necessary.	Significant Impact.
4.14 Aesthetics, Light, and Glare		
Impact AES-1: Implementation of the 2007 General Plan would result in a substantial adverse effects on scenic vistas. **[Significant Cumulative Impact]**	No mitigation beyond the 2007 General Plan policies is available.	Significant Unavoidable Impact.
Impact AES-2: Implementation of the 2007 General Plan could result in the degradation of scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. **[Significant Cumulative Impact]**	No mitigation beyond the 2007 General Plan policies is available.	Significant Unavoidable Impact.
Impact AES-3: Implementation of the 2007 General Plan would substantially degrade the existing visual character or quality of Monterey County. **[Also Cumulative Impact]**	No mitigation beyond the 2007 General Plan policies is available.	2030 - Significant Unavoidable Impact. Buildout - Significant Unavoidable Impact.
Impact AES-4: Implementation of the 2007 General Plan could create substantial new sources of light and glare that would adversely affect day or nighttime views in the area.	No mitigation beyond the 2007 General Plan policies is available.	2030 - Significant Unavoidable Impact. Buildout - Significant Unavoidable Impact.
4.15 Population and Housing		
Impact POP-1: Implementation of the 2007 General Plan would induce population growth in unincorporated Monterey County.	No feasible mitigation beyond the 2007 General Plan goals and policies is available.	2030 - Significant Unavoidable Impact. Buildout - Significant Unavoidable Impact.
4.16 Climate Change		
Impact CC-1: Development of the 2007 General Plan would contribute considerably to cumulative GHG emissions and global climate change as the County in 2020 would have GHG emissions greater than 72 percent of business as usual conditions. **(Cumulative Impact in 2092)**	**CC-11 (Same as BIO-1.9):** By 2030, prepare an Update to the General Plan to identify expansion of existing focused growth areas and/or to identify new focused growth areas to reduce loss of natural habitat in Monterey County and vehicle miles	Buildout - Cumulatively Considerable Impact.

Issues/Impacts	Mitigation Measures	Level of Significant after Mitigation
	traveled The County shall update the County General Plan by no later than January 1, 2030 and shall consider the potential to expand focused growth areas established by the 2007 General Plan and/or the designation of new focused growth areas. The purpose of such expanded/new focused growth areas would be to reduce the loss of natural habitat due to continued urban growth after 2030. The new/expanded growth areas shall be designed to accommodate at least 80% of the projected residential and commercial growth in the unincorporated County from 2030 to buildout. **CC-12**: Greenhouse Gas Reduction Plan Requirements Beyond 2030 In parallel with the development and adoption **of** the 2030 General Plan, Monterey County will develop and adopt a Greenhouse Gas Reduction Plan with a target to reduce 2050 GHG emissions by 80 percent relative to 1990 emissions. At a minimum, the Plan shall establish an inventory of current (2030) GHG emissions in the County of Monterey; forecast GHG emissions for 2050 for County operations and areas within the jurisdictional control of the County; identify methods to reduce GHG emissions; quantify the reductions in GHG emissions from the identified methods; identify requirements for monitoring and reporting of GHG emissions; establish a schedule of actions for implementation; and identify funding sources for implementation.	

Chapter 7

Persons and Organizations Consulted

7.1 Public Agencies

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Monterey County Vintners Association

Section 8
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Section 9

List of Acronyms and Abbreviations

9.1 List of Acronyms

AB	Agricultural Buffer
ADA	(Federal) Americans with Disabilities Act
ADT	Average Daily Traffic Volumes
AFY	Acre Feet per Year
AHO	Affordable Housing Overlay
ALUC	Airport Land Use Commission
AMBAG	Association of Monterey Bay Area Governments
APFS	Adequate Public Facilities and Services
ASBS	Areas of Special Biological Significance
ASR	Aquifer Storage and Recovery
AWCP	Agricultural Winery Corridor Plan
AWQA	Agriculture Water Quality Alliance
BLM	Bureau of Land Management
BACT	Best Available Control Technology
BCT	Base Closure Team
BMP	Basin Management Plan
BMP	Best Management Practices
CAA	(Federal) Clean Air Act
CAPP	Collaborative Aquifer Protection Program
CAWD	Carmel Area Wastewater District
CCC	California Coastal Commission
CC&Rs	Covenants, Conditions, and Restrictions
CCR	California Code of Regulations
CCRWQCB	Central Coast Regional Water Quality Control Board
CDFFP	California Department of Forestry and Fire Protection
CDFG	California Department of Fish and Game
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CGS	California Geologic Survey
CIFP	Capital Improvement and Financing Plans
CIP	Capital Improvement Program
CLUP	Comprehensive Land Use Plans
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRDRP	Carmel River Dam and Reservoir Project
CRMP	Coordinated Resource Management and Planning
CSA	Community Service Area

CSIP	Castroville Seawater Intrusion Project
CWA	(Federal) Clean Water Act
DES	Development Evaluation System
DHS	(State) Department of Health Services
DMA	(Federal) Disaster Mitigation Act
DOGGR	California Division of Oil, Gas and Geothermal Resources
DWR	(State) Department of Water Resources
DWSAP	Drinking Water Source Assessment and Protection
EFH	Essential Fish Habitat
EFZ	Earthquake Fault Zone
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
ESA	(Federal) Endangered Species Act
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulations
FAR	Floor Area Ratio
FEMA	Federal Emergency Management Agency
FMMP	Farmland Mapping and Monitoring Program
FIRM	Flood Insurance Rate Map
FORA	Fort Ord Reuse Authority
GIS	Geographical Information Systems
GPU	General Plan Update
GPU1	Monterey County General Plan draft, January 2002
GPU2	Monterey County General Plan draft, February 2003
GPU3	Monterey County General Plan Public Review Draft, January 2004
GPU4	Monterey County General Plan draft, 2006
GPU5	Monterey County General Plan 2007 General Plan
HCP	Habitat Conservation Plan
HMP	habitat management plan
HOV	High Occupancy Vehicle
HWCL	(State) Hazardous Waste Control Law
ITE	Institute of Transportation Engineers
LAFCO	Local Agency Formation Commission
LCP	Local Coastal Program
LOS	Level of Service
LUFT	Leaking Underground Fuel Tank
LUP	Land Use Plan
MBA	Michael Brandman Associates
MBNMS	Monterey Bay National Marine Sanctuary
MBTA	(Federal) Migratory Bird Treaty Act
MBUAPCD	Monterey Bay Unified Air Pollution Control District
MCL	Maximum Contaminant Level
MCOAEOP	Monterey County Operational Area Emergency Operations Plan
MCRMA	Monterey County Resource Management Agency

MCWD	Marina Coast Water District
MCWRA	Monterey County Water Resource Agency
Mg/l	Milligrams per liter
MMI	Modified Mercalli Intensity
MOU	Memorandum of Understanding
MPWMD	Monterey Peninsula Water Management District
MRWMD	Monterey Regional Waste Management District
MRZ	Mineral Resources Zone
MRZ-1	Areas of No Mineral Resource Significance
MRZ-2	Areas of Identified Mineral Resource Significance
MRZ-3	Areas of Undetermined Mineral Resource Significance
MRZ-4	Areas of Unknown Mineral Resources Significance
MSR	Municipal Service Review
MST	Monterey-Salinas Transit
MURP	Model Urban Runoff Program
NCCP	Natural Communities Conservation Plan
NFIP	National Flood Insurance Program
NLP	New Los Padres
NMFS	National Marine Fisheries Service
NOI	Notice of Intent
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NPS	Non-Point Source
NRCS	Natural Resources Conservation Service
OES	(Monterey County) Office of Emergency Services
OMR	California Department of Conservation Office of Mine Reclamation
OWTS	Onsite Wastewater Treatment Systems
PBCSD	Pebble Beach Community Services District
PCBs	polychlorinated biphenyls(
PRC	Public Resources Code
PVWMA	Pajaro Valley Water Management Agency
RCD	Resource Conservation District
RCRA	(Federal) Resource Conservation and Recovery Act
RPF	Registered Professional Forester
RWQCB	Regional Water Quality Control Board
SA	Study Area
SARA	Superfund Amendments and Reauthorization Act
SMARA	Surface Mining and Reclamation Act
SMGB	State Mining and Geology Board
STA	Special Treatment Area
SVSWA	Salinas Valley Solid Waste Authority
SVWP	Salinas Valley Water Project
SWMP	Stormwater Management Program
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAMC	Transportation Agency of Monterey County
TDM	Transportation Demand Management
TDR	transfer of development rights

THP	Timber Harvest Plan
TMDL	Total Maximum Daily Load
UCCE	University of California Cooperative Extension
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
VMT	Vehicle Miles of Travel
WAVE	Waterfront Area Visitor Express
WDR	Waste Discharge Requirement
WMI	Watershed Management Initiative
WQPP	Water Quality Protection Program

9.2 List of Abbreviations

A-P Act	(State) Alquist-Priolo Earthquake Fault Zoning Act
CA	California
CalAm	California-American Water Company
Cal-Water	California Water Service Company
Class I facility	Bicycle Path
Class II facility	Bicycle Lane
Class III facility	Bicycle Route
CO	Carbon Monoxide
dB	Decibel
dBA	The “A-weighted” scale for measuring sound in decibels
General Plan	Monterey County General Plan
Ld	Day-Night Average Sound Level
L_{eq}	The energy equivalent level
MST RIDES	Monterey County’s paratransit program
NO_X	Nitrogen Oxide(s)
O_3	Ozone
PM2.5	Particulate matter of 2.5 microns in diameter or less
PM10	Particulate matter of 10 microns in diameter or less
SO_2	Sulfur Dioxide
UC	University of California

Section 10
Glossary

10.1 Glossary

Acres, Gross - A measure of total land area of any lot including streets, parks and other land dedications.

Acres, Net - The gross area of a site excluding:

- All public and private streets, and streets which provide primary and direct access to a public street.
- Land within any existing or planned drainage easement.
- Schools and parks or other facilities dedicated for public use.

Affordable Housing: Housing that can be purchased or rented by a household with very low, low, or moderate income and based on a household's ability to make monthly payments necessary to obtain housing. Housing is considered affordable when a household pays less than 30% of its gross monthly income (GMI) for housing, including utilities.

Agency - The governmental entity, department, office, or administrative unit responsible for carrying out regulations.

Agricultural Preserve - Land designated for agriculture or conservation. (See "Williamson Act.")

Agriculture - Use of land for the production of food and fiber, on natural prime or improved pasture land.

Air Pollution - Concentrations of substances found in the atmosphere which exceed naturally occurring quantities and are undesirable or harmful in some way.

Alquist-Priolo Earthquake Fault Zoning Act, Earthquake Fault Zone - A seismic hazard zone designated by the State of California within which specialized geologic investigations must be prepared prior to approval of certain new development.

Ambient - Surrounding on all sides; used to describe measurements of existing conditions with respect to traffic, noise, air, and other environments.

Aquifer - An underground, water-bearing layer of earth, porous rock, sand, or gravel, through which water can seep or be held in natural storage. Aquifers generally hold sufficient water to be used as a water supply.

Aquifer Storage and Recovery (ASR) - Method of making use of existing natural aquifers to store excess water to be available or recovered at a time when water is scarce.

Archaeological - Relating to the material remains of past human life, culture, or activities.

Architectural Review - Regulations and procedures requiring the placement and exterior design of structures to be suitable, harmonious, and in keeping with the general appearance, historical character, and/or style of surrounding areas.

Area Plan - A component of the Proposed General Plan Update that establishes specific planning policies for a defined geographical area.

Arterial - A major street carrying volumes of relatively high speed traffic from local and collector streets to and from freeways and other major streets. These streets have controlled intersections and generally provide limited direct access to abutting properties.

Assessment District; Benefit Assessment District - An area within a public agency's boundaries which receives a special benefit from the construction of one or more public facilities. A Benefit Assessment District has no legal life of its own and cannot act by itself. It is strictly a financing mechanism for providing public infrastructure as allowed under the Streets and Highways Code. Bonds may be issued to finance the improvements, subject to repayment by assessments charged against the benefiting properties. Creation of a Benefit Assessment District enables property owners in a specific area to cause the construction of public facilities or to maintain them (for example, a downtown, or the grounds and landscaping of a specific area) by contributing their fair share of the construction and/or installation and operating costs.

Base Flood - A 100-year flood that has a 1% likelihood of occurring in any given year.

Basic Routes - All local roads not designated as Routes of Regional Significance.

Below-Market-Rate (BMR) Housing Unit - Any housing unit specifically priced to be sold or rented to low- or moderate income households for an amount less than the fair-market value of the unit. The U.S. Department of Housing and

Urban Development sets standards for determining which households qualify as "low income" or "moderate income."

Best Available Control Technology (BACT) - The most stringent emission limit or control technique that has been achieved in practice that is applicable to a particular emission source.

Best Management Practices (BMP) - The combination of conservation measures, structure, or management practices that reduces or avoids adverse impacts of development on adjoining site's land, water, or waterways, and waterbodies.

Bicycle Path (Class I facility) - A paved route not on a street or roadway and expressly reserved for bicycles traversing an otherwise unpaved area. Bicycle paths may parallel roads but typically are separated from them by landscaping.

Bicycle Lane (Class II facility) - A corridor expressly reserved for bicycles, existing on a street or roadway in addition to any lanes for use by motorized vehicles.

Bicycle Route (Class III facility) - A facility shared with pedestrians and motorists, identified only by signs, and having no pavement markings or lane stripes.

Bikeways - A term that encompasses bicycle lanes, bicycle paths and bicycle routes.

Blue Line Stream - A water body depicted on a United States Geological Survey 7.5-minute quadrangle. Blue line streams are considered navigable water bodies and are therefore subject to the provisions of the Clean Water Act.

Buffer Zone - An area of land separating two distinct land uses which acts to soften or mitigate the effects of one land use on the other.

Building - Any structure having a roof supported by columns or walls for the housing or enclosure of persons, animals, or property of any kind.

Building, Maximum Height - Shall be measured as the vertical distance to the highest point of the roof top of a flat roof or a mansard roof, or to the average height of a pitched or hipped roof measured from that plane connecting the highest and lowest portion of the lot abutting and outside the perimeter of the building footprint. Any fill of any depth or composition beneath or abutting the exterior perimeter of any building shall be included in the calculation of height.

California Environmental Quality Act (CEQA) - A State law that requires state and local agencies to perform environmental review for discretionary actions. CEQA requires that potential environmental impacts be analyzed, disclosed, and mitigated where feasible. (See "Environmental Impact Report")

Capital Costs - The cost of public improvements or facilities and major pieces of equipment (e.g. utility systems, major roads, communication facilities, and public buildings) that have a useful life of more than three years.

Carbon Dioxide (CO_2) - A colorless, odorless, non-poison gas that is a normal part of the atmosphere.

Carbon Monoxide (CO) - A colorless, odorless, highly poisonous gas produced by automobiles and other machines with internal combustion engines that imperfectly burn fossil fuels such as oil and gas.

Channelization - (1) The straightening and/or deepening of a watercourse for purposes of storm-runoff control or ease of navigation. Channelization often includes lining of stream banks with a retaining material such as concrete. (2) At the intersection of roadways, the directional separation of traffic lanes through the use of curbs or raised islands which limit the paths that vehicles may take through the intersection.

Circulation Element - One of seven State-mandated elements of a local general plan, it contains adopted goals, policies, and implementation programs for the planning and management of existing and proposed thoroughfares and transportation routes correlated with the Land Use Element of the Proposed General Plan Update.

Clean Water Act - A Federal law that regulates discharge into or modification of water bodies. Dischargers and modifiers must comply with the law's permitting requirements.

Clustered Development - Development in which a number of dwelling units are placed in closer proximity than typically permitted, or are attached, with the purpose of minimizing grading and retaining open space areas.

Collector Street - A street serving traffic movements between arterial and local streets, generally providing direct access to abutting properties.

Colluviums - Loose and incoherent deposits, usually at the foot of a slope or cliff and brought there chiefly by gravity.

Combined Sewer/Combination Sewer - A sewer system that carries both sanitary sewage and storm water runoff.

Commercial - A land use classification which permits facilities for the buying and selling of commodities and services.

Community Area - An area designated by the proposed General Plan Update for future development at an urban intensity. Community areas are planned support a mix of land uses and would be served by a full range of urban services such as

emergency services, potable water, wastewater, flood control, parks, schools, and public transit.

Community Facilities District - Under the Mello-Roos Community Facilities Act of 1982 (Government Code Section 53311, et. seq.), a legislative body may create within its jurisdiction a special district that can issue tax-exempt bonds for the planning, design, acquisition, construction, and/or operation of public facilities, as well as provide public services to district residents. Special tax assessments levied by the district are used to repay the bonds.

Community Noise Equivalent Level (CNEL) - A 24-hour energy equivalent level derived from a variety of single-noise events with weighing factors of 5 and 10 dBA applied to the evening (7:00 p.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) periods, respectively, to allow for the greater sensitivity to noise during these hours. (See "Ldn.")

Community Redevelopment Agency - A local agency created under California Redevelopment Law, or a local legislative body which has elected to exercise the powers granted to such an agency, for the purpose of planning, developing, re-planning, redesigning, clearing, reconstructing, and/or rehabilitating all or part of a specified area with residential, commercial, industrial, and/or public (including recreational) structures and facilities. The redevelopment agency's plans must be compatible with adopted community general plans.

Conservation - The management of natural resources to prevent waste, destruction or neglect.

Consistent - Free from variation or contradiction. Programs in the Proposed General Plan Update are to be consistent, not contradictory or preferential. State law requires consistency between a General Plan and implementation measures such as the Zoning Ordinance.

Covenants, Conditions, and Restrictions (CC&Rs) - A term used to describe restrictive limitations which may be placed on property and its use and which usually are made a condition of holding title or lease.

Cul-de-sac - A short street or alley with only a single means of ingress and egress at one end and with a large turnaround at its other end.

Cumulative Impact - As used in CEQA, the total impact resulting from the accumulated impacts of individual projects or programs over time.

dB - Decibel; a unit used to express the relative intensity of a sound as it is heard by the human ear.

dBA - The "A-weighted" scale for measuring sound in decibels; weighs or reduces the effects of low and high frequencies in order to simulate human hearing.

Dedication - The turning over by an owner or developer of private land for public use, and the acceptance of land for such use by the governmental agency having jurisdiction over the public function for which it will be used.

Dedication, In lieu of - Cash payments which may be required of an owner or developer as a substitute for a dedication of land, usually calculated in dollars per lot, and referred to as in lieu fees or in lieu contributions.

Density - The number of residential dwelling units per acre of land. Densities specified in the General Plan are expressed in units per net developable acre. (See "Acres, Gross," and "Acres, Net.")

Density Bonus - The allocation of development rights that allow a parcel to accommodate additional square footage or additional residential units beyond the maximum for which the parcel is zoned, usually in exchange for the provision or preservation of an amenity at the same site or at another location.

Desalination - The process of removing salts (and other chemicals) from saline water, most commonly, sea or ocean water.

Design Review - The comprehensive evaluation of a development and its impact on neighboring properties and the community as a whole, from the standpoint of site and landscape design, architecture, materials, colors, lighting, and signs, in accordance with a set of adopted criteria and standards.

Detention Dam/Basin/Pond - Facilities classified according to the broad function they serve, such as storage, diversion, or detention. Detention dams are constructed to retard flood runoff and minimize the effect of sudden floods.

Development Fee - See "Impact Fee."

Development Rights - The right to develop land by a landowner who maintains fee-simple ownership over the land or by a party other than the owner who has obtained the rights to develop. Such rights usually are expressed in terms of density allowed under existing zoning. For example, one development right may equal one unit of housing or may equal a specific number of square feet of gross floor area in one or more specified zone districts.

Dwelling Unit - One or more rooms with a single kitchen, designed for occupancy by one family for living and sleeping purposes.

Easement - The right to use property owned by another for specific purposes or to gain access to another property.

Emission Standard - The maximum amount of pollutant legally permitted to be discharged from a single source, either mobile or stationary.

Endangered Species - A species of animal or plant whose prospects for survival and reproduction are in immediate jeopardy from one or more causes. Habitats for endangered species are protected under the Federal Endangered Species Act and the California Endangered Species Act.

Environmental Impact Report (EIR) - A report prepared in accordance with the California Environmental Quality Act that assesses all the environmental characteristics of an area and determines what effects or impacts will result if the area is altered or disturbed by a proposed action. (See "California Environmental Quality Act")

Erosion - The loosening and transportation of rock and soil debris by wind, rain, or running water.

Exaction - A contribution or payment required as an authorized precondition for receiving a development permit; usually refers to mandatory dedication (or fee in lieu of dedication) requirements found in many subdivision regulations.

Expansive Soils - Soils which swell when they absorb water and shrink as they dry.

Fault - A fracture in the earth's crust forming a boundary between rock masses that have shifted. An "active" fault is one that has had surface displacement within Holocene time (about the last 11,000 years). A "potentially active" fault is one that shows evidence of surface displacement during Quaternary time (the last 2 million years).

Finding(s) - The result(s) of an investigation and the basis upon which decisions are made. Findings are used by government agencies and bodies to justify action taken by the entity.

Fire-resistive - Able to withstand specified temperatures for a certain period of time, such as a one-hour fire wall; not fireproof.

Flood, 100-Year - The magnitude of a flood expected to occur on the average every 100 years, based on historical data. The 100-year flood has a 1/100, or 1%, chance of occurring in any given year.

Flood Insurance Rate Map (FIRM) - For each community, the official map on which the Federal Insurance Administration has delineated areas of special flood hazard and the premium risk zones applicable to that community.

Flood Plain - The relatively level land area on either side of the banks of a stream regularly subject to flooding. That part of the flood plain subject to a one percent chance of flooding in any given year is designated as an area of special flood hazard by the Federal Insurance Administration.

Floor Area Ratio (FAR) - The net floor area of a building or buildings on a lot divided by the lot area or site area.

Geological - Pertaining to rock or solid matter.

Groundwater - Water under the earth's surface, often confined to aquifers capable of supplying wells and springs.

Groundwater Recharge - The natural process of infiltration and percolation of rainwater from land areas or streams through permeable soils into water-holding rocks which provide underground storage ("aquifers").

Guidelines - General statements of policy direction for which specific details may be later established.

Habitat - The physical location or type of environment in which an organism or biological population lives or occurs.

Habitat Conservation Plan (HCP) - A program prepared in accordance with the Federal Endangered Species Act that is designed to extend protection provided for endangered species to all sensitive habitat in a prescribed area.

Hazardous Material - Any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. The term includes, but is not limited to, hazardous substances and hazardous wastes.

High Occupancy Vehicle (HOV) - Any vehicle other than a driver-only automobile (e.g., a vanpool, a bus, or two or more persons to a car).

Hillside - Land which is part of a hill between the summit and the foot with slopes of 10% or more.

Housing Element - One of the seven State-mandated elements of a local general plan, it assesses the existing and projected housing needs of all economic segments of the community, identifies potential sites adequate to provide the amount and kind of housing needed, and contains adopted goals, policies, and implementation programs for the preservation, improvement, and development of housing. Under State law, Housing Elements must be updated every five years.

Housing Unit The place of permanent or customary abode of a person or family. A housing unit may be a single-family dwelling, a multi-family dwelling, a condominium, a modular home, a mobile home, a cooperative, or any other residential unit considered real property under State law.

Impact - The effect of any man-made actions or indirect repercussions of man-made actions on existing physical, social, or economic conditions.

Impact Fee - A fee, also called a development fee, levied on the developer of a project by a city, county, or other public agency as compensation for otherwise-unmitigated impacts the project will produce. California Government Code § 54990 specifies that development fees shall not exceed the estimated reasonable cost of providing the service for which the fee is charged. To lawfully impose a development fee, the public agency must verify its method of calculation and document proper restrictions on use of the fund.

Impervious Surface - Surface through which water cannot penetrate, such as roof, road, sidewalk, and paved parking lot. The amount of impervious surface increases with development and establishes the need for drainage facilities to carry the increased runoff.

Implementation - Actions, procedures, programs, or techniques that carry out policies.

Improvement - The addition of one or more structures or utilities on a vacant parcel of land.

Industrial - The manufacture, production, and processing of consumer goods. Industrial is often divided into "heavy industrial" uses, such as construction yards, quarrying, and factories and "light industrial" uses, such as research and development and less intensive warehousing and manufacturing.

Infill Development - Development of vacant land (usually individual lots or left-over properties) within areas which are already largely developed.

Infrastructure - Public services and facilities, such as sewage disposal systems, water-supply systems, other utility systems, and roads.

In Lieu Fee - (See "Dedication, in lieu of.")

Landmark - A building, site, object, structure, or significant tree, having historical, architectural, social, or cultural significance and marked for preservation by the local, State, or federal government. A visually prominent or outstanding structure or natural feature that functions as a point of orientation or identification.

Landscaping - Planting, including trees, shrubs, and ground covers, suitably designed, selected, installed, and maintained permanently to enhance a site or roadway.

Landslide - A general term for a falling mass of soil or rocks.

Land Use - The occupation or utilization of land or water area for any human activity or any purpose defined in the Proposed General Plan Update.

Ldn - Day-Night Average Sound Level. The A-weighted average sound level for a given area (measured in decibels) during a 24-hour period with a 10 dB weighing applied to night-time sound levels. The Ldn is approximately numerically equal to the CNEL for most environmental settings.

Leq - The energy equivalent level, defined as the average sound level on the basis of sound energy (or sound pressure squared). The Leq is a "dosage" type measure and is the basis for the descriptions used in current standards, such as the 24-hour CNEL used by the State of California.

Level of Service (LOS) - A qualitative measure describing operational conditions within a traffic stream, as perceived by motorists. The conditions are generally described in terms of factors such as speed, delay, freedom to maneuver, comfort, convenience, and safety. Six levels of service are defined with letter designations from A to F, with A representing the optimal condition and F representing the worst.

Liquefaction - The transformation of loose, water-saturated, granular materials (such as sand or silt) from a solid into a liquid state. A type of ground failure that can occur during an earthquake.

Local Agency Formation Commission (LAFCO) - A commission within each county that reviews and evaluates all proposals for formation of special districts, incorporation of cities, annexation to special districts or cities, consolidation of districts, and the merger of districts with cities. Each county's LAFCO is empowered to approve, disapprove, or conditionally approve such proposals. LAFCO members generally include two county supervisors, two city council members, and one member representing the general public.

Local Street - A street which primarily serves as access to abutting properties characterized by traffic with low speeds, low volumes and relatively short trip lengths.

Mitigation - A specific action taken to reduce environmental impacts. Mitigation measures are required as a component of an environmental impact report (EIR) if significant measures are identified.

Mitigation Measures - Action taken to avoid, minimize, or eliminate environmental impacts. Mitigation includes: avoiding the impact altogether by not taking a certain action or parts of an action; minimizing impacts by limiting the degree or magnitude of the action and its implementation; rectifying the impact by repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance during the life of the action; and compensating for the impact by repairing or providing substitute resources or environments.

Mixed-use - Properties on which various uses, such as office, commercial, institutional, and residential, are combined in a single building or on a single site

in an integrated development project with significant functional interrelationships and a coherent physical design.

National Ambient Air Quality Standards - The prescribed level of pollutants in the outside air that cannot be exceeded legally during a specified time in a specified geographical area. National Flood Insurance Program: A federal program which authorizes the sale of federally subsidized flood insurance in communities where such flood insurance is not available privately.

National Historic Preservation Act - A 1966 federal law that established a National Register of Historic Places and the Advisory Council on Historic Preservation, and which authorized grants-in-aid for preserving historic properties.

National Register of Historic Places - The official list, established by the National Historic Preservation Act, of sites, districts, buildings, structures, and objects significant in the nation's history or whose artistic or architectural value is unique.

Natural Communities Conservation Plan (NCCP) - A plan that identifies sensitive habitats within a rural development area and directs the preparation of a program to mitigate the impacts of rural development on the habitats.

Nitrogen Oxide(s) (NO_X) - A reddish brown gas that is a byproduct of combustion and ozone formation processes. Often referred to as NO_X, this gas gives smog its "dirty air" appearance.

Noise - Any sound which is undesirable because it interferes with speech and hearing, is intense enough to damage hearing, or is otherwise annoying. Noise is simply "unwanted sound."

Noise Attenuation - Reduction of the level of a noise source using a substance, material, or surface, such as earth berms and/or solid concrete walls.

Noise Contour - A line connecting points of equal noise level as measured on the same scale. Noise levels greater than the 60 Ldn contour (measured in dBA) require noise attenuation in residential development.

Non-attainment - The condition of not achieving a desired or required level of performance and frequently used in reference to air quality.

Non-conforming Use - A use of a structure of land that was lawfully established and maintained, but which does not conform with the use regulations or required conditions for the district in which it is located by reason of adoption or amendment of local ordinance.

Open Space - Any parcel or area of land or water which is essentially unimproved and devoted to an open space use for the purposes of (1) the

preservation of natural resources, (2) the managed production of resources, (3) outdoor recreation, or (4) public health and safety.

Overlay --A land use designation on the Land Use Map or a zoning designation on a zoning map, which modifies the basic underlying designation in some specific manner.

Ozone (O_3) - A tri-atomic form of oxygen (O_3) created naturally in the upper atmosphere by a photochemical reaction with solar ultraviolet radiation. In the lower atmosphere, ozone is a recognized air pollutant that is not emitted directly into the environment, but is formed by complex chemical reactions between oxides of nitrogen and reactive organic compounds in the presence of sunlight, and becomes a major agent in the formation of smog.

Parcel - A lot, or contiguous group of lots, in single ownership or under single control, usually considered a unit for purposes of development.

Peak Hour/Peak Period - For any given roadway, a daily period during which traffic volume is highest, usually occurring in the morning and evening commute periods. Where "F" Levels of Service are encountered, the "peak hour" may stretch into a "peak period" of several hours duration.

Performance Standards - Zoning regulations that permit uses based on a particular set of standards of operation rather than on particular type of use. Performance standards provide specific criteria limiting noise, air pollution, emissions, odors, vibration, dust, dirt, heat, fire hazards, wastes, traffic impacts, and visual impact of a use.

Planning Area - The land area addressed by the Proposed General Plan Update, which is all the unincorporated land within the Monterey County limits.

Policy - A specific statement of principle or of guiding or implementing actions which implies clear commitment.

Pollutant - Any introduced gas, liquid, or solid that makes a resource unfit for its normal or usual purpose.

Pollution - The presence of matter or energy whose nature, location, or quantity produces undesired environmental effects.

Recreation, Active - A type of recreation or activity which requires the use of organized play areas including, but not limited to, softball, baseball, football, and soccer fields, tennis and basketball courts and various forms of children's play equipment.

Recreation, Passive - Type of recreation or activity which does not require the use of organized play areas.

Redevelopment - New or replacement development undertaken to reduce or eliminate blighted conditions and to encourage private investment in designated "redevelopment project areas." In California, public redevelopment is funded largely through the sale of bonds, with the retirement of the bonded debt paid for by the increases in real property taxes on project area lands resulting from improvements prompted by the combination of public and private reinvestment in the area. Redevelopment can be financed completely independently of a local agency's General Fund operating revenues, but cities may allocate some operating revenues to assist redevelopment and/or target operating revenues to focus on redevelopment areas. Redevelopment may also be spurred by grants from Federal and State governments and sometimes private sources.

Residential - Land designated in the Proposed General Plan Update and Zoning Ordinance for buildings consisting of dwelling units. May be vacant or unimproved. (See "Dwelling Unit.")

Residential, Multiple-Family - Usually three or more dwelling units on a single site, which may be in the same or separate buildings.

Residential, Single-Family - A single dwelling unit on a building site.

Richter Scale - A measure of the size or energy release of an earthquake at its source. The scale is logarithmic, meaning that the wave amplitude of each number on the scale is 10 times greater than that of the previous whole number.

Rideshare - A travel mode other than driving alone, such as buses, rail transit, carpools, and vanpools.

Ridge - An elongated crest or series of crests of a hill.

Ridgeline - A ground line located at the highest elevation of and running parallel to the long axis of the ridge.

Right-of-way - The strip of land over which certain transportation and public use facilities are built, such as roadways, railroads, and utility lines.

Riparian Lands - Lands which are comprised of the vegetative and wildlife areas adjacent to perennial and intermittent streams. Riparian areas are delineated by the existence of plant species normally found near fresh water.

Riparian Vegetation - Vegetation associated with any watercourse which requires or tolerates moisture in excess of that available in adjacent uplands.

Runoff - That portion of rain or snow which does not percolate into the ground and is discharged into streams instead.

Rural Center - An existing rural or semi-rural area identified by the proposed General Plan Update that can support additional residential and neighborhood

commercial development. The proposed General Plan Update establishes land use policies designed to allow rural centers to develop over the life of the plan, but in a manner that preserves the existing character of these areas.

Sanitary Sewer - A system of subterranean conduits which carries refuse liquids or waste matter to a plant where the sewage is treated, as contrasted with storm drainage systems (which carry surface water) and septic tanks or leech fields (which hold refuse liquids and waste matter on-site). (See "Combined Sewer" and "Septic System".)

Scenic Highway Corridor - The visible area outside of a highway's right-of-way, generally described as "the view from the road."

Scenic Highway/Scenic Route - A highway, road, or street which, in addition to its transportation function, provides opportunities for the enjoyment of natural and man-made scenic resources and access or direct views to areas or scenes of exceptional beauty or historic or cultural interest. The aesthetic values of scenic routes often are protected and enhanced by regulations governing the development of property or the placement of outdoor advertising.

Seismic - Caused by or subject to earthquakes or earth vibrations.

Septic System - A sewage-treatment system that includes a settling tank through which liquid sewage flows and in which solid sewage settles and is decomposed by bacteria in the absence of oxygen. Septic systems are often used for individual-home waste disposal where an urban sewer system is not available. (See "Sanitary Sewer.")

Setback Line - A line within a lot parallel to a corresponding lot line, which is the boundary of any specified front, side, corner side or rear yard, or the boundary of any public right-of-way whether acquired in fee, easement or otherwise, or a line otherwise established to govern the location of buildings, structures or uses. Where no minimum front, side, corner side, or rear yards are specified, the setback line shall be coterminous with the corresponding lot line. The line is a horizontal distance measured from the respective property line.

Settlement - The drop in elevation of a ground surface caused by settling or compacting. Differential settlement is uneven settlement.

Significant Effect - A beneficial or detrimental impact on the environment. May include, but is not limited to, significant changes in an area's air, water, and land resources.

Siltation - (1) The accumulating deposition of eroded material, or (2) the gradual filling in of streams and other bodies of water with sand, silt, and clay.

Single-family Dwelling, Attached - A building containing two dwelling units with each unit having its own foundation on grade.

Single-family Dwelling, Detached - A building containing one dwelling unit on one lot.

Slope - Land gradient described as the vertical rise divided by the horizontal run, and expressed in percent.

Soil - The unconsolidated material on the immediate surface of the earth created by natural forces that serves as the natural medium for growing land plants.

Solid Waste - Any unwanted or discarded material that is not a liquid or gas. Includes organic wastes, paper products, metals, glass, plastics, cloth, brick, rock, soil, leather, rubber, yard wastes, and wood. Organic wastes and paper products comprise about 75 percent of typical urban solid waste.

Special Treatment Area - A specific location identified in an area plan for focused development because of its unique location, site constrains, or surrounding land uses. The area plan policy establishes detailed policies to guide future land use activities at that location.

Specific Plan - A plan that provides detailed design and implementation tools for a specific portion of the area covered by a general plan. A specific plan may include all regulations, conditions, programs, or proposed legislation which may be necessary or convenient for the systematic implementation of any general plan element(s).

Storm Water Runoff - Surplus surface water generated by rainfall that does not seep into the earth but flows overland to flowing or stagnant bodies of water. Also referred to as "urban runoff."

Structure - Anything constructed or erected which requires a location on the ground, including a building or a swimming pool, but not including a fence or a wall used as a fence, if the height does not exceed six feet, or access drives or walks.

Subdivision - The division of a tract of land into defined lots, either improved or unimproved, which can be separately conveyed by sale or lease, and which can be altered or developed. Subdivision includes a condominium project as defined in Section 1350 of the California Civil Code.

Subsidence - The gradual sinking of land as a result of natural or artificial causes. (See "Settlement.")

Sulfur Dioxide (SO_2) - A heavy, pungent, colorless air pollutant formed primarily by the combustion of fossil fuels. It is a respiratory irritant, especially for asthmatics and is the major precursor to the formation of acid rain.

Transit - The conveyance of persons or goods from one place to another by means of a local, public transportation system. (See "Transit, Public.")

Transit, Public - A system of regularly-scheduled buses and/or trains available to the public on a fee-per-ride basis. Also called "Mass Transit."

Transportation Demand Management (TDM) - A strategy for reducing demand on the road system by reducing the number of vehicles using the roadways and/or increasing the number of persons per vehicle. TDM attempts to: (1) reduce the number of persons per vehicle; (2) reduce the number of persons who drive alone on the roadway during the commute period; and (3) increase the use of carpools, vanpools, buses and trains, and walking and biking. TDM can be an element of TSM (see below).

Trip Generation - The dynamics that account for people making trips in automobiles or by means of public transportation. Trip generation is the basis for estimating the level of use of a transportation system and the impact of additional development or transportation facilities on an existing, local transportation system. Trip generations of households are correlated with destinations that attract household members for specific purposes.

Uniform Building Code - A national, standard building code which sets forth minimum standards for construction.

United States Army Corps of Engineers - A federal agency responsible for the design and implementation of publicly supported engineering projects. Any construction activity that involves filling a watercourse, pond, lake (natural or man-made), or wetlands (including seasonal wetlands and vernal pools), may require an ACOE permit.

Use - The purpose for which a lot or structure is or may be leased, occupied, maintained, arranged, designed, intended, constructed, erected, moved, altered, and/or enlarged as per the County's Zoning Ordinance and Proposed General Plan Update land use designation.

Use Permit - The discretionary and conditional review of an activity or function or operation on a site or in a building or facility.

Variance - A departure from any provision of the zoning requirements for a specific parcel, except use, without changing the Zoning Ordinance or the underlying zoning of the parcel. A variance usually is granted only upon demonstration of hardship based on the peculiarity of the property in relation to other properties in the same zoning district.

View Corridor - The line of sight (identified as to height, width, and distance) of an observer looking toward an object that is significant to the community (e.g., ridgeline, river, historic building, etc.); the route that directs the viewer's attention.

Viewshed - The area within view from a defined observation point.

Volume-to-Capacity Ratio - A measure of the operating capacity of a roadway or intersection, in terms of the number of vehicles that theoretically could pass through when the roadway or intersection is operating at its designed capacity. Abbreviated as v/c. At a v/c ratio of 1.0, the roadway or intersection is operating at capacity. If the ratio is less than 1.0, the traffic facility has additional capacity. Although ratios slightly greater than 1.0 are possible, it is more likely that the peak hour will elongate into a "peak period." (See "Peak Hour" and "Level of Service.")

Watercourse - Natural or once natural flowing (perennially or intermittently) water including rivers, streams, and creeks. Includes natural waterways that have been canalized, but does not include manmade channels, ditches, and underground drainage and sewer systems.

Watershed - The total area above a given point on a watercourse that contributes water to its flow; the entire region drained by a waterway or watercourse which drains into a lake, reservoir, bay or ocean.

Wetlands - Either transitional areas between terrestrial and aquatic systems where the water table is usually at or near the surface, or land that is covered by shallow water.

Williamson Act - Officially titled the California Land Conservation Act of 1965, the Williamson Act was designed as an incentive to retain prime agricultural land and open space in agricultural use, thereby slowing its conversion to urban uses. The program entails a ten-year contract between an owner of land and (usually) a county whereby the land is taxed on the basis of its agricultural use rather than the market value. The land becomes subject to certain enforceable restrictions, and certain conditions need to be met prior to approval of an agreement.

Zoning - The division of a jurisdiction by legislative regulations into areas, or zones, which specify allowable uses for real property and size restrictions for buildings within these areas; a program that implements policies of the proposed General Plan Update.

Zoning District - A designated section of the jurisdiction for which prescribed land use requirements and building and development standards are uniform.

Section 11

Documents, Plans, and Reports Cited (updated 12/05/08)

The following documents listed below can be accessed in one or more of the following ways (the specific availability of each document is noted in the citations below):

a. In hard copy at the Front Counter of the Monterey County Planning Department, Salinas Permit Center, 168 W. Alisal St. 2nd Floor Salinas, CA 93901, (831) 755-5025;

b. On CDROM at the Front Counter.

c. At the California State University – Monterey Bay Library (1 document only).

d. On the Internet at the specified internet address noted for the citation below.

The Salinas Permit Center is open Monday through Friday, from 7:30 a.m. to 5:00 p.m.

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MBUAPCD 2008	1	21	MBUAPCD 2008a
County Department of Finance 2007d	3	9	California Department of Finance 2007b
California Department of Finance 2007	3	10	California Department of Finance 2007b
California Department of Finance 2007d	3	10	California Department of Finance 2007b
County of Monterey, East Garrison Specific Plan, adopted October 4, 2005	3	34	Monterey County 2005a.
Monterey County Planning and Building Inspection Department, Agricultural Winery Corridor Plan, March 6,	3	40	Delete reference to March 6, 2007. Reference is Monterey County 2007a
Monterey County 2007	4.01	2	Monterey County 2007a
Monterey County 2007	4.01	2	Monterey County 2007a
Monterey County 2007	4.01	2	Monterey County 2007a
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Monterey County Water Resources Agency 2003	4.03	7	Monterey County Water Resources Agency. 2003.
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California Department of Water Resources 2004c	4.03	8	California Department of Water Resources 2004.

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California Department of Water Resources 2004d	4.03	8	California Department of Water Resources 2004.
Monterey County Water Resources Agency 2001	4.03	8	Monterey County Water Resources Agency. 2001a.
California Department of Water Resources 2004e	4.03	9	California Department of Water Resources 2004.
California Department of Water Resources 2004f	4.03	10	California Department of Water Resources 2004.
California Department of Water Resources 2004g	4.03	14	California Department of Water Resources 2004.
California Department of Water Resources 2004g	4.03	14	California Department of Water Resources 2004.
Monterey County et al. 1983.	4.03	17	Monterey County et al 1983b
California Coastal Conservancy 2006	4.03	18	Delete reference as non-material to textual discussion.
Monterey County Water Resources Agency 2001	4.03	24	Monterey County Water Resources Agency 2001a
Monterey County Water Resources Agency 2001	4.03	24	Monterey County Water Resources Agency 2001a
Monterey County 2006	4.03	24	Monterey County 2006b
Monterey County Health Department 2008b	4.03	25	Monterey County Health Department 2008
Monterey County Water Resources Agency 2001	4.03	26	Monterey County Water Resources Agency 2001a
Monterey County Water Resources Agency 2001	4.03	37	Monterey County Water Resources Agency 2001a
Monterey County Water Resources Agency 2001	4.03	38	Monterey County Water Resources Agency 2001a
California Public Utilities Commission 2008a	4.03	40	California Public Utilities Commission. 2008.
Page 4.3-43	4.03	43	Change reference in last paragraph from Final EIR to Draft EIR.
AMBAG 2008	4.03	114	AMBAG. 2008a.
New reference	4.03	117	Add new reference to end of first sentence. Cypress Environmental and Land Use Planning and Inland Engineers, Inc. 2006.
Monterey County Health Department 2008a	4.03	120	Monterey County Health Department, Environmental Health Division. 2008.
MCWRA and U.S. Army Corps of Engineers 2001	4.03	135	Monterey County Water Resources Agency 2001a
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Monterey County 2007	4.05	11	Monterey County 2007a
California Geological Survey 1999	4.05	14	California Department of Conservation, Division of Mines and Geology. 1999.
AMBAG 1996. 62 percent according to a 1996 survey.	4.06	3	Association of Monterey Bay Area Governments 1997. 62 percent according to 1995 survey.
Kimley-Horn & Associates, Inc. 2008	4.06	9	Kimley-Horn & Associates, Inc. 2008a.
CVMP Traffic Study, July 2007	4.06	9	Monterey County. 2007b.
Kimley-Horn & Associates, Inc. 2008	4.06	10	Kimley-Horn & Associates, Inc. 2008a.
DKS Associates, 2007	4.06	10	DKS Associates 2007 as found in Monterey County. 2007b.
Kimley-Horn and Associates, Inc.	4.06	12	Kimley-Horn & Associates, Inc. 2008a
Monterey Salinas Transit. 2008	4.06	13	Monterey-Salinas Transit. 2006b.
http://www.airnav.com/ 2008.	4.06	14	AirNav, LLC. 2008.
AMBAG Travel Demand Forecasting Model	4.06	20	AMBAG 2006. (Travel Demand Forecasting Model).
Kimley-Horn and Associates, Inc., Regional Impact Fee Nexus Study Report	4.06	25	Transportation Agency of Monterey County. 2008.
Kimley-Horn and Associates, Inc.	4.06	26	Not a reference – this is the only location of this data.
Kimley-Horn and Associates, Inc.	4.06	35	Kimley-Horn & Associates, Inc. 2008a.
Kimley-Horn and Associates, Inc.	4.06	38	Kimley-Horn & Associates, Inc. 2008a.
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MST, 2006	4.06	56	Monterey-Salinas Transit 2006a
Peninsula Area Service Study, 2006	4.06	56	Monterey-Salinas Transit 2006b
Kimley-Horn and Associates, Inc. 2008a	4.06	61	Kimley-Horn & Associates, Inc. 2008a.
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Kimley-Horn & Associates, Inc.	4.06	63	Kimley-Horn & Associates, Inc. 2008a.
DKS Associates, 2007	4.06	63	DKS Associates, 2007 as found in S/B Monterey County 2007b
Kimley-Horn and Associates, Inc.	4.06	66	Kimley-Horn & Associates, Inc. 2008a.
Kimley-Horn and Associates, Inc.	4.06	67	Kimley-Horn & Associates, Inc. 2008a.
Kimley-Horn	4.06	73	Kimley-Horn & Associates, Inc. 2008a.
MST, 2006	4.06	77	Monterey-Salinas Transit. 2006a.

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Peninsula Area Service Study, 2006	4.06	77	Monterey-Salinas Transit. 2006b.
Kimley-Horn and Associates, Inc.	4.06	83	Kimley-Horn & Associates, Inc. 2008a.
Kimley-Horn and Associates, Inc.	4.06	86	Kimley-Horn & Associates, Inc. 2008a.
Kimley-Horn and Associates, Inc.	4.06	87	Kimley-Horn & Associates, Inc. 2008a.
MST, 2006	4.06	92	Monterey-Salinas Transit. 2006a.
Kimley-Horn and Associates, Inc.	4.06	97	Kimley-Horn & Associates, Inc. 2008a.
Kimley-Horn and Associates, Inc.	4.06	100	Kimley-Horn & Associates, Inc. 2008a.
Kimley-Horn and Associates, Inc.	4.06	101	Kimley-Horn and Associates, Inc. 2008a
Kimley-Horn and Associates, Inc.	4.06	112	Kimley-Horn & Associates, Inc. 2008a.
Kimley-Horn and Associates, Inc.	4.06	115	Kimley-Horn & Associates, Inc. 2008a.
Kimley-Horn and Associates, Inc.	4.06	119	Kimley-Horn & Associates, Inc. 2008a.
MBUAPCD 2008	4.07	3	MBUAPCD 2008a
MBUAPCD 2008	4.07	3	MBUAPCD 2008a
Kimley-Horn	4.07	15	Kimley-Horn and Associates. 2008b.
MBUAPCD 2008	4.07	27	MBUAPCD 2008a
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San Joaquin Valley Air Pollution Control District. 2006	4.07	29	San Joaquin Valley Air Pollution Control District. 2008
County of Monterey 2006	4.08	7	Monterey County. 2006b.
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County of Monterey 2006	4.08	9	Monterey County. 2006a.
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County of Monterey 1982	4.08	10	Monterey County. 1982a.
CNDDB (2007	4.09	3	California Natural Diversity Database (CNDDB). 2007/2008.
Based on California Department of Fish and Game, California Natural Diversity Database (CNDDB) (Version 3.1.0, accessed on January 22, 2008)	4.09	8	California Natural Diversity Database (CNDDB). 2007/2008.
NatureServe's standard heritage program	4.09	8	NatureServe. 2008.
CNDDB (2007)	4.09	17	California Natural Diversity Database (CNDDB). 2007/2008.
DFG California Interagency Wildlife Task Group 2005	4.09	20	California Department of Fish and Game, California Interagency Wildlife Task Group. 2005.

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DFG California Interagency Wildlife Task Group 2005	4.09	21	California Department of Fish and Game, California Interagency Wildlife Task Group. 2005.
CNPS Inventory of Rare and Endangered Plants of California online edition 2008	4.09	23	California Native Plant Society. 2008.
California Department of Conservation 1982 to 2006	4.09	45	California Department of Conservation 1984 to 2006a
Environmental Laboratory 1987	4.09	49	U.S. Army Corps of Engineers Environmental Laboratory. 1987.
PMC 2006	4.09	58	Monterey County Resource Management Agency, Housing and Redevelopment Office 2006.
AMBAG 2008	4.09	63	AMBAG 2008a
Monterey County Vintner's Association 2008	4.09	63	Monterey County Vintner's Association 2008b
MRWPCA 2006.	4.11	5	Monterey Regional Water Pollution Control Agency (MRWPCA). 2006.
USFS 2008b	4.12	2	USFS 2008a
USFS 2008c	4.12	3	USFS 2008b
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Monterey County 2007	4.12	14	Monterey County 2007 a
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Federal Aviation Administration 2008b	4.13	2	Federal Aviation Administration 2008
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California Department of Transportation 2008 b 2008c	4.14	9	California Department of Transportation 2008b
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California Department of Finance 2007	4.15	2	California Department of Finance 2007c
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County of Monterey 2008	4.15	6	Monterey County 2008.
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Association of Monterey Bay Area Governments 2008	4.15	8	Association of Monterey Bay Area Governments 2008a
Association of Monterey Bay Area Governments 2008	4.15	9	Association of Monterey Bay Area Governments 2008a
County of Monterey 2004	4.15	15	Monterey County 2004.
Association of Monterey Bay Area Governments 2008b	4.15	16	Association of Monterey Bay Area Governments 2008c
County of Monterey 2008	4.15	19	Monterey County 2008.
Intergovernmental Panel on Climate Change 2007	4.16	2	Intergovernmental Panel on Climate Change. 2007a.

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CARB 2007	4.16	4	CARB. 2007c.
CCAR 2008	4.16	5	California Climate Action Registry, 2008
CARB 2008a	4.16	7	CARB. 2008b.
California Air Resources Board 2008b	4.16	11	CARB 2008a
AMBAG 2008	4.16	22	AMBAG 2008a
Fried et al. 2006	4.16	41	California Climate Change Center 2006
Bay Area Economics 2007	5	3	Bay Area Economics. 2006.
Bay Area Economics 2007	5	4	Bay Area Economics. 2006.
Bay Area Economics 2007	5	5	Bay Area Economics. 2006.
Bay Area Economics 2007	5	5	Bay Area Economics. 2006.
Bay Area Economics. 2007.	5	7	Bay Area Economics. 2006.
Bay Area Economics. 2007.	5	8	Bay Area Economics. 2006.
Bay Area Economics. 2007.	5	27	Bay Area Economics. 2006.
Bay Area Economics. 2007.	5	28	Bay Area Economics. 2006.
Bay Area Economics. 2007	5	40	Bay Area Economics. 2006.
Forney pers. comm.	B	B-1/4	Bruso,Pers. Comm. 2008.
EPA 2006b	B	B-2	Environmental Protection Agency. 2006
AMBAG 2008	B	B-5	AMBAG 2008a
URBEMIS 2007	B	B-5	URBEMIS 2007 (Rimpo and Associates. 2005 – 2008)