

SECTION 4.0

ENVIRONMENTAL CONSEQUENCES

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4.1 INTRODUCTION

This section describes the environmental consequences that would result from the development of the alternatives. The analysis presented in this section has been prepared in accordance with CEQ's NEPA Regulations Section 1502.16. The direct environmental effects of each alternative are provided under the resource headings described in **Section 3** and listed below. This section also provides analysis of cumulative, indirect, and growth-inducing effects.

Section	Resource Area/Issue
4.2	Land Resources
4.3	Water Resources
4.4	Air Quality
4.5	Biological Resources
4.6	Cultural and Paleontological Resources
4.7	Socioeconomic Conditions and Environmental Justice
4.8	Resource Use Patterns
4.9	Public Services
4.10	Other Values
4.11	Cumulative Effects
4.12	Indirect and Growth-Inducing Effects

4.1.1 DETERMINATION OF SIGNIFICANCE

CEQ Regulations for Implementing NEPA (40 CFR 1508.27) define significance of effects in terms of context and intensity, as indicated below.

- (a) *Context.* This means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant.

- (b) *Intensity*. This refers to the severity of impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action. The following should be considered in evaluating intensity:
- (1) Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.
 - (2) The degree to which the proposed action affects public health or safety.
 - (3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.
 - (4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.
 - (5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.
 - (6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.
 - (7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.
 - (8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.
 - (9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.
 - (10) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

Significance criteria are more precisely defined in standard practices, environmental compliance criteria, or in the statutes or ordinances of the jurisdictional entities. Thus, BIA's and NIGC's determination of significance of impacts is accomplished with the assistance of governmental entities that have jurisdiction or special expertise for each resource. While some other entities or consultants may also possess special expertise for assessing impacts to key resources, BIA is particularly interested in the unique aspects of special expertise offered by the governmental entities in the locality of the occurrence of impacts. Thus, the BIA's and NIGC's determination often uses the standard practices and criteria already established by those entities prior to the preparation of the EIS.

4.1.2 JURISDICTION AND SPECIAL EXPERTISE

Consistent with 40 CFR 1508.27, the BIA identified several parties having jurisdiction and/or special expertise regarding the proposed project. These entities have the role of assisting the BIA and NIGC in the determination of significant impacts for the alternatives for areas within their jurisdiction and/or area of special expertise. These agencies have either agreed to serve as NEPA cooperating agencies, to comment on the EIS or to otherwise provide consultation in the analysis process.

4.2 LAND RESOURCES

This section identifies the environmental and safety impacts of the Proposed Project alternatives related to the existing Land Resources identified in **Section 3.2**. The general topics considered here include topography, soils, seismicity and mineral resources. Mitigation Measures are discussed in **Section 5.2.1**.

4.2.1 ALTERNATIVE A – PROPOSED PROJECT

TOPOGRAPHY

Development of Alternative A would result in localized alterations to the topographical characteristics of the Madera site. 200,000 cubic yards of fill material excavated during construction of stormwater detention basins would be incorporated into the site grading. The overall topography of the Madera site, however, would remain essentially unchanged.

Usage of on-site wells for Alternative A would result in the lowering of the water table, at least locally, potentially resulting in land subsidence, which is a problem in some parts of the San Joaquin Valley, particularly in the western portions of the valley. Much of the subsidence in the San Joaquin Valley occurred during periods of increasing groundwater demand and decreasing groundwater levels from the 1920s to the 1970s. Since the 1970s, ground subsidence has generally stopped or continued at a much lower rate due to increased surface water deliveries. Most of the area in which subsidence occurred is underlain by the Corcoran Clay, which is the major regional aquitard that separates the San Joaquin Valley's confined and unconfined aquifer systems (Komex, 2006 – **Appendix L**).

Fairly minimal ground subsidence of up to approximately one foot has been documented west of the City of Madera in the vicinity of the Madera Ranch, despite the fact that the area has been subject to extensive groundwater pumping from both above and below the Corcoran Clay over the last 100 years. No subsidence affected area is known or expected to exist in the vicinity of the Madera site. Given the relative resistance to subsidence of the nearby Madera Ranch area and the fact that the Madera site is underlain by an unconfined aquifer system, which is less susceptible to pumping induced subsidence, significant ground subsidence is not expected to be associated with the proposed project (Komex, 2006 – **Appendix L**).

Given that grading of the Madera site would not result in noticeable changes to topography and additional subsidence is not expected, Alternative A would not have a significant impact upon Madera site topography.

SOIL

The soils at the Madera site range from poorly drained to excessively drained, with generally moderate erosion hazards. The Grading and Drainage plan described in **Section 2.0** outlines several best management practices (BMPs), including the development of an erosion control plan, that would address and reduce erosion hazards. As such, the design and buildout of Alternative A would not significantly affect soils on the Madera site.

Landslide Hazards

Since the Madera site is flat and level, no impact associated with landslide hazards would occur. Moreover, the BMPs outlined for erosion control would also diminish the slide hazards localized around drainages and detention basins.

SEISMICITY

Section 3.2 identifies the probability for a seismic event to cause destructive ground acceleration at the Madera site. The nearest seismic hazard is the San Andreas Fault, located approximately 40 miles southwest of the Madera site. As discussed in **Section 3.2**, the Madera site is shown by the United States Geological Survey (USGS) to lie within an area anticipated to be subject to 0.2g to 0.3g maximum peak acceleration, with a 2% chance of exceedance in 50 years. The hazards to public safety related to seismically induced structural failure would be considered a potentially significant impact. Mitigation measures related to seismicity on the Madera site appear in **Section 5.2**. Adoption of the mitigation will reduce seismicity impacts to a less than significant level.

Soil Liquefaction

Due to the coarse, grainy composition of soils on the Madera site, the risk for soil liquefaction is low. Therefore, no significant impact related to liquefaction would occur during a seismic event.

Seismically Induced Flooding

No dams or water bodies above grade exist in the vicinity of the Madera site. Therefore, no impact related to seismically induced flooding would occur under Alternative A.

MINERAL RESOURCES

Alteration in the land use under Alternative A would not result in a loss of economically viable aggregate rock or diminish the extraction of important ores or minerals. Because there are no known or mapped mineral resources within the project area, development and use of the land would not be affected by such resources. There are no abandoned mines, shafts, or tailing that would affect development. Therefore, no impact related to mineral resources would occur as a result of this alternative.

4.2.2 ALTERNATIVE B – REDUCED INTENSITY

TOPOGRAPHY

Buildout of Alternative B would be similar in footprint to that for Alternative A, though at a reduced scale. Construction would therefore entail localized alterations to the topographical characteristics of the Madera site. Surface grading for facilities would incorporate the use of approximately 170,000 cubic yards of fill material obtained on-site by the excavation of detention basins. The overall topography of the Madera site, however, would remain unchanged. Subsidence effects would be lessened when compared to Alternative A due to the lower water demands of Alternative B. As such, buildout of Alternative B would not have a significant impact upon Madera site topography.

SOIL

As stated above, the soils at the Madera site range from poorly drained to excessively drained, with generally moderate erosion hazards. The Grading and Drainage plan described in **Section 2.0** outlines several best management practices (BMPs), including the development of an erosion control plan, that would address and reduce erosion hazards. As such, the design and buildout of Alternative B would not significantly affect soils on the Madera site.

Landslide Hazards

Since the Madera site is flat and level, no impact would occur associated with landslide hazards. Moreover, the BMPs outlined for erosion control would also diminish slide hazards localized around drainages and detention basins.

SEISMICITY

The seismic conditions, hazards and impacts related to Alternative B are similar to those identified for Alternative A, above. As with Alternative A, the hazards to public safety related to seismically induced structural failure would be considered a potentially significant impact. Mitigation measures related to seismicity on the Madera site appear in **Section 5.2**. Adoption of the mitigation will reduce seismicity impacts to a less than significant level.

Soil Liquefaction

Due to the coarse, grainy composition of soils on the Madera site, the risk for soil liquefaction is low. Therefore, no significant impact related to liquefaction would occur during a seismic event.

Seismically Induced Flooding

No dams or water bodies above grade exist in the vicinity of the Madera site. Therefore, no impact related to seismically induced flooding would occur under Alternative B.

MINERAL RESOURCES

Alteration in the land use under Alternative B would not result in a loss of economically viable aggregate rock or diminish the extraction of important ores or minerals. As with Alternative A above, there are no abandoned mines, shafts, or tailing that would affect development. Therefore, no impact related to mineral resources would occur as a result of this alternative.

4.2.3 ALTERNATIVE C – NON-GAMING USE

TOPOGRAPHY

Buildout of the proposed project under Alternative C would entail similar alterations to the topographical characteristics of the Madera site as for Alternative A and Alternative B, although at a lower scale. As such, buildout of Alternative C would not have a significant impact upon Madera site topography.

SOIL

As stated above, the soils at the Madera site range from poorly drained to excessively drained, with generally moderate erosion hazards. The Grading and Drainage plan described in **Section 2.0** outlines several BMPs, including the development of an erosion control plan, that would address and reduce erosion hazards. As such, the design and buildout of Alternative C would not significantly affect soils on the Madera site.

Landslide Hazards

Since the Madera site is flat and level, no impact would occur associated with landslide hazards. Moreover, the BMPs outlined for erosion control would also diminish slide hazards localized around drainages and detention basins.

SEISMICITY

The seismic conditions, hazards and impacts related to Alternative C are similar to those identified for Alternatives A and B. As with Alternative A, the hazards to public safety related to seismically induced structural failure would be considered a potentially significant impact. Mitigation measures related to seismicity on the Madera site appear in **Section 5.2**. Adoption of the mitigation will reduce seismicity impacts to a less than significant level.

Soil Liquefaction

Due to the coarse, grainy composition of soils on the Madera site, the risk for soil liquefaction is low. Therefore, no significant impact related to liquefaction would occur during a seismic event.

Seismically Induced Flooding

No dams or water bodies above grade exist in the vicinity of the Madera site. Therefore, no impact related to seismically induced flooding would occur under Alternative C.

MINERAL RESOURCES

Alteration in the land use under Alternative C, as under Alternatives A and B above, would not result in impacts to mineral resources.

4.2.4 ALTERNATIVE D – NORTH FORK LOCATION

TOPOGRAPHY

The preliminary grading plan (**Appendix K**), calls for cutting out a building pad in the middle of the site and creating soil stabilization areas on all sides of the pad at a slope of 2 to 1. Buildout of Alternative D would entail the use of approximately 600,000 cubic yards of displaced or imported fill material to provide a surface appropriate for construction, as well as to construct stormwater detention basins. This would be a localized alteration and the general topographical character of the region would remain unchanged. Ground subsidence from groundwater pumping generally does not occur in fractured rock aquifers like those that underlie the North Fork site. Creation of soil stabilization areas with a slope of 2:1 would not lead to slope instability unless they are improperly designed without erosion control measures, in which case a potentially significant impact would result. Mitigation measures are included in **Section 5.2.1** that would ensure impacts are less than significant.

SOIL

The soils on the North Fork Rancheria are of the Tollhouse association, and subject to erosion due to the inclines found on and around the North Fork site. The Grading and Drainage plan described in **Section 2.0** outlines several Best Management Practices (BMPs), including the development of an erosion control plan, that would address and negate erosion hazards. As such, the design and buildout of Alternative D would not significantly affect soils on the North Fork site.

Landslide Hazards

While the North Fork site is surrounded by inclined ground surfaces, the Grading and Drainage Plan described in **Section 2.0** includes the incorporation of BMPs for compaction and erosion control that would also negate slide hazards around building and parking features, drainages and detention basins. Therefore, landslide-related impacts as a result of Alternative D would be less than significant.

SEISMICITY

The North Fork Rancheria is approximately 80 miles northeast of the San Andreas Fault. Another fault system created by the continual uplift of intrusive igneous matter exists approximately six miles to the northeast of the North Fork site. The North Fork site is shown by the United States Geological Survey (USGS) to lie within an area anticipated to be subject to 0.3g to 0.4g maximum peak acceleration, with a 2% chance of exceedance in 50 years. The hazards to public safety associated with potential structural failure under these conditions would be considered a significant impact. Mitigation appears in **Section 5.2**. Adoption of the mitigation will reduce seismicity impacts to a less than significant level.

Soil Liquefaction

Due to the coarse composition of soils and reduced potential for significant seismic events on the North Fork site, the risk for soil liquefaction is low. Therefore, no significant impact related to liquefaction would occur under this alternative.

Seismically Induced Flooding

No dams or water bodies above grade exist in the vicinity of the North Fork site. Therefore, no impact related to seismically induced flooding would occur under Alternative D.

MINERAL RESOURCES

Alteration in the land use under Alternative D would not result in a loss of economically viable aggregate rock or diminish the extraction of important ores or minerals. There are no abandoned mines, shafts, or tailing that would affect development. Therefore, no impact related to mineral resources would occur as a result of this alternative.

4.2.5 ALTERNATIVE E – NO ACTION

Under the No Action Alternative, no development would take place on the project site or on the Alternative site. For the purposes of the environmental analysis in this EIS, it is assumed that the use of the Madera site would not change under this alternative. Therefore, no impact would occur under Alternative E.

4.3 WATER RESOURCES

4.3.1 ALTERNATIVE A – PROPOSED PROJECT

SURFACE WATER

Executive Order 11988 requires that Federal agencies determine whether a proposed action will occur in a floodplain. If an agency proposes to allow an action to be located in a floodplain, “the agency shall consider alternatives to avoid adverse effects and incompatible development in the floodplains.” If the only practicable alternative action requires siting in a floodplain, the agency shall “minimize potential harm to or within the floodplain.”

The Madera site is located almost completely within a Federal Emergency Management Agency (FEMA) defined 100-year floodplain (**Figure 3.3-2**). Based on the current FEMA Flood Insurance Rate Map (FIRM) (Panel No. 0601700605B and Panel No. 0601700600B) the site is located in Zone AO, with an average flood depth of one foot. Zone AO is designated as “the flood insurance rate zone that corresponds to the areas of 100-year shallow flooding (usually sheet flow on sloping terrain) where average depths are between 1 and 3 feet.” Due to the size of the development proposed under Alternative A, elevating structures is not practicable. It would be extremely costly and would gain little benefit to the floodplain due to the relatively shallow depth of the 100-year flood in the area.

Projects encroaching within a 100-year floodplain are required by FEMA to be constructed a minimum of 1.0 foot above the estimated floodplain elevation (**Section 2.2.5**). The Grading and Drainage Plan (**Appendix K**, Figure 4) incorporates fill to elevate the finished floor of the proposed gaming facility and hotel at least 1.0 foot above the FEMA 100-year floodplain (approximately five feet above the floodplain is proposed). Earth from the detention basin excavation would be incorporated as fill material. Thus, effects to building structure and patron safety during a flood event would be less than significant.

Alternative A creates a potentially negative impact to the floodplain and the severity of flooding in the area in two different ways:

1. The loss of floodplain storage created by the encroachment of the facility, parking lots, treatment plant, wastewater storage basin, and stormwater detention basins into the floodplain, and
2. The increase in stormwater runoff created by the new impervious surfaces.

Impacts to floodplain storage occur when development displaces area that could be used for storage of flood waters during a flooding event. The runoff characteristics of a watershed are altered when impervious surfaces replace natural vegetation preventing infiltration into the soil. Runoff changes may increase stream volumes, increase stream velocities, increase peak discharges, shorten the rate of peak flows, and decrease groundwater contributions to stream base

flows during non-precipitation periods. Utilizing the FIRM-estimated depth of flooding in the vicinity of the Madera site of 1.0 feet results in a displaced flood storage volume of 53.5 acre-feet.

Under Alternative A, 45.26 acres of site improvements would be constructed, including the casino, other buildings, parking lots, and internal roads. Runoff from new impervious surfaces would result in a stormwater runoff volume of 102.4 acre-feet. This surface water increase has the potential to cause downstream flooding, and without mitigation would be a significant impact.

Alternative A includes the construction of a storm drainage system to manage stormwater flow. As described in **Section 2.2.6**, the drainage system would primarily consist of inlets and underground drainage pipes. However, an overland drainage would be created for the project to allow the site to drain under overflow conditions. The overland drainage release would be around the perimeter of the site and is shown in Figure 5 of **Appendix K**.

Grassy swales would convey the stormwater to a series of three stormwater detention basins that would be constructed to eliminate downstream stormwater impacts (**Appendix K**, Figure 4). The three detention basins would encompass a surface area of approximately 39 acres with a combined storage capacity of 105 acre-feet (af). The 100-year storm runoff would fill the detention basins to a depth of approximately 3 feet.

Although the proposed development of Alternative A reduces flood storage and increases runoff and peak flow rates, the proposed detention basins mitigate for the loss of flood storage and temporarily store the stormwater runoff to limit the peak flow. The peak flow from the detention basins would be metered through the designed metering structures to pre-project levels. A preliminary plan showing the location of the detention basins is included in **Appendix K** (Figure 4). Since a loss of flood-storage would not occur and post-project runoff and flow rates would equal pre-project levels with the detention basins, impacts to flooding would be less than significant. Nonetheless, mitigation measures are included in **Section 5.2.2** that would further reduce impacts from flooding.

Groundwater occurs at a depth of approximately 140 feet below the ground surface in the vicinity of the Madera site. Thus, there is no known hydrologic connection between groundwater and surface water in this area and significant impacts to surface water resources would not occur as a result of project groundwater pumping.

GROUNDWATER

Water for domestic use, emergency supply, and fire protection would be provided by on-site groundwater wells or by the City of Madera, as described in **Section 2.2.8**. Given nearby high capacity wells, historic high capacity on-site agricultural wells, and the known characteristics of

the San Joaquin Valley Groundwater Basin (see **Appendix L**), an on-site groundwater well would be able to supply the water demanded by Alternative A (see **Section 2.2.8**). As described in **Section 2.2.8**, the primary water supply for Alternative A would be provided by an on-site well whether or not a looped system with the City of Madera is created. Under the on-site system option an on-site water supply well, an on-site redundancy/maintenance well, and an on-site storage tank would be developed. Under the City of Madera loop option an on-site water supply well, an off-site redundancy/maintenance/fire flow well (existing City Well No. 26), required off-site piping, and, if necessary, an on-site storage tank would be developed. Impacts to groundwater would be the same for either the on-site system option or the City of Madera looped system option because the primary water supply well would be located on the Madera site for both options.

Groundwater recharge may not be sufficient to compensate for drawdown effects caused by on-site pumping. Adjacent groundwater wells may also be impacted by a lowered table.

To provide an adequate water supply for the development of Alternative A, any wells constructed on-site would be at least 600 feet deep and would have an average water supply capacity of either approximately 400,000 gpd / 278 gpm (no water recycling) or approximately 270,000 gpd / 190 gpm (with water recycling) (see **Section 2.2.8** and **Appendix I**).

Drawdown of the water table from the project in combination with an ongoing groundwater basin decline caused mainly by agricultural pumping could shorten the lifespan of neighboring wells. Baseline groundwater basin water table declines are more rapid during dry or critically dry years (although they may be less rapid during especially wet years). At the property boundary, the predicted drawdown caused by Alternative A pumping would be 6.4 feet (if water is recycled) or 9.3 feet (if water is not recycled) (Komex, 2006 – **Appendix L**). However, no off-site wells are located at the property boundary, thus drawdown to neighboring wells would be less than 9.3 feet. Analysis of the drawdown curves shows that all of the known off-site wells located within a two-mile radius (estimated at 259 wells – see **Appendix L**) of the Madera site would experience some drawdown effects from proposed pumping on the site. For Alternative A, the drawdown effects would range from 1.5 feet to 7.2 feet without recycling and 1.0 feet to 4.9 feet with recycling. Reductions in the life of wells would not exceed 3 years among smaller wells within two miles of the site (effects would be negligible to larger wells and wells more than two miles from the site).

The Tribe has agreed in a Memorandum of Understanding (MOU) with the Madera Irrigation District (MID) to recharge at least as much water that would be pumped under Alternative A in nearby MID recharge areas. This recharge would alleviate regional impacts of the pumping (see **Section 4.11** for further analysis of these cumulative impacts) but would not occur on-site and would therefore not completely eliminate the cone of depression and resulting drawdown that would occur in neighboring wells. Thus, a minimal, less than significant effect to neighboring wells from on-site groundwater pumping would remain. Nonetheless, mitigation measures to

reduce impacts to neighboring wells from groundwater drawdown are provided in **Section 5.2.2** of this document.

WATER QUALITY

Construction Impacts

Project construction would result in ground disturbance, which could lead to erosion. Erosion can increase sediment discharge to surface waters during storm events. Project construction also has the potential to discharge other construction-related materials (concrete washings, oil, and grease) onto the ground and then into nearby surface waters during storm events. Construction would involve the use of diesel-powered equipment and would likely involve the temporary storage of fuel and oil on-site. Discharges of pollutants to surface waters from construction activities associated with development of Alternative A could result in significant impacts to water quality.

Discharges of stormwater from construction activities on the Madera site would be regulated by the U.S. Environmental Protection Agency (USEPA) National Pollutant Discharge Elimination System (NPDES) storm water program and would require coverage under the Phase II General Permit for Storm Water Discharges from Construction Activities (Construction General Permit). Under the Construction General Permit, a Notice of Intent (NOI) must be submitted to the USEPA at least seven days prior to commencement of construction. In accordance with the requirements of the General Permit, the Tribe must prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) to control discharge of the pollutants in stormwater. This plan would be kept on-site and would be available for review by the USEPA upon request. It would also include an inspection and monitoring section consistent with the requirements of the NPDES program. The plan would incorporate appropriate best management practices (BMPs) to prevent erosion and subsequent surface water degradation during construction activities. These measures typically include the use of silt fences, fiber rolls, vegetated swales, and construction entrances and exits stabilized with crushed aggregate.

Compliance with USEPA requirements would ensure impacts to water quality during construction would be less than significant. Nonetheless, see **Section 5.2.2** for a list of recommended mitigation measures, including recommended BMPs for incorporation into a SWPPP.

Operational Impacts

Stormwater Runoff

Stormwater runoff during long term casino operation could affect surface water quality. Runoff from project facilities, especially surface parking lots, could flush trash, debris, oil, sediments, and grease into downstream surface waters, impacting water quality. Fertilizers and other chemicals used in landscaping areas could also result in impacts to water quality if allowed to enter nearby surface waters. Unimpeded, this runoff would result in a significant impact.

Site planning includes minimization of impermeable surfaces. In addition, the project would be designed to incorporate two main structural BMPs: the stormwater detention basins described previously, and the use of sediment/grease traps. The purpose of the structural BMPs is to control and reduce total suspended solids (TSS), oils and greases, nutrients, metals, and other potentially environmentally polluting minerals or materials from being released to downstream surfaces.

The sediment/grease traps would be designed to comply with Federal stormwater treatment guidelines to reduce TSS in post-construction stormwater runoff as described in the USEPA National Management Measures Guidance to Control Nonpoint Source Pollution from Urban Areas (USEPA 842-B-02-003). This guidance document indicates that a reduction of TSS also controls heavy metals, phosphorous, and other pollutants. A summary of the pollutant reduction efficiencies is listed in **Table 4.3-1**. As shown, inlets affixed with a sediment/grease trap would remove 28 – 80 percent of pollutants from stormwater. In addition, stormwater would be routed to detention basins, which would further diminish pollutant concentrations in the stormwater (**Table 4.3-1**).

Since the combination of site planning, structural treatment BMPs and non-structural source control BMPs would be part of the proposed project, the impact of runoff on water quality would be less than significant. Mitigation measures are discussed in **Section 5.2.2** and would further reduce less than significant operational impacts to water quality.

TABLE 4.3-1
ESTIMATED STORMWATER QUALITY – ALTERNATIVE A

Pollutant	Anticipated Level in Stormwater (mg/L) ^a	Stormceptor Reduction Efficiency ^b	Detention Basin Reduction Efficiency ^c	Estimated Minimum Reduction Efficiency	Anticipated Discharge Pollutant Level (mg/L) ¹
Total Suspended Solids	80	80%	30-65%	80%	16
Total Petroleum Hydrocarbon	3.5	80%	N/A	80%	0.70
Total Nitrogen	2	43%	15-45%	43%	<2
Zinc	0.14	39%	15-45%	39%	<0.1
Copper	0.01	28%	15-45%	28%	<0.01
Lead	0.018	51%	15-45%	51%	<0.01

NOTES: ¹ Filtered stormwater would be transferred to a detention basin (which would be managed to further reduce the water's pollutant concentration) before being discharged to surface waters.

SOURCE: ^a National Management Measures to Control Nonpoint Source Pollution from Urban Areas, USEPA 842-B-02-003, July 2002.

^b Stormceptor-supplied performance studies, 2003.

^c Preliminary Data Summary of Urban Storm Water Best Management Practices, USEPA 821-R-99-02, August 1999.

Wastewater

Several wastewater treatment options exist for wastewater treatment and disposal, as described in **Section 2.2.7** and **Appendix I**. Wastewater treatment may occur at the City of Madera wastewater treatment plant (WWTP). Construction is planned in the near future to expand the plant's capacity from 7 million gallons per day (MGD) to 10.1 MGD. During the expansion, the trickling filter system will be replaced with an activated sludge system. The treated wastewater is conveyed to percolation beds for disposal. Wastewater at the City of Madera WWTP is treated to State and Federal standards before disposal; therefore, no significant impacts to surface water quality would occur from implementation of off-site wastewater treatment.

Alternatively, wastewater may be treated at an on-site WWTP, located to the west of the casino and hotel (**Figure 2-5**). The exact location of the WWTP would depend on the disposal option chosen. Disposal options are described in **Section 2.2.7**. The WWTP would use an immersed membrane bioreactor (MBR) system to provide tertiary-treated water for reuse or disposal. The MBR is a state-of-the-art system that operates as an activated sludge process run at a high suspended solids concentration. Running at a high suspended solids concentration gives the system the ability to react to wide variations in flows as would be expected at gaming facilities on the weekend or holidays. Experience at the other operating plants demonstrates the ability of the MBR system to consistently produce a high quality effluent. Typical effluent from a MBR process is summarized in **Table 4.3-2**. These concentrations are based on water qualities observed at other similar facilities. A detailed description of the wastewater treatment facility is presented in **Appendix I**.

TABLE 4.3-2
TYPICAL CASINO EFFLUENT WASTEWATER QUALITY

Parameter	Units of Influent
Biochemical Oxygen Demand (BOD)	< 1 mg/L
NH ₄ (Ammonium)	< 0.2 mg/L
NO ₃ (Nitrate)	< 8 mg/L
Total Coliform	> 2.2 MPN/100 mL
Nephelometric Turbidity Units (NTU)	> 0.1

NOTES: mg/L = milligrams per liter
MPN = most probable number
mL = milliliters

SOURCE: HydroScience Engineers, Inc., 2006.

The proposed treatment and disposal facility provides for the use of reclaimed water for casino toilet flushing and landscape irrigation. All water used for reclamation would be of a quality consistent with California Department of Health Services (DHS) regulations under Title 22, Division 4, Chapter 3, of the California Administrative Code, provided in **Table 4.3-3**. Title 22 specifies redundancy and reliability features that would be incorporated into the reclamation

plant. Under Title 22 Water Recycling Criteria, the highest level of treatment is referred to as “Disinfected Tertiary Recycled Water.” The proposed plant would produce an effluent meeting the criteria for this highest level of recycled water. Disinfected tertiary-treated recycled water can be used for irrigation of parks, playgrounds, schoolyards, residential landscaping, golf courses and food crops. Additional permitted uses include non-restricted recreational impoundments, cooling towers, fire fighting, toilet flushing and decorative fountains. The water produced by this treatment system is highly treated and poses no health risks for the intended uses.

Treated effluent may be discharged through surface water discharge, spray disposal, sub-surface disposal, or a combination of spray and sub-surface disposal. Projected wastewater discharge rates appear in **Appendix I**. Wastewater discharge options for the on-site WWTP are described below.

TABLE 4.3-3
SUMMARY OF TITLE 22 TREATMENT REQUIREMENTS FOR RECYCLED WATER

Potential Uses	Title 22 Criteria
Landscape Irrigation	
With High Public Contact	Bio-oxidation, coagulation, clarification, filtration, disinfection to limit coliform to 2.2 MPN/100 mL.
With Low Public Contact	Bio-oxidation, disinfection to limit coliform to 23 MPN/100 mL.
Recreational Impoundments	
Non-restricted	Bio-oxidation, coagulation, clarification, filtration, disinfection to limit coliform to 2.2 MPN/100 mL.
Restricted	Bio-oxidation, disinfection to limit coliform to 2.2 MPN/100 mL.
Landscape Impoundments	Bio-oxidation, disinfection to limit coliform to 23 MPN/100 mL.
Industrial uses	
Construction/Dust Control/Soil Compaction	Bio-oxidation, disinfection to limit coliform to 23 MPN/100 mL.
Groundwater Recharge/Seawater Intrusion Barrier	
	This use shall be considered by the DHS and the RWQCB on an individual case basis where the use of recycled water involves a potential risk to public health; guidelines for this use have been proposed.
Cleaning, Dual Water System (Toilet Flushing and Landscape Irrigation), Firefighting, Wetlands Creation/Restoration	
	No criteria are listed for any of these uses in existing Title 22. Currently, each of these uses is considered as criteria set by the RWQCB and DHS on an individual case basis. Uses anticipated to be addressed in future revisions to Title 22, which have been circulated for public comment.

NOTES: MPN = most probable number
DHS = Department of Health Services
RWQCB = Regional Water Quality Control Board
mL = milliliters

SOURCE: California Code of Regulations, Title 22, Division 4, 1978, amended 1998.

The USEPA’s Office of Ground Water and Drinking Water administers the Source Water Protection Program (authorized by the 1996 amendments to the Safe Drinking Water Act) to

prevent contamination to drinking water supplies. The Source Water Protection Program outlines a comprehensive plan to achieve maximum public health protection through inventorying known sources of contamination to drinking water, assessing the threat of such sources of contamination to drinking water, notifying the public about such threats, implementing management measures, and developing contingency plans.

The on-site WWTP would be constructed at least five feet above the floodplain elevation, minimizing the risk of floodwater contamination during a flood event. Storage basins would be bermed above the floodplain elevation and would not contain untreated water. Given that water would be treated to Title 22 standards sufficient for use as reclaimed water, even if it were to mix with flood flows, significant effects to water quality would not occur. Thus the on-site WWTP and proposed treated wastewater storage basins would be compatible with the protection of drinking water sources provided by the Source Water Protection Program. Effects from the various disposal options are discussed below.

Surface Water Discharge. Treated effluent may be discharged into a channelized creek that flows through the Madera site. This creek flows into Dry Creek, and eventually into the Fresno River. The Fresno River is not designated as part of the Regional Water Quality Control Board's (RWQCB) 303(d) listing of impaired water bodies; however, it does flow into the San Joaquin River, which is listed as an impaired water body.

A NPDES permit would be required to discharge wastewater produced on-site to the on-site creek. Since the treatment facilities and point of discharge would be fully contained within trust lands, the NPDES permit would be issued and regulated by the USEPA. Normally, the USEPA sets treatment and discharge requirements in the NPDES permit in accordance with State standards.

The acquisition of an NPDES permit, along with the construction and operation of the proposed MBR WWTP, would ensure that impacts to surface water from the surface water wastewater disposal option would be less than significant.

Spray Disposal. Spray disposal is an evapotranspiration technique in which water is applied to sprayfields at agronomic rates throughout the year. During rain events, sprayfields cannot be used. Therefore, a large seasonal storage basin would be necessary. The location for the WWTP and sprayfields is shown in **Figure 2-5**. Under this option, 29 acres of land in the northwest corner of the Madera site would be used for spray disposal or a recycled water line would transfer treated effluent approximately 1 mile south to the City of Madera golf course. A seasonal storage basin would be located near the WWTP and would hold 43 million gallons (MG) of treated effluent.

The water produced by the MBR treatment system is of high quality and poses negligible health risks for the intended uses. In addition, surface water quality would not be impacted since discharge to surface water bodies would not occur. Implementing Title 22 criteria for recycled water at the Tribe's WWTP would also ensure that groundwater quality is not impacted. Therefore, no significant impacts would occur from implementation of the spray disposal option.

Sub-Surface Disposal. Leachfields are used to dispose of treated wastewater effluent by distributing it underground to infiltrative soil surfaces. Sub-surface disposal requires good percolation and several feet of clearance above the highest groundwater levels. High groundwater does not occur at this site; however, percolation may be limited due to a hardpan layer within the soil. Because effluent would be treated to tertiary levels prior to placement in the leachfields, soil cover over the leachfields can be minimal. The location of the WWTP and leachfields is shown in **Figure 2-5**. A maximum of 78 acres of leachfields would be required for discharge of the entire 270,000 gpd. A seasonal storage basin would have the capacity to hold 4 MG of treated effluent.

The proposed MBR WWTP would produce an effluent meeting the Title 22 criteria for the highest quality of recycled water and poses negligible health risks for the intended uses. Surface water quality would not be impacted since discharge to surface water bodies would not occur and implementation of Title 22 criteria for recycled water at the Tribe's WWTP would ensure that groundwater quality is not impacted. Therefore, no significant impacts would occur from implementation of the sub-surface disposal option for wastewater effluent.

In addition, sub-surface disposal may be considered a Class V injection well under the USEPA's Underground Injection Control (UIC) Program. The USEPA requires that: 1) Class V wells obey the non-endangerment performance standard prohibiting injection that allows the movement of fluids containing any contaminant into underground sources of drinking water, if the presence of that contaminant may cause a violation of any primary drinking water regulation or adversely affect public health; and 2) owners of Class V wells provide inventory information to the USEPA regional UIC Program.

Combination of Surface and Sub-Surface Disposal. Under this option, sprayfields would be used in conjunction with leachfields. The combined area would be approximately 31 acres. A seasonal storage basin would be required to hold 31 MG. The location of the WWTP and combination spray and leachfields is shown in **Figure 2-5**.

Based on the above discussion, the on-site WWTP with discharge from a MBR facility would have a less than significant impact on the quality of surface water and groundwater resources.

4.3.2 ALTERNATIVE B – REDUCED INTENSITY

SURFACE WATER

Alternative B's impacts to flooding would be similar to Alternative A, given the similar footprint of the Alternative B development. As with Alternative A, the Alternative B gaming facility would be raised approximately five feet above the floodplain elevation (**Section 2.3.4**), resulting in a less than significant effect to project structures and patron safety during a flooding event.

The Grading and Drainage Plan would also be implemented for Alternative B (**Appendix K**, Figure 4). See **Sections 2.3.5** and **4.3.1** for further information regarding storm drainage improvements. With incorporation of the Grading and Drainage Plan, impacts to flooding would be less than significant with the implementation of Alternative B. Nonetheless, mitigation measures are included in **Section 5.2.2** that would further reduce impacts from flooding.

Groundwater occurs at a depth of approximately 140 feet below the ground surface in the vicinity of the Madera site. Thus, there is no known hydrologic connection between groundwater and surface water in this area and significant impacts to surface water resources would not occur as a result of project groundwater pumping.

GROUNDWATER

As with Alternative A, groundwater resources would be sufficient to serve the demands of Alternative B, which would require less water for operation. As with Alternative A, primary continuous water supply for Alternative B would be supplied by a privately operated on-site well. Under the on-site system option an on-site water supply well, an on-site redundancy/maintenance well, and an on-site storage tank would be developed. Under the City of Madera loop option an on-site water supply well, an off-site redundancy/maintenance/fire flow well (existing City Well No. 26), required off-site piping, and, if necessary, an on-site storage tank would be developed. Impacts to groundwater would be the same for either the on-site system option or the City of Madera looped system option because the primary water supply well would be located on the Madera site for both options.

At the property boundary, the predicted drawdown caused by Alternative B pumping would be 3.8 feet (water is recycled) or 5.8 feet (water is not recycled) (**Komex, 2006 – Appendix L**). Analysis of the drawdown curves shows that all of the known off-site wells located within a two-mile radius of the Madera site would experience some drawdown effects from proposed pumping on the site. For Alternative B, the drawdown effects would range from 0.9 feet to 4.5 feet without recycling and 0.6 feet to 3.0 feet with recycling. Reductions in the life of wells would not exceed 3 years among smaller wells within two miles of the site (effects would be negligible to larger wells and wells more than two miles from the site). Therefore, a significant effect to neighboring wells from on-site groundwater pumping would not occur. Nonetheless, mitigation measures to

reduce impacts to neighboring wells from groundwater drawdown are provided in **Section 5.2.2** of this document.

WATER QUALITY

Construction Impacts

Construction impacts of Alternative B would be similar to Alternative A. There are minor construction differences between the two alternatives, including a reduced site layout and reduced square footage. As with Alternative A, discharges of stormwater from construction activities on the Madera site would be regulated by the USEPA NPDES storm water program and would require coverage under the Phase II General Permit for Storm Water Discharges from Construction Activities. A SWPPP and an erosion control plan would be prepared and implemented as part of the NPDES permit. See **Section 4.3.1** for further discussion of construction impacts to surface water quality. Compliance with USEPA requirements would ensure impacts to water quality during construction would be less than significant. Nonetheless, see **Section 5.2.2** for a list of recommended mitigation measures, including recommended BMPs for incorporation into a SWPPP.

Operational Impacts

Stormwater Runoff

Operational impacts of Alternative B from stormwater runoff would be similar to those of Alternative A (**Section 4.3.1**) and a less than significant effect would result. Mitigation measures are included in **Section 5.2.2** that would further reduce operational impacts to water quality.

Wastewater

Wastewater treatment and disposal options for Alternative B are similar to those for Alternative A, except that average day disposal flows and disposal acreages would be reduced. Each of the wastewater options described in **Section 4.3.1** would satisfy Federal and State standards. No significant operational impacts to water quality from wastewater would occur. Mitigation measures associated with the on-site WWTP option are provided in **Section 5.2.2**.

4.3.3 ALTERNATIVE C – NON-GAMING USE

SURFACE WATER

Alternative C's impacts to flooding would be similar to Alternative A, given the similar footprint of the Alternative C development. As with Alternative A, Alternative C retail and restaurant buildings would be raised approximately five feet above the floodplain elevation (**Section 2.4.4**), resulting in a less than significant effect to project structures and patron safety during a flooding event.

The Grading and Drainage Plan would also be implemented for Alternative C (**Appendix K**, Figure 4). See **Sections 2.4.5** and **4.3.1** for further information regarding storm drainage improvements. With incorporation of the Grading and Drainage Plan, impacts to flooding would be less than significant with implementation of Alternative C. Nonetheless, mitigation measures are included in **Section 5.2.2** that would further reduce flooding impacts.

Groundwater occurs at a depth of approximately 140 feet below the ground surface in the vicinity of the Madera site. Thus, there is no known hydrologic connection between groundwater and surface water in this area and significant impacts to surface water resources would not occur as a result of project groundwater pumping.

GROUNDWATER

As with Alternative A, groundwater resources would be sufficient to serve the demands of Alternative C, which would require less water for operation. As with Alternative A, primary continuous water supply for Alternative C would be supplied by a privately operated on-site well. Under the on-site system option an on-site water supply well, an on-site redundancy/maintenance well, and an on-site storage tank would be developed. Under the City of Madera loop option an on-site water supply well, an off-site redundancy/maintenance/fire flow well (existing City Well No. 26), required off-site piping, and, if necessary, an on-site storage tank would be developed. Impacts to groundwater would be the same for either the on-site system option or the City of Madera looped system option because the primary water supply well would be located on the Madera site for both options.

At the property boundary, the predicted drawdown caused by Alternative C pumping would be 0.3 feet (water is recycled) or 0.5 feet (water is not recycled) (Komex, 2006 – **Appendix L**). Analysis of the drawdown curves showed that all of the known off-site wells located within a two-mile radius of the Madera site would experience drawdown effects from proposed pumping on the site. For Alternative C, the drawdown effects would be less than 0.4 feet. This would not be a significant impact because it would represent a negligible change in the depth pumped and would not measurably reduce the life of neighboring wells. Nonetheless, mitigation measures to reduce impacts to neighboring wells from groundwater drawdown are provided in **Section 5.2.2** of this document.

WATER QUALITY

Construction Impacts

Construction impacts of Alternative C would be similar to Alternative A. There are minor construction differences between the two alternatives, including a reduced site layout and reduced acres of impervious surfaces. As with Alternative A, discharges of stormwater from construction activities on the Madera site would be regulated by the USEPA NPDES storm water program and would require coverage under the Phase II General Permit for Storm Water Discharges from

Construction Activities. A SWPPP and an erosion control plan would be prepared and implemented as part of the NPDES permit. See **Section 4.3.1** for further discussion of construction impacts to surface water quality. Compliance with USEPA requirements would ensure impacts to water quality during construction would be less than significant. Nonetheless, see **Section 5.2.2** for a list of recommended mitigation measures, including recommended BMPs for incorporation into a SWPPP.

Operational Impacts

Stormwater Runoff

Operational impacts of Alternative C from stormwater runoff would be similar to those of Alternative A (**Section 4.3.1**) and a less than significant effect would result. Mitigation measures are included in **Section 5.2.2** that would further reduce operational impacts to water quality.

Wastewater

Wastewater treatment and disposal options for Alternative C are similar to those for Alternative A, except that average day disposal flows and disposal acreages would be reduced. Each of the wastewater options described in **Section 4.3.1** would satisfy Federal and State standards. No significant operational impacts to water quality from wastewater would occur. Mitigation measures associated with the on-site WWTP option are provided in **Section 5.2.2**.

4.3.4 ALTERNATIVE D – NORTH FORK LOCATION

SURFACE WATER

According to FEMA, the North Fork site is designated as being located within the Sierra National Forest Zone D, “an area in which flood hazards are undetermined.” Since the North Fork site is located in a mountainous, forested region with steep topography, flooding associated with a 100-year floodplain is very unlikely to occur. Therefore loss of flood storage and on-site impacts from flooding would not occur with Alternative D. A Drainage Plan has been prepared for Alternative D (**Appendix K**, Figure 13) that includes storm drainage improvements, including an overland drainage release to enable the property east of Mission Drive to continue to drain through the North Fork site (**Appendix K**, Figure 14). The overland drainage release allows the building site to be protected during peak storm runoff events.

Construction of Alternative D would create new impervious surfaces over approximately five acres of the North Fork site. This increase in impervious surfaces would prevent groundwater infiltration and increase surface runoff, potentially causing flooding, and without mitigation, would be a potentially significant impact.

Development of Alternative D would increase surface runoff to a volume of 0.55 acre-feet. To eliminate downstream flooding impacts, the stormwater drainage system for Alternative D is

designed to limit the peak flow from the developed site to pre-development peak flows (**Section 2.5.5**). To accomplish this, stormwater detention has been incorporated into the southern portion of the site. To accommodate the total storage required for implementation of Alternative D (0.55 acre-feet), the stormwater detention basin has been sized to allow for 1 acre-foot of storm water runoff. The 100-year storm runoff would fill the detention basin to a depth of approximately 3 feet.

Since a loss of flood-storage would not occur and post-project runoff and flow rates would equal pre-project levels with the detention basins, impacts to flooding would be less than significant. Nonetheless, mitigation measures are included in **Section 5.2.2** that would further reduce impacts from flooding.

It is unknown whether on-site surface waters are connected to groundwater. It is possible, although unlikely given the low levels of pumping that would occur under Alternative D, that a significant affect to surface water flows would occur from project pumping. Thus, a potentially significant impact would result. Mitigation measures are contained in **Section 5.2.2** that would reduce this potential impact to a less than significant level.

GROUNDWATER

Water for domestic use, emergency supply, and fire protection would be provided by on-site groundwater wells or from Madera County, as described in **Section 2.5.7**.

If on-site groundwater is utilized, two new pumping wells on the North Fork site would be constructed to at least 500 feet below ground surface (bgs). One well would be used for continuous supply and the other for redundancy in case of malfunction or maintenance of the primary well. Each well would have a firm water supply capacity of approximately 17 (no water recycling) or 9 (with water recycling) gpm. Hook up to the County water supply system would be an alternative to on-site groundwater production. The proposed pumping rate is comparable to or lower than the tested sustainable pumping rates of existing wells in the area of the North Fork site; therefore, the aquifer would produce water at the proposed rate. Potentially significant effects on nearby wells could range from no impact at all to a well going dry or its pumping capacity being significantly reduced. Mitigation measures for drawdown impacts to groundwater are provided in **Section 5.2.2** of this document. Implementation of mitigation measures would reduce impacts to less than significant level.

WATER QUALITY

Construction Impacts

Project construction would result in ground disturbance, which could lead to erosion. Erosion can increase sediment discharge to surface waters during storm events and has the potential to discharge other construction-related pollutants. Discharges of sediment and pollutants to surface

waters from construction activities and accidents are a potentially significant impact to surface water quality.

Discharges of stormwater from construction activities on the North Fork site would be regulated by the USEPA NPDES storm water program and would require coverage under the Phase II General Permit for Storm Water Discharges from Construction Activities. See **Section 4.3.1** for additional information regarding the NPDES program. Compliance with USEPA requirements would ensure impacts to water quality during construction would be less than significant. Nonetheless, see **Section 5.2.2** for a list of recommended mitigation measures, including recommended BMPs for incorporation into a SWPPP.

Operational Impacts

Stormwater Runoff

Operational impacts of Alternative D from stormwater runoff would be similar to those of Alternative A (**Section 4.3.1**), except at a different location (the North Fork site). Mitigation measures are discussed in **Section 5.2.2** that would further reduce less than significant operational impacts to water quality.

Wastewater

Two wastewater facility options exist for wastewater treatment, storage, and disposal: 1) an off-site wastewater treatment option and 2) an on-site wastewater treatment option (**Section 2.5.6**). Each of these options would satisfy State and Federal standards as described in **Section 4.3.1**.

Development of Alternative D would produce 20,000 gpd of wastewater. See **Appendix I** for further discussion on flow rates and treatment options.

Wastewater treatment may occur at the County-operated WWTP that serves the Community of North Fork. This WWTP is located 1 mile northwest of the North Fork site (**Figure 2-16**). Treatment plant facilities include a raw sewage pump station, extended aeration treatment facilities, chlorine disinfection, an effluent pump station, storage pond, and a distribution pump station. Sprayfields are currently utilized to dispose of disinfected effluent; however, an expansion of the WWTP is currently underway that will also include the use of leachfields. Wastewater at the County WWTP is treated to State and Federal standards before disposal; therefore, less than significant impacts to surface water quality would occur from use of the off-site WWTP for disposal.

Alternatively, wastewater may be treated at an on-site WWTP, located to the south of the casino and hotel (**Figure 2-17**). Like Alternative A, a MBR WWTP would be utilized. Unlike Alternative A, the North Fork site is not located within the 100-year floodplain. Thus, water quality issues during flood events are not a concern.

The proposed treatment and disposal facility provides for the use of reclaimed water for casino toilet flushing and landscape irrigation. As described in **Section 4.3.1**, all water used for reclamation would meet Title 22 standards of the California Code of Regulations. Wastewater discharge options for the on-site WWTP are described below.

Surface Water Discharge. Treated effluent may be discharged to an unnamed tributary of Willow Creek, which flows through the North Fork site. Willow Creek empties into the San Joaquin River, upstream of Millerton Lake. A NPDES permit would be required to discharge wastewater produced on-site to the on-site creek. Since the treatment facilities and point of discharge would be fully contained within trust lands, the NPDES permit will be issued and regulated by the USEPA. Normally, the USEPA sets treatment and discharge requirements in the NPDES permit in accordance with State standards. The acquisition of a NPDES permit, along with the construction and operation of the proposed MBR WWTP, would ensure that impacts to surface water from the surface water wastewater disposal option would be less than significant.

Spray Disposal. The location for the WWTP and sprayfields is shown in **Figure 2-17**. Under this option, 2 acres of land in the southern corner of the North Fork site would be used for spray disposal. A seasonal storage basin would be located near the WWTP and would hold 4 MG of treated effluent. As with Alternative A, the proposed MBR WWTP effluent would meet the Title 22 criteria for recycled water and would be applied to sprayfields at agronomic rates and not during rain events. The water produced by this treatment system is highly treated and poses negligible health risks for the intended uses. In addition, surface water quality would not be impacted since discharge to surface water bodies would not occur. Implementing Title 22 criteria for recycled water at the Tribe's WWTP would also ensure that groundwater quality is not impacted. Therefore, no significant impacts would occur from implementation of the spray disposal option.

Sub-Surface Disposal. Leachfields are used to dispose of treated wastewater effluent by distributing it underground to infiltrative soil surfaces. The location of the WWTP and leachfields is shown in **Figure 2-17**. A maximum of 5 acres of leachfields would be required for effluent disposal. A seasonal storage basin would contain 2 MG of treated effluent.

As with Alternative A, the proposed MBR WWTP would produce an effluent meeting Title 22 criteria for the highest quality of recycled water, and poses negligible health risks for the intended uses. Surface water quality would not be impacted since discharge to surface water bodies would not occur. Implementation of Title 22 criteria for recycled water at the Tribe's WWTP would ensure that groundwater quality is not impacted. Therefore, no significant impacts would occur from implementation of the sub-surface disposal option for wastewater effluent.

Combination of Surface and Sub-Surface Disposal. Under this option, sprayfields would be used in conjunction with leachfields. The combined area would be approximately 2 acres. A seasonal storage basin would be required to hold 3 MG. The location of the WWTP and combination spray and leachfields is shown in **Figure 2-17**. Based on the above discussion, the on-site WWTP with discharge from a MBR facility would have a less than significant impact on the quality of surface water and groundwater resources.

4.3.5 ALTERNATIVE E – NO ACTION

SURFACE WATER

No new development is proposed under Alternative E. Thus, the existing drainage from the Madera site and North Fork site would continue to flow off-site unimpeded. Under this alternative, no effect would occur to drainage. Flooding at the Madera site following the No Action Alternative would consist of inundation of present day, agricultural landforms. Therefore no new impacts would occur.

Construction Impacts

The No Action Alternative would not result in any site grading, construction, or any other impact.

Operational Impacts

Runoff

Runoff following the No Action Alternative would consist of natural flow from permeable earthen and vegetative surfaces. The ongoing level of impact on the water quality of runoff from agricultural uses at the Madera and North Fork sites would continue.

Wastewater

The No Action Alternative would not generate wastewater. Therefore no impacts would occur.

GROUNDWATER

The No Action Alternative would result in no additional impacts to groundwater supply.

WATER QUALITY

Surface water supplies near the Madera site would continue to be susceptible to contamination from agricultural uses under Alternative E. The above surface water quality control measures necessary for the construction and operation of Alternatives A through D would not be necessary for the No Action Alternative because no new development would occur. Because existing land uses would persist on the Madera and North Fork sites, there would be no effect on current surface water quality.

4.4 AIR QUALITY

4.4.1 METHODOLOGY

The following is a description of the technical analysis approaches used to analyze the air quality effects of the project alternatives.

CONSTRUCTION-RELATED EFFECTS

URBEMIS version 8.7 was used to estimate emissions from all construction-related sources. URBEMIS is a California-specific computer model that is owned and modified by the local air pollution control districts and air quality management districts in the State of California. URBEMIS estimates construction, area source, and operational emissions of NO_x and PM₁₀ from potential land uses, using the most recent approved version of relevant ARB emissions models and emission factors and/or District-specific emission factors; and estimates emissions reductions. The program is available from <http://www.urbemis.com>.

Previous versions of URBEMIS were designed to estimate only emissions from motor vehicle trips generated by land use development. More recent versions of URBEMIS have been enhanced so the user can estimate construction and area source emissions and select mitigation measures for construction emissions, area sources, and motor vehicle trips. Output files from the URBEMIS version 8.7 model are presented in **Appendix S**.

OPERATIONAL EFFECTS

URBEMIS version 8.7 was also used to estimate emissions associated with long-term operation of the project alternatives. Input values for the URBEMIS version 8.7 model included data from the traffic study of the project alternatives. Trip generation estimates from the traffic study were used in the URBEMIS version 8.7 model. In addition, trip length data from the traffic study were used in the URBEMIS model. Different trip length values, specific to each of the project alternatives, were used.

Trip generation rates for the URBEMIS version 8.7 model runs have been adjusted to reflect primary trips estimated to be generated by the project alternatives. This was done so that diverted trips and pass-by trips are not included in the URBEMIS version 8.7 analysis. Diverted trips and pass-by trips were excluded from the analysis to focus the analysis presented in this EIS on the net effects of the project alternatives.

The average length of vehicle trips associated with the proposed casino is expected to be longer than the default trip length values included in the URBEMIS version 8.7 model. Therefore, project-specific trip length values were used in the air quality analysis. The average trip length was estimated using data from the Madera County Transportation Commission (MCTC) traffic model.

It should be noted that the emissions rates used in the URBEMIS version 8.7 model assume a mix of vehicle types. The vehicle mix assumption includes:

- light-duty vehicles used by the majority of travelers to the Madera or North Fork sites;
- urban buses used, for example, by tour groups;
- motor homes used, for example, by individual tourists;
- medium-duty vehicles used, for example, for delivery of supplies by vendors;
- heavy-duty vehicles used, for example, for larger deliveries.

Output files from the URBEMIS version 8.7 model are presented in **Appendix S**. Note that emission factors are not readily available for PM_{2.5}. To get PM_{2.5} emissions, California Air Resources Board (CARB) particulate matter speciation profiles were used (CARB, 2002).

Operational Carbon Monoxide Effect

A screening analysis was used to determine the potential of the project alternatives to have a significant effect on CO concentrations. The screening analysis involved reviewing the traffic study of the project alternatives, and comparing the results of the traffic study to screening criteria.

The project's impact on CO will be considered significant if the project would:

- degrade operation of a signalized intersection to level of service (LOS) E or F, or
- substantially worsen LOS at a signalized intersection already operating at F.

These screening criteria are from the University of California Davis Institute of Transportation Studies document *Transportation Project-Level Carbon Monoxide Protocol* (Garza, et al., 1997). If the project meets either of these criteria, the proposed project's impact on CO is considered potentially significant if it would increase traffic volumes at an intersection by an amount approaching 5%, or more.

ODORS

While offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and the local air districts. Any project with the potential to frequently expose members of the public to objectionable odors will be deemed to have a significant impact. Odor impacts on residential areas and other sensitive receptors, such as hospitals, day-care centers, schools, etc., warrant the closest scrutiny, but consideration should also be given to other land uses where people may congregate, such as recreational facilities, worksites, and commercial areas. Analysis of potential odor impacts should be conducted for the following two situations:

- Generators – projects that would potentially generate odorous emissions proposed to locate near existing sensitive receptors or other land uses where people may congregate, and
- Receivers – residential or other sensitive receptor projects or other projects built for the intent of attracting people locating near existing odor sources.

Because offensive odors rarely cause any physical harm and no requirements for their control are included in state or federal air quality regulations, the local air districts usually have no rules or standards related to odor emissions, other than a typical nuisance rule. Any actions related to odors are based on citizen complaints to local governments and the local air districts. To test for a potential odor concern, a visual evaluation is made to determine whether the proposed project, either as a generator or a receiver, would result in sensitive receptors being affected by odors. If the proposed project would result in sensitive receptors being located in an area affected by offensive odors, a more detailed analysis would be conducted.

TOXIC AIR CONTAMINANTS

Toxic air contaminants are less pervasive in the urban atmosphere than the criteria air pollutants, but are linked to short-term (acute) or long-term (chronic or carcinogenic) adverse human health effects. There are hundreds of different types of toxic air contaminants, with varying degrees of toxicity. Sources of toxic air contaminants include industrial processes, commercial operations (e.g., gasoline stations and dry cleaners), and motor vehicle exhaust.

According to the 2005 California Almanac of Emissions and Air Quality, the majority of the estimated health risk from TACs can be attributed to relatively few compounds, the most important being diesel PM. Diesel PM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances.

The identification of diesel particulate matter (DPM) as a toxic air contaminant in 1998 led CARB to adopt the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-fueled Engines and Vehicles (Plan) in September 2000. The Plan's goals are a 75 percent reduction in DPM by 2010 and an 85 percent reduction by 2020 from the 2000 baseline. Diesel engines emit a complex mixture of air pollutants, composed of gaseous and solid material. The visible emissions in diesel exhaust are known as particulate matter or PM, which includes carbon particles or "soot." Diesel exhaust also contains a variety of harmful gases and over 40 other cancer causing substances. California's identification of DPM as a toxic air contaminant was based on its potential to cause cancer, premature deaths, and other health problems. Exposure to DPM is a health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems. Overall, diesel engine emissions are responsible for the majority of California's potential airborne cancer risk from combustion sources (CARB 2000).

In January 2006, CARB officially identified environmental tobacco smoke (ETS) as a TAC. ETS is a complex mixture of thousands of gases and fine particulate matter emitted by the burning of tobacco products and from smoke exhaled by the smoker. The composition will vary depending on heat of combustion, tobacco content and additives present, and type of filter material used. Researchers distinguish cigarette smoke as being comprised of two main components: mainstream and sidestream smoke. ETS is a combination of exhaled mainstream smoke, sidestream smoke, and compounds that diffuse through the cigarette paper.

Neither ambient air quality standards nor emission control standards have been established for most toxic air contaminants. In lieu of ambient air quality standards, toxic air contaminant impacts are considered significant if there is a reasonable concern that proposed project patrons and/or employees would be subject to exposure concentrations harmful to human health or welfare.

ASBESTOS

Demolition

Project construction sometimes requires the demolition of existing buildings at the project site. Buildings often include materials containing asbestos. Airborne asbestos fibers pose a serious health threat if adequate control techniques are not carried out when the material is disturbed. Most demolitions and many renovations are subject to an asbestos inspection prior to start of activity. The demolition, renovation or removal of asbestos-containing building materials is subject to the limitations of the National Emissions Standards for Hazardous Air Pollutants (NESHAP) regulations as listed in the Code of Federal Regulations requiring notification and inspection and local air district regulations. Any demolition activity subject to but not complying with the requirements of the SJVAPCD and NESHAP would be considered to have a significant impact.

Naturally Occurring Asbestos (NOA)

Exposure and disturbance of rock and soil that contains asbestos can result in the release of fibers to the air and consequent exposure to the public. Asbestos most commonly occurs in ultramafic rock that has undergone partial or complete alteration to serpentine rock (proper rock name serpentinite) and often contains chrysotile asbestos. In addition, another form of asbestos, tremolite, can be found associated with ultramafic rock, particularly near faults. Sources of asbestos emissions include: unpaved roads or driveways surfaced with ultramafic rock, construction activities in ultramafic rock deposits, or rock quarrying activities where ultramafic rock is present.

Serpentinite and/or ultramafic rock are known to be present in 44 of California's 58 counties. These rocks are particularly abundant in the counties of the Sierra Nevada foothills, the Klamath Mountains, and Coast Ranges. Like many counties in Central California, Madera County has

areas that contain NOA. State regulations, enforced by the appropriate local air district may affect quarries, grading, and surfacing projects.

To address some of the health concerns associated with exposure to asbestos from these activities, the ARB has adopted two Airborne Toxic Control Measures (ATCMs). CARB has an ATCM for construction, grading, quarrying, and surface mining operations requiring the implementation of mitigation measures to minimize emissions of asbestos-laden dust. This ATCM applies to road construction and maintenance, construction and grading operations, and quarries and surface mines when the activity occurs in an area where NOA is likely to be found. Areas are subject to the regulation if they are identified on maps published by the Department of Conservation as ultramafic rock units or if the APCO or owner/operator has knowledge of the presence of ultramafic rock, serpentine, or NOA on the site. The ATCM also applies if ultramafic rock, serpentine, or asbestos is discovered during any operation or activity.

In addition, CARB has an ATCM for surfacing applications. This ATCM applies to any person who produces, sells, supplies, offers for sale or supply, uses, applies, or transports any 1) aggregate material extracted from property where any portion of the property is located in a geographic ultramafic rock unit or 2) aggregate material extracted from property that is NOT located in a geographic ultramafic rock unit if the material has been evaluated at the request of the Air Pollution Control Officer (APCO) and determined to be ultramafic rock or serpentine; tested at the request of the APCO and determined to have an asbestos content of 0.25 percent or greater; or determined by the owner / operator of a facility to be ultramafic rock, or serpentine, or material that has an asbestos content of 0.25 percent or greater. The ATCM prohibits person from using, applying, selling, supplying, or offering for sale or supply any restricted material for surfacing unless it has been tested and determined to have an asbestos content that is less than 0.25 percent

FEDERAL AIR QUALITY CONFORMITY

The General Conformity Rule of the federal Clean Air Act (CAA) (42 USC 7401), implements Section 176(c) of the Act, and establishes minimum thresholds for volatile organic compounds (VOCs)¹ and NO_x (ozone precursors), CO, and other regulated constituents for non-attainment and maintenance areas. Ozone, respirable particulate matter (PM₁₀) and fine particulate matter (PM_{2.5}) are at issue for conformity given that the air district is in nonattainment for these pollutants. ROG and NO_x are analyzed as ozone precursors. PM₁₀ emissions are analyzed for respirable particulate matter. Although PM_{2.5} is a subset of PM₁₀, it also differs from the rest of PM₁₀ in that a significant amount of the ambient PM_{2.5} can result not only from direct emissions but also from transformation of precursors and condensing gaseous pollutants in the atmosphere

¹ VOCs are any organic compound containing at least one carbon atom except for specific exempt compounds found to be non-photochemically reactive. In this document, VOC is synonymous with ROG.

(similar to ozone creation). Therefore, pursuant to the conformity regulations, SO₂ and NO_x are analyzed as PM_{2.5} precursors.

Title 40 Part 93 of the Code of Federal Regulations (CFR) was promulgated in order to determine conformity of Federal actions to state or Federal implementation plans. Whereas Subpart A of Part 93 relates to transportation plans, Subpart B is directed to general Federal actions. A federal agency must make a determination that a Federal action conforms to the applicable implementation plan before the action is taken. A conformity determination is required for each pollutant where a total of direct and indirect emissions in a nonattainment or maintenance area caused by the Federal action are greater than *de minimis* thresholds as listed in CFR Section 93.153(b).

These thresholds provide simple and direct guidance for federal agencies to ensure that they comply with approved state implementation plans (SIP). The general conformity rule includes a procedure for determining whether the rule is applicable to the actions of a federal agency. A conformity determination is required for each pollutant where the total direct and indirect emissions in a federal non-attainment or maintenance area caused by a Federal action would equal to or exceed any of the rates shown in 40 CFR Section 51.853 [b][1] or [2].

The project alternatives were evaluated to determine if they conform with approved SIPs. Emissions estimates used in the evaluation were developed using the URBEMIS version 8.7 model and CARB (2002) particulate matter speciation profiles for PM_{2.5} emissions.

IMPACTS TO FEDERAL CLASS I AREAS

Title 1, Part C was established, in part, to preserve, protect, and enhance the air quality in national parks, national wilderness areas, national monuments, national seashores, and other areas of special national or regional natural, recreational, scenic, or historic value. The FCAA promised to prevent significant deterioration of air quality under the Prevention of Significant Deterioration (PSD) program. The FCAA designates all international parks, national wilderness areas, and memorial parks larger than 5,000 acres, and national parks larger than 6,000 acres as “Class I areas.” There are 156 mandatory Class I areas nationwide.

Any major source of emissions within 100 kilometers (62.1 miles) from a federal Class I area is required to conduct a pre-construction review of air quality impacts on the area(s). The PSD Program protects Class I areas by allowing only a small increment of air quality deterioration in these areas by providing for assessment of potential impacts on air quality related values of Class I areas. A “major source” for the PSD program is defined as a facility that will emit (from direct stationary sources) 250 tons per year of regulated pollutant. For certain specific industries, the requirements apply to facilities that emit (through direct stationary sources) 70 tons per year or more of a regulated pollutant.

INDOOR AIR QUALITY

Since 1992 there has been an Indoor Air Quality (IAQ) Program at CARB that is primarily designed “to conduct and promote the coordination of research, investigations, experiments, demonstrations, surveys, and studies relating to the causes, effects, extent, prevention, and control of indoor pollution in California.”

Practical applications and solutions for IAQ concerns have been combined with other environmental concerns in an emerging concept of green or sustainable building designs. The State agency that has taken the lead in green buildings is the Integrated Waste Management Board (IWMB). In fact, the IWMB has developed a central informational web source at <http://www.ciwmb.ca.gov/GreenBuilding/> where they discuss green building basics, supply a sustainable building tool kit, provide training programs for state and local government, and supply a sustainable building implementation plan.

On a national level, EPA completed, in 1999, an extensive modeling study to assess the compatibilities and trade-offs between energy, indoor air quality, and thermal comfort objectives for HVAC systems, and help formulate strategies to simultaneously achieve superior performance on each objective. To gain a better understanding of IAQ, EPA’s Office of Radiation and Indoor Air also conducted a major study of IAQ in public and commercial office buildings. Most recently, EPA has expanded their existing Building Air Quality guidance with a practical tool designed to be comprehensive state-of-the-art guidance for managing IAQ in commercial buildings. This tool is called the IAQ Building Education and Assessment Tool (I-BEAM) and is designed to be used by building professionals and others interested in indoor air quality in commercial buildings.

In addition, the U.S. Green Building Council² (USGBC) was established as a coalition of leaders from across the building industry working to promote buildings that are environmentally responsible, profitable, and healthy places to live and work. The USGBC has developed the Leadership in Energy and Environmental Design (LEED) Green Building Rating System as a national consensus-based, market-driven building rating system designed to accelerate the development and implementation of green building practices. Based on well-founded scientific standards, LEED emphasizes state of the art strategies for sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality. LEED recognizes achievements and promotes expertise in green building through a comprehensive system offering project certification, professional accreditation, training and practical resources.

LEED standards are currently available or under development for new commercial construction and major renovation projects; existing building operations; commercial interiors projects; core and shell projects; homes; and neighborhood development. The module for new commercial construction gives credits for categories entitled Sustainable Sites; Water Efficiency; Energy &

² <http://www.usgbc.org>

Atmosphere; Materials & Resources; Innovation & Design Process; and Indoor Environmental Quality.

IAQ problems result from interactions between contaminant source, building site, building structure, activities within the building, mechanical equipment, climate, and occupants. Efforts to control indoor air contaminants change the relationships between these factors. There are many ways that people can intervene in these relationships to prevent or control indoor air contaminant problems. Control strategies can be categorized as source control, ventilation, air cleaning, or exposure control and successful mitigation often involves a combination of these strategies. A combination of I-BEAM and LEED factors and strategies were utilized to evaluate the IAQ concerns for this project and, where appropriate, to incorporate green building best practices for each alternative.

CLIMATE CHANGE

Climate change is a global phenomenon attributable to the sum of all human activities and natural processes. It is not possible to attribute a particular climate change impact to a single development project. Project impacts are therefore most appropriately addressed in terms of the incremental contribution to a global cumulative impact. Please refer to discussion of cumulative impacts in **Section 4.11** for this analysis

4.4.2 ALTERNATIVE A – PROPOSED PROJECT

CONSTRUCTION-RELATED IMPACTS

Alternative A would result in new construction activity, which would generate air pollutant emissions, determined by the San Joaquin Valley Air Pollution Control District (SJVAPCD) to be primarily PM₁₀. The primary source of PM₁₀ would be entrainment of fugitive dust from land clearing, earth moving, and wind erosion of exposed soil.

As noted in the SJVAPCD's *Guide for Assessing and Mitigating Air Quality Impacts* (GAMAQI) (SJVAPCD, 2002b), "although the impacts from construction-related air pollutant emissions are temporary in duration, such emissions can still represent a significant air quality impact. In some cases, construction impacts may represent the largest air quality impact associated with a proposed project. Construction activities such as grading, excavation and travel on unpaved surfaces can generate substantial amounts of dust, and can lead to elevated concentrations of PM₁₀." Unmitigated construction-related emissions for Alternatives A-D are shown in **Table 4.4-1** for ease of comparison.

According to the GAMAQI, the SJVAPCD emphasizes the implementation of measures to control construction-related emissions, rather than the preparation of detailed quantification of construction-related emissions. Thus, consistent with the approach presented in the GAMAQI document, the generation of construction-related emissions is considered a short-term significant impact.

This impact would be reduced to a less than significant level with implementation of the mitigation measures listed in **Section 5.2.3** of this document.

TABLE 4.4-1
CONSTRUCTION-RELATED EMISSIONS

Project Alternative	Emissions in Tons Per Year				
	ROG ^c	NO _x ^{bc}	SO ₂ ^b	PM ₁₀	PM _{2.5} ^a
Alternative A					
Amount of Emissions	10.24	24.96	0.00	1.07	1.06
Above Conformity Thresholds?	No	No	No	No	No
Alternative B					
Amount of Emissions	5.57	13.82	0.00	0.59	0.59
Above Conformity Thresholds?	No	No	No	No	No
Alternative C					
Amount of Emissions	6.56	15.92	0.00	0.69	0.69
Above Conformity Thresholds?	No	No	No	No	No
Alternative D					
Amount of Emissions	0.76	2.03	0.00	0.08	0.08
Above Conformity Thresholds?	No	No	No	No	No

NOTES: Emissions shown are for the highest year in the multi-year construction period.
 Applicability threshold is 50 tons per year for ROG or NO_x (as ozone precursors), 70 tons per year for PM₁₀, 100 tons per year for PM_{2.5} direct emissions, and 100 tons per for SO₂ and NO_x (as PM_{2.5} precursors).
^a CARB speciation profile shows that 99.2% of PM₁₀ is PM_{2.5} for gasoline powered engine emissions and 92.0% for diesel powered engine emissions. 99.2% is assumed here for a conservative analysis.
^b PM_{2.5} precursors.
^c Ozone precursors.

SOURCE: URBEMIS version 8.7 emissions model.

OPERATION-RELATED IMPACTS

The SJVAPCD’s GAMAQI document (SJVAPCD, 2002b) presents emissions thresholds that are used to determine the significance of operational air quality impacts. These local thresholds are:

- 10 tons per year of ROG emissions, and
- 10 tons per year of NO_x emissions.

Operation of Alternative A would result in the generation of ROG and NO_x emissions. **Table 4.4-2** presents an estimate of these unmitigated operational emissions for Alternative A.

Operation of Alternative A is estimated to result in:

- 29.87 tons per year of ROG emissions, and
- 46.57 tons per year of NO_x emissions.

Both ROG and NO_x emissions generated by Alternative A would be more than the 10 tons per year significance thresholds, and would therefore be a significant effect.

ROG and NO_x emissions associated with operation of Alternative A could be reduced, but not to a less than significant level, by requiring the mitigation measures listed in **Section 5.2.3** of this document.

TABLE 4.4-2
OPERATIONAL EMISSIONS: SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT THRESHOLDS

Project Alternative	Emissions in Tons Per Year	
	ROG	NO _x
Alternative A		
Amount of Emissions	29.87	46.57
Above Significance Threshold?	Yes	Yes
Alternative B		
Amount of Emissions	20.61	32.31
Significant Effect?	Yes	Yes
Alternative C		
Amount of Emissions	29.13	46.04
Significant Effect?	Yes	Yes
Alternative D		
Amount of Emissions	3.43	5.46
Significant Effect?	No	No

NOTES: Emissions shown are for mobile sources and area sources. All values shown are in tons per year.

SOURCE: URBEMIS version 8.7 emissions model.

Operational emissions are compared to general conformity de minimis applicability thresholds in **Table 4.4-3**.

Carbon Monoxide Hot Spot Impacts

As described in the traffic study of the project alternatives, traffic operations at signalized study intersections would be LOS D or better under 2008 background conditions with Alternative A and traffic mitigation measures. Based on criteria presented in the University of California Davis Institute of Transportation Studies document *Transportation Project-Level Carbon Monoxide*

Protocol (Garza, et al. 1997), intersections operating at LOS D or better typically do not result in CO concentrations that exceed State or Federal standards. This impact is significant due to intersections operating above LOS D prior to mitigation. With the implementation of traffic mitigation listed in **Section 5.2.7**, this impact would be reduced to a less than significant level.

TABLE 4.4-3
OPERATIONAL EMISSIONS: APPLICABILITY OF FEDERAL CONFORMITY REGULATIONS

Project Alternative	Emissions in Tons Per Year				
	ROG ^c	NO _x ^{bc}	SO ₂ ^b	PM ₁₀	PM _{2.5} ^a
Alternative A					
Amount of Emissions	29.87	46.57	0.27	43.13	42.78
Above Applicability Thresholds?	No	No	No	No	No
Alternative B					
Amount of Emissions	20.61	32.31	0.19	30.20	29.96
Above Applicability Thresholds?	No	No	No	No	No
Alternative C					
Amount of Emissions	29.13	46.04	0.27	43.11	42.77
Above Applicability Thresholds?	No	No	No	No	No
Alternative D					
Amount of Emissions	3.43	5.46	0.03	5.21	5.17
Above Applicability Thresholds?	No	No	No	No	No

NOTES: Applicability threshold is 50 tons per year for ROG or NO_x (as ozone precursors), 70 tons per year for PM₁₀, 100 tons per year for PM_{2.5} direct emissions, and 100 tons per for SO₂ and NO_x (as PM_{2.5} precursors).

^a CARB speciation profile shows that 99.2% of PM₁₀ is PM_{2.5} for gasoline powered engine emissions and 92.0% for diesel powered engine emissions. 99.2% is assumed here for a conservative analysis.

^b PM_{2.5} precursors.

^c Ozone precursors.

SOURCE: URBEMIS version 8.7 emissions model.

ODOR IMPACTS

The SJVAPCD has determined some common types of facilities that have been known to produce odors in the SJV. These are presented in Table 4-2 of their *Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI)* (SJVAPCD 2002) along with a reasonable distance from the source where the degree of odors could possibly be significant. This Table was used to determine whether the proposed project, either as a generator or a receiver, would result in sensitive receptors being within the distances indicated.

There are no existing odor generators that might impact Alternative A and Alternative A itself would not contribute odors to the region. The Alternative A WWTP would use Membrane Bioreactor (MBR) technology and would be fully enclosed. Unlike common open pond WWTPs, the MBR process does not produce odors. MBR WWTPs have been used and numerous sites

with no odor complaints. An example in California is the Thunder Valley Casino MBR WWTP, which has an MBR plant located adjacent to its parking lot. However, even a MBR WWTP, if not properly operated, could represent a source of odors that could represent a nuisance and potentially significant impact to the nearby residences. Application of odor mitigation measures will reduce the potential effects to a less than significant level. Mitigation measures are listed in **Section 5.2.3** of this EIS.

TOXIC AIR CONTAMINANT IMPACTS

The gaming facility under Alternative A would not itself contribute or generate toxic air contaminants. However, bus and diesel truck travel to and from the gaming facility, especially loading areas, would result in an increased concentration of diesel emissions in those areas, a potentially significant effect. Application of mitigation measures associated with loading docks would reduce potential effects to a less than significant level. Mitigation measures are listed in **Section 5.2.3** of this EIS.

Possible future commercial or industrial development could affect Alternative A by creating air toxics. However, any future facilities in the area would be required to meet federal, state, and local standards associated with the handling of hazardous materials, and therefore no significant impacts to patrons or employees of the proposed casino/hotel resort are anticipated.

Emergency generators would be kept onsite but their use during infrequent, random or programmed local or regional power outages would result in limited and temporary emissions. Thus, a less than significant impact would result.

ASBESTOS IMPACTS

Implementation of Alternative A could result in the demolition of existing structures on the Madera site. Airborne asbestos fibers pose a serious health threat if adequate control techniques are not carried out when the material is disturbed. Prior to any demolition activity, SJVAPCD's Enforcement Division shall be consulted to determine inspection and compliance requirements. Any demolition activity will be subject to the requirements of the Asbestos National Emission Standards for Hazardous Air Pollutants, 40 CFR sections 61.140 through 61.157. Strict compliance with these regulations will result in a less than significant impact.

Based on the fact that Alternative A is located on the valley floor, no naturally occurring asbestos (NOA) would be expected. No off-site fill that could potentially contain NOA would be required because on-site grading would balance. Thus, a less than significant effect from NOA would result.

FEDERAL CLASS I AREAS IMPACTS

Yosemite National Park, Pinnacles National Monument, Ansel Adams Wilderness Area, Kaiser Wilderness Area, and John Muir Wilderness Area are the only federal Class I areas within 100 kilometers of the Madera site. Analysis of operational emissions associated with Alternative A, presented in **Table 4.4-3**, show that Alternative A does not constitute a “major source” under PSD definitions and therefore does not trigger need for preconstruction review and assessment of impacts. Thus, a less than significant effect to Class I areas would result.

INDOOR AIR QUALITY IMPACTS

Firsthand and secondhand tobacco smoke contains carcinogens (including Polycyclic Organic Matter) and smoking would be permitted indoors at the casino. Patrons of the proposed gaming facility could be exposed to toxics and carcinogens from indoor tobacco use.

Ventilation is a standard engineering approach to assuring good indoor air quality and comfort. Ventilation removes and dilutes indoor contaminants, removes moisture from the air, which helps to prevent mold growth, and removes body effluents such as carbon dioxide that lead to a stuffy environment. Natural ventilation, through open windows and doors, is the primary ventilation route for residences, while mechanical ventilation, using HVAC systems, is most common in commercial buildings. Adequate and effective ventilation, and ducting of exhaust from combustion appliances, are necessary for acceptable indoor air quality, even when known air contaminants are minimized. However, ventilation is not a complete solution to indoor pollution: ventilation consumes energy, and some pollutants, such as formaldehyde emitted from building materials, require years to off-gas and are not completely removed by ventilation.

While there are no Federal requirements for controlling indoor air pollution or existing indoor air pollution thresholds, industry standards are available for reducing the concentrations of indoor air pollution. Industry and professional groups have developed numerous guidelines for improving indoor air quality. An example is the building ventilation standard of the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE), (*Ventilation for Acceptable Indoor Air Quality*, ASHRAE Standard 62-2001). Even though industry and professional guidelines may vary in their degree of indoor air quality protection, they are widely used and generally have helped reduce some indoor pollutants over the years.

Indoor air pollutants may also not be immediately perceptible by employees or customers. People could decide to avoid exposure to indoor air pollutants if notified of the presence of these pollutants. Operation of the facility to allow indoor smoking without proper ventilation or proper public notice would constitute a significant effect to public health. Compliance with mitigation measures listed in **Section 5.2.3** of this document will reduce effects of indoor air quality to a less than significant level for Alternative A.

FEDERAL AIR QUALITY CONFORMITY

The General Conformity Rule describes how Federal agencies determine whether their actions conform with the applicable State Implementation Plan (SIP) (40 CFR §51.853). The rule establishes *de minimis* emissions thresholds that are used to determine whether the regulations apply and a detailed conformity determination is required. The General Conformity Rule presents different threshold levels for some pollutant, with the specific level being based on the severity of the pollution problem. Madera County has been designated a “serious” nonattainment area for ozone, a “serious” nonattainment area for PM₁₀, and a nonattainment area for PM_{2.5}. Therefore, according to the General Conformity Rule, the *de minimis* levels for Alternative A would be when ROG emissions are less than 50 tons per year, NO_x emissions are less than 50 tons per year, and PM₁₀ emissions are less than 70 tons per year.

Construction of Alternative A would result in the generation of ROG, NO_x, and PM₁₀ emissions.

Table 4.4-1 presents an estimate of these construction-related emissions for Alternative A.

Construction of Alternative A is estimated to result in:

- 10.24 tons per year of ROG,
- 24.96 tons per year of NO_x,
- 0.00 tons per year of SO₂,
- 1.07 tons per year of PM₁₀, and
- 1.06 tons per year of PM_{2.5}, emissions.

Operation of Alternative A would also result in the generation of ROG, NO_x, and PM₁₀ emissions associated with motor vehicle travel. **Table 4.4-3** presents an estimate of these operational emissions for Alternative A. Operation of Alternative A is estimated to result in:

- 29.87 tons per year of ROG,
- 46.57 tons per year of NO_x,
- 0.27 tons per year of SO₂,
- 43.13 tons per year of PM₁₀, and
- 42.78 tons per year of PM_{2.5}, emissions.

The emissions in **Table 4.4-1** and **Table 4.4-3** are considered separately because the construction phase of Alternative A would not overlap with the operational phase of Alternative A.

As shown in **Table 4.4-1** and **Table 4.4-3**, emissions associated with Alternative A would be less than the General Conformity Rule *de minimis* thresholds. Therefore, consistent with 40 CFR §51.583, Alternative A would conform with the SIP and a conformity determination is not required.

4.4.3 ALTERNATIVE B – REDUCED INTENSITY

This section of the EIS presents a description of air quality effects related to Alternative B. The methodology and significance thresholds used to assess these effects are described under Alternative A above. Implementation of Alternative B would result in short-term construction-related effects, and effects related to operation of the project. The following is a description of these effects.

CONSTRUCTION-RELATED EMISSIONS

Alternative B would result in new construction activity, which would generate air pollutant emissions, determined by the SJVAPCD to be primarily PM₁₀. The primary source of PM₁₀ would be entrainment of fugitive dust from land clearing, earth moving, and wind erosion of exposed soil.

Consistent with the approach presented in the GAMAQI document, the generation of construction-related emissions is considered a short-term significant impact. This impact would be reduced to a less than significant level after implementation of mitigation measures listed in **Section 5.2.3** of this document.

OPERATION-RELATED IMPACTS

Operation of Alternative B would result in the generation of ROG and NO_x emissions. **Table 4.4-2** presents an estimate of these operational emissions for Alternative B. Operation of Alternative B is estimated to result in:

- 20.61 tons per year of ROG emissions, and
- 32.31 tons per year of NO_x emissions.

Both ROG and NO_x emissions generated by Alternative B would be more than the 10 tons per year significance thresholds, and would therefore be a significant effect.

ROG and NO_x emissions associated with operation of Alternative B could be reduced, but not to a less than significant level, by requiring the mitigation measures listed in **Section 5.2.3** of this document.

Carbon Monoxide Hot Spot Impacts

As described in the traffic study of the project alternatives, traffic operations at signalized study intersections would be LOS D or better under 2008 background conditions with Alternative B and traffic mitigation measures. Based on criteria presented in the University of California Davis Institute of Transportation Studies document *Transportation Project-Level Carbon Monoxide Protocol* (Garza, et al. 1997), intersections operating at LOS D or better typically do not result in CO concentrations that exceed State or Federal standards. This impact is significant due to

intersections operating above LOS D prior to mitigation. With the implementation of traffic mitigation listed in **Section 5.2.7**, this impact would be reduced to a less than significant level.

ODOR IMPACTS

A discussion of odor impacts is presented in **Section 4.4.2**. There are no existing odor generators that might impact Alternative B and Alternative B itself would not contribute odors to the region. The Alternative B WWTP would use MBR technology and would be fully enclosed. Unlike common open pond WWTPs, the MBR process does not produce odors. MBR WWTPs have been used and numerous sites with no odor complaints. However, even a MBR WWTP, if not properly operated, could represent a source of odors that could represent a nuisance and potentially significant impact to the nearby residences. Application of odor mitigation measures will reduce the potential effects to a less than significant level, Mitigation measures are listed in **Section 5.2.3** of this EIS.

TOXIC AIR CONTAMINANTS IMPACTS

The gaming facility under Alternative B would not itself contribute or generate toxic air contaminants. However, bus and diesel truck travel to and from the gaming facility, especially loading areas, would result in an increased concentration of diesel emissions in those areas, a potentially significant effect. Application of mitigation measures associated with loading docks would reduce potential effects to a less than significant level. Mitigation measures are listed in **Section 5.2.3** of this EIS.

Possible future commercial or industrial development could affect Alternative B by creating air toxics. However, any future facilities in the area would be required to meet federal, state, and local standards associated with the handling of hazardous materials, and therefore no significant impacts to patrons or employees of the proposed casino/hotel resort are anticipated.

Emergency generators would be kept onsite but their use during infrequent, random or programmed local or regional power outages would result in limited and temporary emissions. Thus, a less than significant impact would result.

ASBESTOS IMPACTS

Implementation of Alternative B could result in the demolition of existing structures on the Madera site. Airborne asbestos fibers pose a serious health threat if adequate control techniques are not carried out when the material is disturbed. Prior to any demolition activity, SJVAPCD's Enforcement Division shall be consulted to determine inspection and compliance requirements. Any demolition activity will be subject to the requirements of the Asbestos National Emission Standards for Hazardous Air Pollutants, 40 CFR sections 61.140 through 61.157. Strict compliance with these regulations will result in a less than significant impact.

Based on the fact that Alternative B is located on the valley floor, no naturally occurring asbestos (NOA) would be expected. No off-site fill that could potentially contain NOA would be required because on-site grading would balance. Thus, a less than significant effect from NOA would result.

FEDERAL CLASS I AREAS IMPACTS

Yosemite National Park, Pinnacles National Monument, Ansel Adams Wilderness Area, Kaiser Wilderness Area, and John Muir Wilderness Area are the only federal Class I areas within 100 kilometers of the Madera site. Analysis of operational emissions associated with Alternative B, presented in **Table 4.4-3**, show that Alternative B does not constitute a “major source” under PSD definitions and therefore does not trigger need for preconstruction review and assessment of impacts. Thus, a less than significant effect to Class I areas would result.

INDOOR AIR QUALITY IMPACTS

As with Alternative A, casino patrons would be exposed to tobacco smoke. Ventilation is a standard engineering approach to assuring good indoor air quality and comfort. Adequate and effective ventilation, and ducting of exhaust from combustion appliances, are necessary for acceptable indoor air quality, even when known air contaminants are minimized. Even though industry and professional guidelines may vary in their degree of indoor air quality protection, they are widely used and generally have helped reduce some indoor pollutants over the years. Indoor air pollutants may also not be immediately perceptible by employees or customers. People could decide to avoid exposure to indoor air pollutants if notified of the presence of these pollutants. Operation of the facility to allow indoor smoking without proper ventilation or proper public notice would constitute a significant effect to public health. Compliance with mitigation measures listed in **Section 5.2.3** of this document will reduce effects of indoor air quality to a less than significant level for Alternative B.

FEDERAL AIR QUALITY CONFORMITY

Construction of Alternative B would result in the generation of ROG, NO_x, and PM₁₀ emissions. **Table 4.4-1** presents an estimate of these construction-related emissions for Alternative B. Construction of Alternative B is estimated to result in:

- 5.57 tons per year of ROG,
- 13.82 tons per year of NO_x,
- 0.00 tons per year of SO₂,
- 0.59 tons per year of PM₁₀, and
- 0.59 tons per year of PM_{2.5}, emissions.

Operation of Alternative B would also result in the generation of ROG, NO_x, and PM₁₀ emissions associated with motor vehicle travel. **Table 4.4-3** presents an estimate of these operational emissions for Alternative B. Operation of Alternative B is estimated to result in:

- 20.61 tons per year of ROG,
- 32.31 tons per year of NO_x,
- 0.19 tons per year of SO₂,
- 30.20 tons per year of PM₁₀, and
- 29.96 tons per year of PM_{2.5}, emissions.

The emissions in **Table 4.4-1** and **Table 4.4-3** are considered separately because the construction phase of Alternative B would not overlap with the operational phase of Alternative B.

As shown in **Table 4.4-1** and **Table 4.4-3**, emissions associated with Alternative B would be less than the General Conformity Rule *de minimis* thresholds. Therefore, consistent with 40 CFR §51.583, Alternative B would conform with the SIP and a conformity determination is not required.

4.4.4 ALTERNATIVE C – NON-GAMING USE

This section of the EIS presents a description of air quality effects related to Alternative C. The methodology and significance thresholds used to assess these effects are described under Alternative A above. Implementation of Alternative C would result in short-term construction-related effects, and effects related to operation of the project. The following is a description of these effects.

CONSTRUCTION-RELATED IMPACTS

Alternative C would result in new construction activity, which would generate air pollutant emissions, determined by the SJVAPCD to be primarily PM₁₀. The primary source of PM₁₀ would be entrainment of fugitive dust from land clearing, earth moving, and wind erosion of exposed soil.

Consistent with the approach presented in the GAMAQI document, the generation of construction-related emissions is considered a short-term significant impact. This impact would be reduced to a less than significant level after implementation of mitigation measures listed in **Section 5.2.3** of this document.

OPERATION-RELATED IMPACTS

Operation of Alternative C would result in the generation of ROG and NO_x, emissions. **Table 4.4-2** presents an estimate of these operational emissions for Alternative C. Operation of Alternative C is estimated to result in:

- 29.13 tons per year of ROG emissions, and
- 46.04 tons per year of NO_x emissions.

Both ROG and NO_x emissions generated by Alternative C would be more than the 10-ton-per-year significance thresholds, and would therefore be a significant effect.

ROG and NO_x, emissions associated with operation of Alternative C could be reduced, but not to a less than significant level, by requiring the mitigation measures listed in **Section 5.2.3** of this document.

Carbon Monoxide Hot Spot Impacts

As described in the traffic study of the project alternatives, traffic operations at signalized study intersections would be LOS D or better under 2008 background conditions with Alternative C and traffic mitigation measures. Based on criteria presented in the University of California Davis Institute of Transportation Studies document *Transportation Project-Level Carbon Monoxide Protocol* (Garza, et al. 1997), intersections operating at LOS D or better typically do not result in CO concentrations that exceed State or Federal standards. This impact is significant due to intersections operating above LOS D prior to mitigation. With the implementation of traffic mitigation listed in **Section 5.2.7**, this impact would be reduced to a less than significant level.

ODOR IMPACTS

A discussion of odor impacts is presented in **Section 4.4.2**. Most of the operations listed in the GAMAQI that are known to produce odors would usually occur in the manufacturing zones. Alternative C does not include any uses that would be expected to produce offensive odors.

The Alternative C WWTP would use MBR technology and would be fully enclosed. Unlike common open pond WWTPs, the MBR process does not produce odors. MBR WWTPs have been used and numerous sites with no odor complaints. However, even a MBR WWTP, if not properly operated, could represent a source of odors that could represent a nuisance and potentially significant impact to the nearby residences. Application of odor mitigation measures will reduce the potential effects to a less than significant level. Mitigation measures are listed in **Section 5.2.3** of this EIS.

TOXIC AIR CONTAMINANTS IMPACTS

The commercial development under Alternative C would not itself contribute or generate toxic air contaminants. However, bus and diesel truck travel to and from the development, especially loading areas, would result in an increased concentration of diesel emissions in those areas, a potentially significant effect. Application of mitigation measures associated with loading docks would reduce potential effects to a less than significant level. Mitigation measures are listed in **Section 5.2.3** of this EIS.

ASBESTOS IMPACTS

Implementation of Alternative C could result in the demolition of existing structures on the Madera site. Airborne asbestos fibers pose a serious health threat if adequate control techniques are not carried out when the material is disturbed. Prior to any demolition activity, SJVAPCD's Enforcement Division shall be consulted to determine inspection and compliance requirements.

Any demolition activity will be subject to the requirements of the Asbestos National Emission Standards for Hazardous Air Pollutants, 40 CFR sections 61.140 through 61.157. Strict compliance with these regulations will result in a less than significant impact.

Based on the fact that Alternative C is located on the valley floor, no naturally occurring asbestos (NOA) would be expected. No off-site fill that could potentially contain NOA would be required because on-site grading would balance. Thus, a less than significant effect from NOA would result.

FEDERAL CLASS I AREAS IMPACTS

Yosemite National Park, Pinnacles National Monument, Ansel Adams Wilderness Area, Kaiser Wilderness Area, and John Muir Wilderness Area are the only federal Class I areas within 100 kilometers of the Madera site. Analysis of operational emissions associated with Alternative C, presented in **Table 4.4-3**, show that Alternative C does not constitute a “major source” under PSD definitions and therefore does not trigger need for preconstruction review and assessment of impacts. Thus, a less than significant effect to Class I areas would result.

INDOOR AIR QUALITY IMPACTS

As smoking would be allowed in marked sections of restaurants, there are potentially significant secondhand tobacco smoke impacts, similar to those discussed for Alternative A. Indoor air pollutants may also not be immediately perceptible by employees or customers. People could decide to avoid exposure to indoor air pollutants if notified of the presence of these pollutants. Operation of the facility to allow indoor smoking without proper ventilation or proper public notice would constitute a significant effect to public health. Compliance with mitigation measures listed in **Section 5.2.3** will reduce effects of indoor air quality to a less than significant level for Alternative C.

FEDERAL AIR QUALITY CONFORMITY

Construction of Alternative C would result in the generation of ROG, NO_x, and PM₁₀ emissions. **Table 4.4-1** presents an estimate of these construction-related emissions for Alternative C. Construction of Alternative C is estimated to result in:

- 6.56 tons per year of ROG,
- 15.92 tons per year of NO_x,
- 0.00 tons per year of SO₂,
- 0.69 tons per year of PM₁₀, and
- 0.69 tons per year of PM_{2.5}, emissions.

Operation of Alternative C would also result in the generation of ROG, NO_x, and PM₁₀ emissions associated with motor vehicle travel. **Table 4.4-3** presents an estimate of these operational emissions for Alternative C. Operation of Alternative C is estimated to result in:

- 29.13 tons per year of ROG,
- 46.04 tons per year of NO_x,
- 0.27 tons per year of SO₂,
- 43.11 tons per year of PM₁₀, and
- 42.77 tons per year of PM_{2.5}, emissions.

As shown in **Table 4.4-1** and **Table 4.4-3**, emissions associated with Alternative C would be less than the General Conformity Rule *de minimis* thresholds. Therefore, consistent with 40 CFR §51.583, Alternative C would conform with the SIP and a conformity determination is not required.

4.4.5 ALTERNATIVE D – NORTH FORK LOCATION

This section of the EIS presents a description of effects related to Alternative D. The methodology and significance thresholds used to assess the air quality effects are described under Alternative A above. Implementation of Alternative D would result in short-term construction-related effects, and effects related to operation of the project. The following is a description of these effects.

CONSTRUCTION-RELATED IMPACTS

Alternative D would result in new construction activity, which would generate air pollutant emissions, determined by the SJVAPCD to be primarily PM₁₀. The primary source of PM₁₀ would be entrainment of fugitive dust from land clearing, earth moving, and wind erosion of exposed soil.

Consistent with the approach presented in the GAMAQI document, the generation of construction-related emissions is considered a short-term significant impact. This impact would be reduced to a less than significant level after implementation of mitigation measures listed in **Section 5.2.3** of this document.

OPERATION-RELATED IMPACTS

Operation of Alternative D would result in the generation of ROG and NO_x, emissions. **Table 4.4-2** presents an estimate of these operational emissions for Alternative D. Operation of Alternative D is estimated to result in:

- 3.43 tons per year of ROG emissions, and
- 5.46 tons per year of NO_x emissions.

Both ROG and NO_x emissions would be less than the 10 tons per year significance thresholds, and would be a less than significant effect. No mitigation measures would be necessary.

Carbon Monoxide Hot Spot Impacts

As described in the traffic study of the project alternatives, traffic operations at signalized study intersections would be LOS D or better under 2008 background conditions with Alternative D and traffic mitigation measures. Based on criteria presented in the University of California Davis Institute of Transportation Studies document *Transportation Project-Level Carbon Monoxide Protocol* (Garza, et al. 1997), intersections operating at LOS D or better typically do not result in CO concentrations that exceed State or Federal standards. This impact is significant due to intersections operating above LOS D prior to mitigation. With the implementation of traffic mitigation listed in **Section 5.2.7**, this impact would be reduced to a less than significant level.

ODOR IMPACTS

A discussion of odor impacts is presented in **Section 4.4.2**. There are no existing odor generators that might impact Alternative D and Alternative D itself would not contribute odors to the region. The Alternative D WWTP would use MBR technology and would be fully enclosed. Unlike common open pond WWTPs, the MBR process does not produce odors. MBR WWTPs have been used at numerous sites with no odor complaints. However, even a MBR WWTP, if not properly operated, could represent a source of odors that could represent a nuisance and potentially significant impact to the nearby residences. Application of odor mitigation measures will reduce the potential effects to a less than significant level. Mitigation measures are listed in **Section 5.2.3** of this EIS.

TOXIC AIR CONTAMINANTS IMPACTS

The gaming facility under Alternative D would not itself contribute or generate toxic air contaminants. However, bus and diesel truck travel to and from the gaming facility, especially loading areas, would result in an increased concentration of diesel emissions in those areas, a potentially significant effect. Application of mitigation measures associated with loading docks would reduce potential effects to a less than significant level. Mitigation measures are listed in **Section 5.2.3** of this EIS.

Possible future commercial or industrial development could affect Alternative D by creating air toxics. However, because of the project area's rural character and relevant land use regulations, it is unlikely that toxic air contaminant emitting sources would locate near the project site. Any future facilities in the area would be required to meet federal, state, and local standards associated with the handling of hazardous materials, and therefore no significant impacts to patrons or employees of the proposed casino/hotel resort are anticipated.

Emergency generators would be kept onsite but their use during infrequent, random or programmed local or regional power outages would result in limited and temporary emissions. Thus, a less than significant impact would result.

ASBESTOS IMPACTS

Existing North Fork site structures would not be demolished under Alternative D. Therefore, no airborne asbestos fibers from structure demolition would result.

The North Fork site is located in a candidate area for Naturally Occurring Asbestos (NOA), which has been identified as a toxic air contaminant by the California Air Resources Board (CARB). The possible presence of NOA on the North Fork site represents a potentially significant impact to construction workers and residents in the area should NOA be released during construction. Mitigation measures in **Section 5.2.3** would reduce this impact to a less than significant level.

FEDERAL CLASS I AREAS IMPACTS

Yosemite National Park, Sequoia/Kings Canyon National Park, the Ansel Adams Wilderness Area, the Kaiser Wilderness Area, and the John Muir Wilderness Area are the only federal Class I areas within 100 kilometers of the North Fork site. Analysis of operational emissions associated with Alternative D, presented in **Table 4.4-3**, show that Alternative D does not constitute a “major source” under PSD definitions and therefore does not trigger need for preconstruction review and assessment of impacts. Thus, a less than significant effect to Class I areas would result.

INDOOR AIR QUALITY IMPACTS

The operation of Alternatives D would be in compliance with indoor air quality requirements, including environmental tobacco smoke (ETS). Ventilation is a standard engineering approach to assuring good indoor air quality and comfort. Adequate and effective ventilation, and ducting of exhaust from combustion appliances, are necessary for acceptable indoor air quality, even when known air contaminants are minimized. Even though industry and professional guidelines may vary in their degree of indoor air quality protection, they are widely used and generally have helped reduce some indoor pollutants over the years. Indoor air pollutants may also not be immediately perceptible by employees or customers. People could decide to avoid exposure to indoor air pollutants if notified of the presence of these pollutants. Operation of the facility to allow indoor smoking without proper ventilation or proper public notice would constitute a significant effect to public health. Compliance with mitigation measures listed in **Section 5.2.3** of this document will reduce effects of indoor air quality to a less than significant level for Alternative D.

FEDERAL AIR QUALITY CONFORMITY

Construction of Alternative D would result in the generation of ROG, NO_x, and PM₁₀ emissions. **Table 4.4-1** presents an estimate of these construction-related emissions for Alternative D. Construction of Alternative D is estimated to result in:

- 0.76 tons per year of ROG,
- 2.03 tons per year of NO_x,
- 0.00 tons per year of SO₂,
- 0.08 tons per year of PM₁₀, and
- 0.08 tons per year of PM_{2.5}, emissions.

Operation of Alternative D would also result in the generation of ROG, NO_x, and PM₁₀ emissions associated with motor vehicle travel. **Table 4.4-3** presents an estimate of these operational emissions for Alternative D. Operation of Alternative D is estimated to result in:

- 3.43 tons per year of ROG,
- 5.46 tons per year of NO_x,
- 0.03 tons per year of SO₂,
- 5.21 tons per year of PM₁₀, and
- 5.17 tons per year of PM_{2.5}, emissions.

The emissions in **Table 4.4-1** and **Table 4.4-3** are considered separately because the construction phase of Alternative D would not overlap with the operational phase of Alternative D.

As shown in **Table 4.4-1** and **Table 4.4-3**, emissions associated with Alternative D would be less than the General Conformity Rule *de minimis* thresholds. Therefore, consistent with 40 CFR §51.583, Alternative D would conform with the SIP and a conformity determination is not required.

4.4.6 ALTERNATIVE E – NO ACTION

This section of the EIS presents a description of effects related to the No Action Alternative. Implementation of the No Action Alternative would result in no short-term construction-related effects, and no effects related to operation of new facilities. Existing effects resulting from existing development and activity on the Madera and North Fork sites would continue under the No Action Alternative.

CONSTRUCTION-RELATED IMPACTS

The No Action Alternative would not result in construction activity. Therefore, this alternative would not result in the generation of emissions associated with construction.

OPERATION-RELATED IMPACTS

The No Action Alternative would not result in the generation of additional operational emissions. Emissions associated with existing residential and agricultural activity would continue. These emissions are minimal and would therefore not constitute a significant effect.

Carbon Monoxide Hot Spot Impacts

Based on criteria presented in the University of California Davis Institute of Transportation Studies document *Transportation Project-Level Carbon Monoxide Protocol* (Garza, et al. 1997), intersections operating at LOS D or better typically do not result in CO concentrations that exceed State or Federal standards. The No Action Alternative would result in baseline CO concentrations. As described in the **Section 3.8**, three signalized study intersections in the vicinity of the Madera site and one signalized study intersection in the vicinity of the Madera site would operate at LOS E or worse under the No Action Alternative. This impact is significant due to intersections operating above LOS D prior to mitigation. With the implementation of traffic mitigation listed in **Section 5.2.7**, this impact would be reduced to a less than significant level.

ODOR IMPACTS

Given that no new development would occur, the No Action Alternative would not result in the generation of odors.

TOXIC AIR CONTAMINANTS IMPACTS

Given that no new development would occur, the No Action Alternative would not result in the generation of toxic air contaminants. Existing diesel emissions from agricultural operations on the Madera site would continue under the No Action Alternative. However, these emissions would be temporary and relatively infrequent resulting in a less than significant effect.

ASBESTOS IMPACTS

No new development or ground disturbance would occur under Alternative E. Existing ground disturbance associated with agricultural activities would continue on the Madera site. However, given that the Madera site is not located in an area where NOA is expected to occur, a less than significant effect from asbestos emissions would occur under the No Action Alternative.

FEDERAL CLASS I AREAS IMPACTS

Given that no new development would occur and existing emissions associated with residential and agricultural activities on the Madera and North Fork sites does not rise to the level of a “major source,” the No Action Alternative would not result in significant impacts to federal Class I areas.

INDOOR AIR QUALITY IMPACTS

Given that no new development would occur, the No Action Alternative would not result in the generation of indoor air quality impacts.

FEDERAL AIR QUALITY CONFORMITY

The No Action Alternative would not result in the generation of additional criteria pollutant emissions subject to the federal conformity regulations.

4.5 BIOLOGICAL RESOURCES

The purpose of this section is to analyze the potential environmental consequences of the project alternatives on biological resources, including wildlife and habitats, Federally listed species, migratory birds, and jurisdictional waters of the U.S. The analysis of potential effects was based on the biological setting as determined from field surveys conducted by H. T. Harvey & Associates and Analytical Environmental Services in 2004, 2005, and 2006, by consultation with the USFWS, and reviewing known literature and metadata, including the California Natural Diversity Database (CNDDDB). Potential direct effects to biological resources associated with the development of each project alternative are discussed below.

4.5.1 ALTERNATIVE A – PROPOSED PROJECT

POTENTIAL EFFECTS TO WILDLIFE AND HABITATS

Terrestrial Resources

Development of Alternative A would affect habitats that are utilized by wildlife species. **Table 4.5-1** provides a summary of the acreage of each habitat type that would be affected under the three different surface wastewater disposal options for Alternative A, as described in **Section 2.2.7**, and shown in **Figure 2-8**. As shown in **Table 4.5-1**, Option 1 and Option 3 would affect 41% of the 305-acre Madera site, primarily dryland wheat fields. Option 2 would affect 56% of the property, also dryland wheat fields. This habitat provides limited resources for wildlife due to frequent plowing and weed control measures associated with farming practices. Furthermore, farming practices disrupt burrows and groundcover used by fossorial mammals. Species found in cultivated habitats are typically widespread and accustomed to disturbances. No significant impacts to wildlife and habitats would result with the implementation of Alternative A.

TABLE 4.5-1
ANTICIPATED EFFECTS TO HABITAT TYPES – ALTERNATIVE A

Configuration Number	Habitat Type	Acreage Affected	Percentage Affected
Option 1	Dryland Wheat Fields	126.5	41%
Option 2	Dryland Wheat Fields	170.6	56%
Option 3	Dryland Wheat Fields	126.5	41%

SOURCE: H. T. Harvey & Associates, 2004; AES, 2005.

Aquatic Resources

Potential impacts to Schmidt Creek and downstream aquatic habitat from the discharge of tertiary treated wastewater include changes in flow and vegetation characteristics of the waterways. The riparian vegetation within the ditch is not continuous and is primarily composed of herbaceous species, both upland and hydrophytic. Flowing water was absent during the survey periods and the addition of a permanent water source in Schmidt Creek ditch would stimulate the growth of hydrophytic vegetation and ultimately create conditions for the growth of a diverse riparian

habitat. Thus, impacts to plant species within the Schmidt Creek ditch from surface disposal would be less than significant. The addition of high quality recycled water to Dry Creek (downstream of Schmidt Creek) would flush particulates, remove debris, increase low flows, and provide better habitat for aquatic species by supplying more water for the development of shading riparian vegetation (Hopkins et al., 2002). One way the discharge could potentially impact the aquatic habitat is if the discharged effluent increases the water temperature of Dry Creek by more than five degrees Fahrenheit. This impact can be avoided by the implementation of mitigation measures in **Section 5.2.4**.

STATE SPECIAL-STATUS SPECIES

As discussed in **Section 3.5.4**, three State special-status species have the potential to occur on the Madera site. The site provides foraging habitat for the Swainson's hawk and northern harrier and potential nesting habitat for the California horned lark. The potential for the project to impact these species is described below. These species are not necessarily afforded protection under the Federal Endangered Species Act.

Swainson's hawk is unlikely to forage on the site. The nearest CNDDDB record documents a nest on the Fresno County side of the San Joaquin River, approximately 15 miles from the Madera site (CNDDDB, 2004). During the reconnaissance-level survey, performed by H.T. Harvey and Associates (June 2004), an assessment of potential Swainson's hawk foraging habitat within five miles of the Madera site was made by driving the major roads in the area bordered by Avenue 26 on the north, Road 28½ on the east, Avenue 12 on the south, and Road 16 on the west. The area within the 5-mile radius of the Madera site is primarily composed of orchards and vineyards, isolated cultivated fields (planted and fallow), pastures, and developed land. Crops that provide quality foraging habitat (alfalfa and pasture) were rare within the five-mile radius of the site, and in small (up to 20 acres) isolated plots. Alternative A is not expected to impact Swainson's hawk.

The northern harrier is not likely to occur on the site because there is very little suitable foraging habitat in the vicinity. Additionally, there are no recorded occurrences of this species within five miles of the Madera site. Alternative A is not expected to impact the northern harrier.

Horned larks are not likely to use the site while wheat is planted, but could be present when the site is fallow. Therefore, if a grain crop is cultivated on the Madera site prior to conversion, no impacts to this species are expected to result from Alternative A.

The hoary bat has the potential to roost in trees on the Madera site. Only a few trees exist on the Madera site. Removal of these trees would constitute a less than significant impact. Nonetheless, mitigation in **Section 5.2.4** will minimize impacts to the hoary bat.

FEDERALLY LISTED SPECIES

As discussed in **Section 3.5.4**, no Federal special-status species were observed on site. Biological field surveys showed the Madera site is ruderal and subject to constant human disturbance. Therefore, it does not provide habitat for the Federally-listed special-status invertebrates, fish, amphibians, reptiles, or plant species.

MIGRATORY BIRD AND OTHER FEDERAL SPECIAL-STATUS BIRD SPECIES

The development of Alternative A would affect vegetation communities that could potentially support active migratory bird nests. Migratory birds and their nests are protected from “take” according to the federal Migratory Bird Treaty Act. Alternative A could adversely affect active migratory bird nests if vegetation removal activities associated with project construction occur during the nesting season. This is potentially a significant impact. Potential adverse direct effects to migratory birds and other special-status bird species will be avoided or minimized by implementation of the mitigation measures identified in **Section 5.2.4**.

WATERS OF THE U.S.

A delineation of waters of the U.S. occurring within the site identified Schmidt Creek realignment ditch and other seasonal wetlands totaling 8.51 acres (H. T. Harvey & Associates, 2005). These features are subject to U.S. Army Corps of Engineers (USACE) jurisdiction under the Clean Water Act and any discharge of dredged or fill material within the drainages would require a Department of the Army permit.

There are no anticipated direct effects due to the construction of facilities to jurisdictional waters of the U.S. because the proposed casino and associated facilities are all located elsewhere on the Madera site. A clear-span bridge is proposed over the Airport ditch to connect the access road to Road 23, thereby avoiding any impact to the creek. All other jurisdictional waters of the U.S. have been avoided in the design phase and protected from indirect effects by a 50-foot buffer.

4.5.2 ALTERNATIVE B – REDUCED INTENSITY

POTENTIAL EFFECTS TO WILDLIFE AND HABITATS

Terrestrial Resources

Development of Alternative B would affect the dry wheat field habitat that is primarily used by wildlife species accustomed to human disturbance (see the vegetation community descriptions in **Section 3.5.2**). **Table 4.5-2** provides a summary of the acreage of each habitat type that would be affected under the three different surface wastewater disposal options for Alternative B, as described in **Section 2.3.6**. **Figure 2-12** shows the three different options for the wastewater facilities. As shown in **Table 4.5-2**, Option 1 and Option 3 would affect approximately 32% and 31% of the 305 acres respectively, primarily dryland wheat fields. Option 2 would affect

approximately 40% of the property, also dryland wheat fields. This habitat provides limited resources for wildlife due to frequent plowing and weed control measures associated with farming practices. Furthermore, farming practices disrupt burrows and groundcover used by fossorial mammals. Species found in cultivated habitats are typically widespread. No significant impacts to wildlife and habitats would result with the implementation of Alternative B.

TABLE 4.5-2
ANTICIPATED EFFECTS TO HABITAT TYPES – ALTERNATIVE B

Configuration Number	Habitat Type	Acreage Affected	Percentage Affected
Option 1	Dryland Wheat Fields	98.7	32%
Option 2	Dryland Wheat Fields	122.5	40%
Option 3	Dryland Wheat Fields	95.2	31%

SOURCE: H. T. Harvey & Associates, 2004; AES, 2005.

Aquatic Resources

Similar to Alternative A, potential impacts to Schmidt Creek and downstream habitat from the discharge of tertiary treated wastewater include changes in flow and vegetation characteristics of the waterways. As with Alternative A, the addition of a permanent water source in Schmidt Creek ditch would stimulate the growth of hydrophytic vegetation and ultimately create conditions for the growth of a diverse riparian habitat, a less than significant impact. One way the discharge could potentially impact the aquatic habitat is if the discharged effluent increases the water temperature of Dry Creek by more than five degrees Fahrenheit. This impact can be avoided by the implementation of mitigation measures in **Section 5.2.4**.

STATE SPECIAL-STATUS SPECIES

Alternative B would result in fewer impacts to State special-status species because it would develop a smaller area. Species with the potential to occur on the Madera site are discussed under Alternative A. These species are not necessarily afforded protection under the Federal Endangered Species Act. Nevertheless, mitigation is provided in **Section 5.2.4** for potential impacts to state special-status species.

FEDERALLY LISTED SPECIES

Due to the relatively close configuration of each option associated with Alternative B and Alternative A, potential project impacts are similar to the potential impacts generated by Alternative A. The primary difference between the two alternatives is that Alternative B will use less acreage. No project-related impacts are expected to occur to other Federal special-status species. Biological surveys showed the Madera site does not provide habitat for the special-status invertebrates, fish, amphibians, reptiles, or plant species identified to occur in the Kismet, California 7.5' USGS quadrangle.

MIGRATORY BIRD AND OTHER SPECIAL-STATUS SPECIES

Alternative B could adversely affect active migratory bird nests if vegetation removal activities associated with project construction occur during the nesting season. This is potentially a significant impact. Potential adverse direct effects to migratory birds and other special-status species will be avoided or minimized by implementation of the mitigation measures identified in **Section 5.2.4**.

WATERS OF THE U.S.

There are no anticipated direct effects, due to the construction and placement of the facilities, to potentially jurisdictional waters of the U.S. As with Alternative A, the project has been designed to avoid potentially jurisdictional wetlands on the site (i.e., 50-foot buffer) and would include a clear-span bridge to connect the access road with Road 23.

4.5.3 ALTERNATIVE C – NON-GAMING USE***POTENTIAL EFFECTS TO WILDLIFE AND HABITATS******Terrestrial Resources***

Despite the reduction in the intensity of land development, the grading footprint of Alternative C would be generally similar to the previous alternatives. As previously stated, species utilizing the dry wheat field habitat are wildlife that has grown accustomed to and can coexist with human disturbance. **Table 4.5-3** provides a summary of the acreage of each habitat type that would be affected under the three different surface wastewater disposal options for Alternative C, as described in **Section 2.4.6.**, and shown in **Figure 2-17**. As shown in **Table 4.5-3**, Option 1 and Option 3 would affect approximately 26% of the 305 acres, primarily dryland wheat fields. Option 2 would affect 27% of the property, also dryland wheat fields. This habitat provides

TABLE 4.5-3
ANTICIPATED EFFECTS TO HABITAT TYPES – ALTERNATIVE C

Configuration Number	Habitat Type	Acreage Affected	Percentage Affected
Option 1	Dryland Wheat Fields	80.8	26.5%
Option 2	Dryland Wheat Fields	82.7	27%
Option 3	Dryland Wheat Fields	80.4	26%

SOURCE: H. T. Harvey & Associates, 2004; AES, 2005.

limited resources for wildlife due to frequent plowing and weed controls associated with farming practices. Furthermore, farming practices disrupt burrows and groundcover used by fossorial mammals. Species found in cultivated habitats are typically widespread and accustomed to disturbances. No significant impacts to wildlife and habitats would result with the implementation of Alternative C.

Aquatic Resources

Potential impacts to Schmidt Creek and downstream aquatic habitat from the discharge of tertiary treated wastewater include changes in flow and vegetation characteristics of the waterways. These impacts would be similar to Alternative A, except that treated wastewater flows would be much lower with Alternative C. As with Alternative A, the addition of a permanent water source in Schmidt Creek ditch would stimulate the growth of hydrophytic vegetation and ultimately create conditions for the growth of a diverse riparian habitat, a less than significant impact. One way the discharge could potentially impact the aquatic habitat is if the discharged effluent increases the water temperature of Dry Creek by more than five degrees Fahrenheit. This impact can be avoided by the implementation of mitigation measures in **Section 5.2.4**.

STATE SPECIAL-STATUS SPECIES

Alternative C would result in fewer impacts to State special-status species because it would develop a smaller area. Species with the potential to occur on the Madera site are discussed under Alternative A. These species are not necessarily afforded protection under the Federal Endangered Species Act. Nevertheless, mitigation is provided in **Section 5.2.4** for potential impacts to state special-status species.

FEDERALLY LISTED SPECIES

Alternative C is reduced significantly in overall size, as compared with Alternatives A and B, and potential project impacts are similar to those generated by the other two alternatives. Biological surveys showed the Madera site does not provide habitat for any Federal special-status species identified to occur in the Kismet, California 7.5' USGS quadrangle or the surrounding eight quadrangles. Alternative C will therefore not impact any Federally-listed species.

MIGRATORY BIRD AND OTHER SPECIAL-STATUS SPECIES

Alternative C could adversely affect active migratory bird nests if vegetation removal activities associated with project construction occur during the nesting season. This is potentially a significant impact. Potential adverse direct effects to migratory birds and other special-status species will be avoided or minimized by implementation of the mitigation measures identified in **Section 5.2.4**.

WATERS OF THE U.S.

As with Alternative A and Alternative B, there are no anticipated direct effects, from the development of facilities, to potentially jurisdictional waters of the U.S. The footprint of Alternative C is similar to the previous alternatives, though the land use is changed, and would retain the previously mentioned buffers (around identified wetlands) and clear-span bridge to connect to Road 23.

4.5.4 ALTERNATIVE D - NORTH FORK LOCATION

POTENTIAL EFFECTS TO WILDLIFE AND HABITATS

Terrestrial Resources

Development of Alternative D would affect Interior Live Oak Woodland that is utilized by a wide variety of fauna. The complete layout of the complex and associated facilities is within the Interior Live Oak Woodland, and as such would affect the vegetation community as well as three streams located in the proposed development area. **Table 4.5-4** provides a summary of the acreage of the habitat type that would be affected under the three different surface wastewater disposal options for Alternative D, as described in **Section 2.5.6.**, and shown in **Figure 2-20**. As shown in **Table 4.5-4**, all three options would affect approximately ten percent of the total 78.8 acres on the North Fork site. Furthermore, the development of the site would cause wildlife species, indigenous to the area, to utilize other similar geographic regions. Although there is an abundance of similar habitat within the area and an impact of approximately 8 acres is relatively insignificant, the value lies in the mostly undisturbed nature of the site (intrinsic value). Wildlife, unaccustomed to human disturbance, would decrease not only in the immediate area but also along the periphery of the development, being displaced by species adapted to human activity. This impact would be significant and mitigation measures are outlined in **Section 5.2.4**.

TABLE 4.5-4
ANTICIPATED EFFECTS TO HABITAT TYPES – ALTERNATIVE D

Configuration Number	Habitat Type	Acreage Affected	Percentage Affected
Option 1	Interior Live Oak Woodland	7.9	10%
	Stream Habitat	0.2	16%
Option 2	Interior Live Oak Woodland	9.4	12%
	Stream Habitat	0.2	16%
Option 3	Interior Live Oak Woodland	7.1	9%
	Stream Habitat	0.2	16%

SOURCE: H. T. Harvey & Associates, 2004; AES, 2005.

Aquatic Resources

Potential impacts to the on-site unnamed tributary of Willow Creek and downstream aquatic habitat from the discharge of tertiary treated wastewater include changes in flow and vegetation characteristics of the waterways. The unnamed tributary is an ephemeral stream and the addition a permanent water source would stimulate the growth of hydrophytic vegetation and ultimately create conditions for the growth of a diverse riparian habitat. The downstream waters, Willow Creek, would benefit from increased flows of high quality recycled water by providing better habitat for resident rainbow trout.

If the discharged effluent increases the water temperature of Willow Creek by more than five degrees Fahrenheit, it could significantly impact aquatic species downstream of the confluence of Willow Creek and the unnamed tributary. This impact can be avoided by the implementation of mitigation measures in **Section 5.2.4**.

STATE SPECIAL-STATUS SPECIES

Section 3.5.4 states that three State special-status species have the potential to occur on the North Fork site: the tree anemone, the northern goshawk and the pallid bat. If these species occur on the North Fork site, Alternative D would potentially impact them by removing nesting and foraging habitat. The North Fork site is within lands held in Trust by the U. S. government, so State-listed species are not afforded the same protections as Federally-listed species. The potential for Alternative D to impact these species is discussed below.

The tree anemone was not observed on the North Fork site during surveys performed on May 11 and 12, 2005. These surveys were conducted during this species' bloom period, which is from May to July. Alternative D is not expected to impact this species.

The northern goshawk typically breeds at either higher altitudes or higher latitudes than the North Fork site. This species was not observed on the site and no impacts to northern goshawk breeding habitat are expected to result from Alternative D.

The pallid bat has the potential to roost in buildings and tree cavities on the North Fork site. Between 7.1 and 9.4 acres of interior live oak habitat (**Table 4.5-4**), as well as existing structures, will be removed. Removal of several acres of woodland and existing structures would constitute a potentially significant impact. Mitigation in **Section 5.2.4** will ensure that any impacts would be less than significant.

FEDERALLY LISTED SPECIES

Table 3.5-4, (Section 3.5.4) lists six species that could potentially be affected by the development of Alternative D. Of these species, two have the potential to occur on the project site: Mariposa pussypaws (*Calyptridium pulchellum*) and valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*).

Special Status Plant Species

The North Fork site has habitat for the Federal special-status plant species Mariposa pussypaws. As described in **Table 3.5-4**, habitat for this species is chaparral and cismontane woodland on granitic substrate. The loss of Interior Live Oak Woodland (acreages shown in **Table 4.5-4**) could significantly affect these species. Mitigation measures to avoid potential impacts to special-status plant species are identified in **Section 5.2.4**.

Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*)

Federal Status - Threatened

Elderberry shrubs (*Sambucus* spp.), the host plant for the VELB, occur in the Open Foothill Pine Woodland and Interior Live Oak Woodland habitats on the North Fork site. Due to the presence of the shrubs, development of the site could significantly impact VELB populations. Of the 52 plants found on the North Fork site, 50 have the potential to be impacted by Alternative D. These shrubs are described in **Table 4.5-5** and shown in **Figure 4.5-1**.

TABLE 4.5-5
ANTICIPATED EFFECTS TO ELDERBERRY BUSHES – ALTERNATIVE D

Location	No. of Plants	Stem diameters (inches)			Exit Holes Present?	In Riparian Habitat?
		1" to 3"	3" to 5"	> 5"		
eld1	1	6	0	0	no	yes
eld2	2	0	0	0	no	yes
eld3	8	6	0	0	yes	yes
eld4	3	8	0	0	yes	yes
eld5	6	4	0	0	yes	yes
eld6	1	0	0	0	no	yes
eld8	1	6	0	0	no	no
eld9	1	1	0	0	no	no
eld10	1	2	0	0	no	yes
eld11	1	2	0	0	no	no
eld12	1	3	0	0	no	no
eld13	2	7	0	0	yes	no
eld14	1	1	0	0	no	yes
eld15	1	4	0	0	yes	yes
eld16	1	0	0	0	no	yes
eld17	1	5	0	0	no	yes
eld18	1	1	0	0	no	no
eld19	6	24	2	0	no	no
eld20	1	1	0	0	no	yes
eld21	2	15	0	0	yes	yes
eld22	4	0	0	0	no	yes
eld23	2	2	0	0	no	yes
eld24	1	1	0	0	no	yes
eld25	1	1	0	0	no	yes

SOURCE: AES, 2006.

The majority of these elderberries will be impacted by the grading necessary to stabilize the site prior to construction. Additionally, if Alternative D is adjusted to include widening of Mission Drive, the two shrubs in location eld7 on the eastern side of the road may also be impacted. Mitigation measures to reduce potential impacts to valley elderberry longhorn beetle are shown in **Section 5.2.4**.

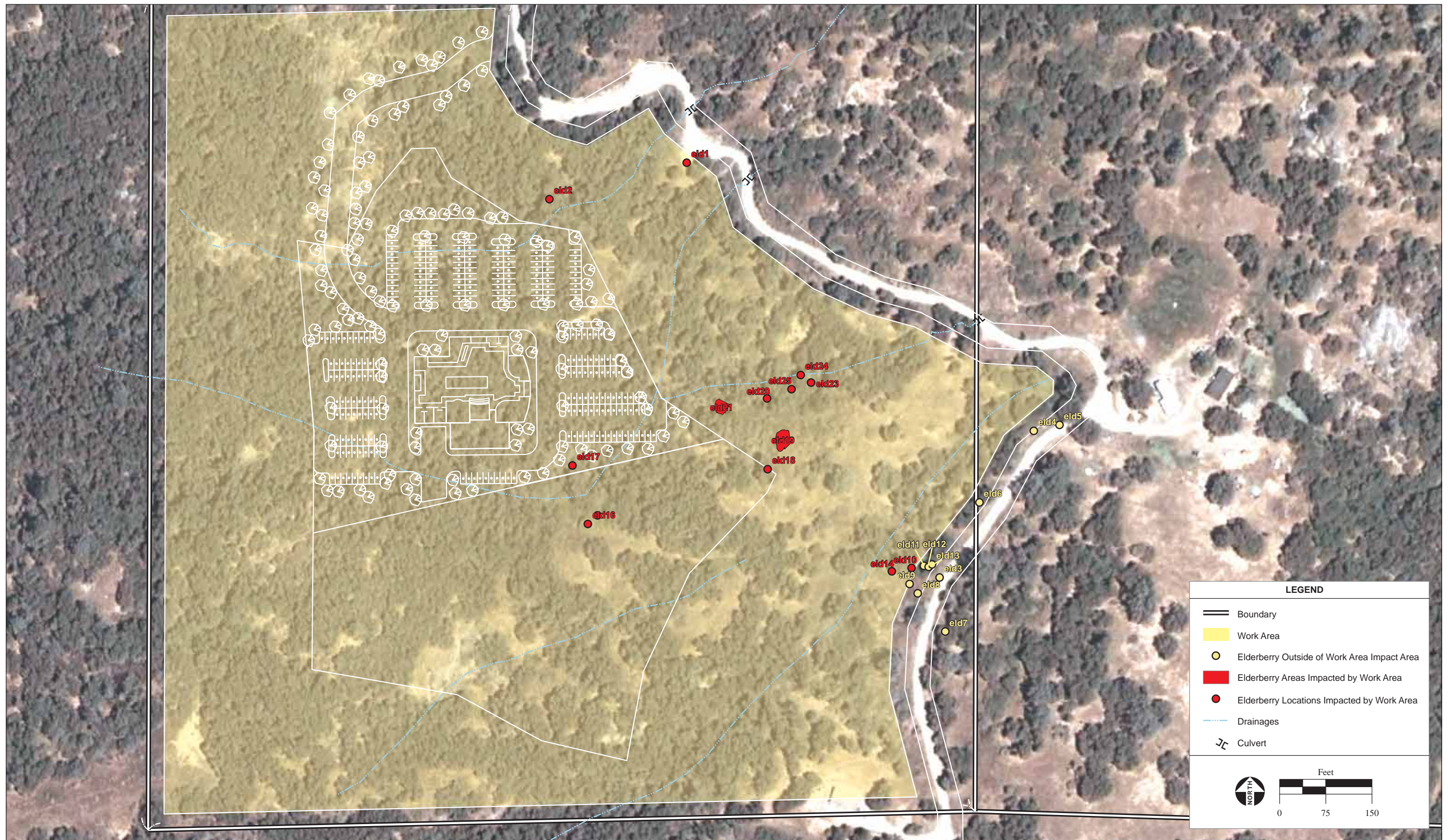


Figure 4.5-1
Impacts to Elderberry Longhorn Beetle Habitats

MIGRATORY BIRD AND OTHER SPECIAL-STATUS SPECIES

The development of Alternative D would affect vegetation communities that could potentially support active migratory bird nests. Migratory birds and their nests are protected from “take” according to the Federal Migratory Bird Treaty Act. Alternative D could adversely affect active migratory bird nests if vegetation removal activities associated with project construction occur during the nesting season. This is potentially a significant impact. Potential adverse direct effects to migratory birds and other special-status species will be avoided or minimized by implementation of the mitigation measures identified in **Section 5.2.4**.

WATERS OF THE U.S.

H.T. Harvey and Associates conducted a delineation of the North Fork site on May 11 and 12, 2005. The delineation identified approximately 1.19 acres of potentially jurisdictional waters of the U.S and would require verification from the USACE. Potential project-related impacts to waters of the U.S. include the loss of three streams located in the northwestern portion of the property, totaling approximately 0.2 acres (**Table 4.5-6**). Other potential affects include dewatering, increased turbidity, increased temperature, and an increase in pollutant loads of downstream habitats.

TABLE 4.5-6
ANTICIPATED DIRECT EFFECTS TO WATERS OF THE U.S. – ALTERNATIVE D

Project Component	Acreage Affected
Casino Complex and Facilities	0.2
Total	0.2

SOURCE: H. T. Harvey & Associates, 2005; AES, 2005.

This is potentially a significant impact. A permit from the USACE pursuant to Section 404 of the Clean Water Act would need to be acquired prior to construction. Potential adverse direct effects to waters of the U.S. would be avoided or minimized by implementation of the mitigation measures identified in **Section 5.2.4**.

4.5.5 ALTERNATIVE E – NO ACTION

Under Alternative E, the No Action Alternative, the current agricultural and rural residential forms of land use for both the Madera site and North Fork site would remain unchanged. No impacts to biological resources would occur and no mitigation is required.

4.6 CULTURAL AND PALEONTOLOGICAL RESOURCES

4.6.1 ALTERNATIVE A – PROPOSED PROJECT

CULTURAL RESOURCES

Alternative A would not have a significant effect on known cultural resources. One site, remnants of a historic farm complex (AES-01-5-1) on the property has been identified, recorded, and evaluated as not eligible for the National Register of Historic Places (NRHP). The evaluation of the historical and architectural significance of the Daulton Farm found that it does not meet the criteria for inclusion on the NRHP. Furthermore, this site is located outside the proposed developed area of the Madera site. Therefore, Alternative A would not affect known historic resources.

There is a possibility that previously unknown archaeological resources will be encountered during construction. This would be a potentially significant effect. Mitigation measures are presented in **Section 5.2.5** for the treatment of unanticipated archaeological discoveries. Adoption of these mitigation measures would reduce impacts to less than significant.

PALEONTOLOGICAL RESOURCES

The significance of paleontological resources is determined in part in terms of compliance with the Antiquities Act of 1906 (PL 59-209; 16 United States Code 431 *et seq.*; 34 Stat. 225), which calls for the protection of historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest on Federal land. Additional provisions appear in the Archaeological and Historic Data Preservation Act of 1974, as amended, related to the survey, recovery, and preservation of significant scientific, prehistoric, historic, archaeological, or paleontological data, in such cases where this type of data might be otherwise destroyed or irrecoverably lost as a result of Federal projects. Paleontological resources are important for their scientific and educational value. Fossil remains of vertebrates are considered significant resources. Invertebrate fossils are considered significant if they function as index fossils. Index fossils are those that appear in the fossil record for a relatively short and known period of time, allowing geologists to interpret the age of the geological formations in which they are found.

No known paleontological or unique geological resources exist on the Madera site. Given disturbance over time, primarily due to grading from agricultural operations, the upper layer of soils underlying the Madera site are not known to contain paleontological resources and have a low probability of containing unknown paleontological resources. However, the discoveries at the Fairmead Landfill site discussed in **Section 3.6** contribute to the potential for significant paleontological deposits to be present beneath the ground surface. Therefore, there is a possibility that unknown paleontological resources could be encountered during construction. This would be a potentially significant effect. Mitigation measures are presented in **Section 5.2.5**

for the protection and preservation of unanticipated discoveries of paleontological resources. Adoption of these mitigation measures would reduce impacts to less than significant.

4.6.2 ALTERNATIVE B – REDUCED INTENSITY

CULTURAL RESOURCES

Alternative B would not have a significant effect on known cultural resources. One site, remnants of a historic farm complex (AES-01-5-1) on the property has been identified, recorded, and evaluated as not eligible for the National Register of Historic Places (NRHP). This site is also located outside the proposed developed area of the Madera site. Therefore, Alternative A would not affect known historic properties.

There is a possibility that previously unknown archaeological resources will be encountered during construction. This would be a potentially significant effect. Mitigation measures are presented in **Section 5.2.5** for the treatment of unanticipated archaeological discoveries. Implementation of these mitigation measures would reduce impacts to less than significant.

PALEONTOLOGICAL RESOURCES

No known paleontological or unique geological resources exist on the Madera site. Given disturbance over time, primarily due to grading from agricultural operations, the upper layer of soils underlying the Madera site are not known to contain paleontological resources and have a low probability of containing unknown paleontological resources. However, the discoveries at the Fairmead Landfill site discussed in **Section 3.6** contribute to the potential for significant paleontological deposits to be present beneath the ground surface. Therefore, there is a possibility that unknown paleontological resources could be encountered during construction. This would be a potentially significant effect. Mitigation measures are presented in **Section 5.2.5** for the protection and preservation of unanticipated discoveries of paleontological resources. Implementation of these mitigation measures would reduce impacts to less than significant.

4.6.3 ALTERNATIVE C – NON-GAMING USE

CULTURAL RESOURCES

Alternative C would not have a significant effect on known cultural resources. One site, remnants of a historic farm complex (AES-01-5-1) on the property has been identified, recorded, and evaluated as not eligible for the NRHP. This site is also located outside the proposed developed area of the Madera site. Therefore, Alternative A would not affect known historic properties.

There is a possibility that previously unknown archaeological resources will be encountered during construction. This would be a potentially significant effect. Mitigation measures are

presented in **Section 5.2.5** for the treatment of unanticipated archaeological discoveries. Implementation of these mitigation measures would reduce impacts to less than significant.

PALEONTOLOGICAL RESOURCES

No known paleontological or unique geological resources exist on the Madera site. Given disturbance over time, primarily due to grading from agricultural operations, the upper layer of soils underlying the Madera site are not known to contain paleontological resources and have a low probability of containing unknown paleontological resources. However, the discoveries at the Fairmead Landfill site discussed in **Section 3.6** contribute to the potential for significant paleontological deposits to be present beneath the ground surface. Therefore, there is a possibility that unknown paleontological resources could be encountered during construction. This would be a potentially significant effect. Mitigation measures are presented in **Section 5.2.5** for the protection and preservation of unanticipated discoveries of paleontological resources. Implementation of these mitigation measures would reduce impacts to less than significant.

4.6.4 ALTERNATIVE D – NORTH FORK LOCATION

CULTURAL RESOURCES

Although seven archaeological sites have been previously identified on the North Fork site (**Section 3.6.5**), only one site is located within the immediate vicinity of the proposed development area of the North Fork site. P-20-2358 is a prehistoric resource composed of two granitic bedrock mortar outcrops and a sparse lithic scatter. One outcrop contains 9 cups and one contains 2 cups. The site is located on the north side of a seasonal draw, just west of an open area of steeply sloped granitic outcrops and boulders and may be impacted by slope stabilization activities. P-20-2358 could be effected by construction activities. This would be a significant impact. Mitigation measures are presented in **Section 5.2.5** for the treatment of unanticipated archaeological discoveries. Implementation of these mitigation measures would reduce impacts to less than significant.

Additionally, there is a possibility that previously unknown archaeological resources will be encountered during construction. This would be potentially significant effect. Mitigation measures are presented in **Section 5.2.5** for the treatment of unanticipated archaeological discoveries. Implementation of these mitigation measures would reduce impacts to less than significant.

PALEONTOLOGICAL RESOURCES

No known paleontological or unique geological resources are known to exist in the project area. Geologic formations that underlie the North Fork site have a low probability of containing paleontological resources. Therefore, no significant effects are expected to known paleontological resources.

There is always the likelihood that previously unknown paleontological resources would be encountered during construction. This would be a potentially significant effect. Mitigation measures are presented in **Section 5.2.5** for the protection and preservation of unanticipated discoveries of paleontological resources. Implementation of these mitigation measures would reduce impacts to less than significant.

4.6.5 ALTERNATIVE E – NO ACTION

Under Alternative E, no change in existing land use is expected either on the North Fork or Madera sites. Given that existing rural residential and agricultural uses are relatively low-impact land uses and are not known to have resulted in the degradation of known cultural resources to date, no significant effects to cultural or paleontological resources would occur as a result of Alternative E.

4.7 SOCIOECONOMIC CONDITIONS AND ENVIRONMENTAL JUSTICE

4.7.1 SOCIOECONOMIC CONDITIONS

This section provides an analysis of the socioeconomic effects of each alternative. Effects analyzed include employment impacts from construction and operation, potential population growth from construction and operation, potential social effects including crime and problem gambling, effects to surrounding property values, additional costs and revenues to local governments, and increased pumping costs for neighboring wells. A socioeconomic study was recently completed that analyzes the socioeconomic impacts of each alternative (Innovation Group, 2005). A copy of this study appears in **Appendix R**.

ALTERNATIVE A – PROPOSED PROJECT

Employment

Alternative A's effects on employment would come in both the construction and operational phases. The impacts of construction are only felt for the duration of construction spending so they are necessarily temporary. The operational effects are felt as long as the casino/hotel resort is in operation.

The effects are measured in three ways: direct employment, indirect employment and induced employment. Direct employment includes those employees who are directly employed at the facility either during construction or during operation.

Indirect employment includes those employees who provide services and are employed at least in part due to the facility but are not directly employed at the facility. Generally, these jobs are categorized as those created from project spending.

The third category is induced employment. This category includes all the other jobs that are created due to the ripple effect of spending throughout the economy as a whole. Generally, these jobs are categorized as those that are created through direct and indirect employment spending.

In order to measure these impacts, the Regional Input-Output Modeling System (RIMS II) produced by the Bureau of Economic Analysis, US Department of Commerce was utilized. When provided changes in output in a sector or sectors of economy, this model estimates the direct, indirect and induced changes in the economy's output, employment and earnings. For the purposes of this Environmental Impact Statement (EIS), Madera County is the study area.

As described below, Alternative A would result in the creation of numerous employment opportunities within Madera County, which would be a beneficial effect to the region's unemployment rate and the local economy as a whole.

Construction

Construction employment and spending is temporary, but it can have substantial impacts on the economy. For Alternative A, construction spending is estimated to be almost \$350 million.

Table 4.7-1 details the projected spending.

TABLE 4.7-1
CONSTRUCTION COSTS – ALTERNATIVE A

Construction Phase	Estimated Cost (dollars)
Design	12,060,000
General Construction	227,544,000
Soft Costs	85,905,000
Contingency	23,960,000
<i>Total</i>	<i>349,469,000</i>

NOTE: Soft costs include furniture, fixtures, financing fees, equipment, etc.

SOURCE: Innovation Group, 2005.

Based on the almost \$350 million in spending for construction, RIMS II projects that Alternative A would create 2,441 jobs. Although most of these jobs fall within the construction sector, they are spread out over 20 different segments of the economy because other jobs would be created in the short term to serve the construction employees and construction operation (Innovation Group, 2005). These jobs would be filled by workers that commute to the area and local residents, some of which may currently be unemployed. This would result in a temporary reduction in the unemployed population and in the unemployment rate, a beneficial impact to the local economy.

Operation

Operational employment includes those jobs that are generated from the operation of Alternative A. These impacts would last as long as the casino/hotel resort is in operation. Direct employment includes all positions at the casino and hotel. SC Madera Management, LLC (the Tribe's management/development partner) anticipates that the Alternative A project facilities would employ 1,291 full-time employees and 283 part-time employees or 1,461 full-time equivalent employees (FTEs).

Indirect employment includes those jobs that provide support services to but are not directly paid by the casino/hotel resort. Induced employment calculates the impacts of these direct and indirect jobs on the rest of the economy as spending by direct and indirect employees ripples through the economy. RIMS II projects that Alternative A would create 2,319 jobs in Madera County (**Table**

4.7-2). Of those, 858 are indirect and induced jobs. Most of the direct jobs fall within the arts, entertainment and recreation, and accommodation and food services sectors. Indirect and induced jobs are spread out over 20 different segments of the economy (Innovation Group, 2005).

As stated in **Section 3.7.1**, unemployment in Madera County is somewhat high, with an average unemployed population of approximately 5,600, resulting in an unemployment rate of approximately nine percent in 2004. Most of the 2,319 jobs created by Alternative A are expected to be filled by County residents (between 65 and 73.5 percent – see **Appendix R**) and most of the Madera County residents filling the jobs are expected to be currently unemployed given the availability of unemployed workers in the local labor market (80 percent of jobs would be filled by those currently unemployed – see **Appendix R**), resulting in a reduction in the unemployed population of 1,265 and reducing the unemployment rate to approximately seven percent. This would be a beneficial impact to the local economy.

TABLE 4.7-2
OPERATION IMPACT ON EMPLOYMENT – ALTERNATIVE A

Employment Sector	Jobs Created
Agriculture, Forestry, Fishing and Hunting	4.06
Mining	0.23
Utilities	0.88
Construction	8.21
Manufacturing	23.30
Wholesale Trade	12.03
Retail Trade	88.23
Transportation and Warehousing	14.74
Information	11.69
Finance and Insurance	8.21
Real Estate, Rental, and Leasing	19.34
Professional, Scientific, and Technical Services	9.96
Management of Companies and Enterprises	20.75
Administrative and Waste Management Services	18.14
Educational Services	3.89
Health Care and Social Assistance	48.65
Arts, Entertainment, and Recreation	1,316.82
Accommodation and Food Services	665.26
Other Services	35.11
Households	9.13
<i>Total (rounded to nearest single job)</i>	<i>2,319</i>

SOURCE: Innovation Group, 2005.

Population

Given that Alternative A is projected to increase employment in Madera County by 2,441 temporary positions and 2,319 permanent positions, it is necessary to estimate how that increase in employed persons would affect the population as a whole. An increase in population is not itself an environmental impact. However, an increase in population could lead to impacts such as 1) creating demand for governmental services, which is discussed in more detail below, and 2)

creating growth in housing or other facilities to serve the increase in population, which is discussed in more detail in **Section 4.12**.

Construction

The 2,441 temporary construction jobs would not result in an increase in local population. It is typical for construction workers to travel for employment opportunities during the week and then return home on the weekends. Thus, it is expected that those jobs that can be filled locally would be and those that cannot would be filled by individuals who would travel for the work as opposed to relocating. Therefore, the population would not show any change from the influx of temporary construction jobs.

Operation

The 2,319 permanent jobs created by Alternative A would result in increases in the local population because some of these jobs would be filled by individuals who move into Madera County for employment. In order to project what percentage of people will move into the County, it must be determined what percentage of individuals working at the casino/hotel resort would live in Madera County.

Under the Memorandum of Understanding (MOU) between the Tribe and Madera County, the Tribe has agreed to make a good faith effort to ensure that 50 percent of its employees live in Madera County. The Chukchansi Casino, also in Madera County and of comparable size to the proposed hotel/casino resort, made the same goal when it opened in June 2003. The Chukchansi were able to meet this goal and, in fact, exceeded it. Of the approximately 1,600 Chukchansi casino/hotel employees, 65 percent live in Madera County (Innovation Group, 2005).

Given the still large number of unemployed in Madera County and the experience at Chukchansi, the Tribe is not expected to have a problem meeting the 50 percent goal, and it is projected that 65 percent or 950 of the direct casino/hotel resort jobs would be Madera County residents.

Some of the 858 indirect and induced jobs would also be filled by Madera County residents. According to U.S. Census data from 2000, 26.5% of Madera County's employees commute from outside the County. That means that 73.5% of the jobs in Madera County are held by residents of the County. Assuming that this commute pattern would hold constant for the new casino employees, 631 of these new positions would be filled by Madera County residents.

Internal studies conducted by both the Madera Unified School District and the Madera County Department of Behavioral Health found no significant impact on these departments by the opening of the Chukchansi Casino in 2003 (Innovation Group, 2005). Given this experience and the large number of unemployed in the County, the number of people moving into the County for indirect or induced employment opportunities would be low. It is conservatively estimated that

20 percent of the employees residing in Madera County will be new residents, although the actual percentage may be lower (Innovation Group, 2005).

If 20% of the new employees who live in Madera County are new residents of Madera County, then the number of employees that move into the County would be 316 (**Table 4.7-3**). The 316 figure includes 20% of the 950 direct employees expected to live in the County and 20% of the 631 indirect and induced employees expected to live in the County.

If 316 new employees move into Madera County, these would not be the only new residents in the County who moved in because of the casino. These employees would in some cases bring families. To account for this, an employee per household ratio was calculated for Madera County. Given the 2004 average labor force of 62,200 and a 2004 household estimate of 38,505, there is a 1.6 ratio of laborers to households. To be conservative in the estimate of casino impacts on the County, the ratio of new employees per household was assumed to be 1.2. Using 2000 Census data, the number of persons per household in Madera County was calculated to project the number of new residents in Madera County. As shown in **Table 4.7-3**, a total of 836 new residents would move into Madera County as a result of Alternative A, increasing the population from 141,007 to 141,843.

For developments on the Madera site, it is projected that 50 percent of development-induced residents would move into the City of Madera, and the other 50 percent would live elsewhere in the County. As noted above, approximately 836 new County residents are expected under Alternative A, with 418 expected to settle in the City of Madera, increasing the City population from 50,842 to 51,260. Note that the Socioeconomic Assessment (**Appendix R**) assumes that 8 of the 836 new residents would live in the City of Chowchilla. However, given that these 8 residents are not expected to result in measurable socioeconomic effects to the City of Chowchilla they have been added to the unincorporated County totals for a conservative analysis for unincorporated County, where measurable socioeconomic effects are expected.

TABLE 4.7-3
NEW RESIDENTS IN MADERA COUNTY – ALTERNATIVE A

Direct, indirect, and induced jobs filled by Madera County residents	1,581
New employees moving to Madera County ¹	316
Number of employees per household	1.2
Number of new households ²	263
Number of persons per household	3.18
<i>Total New Residents</i> ³	<i>836</i>

NOTES: ¹20% of jobs filled by Madera County residents
²New employees moving to Madera County divided by number of employees per household
³Number of new households multiplied by number of persons per household

SOURCE: Innovation Group, 2005.

*Social Effects**Crime*

To estimate the probable impacts of Alternative A on crime, the following five California communities were surveyed that have had Indian casinos within close proximity or in their jurisdiction for at least the past two years:

- Thunder Valley Casino in Lincoln, Placer County,
- Chumash Casino Resort in Santa Ynez, Santa Barbara County,
- Pala Casino Resort and Spa, in Pala, San Diego County,
- Spa Resort Casino in Palm Springs, Riverside County, and
- Barona Valley Ranch Resort and Casino in Lakeside, San Diego County.

Each of these casinos offers slot machines, gaming tables and hotel accommodations with the exception of Thunder Valley Casino (no hotel accommodations). **Table 4.7-4** summarizes the year in which each casino opened, square footage of the casino, number of slot machines, number of gaming tables, number of hotel rooms and the city population. All of the

TABLE 4.7-4
COMPARATIVE CASINOS

	Location	Year Opened	Casino Square Footage	No. of Slot Machines	No. of Hotel Rooms	Local Population (2000)
Thunder Valley Casino	Lincoln, Placer County, CA	2003	200,000	2,700	0	13,900
Chumash Casino Resort	Santa Ynez, Santa Barbara County, CA	2003 (casino) 2004 (hotel)	94,000	2,000	106	4,584
Pala Casino Resort and Spa	Pala, San Diego County, CA	2001	185,000	2,250	507	133,559
Spa Resort Casino	Palm Springs, Riverside County, CA	2003	45,000	1,000	228	42,807
Barona Valley Ranch Resort and Casino	Lakeside, San Diego County, CA	2003	310,000	2,000	397	19,560

SOURCE: Analytical Environmental Services, 2005; Bay Area Economics, 2005. casinos opened in 2003 except

Pala Casino Report and Spa, which opened in 2001. Spa Resort Casino in Palm Springs has the smallest square footage dedicated to its casino (45,000 square feet) whereas Barona Valley Ranch Casino has the largest casino square footage of 310,000. Each casino offers an average of 2,000

slot machines, an average of 70 gaming tables, and if available, an average of approximately 300 hotel rooms.

Local law enforcement offices were contacted to inquire about the impacts of the casinos and whether the facilities induced a higher incidence of crime. In addition, historical crime statistics were reviewed for a correlation between the presence of casinos and higher than average crime rates. Local social service agencies were also contacted to document any increase in social service demand since the opening of the casinos. Finally, a literature review on the topic of the social impacts of casino gambling was conducted. A brief summary of the general conclusions found in literature on the subject can be found under each issue area below, where applicable. Research was also completed on the Chukchansi Casino in Madera County. The results of this research are discussed specifically for each issue area, where applicable.

Each local law enforcement agency contacted reported an increase in law enforcement service demand as a direct result of the opening of a casino within its jurisdiction. All reported the typical crimes and/or calls for service that have increased are, but are not limited to: driving under the influence, personal robbery, credit card fraud, auto thefts, disorderly conduct, and assault. Although instances of these crimes have increased in all of the casino communities, no department could implicate the casino as the direct cause of the increase in crime. Rather, each department expressed that the increased concentration of people within the local area led to the increase in crime. It was determined that total number of crimes is minimal in comparison to the overall number of crimes in the surrounding communities. Chumash Casino in Santa Ynez had 204 calls for service in 2003, 20 of which were larceny-theft arrests, and one of which resulted in a violent crime arrest, out of 8,536 arrests throughout the host County. Pala Casino Resort and Spa in Pala, California had 181 calls for service in 2003, 21 of which were property crime arrests, 12 of which were larceny-theft arrests, and six of which resulted in violent crime arrests. A total of 110,642 arrests occurred in the Pala host County. All departments reported the largest impact directly attributed to the casino in their community is the increase in traffic and traffic-related accidents.

In addition to the interviews with local law enforcement officials, uniform crime reporting statistics were also compiled for the different host communities and published by the State Attorney General's Office. Crime data for the local jurisdiction as well as the overall county in which each is located were collected. Per capita crime rates were calculated by combining this information with population figures for each area. These data show that crime rates in Lincoln, the community nearest the Thunder Valley Casino, are very similar to the rates in Placer County overall. Crime rates in unincorporated Santa Barbara County, where the Chumash Casino Resort is located, are slightly below the County average. Crime rates in Palm Springs, where the Spa Resort and Casino is located, are higher than in Riverside County overall. Crime rates in unincorporated San Diego County, where the Barona Valley Ranch Resort and Spa and Pala

Casino Resort and Spa are located, are significantly below the crime rates in the County overall. With three local jurisdictions experiencing lower crime rates, one experiencing comparable crime rates, and one jurisdiction experiencing greater crime rates, these data do not show a definitive link between crime rates and the presence of casinos.

In addition to a survey of California communities that contain Indian casinos, a literature review was conducted to determine the relationship of gaming to crime rates. While several studies found an increase in crime within an area after the opening of a new casino, the amount was not much different than from the opening of any other type of tourist attraction. The National Opinion Research Center (NORC), in one of the more comprehensive studies on the link between casinos and crime, found that insufficient data exists to quantify or determine the relationship between casino gambling within a community and crime rates (NORC, 1999).

After surveying similar California casino communities and reviewing relevant literature, no definitive link between casinos and regional crime rates was found. Therefore, although an increase in calls for service is expected, an increase in regional crime rates would not result from Alternative A. Thus, Alternative A's impact to crime would be less than significant.

Problem Gambling

In 2004 the Madera County Behavioral Health Services (MCBHS) participated in an study of problem gambling services in California, which was conducted by the State Office of Problem Gambling. The study, entitled *Situational Assessment of Problem Gambling Services in California* (Volberg *et al.*, 2005), determined that the number of problem gamblers in California has risen from 0.8 percent to 1.3 percent since 1993, when casino gambling was relatively rare in California. Given that this is an average percentage, it is assumed that Counties without casinos would have a lower prevalence and those with casinos would have a higher prevalence. The increase from 0.8 to 1.3 percent is assumed to be attributed to the introduction of Tribal casinos within communities, most of which have include no more than one Tribal casino. Thus, it is assumed that the introduction of a large casino would increase the percentage of problem gamblers in the community by 0.5 percent. Although the Chukchansi Casino has recently been opened in Madera County, it is not close to major population centers (City of Madera). Thus, it is assumed that the current percentage of problem gamblers in Madera County is 1.0 percent (1,410 people). It is assumed that Alternative A would result in an increase in the number of problem gamblers of 0.5 percent. Thus, after the implementation of Alternative A, the percentage of problem gamblers is assumed to be 1.5 percent of the adult population in Madera County, an increase of 705 to 2,115.

According to Office of Problem Gambling study, problem gambling may be attenuated, or possibly reversed, through the expansion of problem gambling services. Evidence of this is cited in the study from studies done in Montana, Oregon, North Dakota, and Washington, each with

newly opened tribal casinos and other forms of legal gambling available. According to the Office of Problem Gambling Study (Volberg *et al.*, 2005):

With respect to problem gambling, significant increases in prevalence were found in Montana and North Dakota. Significant decreases were found in Oregon and Washington. The major difference between states with increased and decreased gambling problems was the availability of services for problem gamblers.

The Tribe has agreed in the MOU with Madera County to contribute \$50,000 per annum to the County for the purpose of redistribution to the MCBHS to be used to supplement the budget for alcohol education and the treatment and prevention of problem gambling and gambling disorders. According to Debby Estes, Assistant Director of the MCBHS, between 10 and 20 percent of problem gamblers in Madera County will seek professional help from either the County or private practitioners. That means from 71 to 141 project-induced problem gamblers would seek professional help in Madera County.

Assuming that 15 percent of these problem gamblers would seek professional treatment (106) and that 55 percent of the people seeking professional treatment do so with MCBHS, 59 people would seek treatment with MCBHS. In 2004, MCBHS treated 4,025 patients with 26.5 licensed counselors. The department was understaffed by 8 to 10 employees during this time. Therefore, to err on the side of overestimating the burden to the County, it is assumed that MCBHS treated 4,025 patients with 36.5 licensed counselors. Given this patient-to-counselor ratio and the additional 59 people seeking treatment for problem gambling in Madera County, it is estimated that the County would need to hire a half-time licensed counselor to treat the problem gambler population, which is estimated to cost approximately \$39,000 (see **Table 4.7-8** below). Given that the Tribe has agreed in the County MOU to contribute \$50,000 per year to compensate these service programs, effects to problem gambling would be less than significant.

Effects to Surrounding Property Values

Negative effects to property values from the introduction of a casino into a community are often assumed to occur by the public, especially in areas which currently contain high-value residential properties, due to perceived negative quality of life factors, such as increased noise and activity. High-value residential properties are not present in the vicinity of the Madera site and nuisance effects would be minimized because the developed area is proposed in the middle of the Madera site, with a substantial buffer between the development and surrounding properties. Instead agricultural, industrial, and average-value rural residential uses predominate the area. However, in contrast with the public perception, property values tend to increase on land surrounding casino properties. This is assumed to occur due to the attraction of such land to speculators. However, the preference to live near such amenities may affect land values as well. This increase in land values is supported by data gathered by Michigan State University for the state of Michigan, a

state that has had many established tribal casinos for over a decade. A comparison of State Equalized (land) Valuation (SEV) in five counties with casinos and the state of Michigan is presented in **Table 4.7-5**. The data exhibits that total property values in casino host counties have increased at a rate slightly to substantially above the state average (with the exception of Chippewa County, which is slightly below the state average). While this data does not suggest that casinos alone were the reason for the increase in SEV, it does challenge concerns that a casino lowers area land values. Therefore, land values in the region and in the vicinity of the Madera site would not be significantly affected by Alternative A.

TABLE 4.7-5
TRENDS IN STATE EQUALIZED VALUATION –
CASINO COUNTIES (1997–2003)

Location	1997 Total SEV	2003 Total SEV	% SEV Change 97 – 03
Michigan	216,745,336,185	369,525,297,327	71%
Chippewa County	644,402,869	1,049,586,969	63%
Grand Traverse County	2,174,276,291	4,246,196,554	95%
Isabella County	820,522,688	1,543,631,730	88%
Leelanau County	1,279,124,358	2,686,876,146	110%
Mackinac County	576,515,539	999,148,135	73%

SOURCE: MSU, 2002.

Economic Effects to Local Government

This section provides information on how Alternative A would increase the demand for governmental services in the County and the associated cost to expand these services, so a reduction of the quality of service is not borne by the community. There are two main ways that the project would impact government services. The first is through the demand for services that the casino/hotel resort itself would create. The second is through the demand created by the new residents who would move to Madera County to work in the casino. Governmental services could also be impacted by new visitors drawn to the County by Alternative A.

Casino/Hotel Resort Demand and Costs

The following section describes the demand for services and resulting economic cost created by the casino/hotel resort itself. These services include fire, law enforcement, emergency management and judicial services as well as road improvements and the need for more social services and mental health professionals.

Because the Madera site is located within unincorporated Madera County, most development-induced demands would be borne by the County.

Fire Protection

Fire protection services would be impacted by Alternative A. Large developments such as a casino and hotel that attract large numbers of visitors generate calls for emergency services, since fire departments act as first respondents to all emergencies, not just fires. According to California Department of Forestry and Fire Protection (CDF) Division Chief Paul Helm, the Coarsegold firehouse (#13) that currently responds to the Chukchansi Casino responded to 289 calls in 2004. A substantial portion of these calls were to the casino.

The County currently contracts with the CDF for fire protection services. The contract is for the unincorporated areas of the County; the cities of Madera and Chowchilla provide for their own fire protection. CDF currently maintains 15 stations, 50 apparatus, 24 career firefighters, 180 paid-call firefighters and 10.5 full-time equivalent support staff for Madera County.

According to Chief Helm, the standard goal for a fire department is to be able to respond to any location in its jurisdiction in 4 minutes. Obviously, this may not be possible under all circumstances. Nonetheless, it is the fire department's goal to achieve this level of service for any new development in the County. Currently, however, there is no fire station that can provide this level of response to the Madera site. According to Chief Helm, any development in this area would require the building of a fire station and purchase of a new fire truck in order to maintain the level of service goal.

Due to the multi-story hotel building plan, the fire truck to be purchased would need to be an aerial apparatus in order to adequately protect the facility in the event of a fire. The County only owns one aerial apparatus which services the Chukchansi Casino located 36 miles away. The City of Madera has a smaller aerial apparatus but it is about to be retired due to its restricted capabilities and old age. Neither would provide adequate coverage for a new hotel tower and therefore the County would need to purchase a second aerial apparatus to provide protection for the facility.

Capital costs for a new fire station are estimated to be between \$1.2 and \$2 million. The new aerial apparatus would cost approximately \$750,000. Thus, total capital costs for fire protection demanded by Alternative A would be between \$1.95 and \$2.75 million. The MOU between the County and the Tribe (see **Section 2.2.10**) provides \$1,915,000 for the constructing and equipping a fire station. At the time that the agreement was signed, the County agreed that this amount was sufficient to equip and construct a fire station to serve the proposed development.

The aerial apparatus would require three full-time firefighters to operate it. The department must hire three people to fill one 24-hour position 365 days per year. The needed manpower would require that six fire engineers and three fire captains be hired. In addition to full-time staff, the fire station would need volunteers. The fire stations in Madera County average 12 volunteers per

station. Costs to the County for the volunteers include membership fees in the California State Firemen's Association and equipment. Expected fire personnel costs for Alternative A are displayed in **Table 4.7-6**.

Law Enforcement

An increased demand on local law enforcement services would result after implementation of Alternative A, given the increased public presence on the project site and increased traffic on area roadways. The Sheriff's Department currently employs 116 people, of which 82 are sworn officers. The Department provides protective services for all of the unincorporated areas of the County.

TABLE 4.7-6
FIRE PERSONNEL COSTS – ALTERNATIVE A

	Cost Per Unit (dollars)	Total (dollars)
Fire Engineers Salary and Benefits (6)	71,366	428,196
Fire Captains Salary and Benefits (3)	81,408	244,224
Volunteer Memberships (12)	54	648
Sets of Equipment (21)	1,200	25,200
<i>Total</i>		698,268

SOURCE: Innovation Group, 2005.

According to Sheriff John Anderson, the Department responds to 12 to 15 calls per month at the Chukchansi Casino. The department averages 8 cases per month when the officer actually has to take action once he/she arrives. The types of crime perpetrated include public drunkenness, petty theft, bad checks, identity theft, credit card fraud, and car break-ins. In 2004, the Chukchansi Casino investigated one serious crime where an employee alleged that another employee raped her.

While it is assumed that the same sorts of criminal activity would occur at the proposed casino/hotel resort as at the Chukchansi Casino, it is presumed that the demand for law enforcement services would likely be greater at the proposed Madera casino location. The increase is assumed due to the proximity of the Madera site to an area with much higher population density (City of Madera). The Chukchansi Casino is in an area of relatively low population for the County. The Chukchansi provide funding for five deputy sheriff positions as a result of the demand for services.

To address the criminal activity associated with the operation of the casino/hotel resort, Sheriff John Anderson estimates that the Department would need to hire five deputies and one half sergeant. It takes five people to fill one deputy sheriff position 24 hours/day for 365 days/year. The Department keeps a ratio of 1 sergeant for every 10 deputies, which requires one half sergeant be hired. **Table 4.7-7** details the cost of adding these individuals to the force.

Emergency Medical Services

While typically there are regular calls for emergency medical services at a casino or hotel, emergency medical services or ambulance services are privately provided. The cost for those services is borne by the individual (typically their insurance company) who calls for service. According to Monte Pistorosi, owner of Pistorosi Ambulance, which provides ambulatory services to Madera County, the only time the County pays for the services is when the Sheriff's office places the call for service. The cost of these calls is included in the Sheriff's budget and not separately outlined here.

TABLE 4.7-7
LAW ENFORCEMENT PERSONNEL COSTS – ALTERNATIVE A

	Cost Per Unit (dollars)	Total (dollars)
Deputy Sheriff Salary and Benefits (5)	50,000	250,000
Sheriffs Sergeant Salary and Benefits (0.5)	60,000	30,000
Equipment	10,000	60,000
Retirement	15,844	95,061
Health Insurance	5,118	28,149
Workers' Compensation Insurance	6,951	38,231
Uniform Allowance	900	4,950
<i>Total</i>		<i>506,391</i>

SOURCE: Innovation Group, 2005.

Judicial Services

As crime increases so will the demands on the judicial system. The judicial system includes the District Attorney (DA) who prosecutes the crimes, the Public Defender who defends those accused who are indigent, the court that holds the trials and the grand jury that indicts the accused.

To estimate the likely effects of Alternative A on judicial services, the recent local experience at the Chukchansi Casino was researched as a case study. Discussions with the current Madera County DA revealed that the DA's office did not see an increase in caseload with the opening of the Chukchansi Casino. Generally, the crimes committed by casino clientele were not any different from their normal cases; they included crimes such as public drunkenness, drunk driving and petty theft. Charges against employees, however, included both embezzlement and rape, which are more complex crimes to prosecute. The embezzlement cases, in particular, required that attorneys study the casino's very complex security system in order to be able to understand it and present it to a jury.

While there were some increases in demands on the DA's time, the demands from the Chukchansi Casino were such that they did not require the hiring of a new attorney. Similarly,

we do not believe that the District Attorney will need to hire a new attorney to handle the caseload from the proposed casino/hotel resort.

Department of Corrections

Increased criminal activity resulting from Alternative A would place an added burden on the Madera County Department of Corrections (MCDC). The County has one jail that was originally built to accommodate 316 inmates, but the facility routinely has a population well above that level. The Director of MCDC believes that the County will begin considering a new facility when it consistently has an average inmate population over 395 (Innovation Group, 2005).

The Madera County Sheriff indicates that calls to the Chukchansi Casino result in an average of two arrests per month. The Sheriff believes that the arrest rate would be higher at the new casino because of its proximity to a more dense population; therefore it is estimated that the new casino would result in three arrests per month. The cost to house one inmate for one night is \$53. The average stay is 24 nights. Assuming 36 arrests per year, the total cost per year to house these inmates would be \$45,792.

With 36 additional prisoners staying an average of 24 nights, the prison would have 864 additional cell nights filled. This is the equivalent of having an additional 2.4 prisoners in prison for a year. The additional burden of housing 2.4 prisoners a year would not warrant a capital investment by the County because it would not raise the total prisoner population above or near the 395 level noted above.

Behavioral Health Services

The MCBHS saw 3,025 mental health clients in 2004 and approximately 1,000 alcohol and drug clients. Statistics that measure the typical prevalence of mental health problems in populations indicate that in Madera County the MCBHS should be treating 5,800 clients per year. This figure is based on statistics for those individuals who live in the income bracket between \$0 and 200% above the poverty line. The Director of the MCBHS indicated that one group they are currently under-serving is senior citizens. The MCBHS facility has 143 staff members and is estimated to be understaffed by 8 to 10 FTEs. The last round of budget cuts partially led to the current understaffed situation.

The MCBHS did not see any significant rise in demand for services when the Chukchansi Casino opened (Innovation Group, 2005). The Director of MCBHS is concerned that because they are generally under-serving the older adult population, they may not be treating problem gamblers in the area.

The MOU between the County and the Chukchansi Tribe provides for money for the MCBHS, which is being used to train the staff in recognizing and treating gambling addictions.

As noted previously under *Problem Gambling*, Alternative A is expected to generate an additional 59 people that seek treatment for problem gambling with MCBHS. It is estimated that an additional half-time licensed counselor would be necessary to treat the problem gambler population, as described above. **Table 4.7-8** details the cost of a half-time licensed counselor.

TABLE 4.7-8
BEHAVIORAL HEALTH SERVICES PERSONNEL COSTS – ALTERNATIVE A

	Cost Per Unit (dollars)	Total (dollars)
Licensed Clinician Salary and Benefits (0.5)	54,220	27,110
Retirement	8,311	4,155
Health Insurance	5,324	2,662
Workers' Compensation Insurance	168	84
Equipment	5,000	5,000
<i>Total</i>		<i>39,011</i>

SOURCE: Innovation Group, 2005.

Resource Management Agency

The Resource Management Agency is a unified agency that brings together several different County departments: Roads, Planning, Environmental Health, Sanitation, Engineering, Building Inspection and Fire Marshall. The only department expected to need any investment due to the demands of the casino would be the roads department. Traffic impacts and the need for traffic mitigation are discussed in **Section 4.8**. During discussions with the County regarding the MOU, traffic improvements costs were estimated at \$4.6 to \$15.6 million. According to the MOU, the Tribe agrees to pay its fair share of traffic mitigation, as recommended by the traffic study completed for this EIS.

New Resident Demand and Costs

This section describes the demand for increased governmental services that would be created by new residents in the County (418) and City (418) resulting from Alternative A. These services include a broader range of services than those discussed previously and include everything from animal control to welfare support. For those services that are uniquely offered by the County, we have assumed the entire County population will bear their cost.

Madera County. Costs to the County from the introduction of new residents, based on the present County budget and services provided, include costs to administrative services, fire protection services, law enforcement services, judicial services, prison services, behavioral health services, social services, educational services, and resource management services. **Table 4.7-9** details the amount of spending per capita the County incurs for these services and the cost of providing services to the new residents.

Administrative services include the cost of running the County's government as well as those costs not covered in any other section below. They include the costs of the following departments: the County Board of Supervisors, library, animal control, human resources, information technology, insurance, tax collection, elections, contingency fund and other costs. With each additional resident of the County, these costs increase.

TABLE 4.7-9
PER CAPITA COST OF COUNTY SERVICES – ALTERNATIVE A

Service	2004 Budget (dollars)	2004 Population	Per Capita Spending (dollars)	Number of New Residents/ Students under Alternative A	Cost (dollars)
Administrative Services	14,424,302	134,194	107.49	836	89,862
Fire Protection Services	3,514,327	134,194	26.19	418	10,947
Law Enforcement Services	7,531,330	134,194	56.12	418	23,458
Judicial Services	3,967,291	134,194	29.56	418	12,356
Department of Corrections ^a	14,510,159	134,194	108.00	418	45,144
Behavioral Health Services	14,101	134,194	0.11	836	92
Social Services	4,815,277	134,194	35.88	836	29,996
Resource Management Agency	2,993,317	134,194	21.86	836	18,275
Educational Services ^c	27,668,234	27,821 ^b	994.51	175	174,039
<i>Total</i>					<i>404,169</i>

NOTES: ^aIncludes both the adult and juvenile correctional facilities operated by the County.

^bCounty student population for 2004-2005 school year.

^cNote that the Socioeconomic Assessment includes data for the Madera Unified School District (MUSD) rather than the County as a whole. The MUSD is the largest school district in the County and will be most heavily impacted by development on the Madera site. The per capita spending in the MUSD is 888.25, which is lower than that for the County as a whole. For a conservative analysis we have included data for the County as a whole here.

SOURCE: California Department of Education, 2005; Innovation Group, 2005.

As discussed above, emergency medical services are generally paid by the individual being served, but when the County bears the cost it is covered by the sheriff's budget. Therefore, the per capita cost to law enforcement services would include the cost of emergency medical service provision.

Madera County provides numerous social services to its underprivileged citizens. Many of these departments focus on training and employee development. Currently, there are 0.6 social workers for every 1,000 residents of the County. In order to maintain this ratio, the County would need to hire a quarter-time social worker for the 418 new residents in the County. According to Madera County, the cost of a quarter-time social worker is \$13,220, including salary and benefits. As shown in **Table 4.7-9**, the estimated per capita costs for new residents (\$14,998) includes the cost of hiring a quarter-time social worker.

Some of the school districts in Madera County cross County and City lines. Thus, impacts to educational services are discussed Countywide, including the Cities of Madera and Chowchilla and all of the school districts within the County. County school districts are expected to experience an increase in the number of students due to the general population's increase under Alternative A. 20.9 percent of the Madera County population is estimated to be school-age children. Thus, if 836 people are added to the population under Alternative A, it is estimated that 20.9 percent, or 175 people, would be school-age children. As mentioned in **Section 3.9.6**, Madera Unified School District, which includes the Madera site and is expected to accommodate a majority of project-generated students, is currently undergoing a capital development campaign involving new school construction and other improvements.

School district expansion typically occurs to accommodate planned residential growth. As noted in **Section 4.11.1**, residential growth is currently taking place at a rapid pace in Madera County. As noted in **Section 4.12.1**, new Madera County residents induced by Alternative A are expected to utilize currently planned residential units and would not induce additional residential growth. Thus, the school system already has under development more than enough capacity to accommodate the number of students attributable to the casino. However, costs would increase, as detailed in **Table 4.7-9**.

City of Madera. Costs to the City of Madera from the introduction of new residents, based on the present City budget and services provided, include costs to City administration, the finance department, the City attorney, public works, law enforcement services, fire protection services, community development, parks and recreation, and grant oversight. **Table 4.7-10** details the

TABLE 4.7-10
PER CAPITA COST OF CITY OF MADERA SERVICES – ALTERNATIVE A

Service	2004-2005 Budget (dollars)	2004 Population	Per Capita Spending (dollars)	Number of New Residents under Alternative A	Cost for New Residents (dollars)
City Administration	1,113,982	47,569	23.42	418	9,790
Finance Department	354,018	47,569	7.44	418	3,110
City Attorney	105,378	47,569	2.22	418	928
Public Works	2,000,000 ^a	47,569	42.04	418	17,573
Law Enforcement Services	5,234,927	47,569	110.05	418	46,001
Fire Protection Services	2,088,297	47,569	43.90	418	18,350
Community Development	567,833	47,569	11.94	418	4,991
Parks and Recreation	1,426,700	47,569	29.99	418	12,536
Grant Oversight	128,349	47,569	2.70	418	1,129
<i>Total</i>					<i>114,408</i>

NOTES: ^aActually 213 in the 2004-2005 budget. \$2,000,000 is assumed to be a reasonable amount for public works for the purposes of determining a per capita cost given the 2003-2004 City public works general fund expenditures of \$1,933,872.

SOURCE: City of Madera, 2004; Innovation Group, 2005.

amount of spending per capita the City incurs for these services and the cost of providing services to the new residents.

Revenues

There are two main sources of revenue the County and the City of Madera can expect under Alternative A: payments under the County and City MOUs and indirect tax revenue. Alternative A would negatively affect County revenue received from property taxes on the Madera site after it is taken into trust by the Federal Government.

Memorandum of Understanding. The MOU with the County was signed August 16, 2004. Among other things, the agreement requires payments to be made to the County and the Cities of Madera and Chowchilla after the implementation of Alternative A. **Table 4.7-11** details the provisions of the County MOU. The MOU with the City was signed on October 18, 2006 and provides for various payments to the City after the implementation of Alternative A (see **Section 2.2.10**). **Table 4.7-12** details the provisions of the City MOU.

TABLE 4.7-11
MADERA COUNTY MEMORANDUM OF UNDERSTANDING REVENUE

Non-Recurring Contributions	
Public Safety Resources Contribution	\$1,915,000
Transportation Resources Contribution	\$4 to \$15 million
Road Contribution Consistent with County Ordinance	\$600,000
Recreation Contribution	\$200,000
School Contribution	\$150,000
Legal Fees Reimbursement	\$50,000
<i>Subtotal</i>	<i>\$6,915,000 - \$17,915,000</i>
Recurring Contributions	
North Fork Rancheria Charitable Foundation Contribution	\$200,000
North Fork Rancheria Economic Development Foundation	\$250,000
North Fork Rancheria Educational Foundation	\$400,000
North Fork Unincorporated Area Foundation	\$250,000
County Services Contributions	
Workforce or Housing programs	\$250,000
Police	\$415,000
Fire	\$1,200,000
Behavioral Health	\$50,000
Open Space/Parks	\$70,000
Public Safety Support	\$100,000
Public Facilities Budget	\$500,000
City of Madera	\$250,000
City of Chowchilla	\$100,000
<i>Subtotal</i>	<i>\$4,035,000</i>

SOURCE: MOU, 2004; Innovation Group, 2005.

TABLE 4.7-12
CITY OF MADERA MEMORANDUM OF UNDERSTANDING REVENUE

Non-Recurring Contributions	
Law Enforcement Contribution	\$200,000
Transportation Resources Contribution	\$885,000 to \$4 million
Planning Contribution	\$200,000
Golf Course Contribution	\$2,500,000
Recreation Contribution	\$2,000,000
Police/Fire Training Feasibility Study Contribution	\$500,000
<i>Subtotal</i>	<i>\$6,285,000 - \$9,400,000</i>
Recurring Contributions	
Police Services Contribution	\$675,000 ^a
Downtown Madera Reinvestment Fund Contribution	\$100,000
Public Transit Contribution	\$50,000
General Fund Contribution (\$250,000) ^b	
<i>Subtotal</i>	<i>\$825,000</i>

^aNote that the contribution is \$640,000 for the first year and \$675,000 each year thereafter.

^bUnder the MOU the Tribe is allowed to deduct the amount of this contribution, which the City receives from the County pursuant to the County MOU. We assume that the full \$250,000 will be deducted and therefore do not include the amount in this table.

SOURCE: MOU, 2006; AES, 2006.

Taxes. Under Alternative A, the Madera site would go through a process by which it is placed into trust, which is a requirement before gaming is allowed under the Indian Gaming Regulatory Act (IGRA). By placing the land in trust, it would no longer be subject to property taxes. **Table 4.7-13** displays the loss in taxes that would occur if the Madera site is placed into trust. As shown, total property tax losses would be approximately \$12,500.

The increase in County sales and use tax after the implementation of Alternative A was calculated using RIMS II. By inputting changes to the output in a sector or sectors of the economy, RIMS II estimates the direct, indirect and induced changes to output in all sectors of the economy. **Table 4.7-14** details the output in terms of off-site dollars spent in the retail sector and the sales and use tax associated with that spending for both the one-time construction spending and the recurring operations spending. Currently, a 1% sales tax provides revenue to the locality. The rest of the 7.25% in sales tax charged goes to the State.

In addition to taxes resulting from construction and patron spending at the proposed Alternative A developments, new residents would pay property and sales taxes. Even if a new resident decides to rent, a portion of the rent payment is used to pay property taxes. **Tables 4.7-15** and **4.7-16** calculate the per capita revenue received by the City and County from sales and property taxes.

TABLE 4.7-13
PROPERTY TAX LOSSES – ALTERNATIVE A

Parcel Number	Acreage	Assessed Value			Property Tax ^a
		Land	Structure	Total	
033-030-010	36.01	\$112,552	\$0	\$112,552	\$1,238
033-030-011	40.66	\$128,880	\$14,003	\$142,883	\$1,572
033-030-012	38.26	\$121,373	\$21,092	\$142,465	\$1,567
033-030-013	42.23	\$134,956	\$16,386	\$151,342	\$1,665
033-030-014	38.92	\$123,441	\$110,392	\$233,833	\$2,572
033-030-015	56.44	\$176,403	\$10,475	\$186,878	\$2,056
033-030-017	52.97	\$165,170	\$2,786	\$167,956	\$1,848
<i>Total</i>	<i>305.49</i>	<i>\$962,775</i>	<i>\$175,134</i>	<i>\$1,137,909</i>	<i>\$12,518</i>

NOTES: ^aThe property tax rate is estimated at 1.1%. The exact tax rate of any given year cannot be definitely projected.

SOURCE: Innovation Group, 2005.

TABLE 4.7-14
SALES AND USE TAX REVENUE – ALTERNATIVE A

Retail Sector Output for Construction Spending (one-time)	\$21,680,914
Retail Sector Output for Operational Spending (annual)	\$8,353,046
Sales Tax Rate for Madera County	1.0%
Sales Tax on Construction Spending (one-time)	\$216,809
Sales Tax on Operational Spending (annual)	\$83,530

SOURCE: Innovation Group, 2005.

TABLE 4.7-15
MADERA COUNTY NEW RESIDENT REVENUE – ALTERNATIVE A

2002-2003 Madera County Property Tax and Sales and Use Tax Revenues	\$14,225,000
2002 Madera County Population	128,416
Per Capita Madera County Property and Sales and Use Tax Revenue	\$110.77
New Residents	418
Expected Madera County Revenue from New Residents	\$46,302

SOURCE: California Department of Finance, 2005; Innovation Group, 2005.

TABLE 4.7-16
CITY OF MADERA NEW RESIDENT REVENUE – ALTERNATIVE A

2004-2005 City of Madera Property Tax and Sales and Use Tax Revenues	\$5,255,239
2004 City of Madera Population	47,569
Per Capita City of Madera Property and Sales and Use Tax Revenue	\$110.48
New Residents	418
Expected City of Madera Revenue from New Residents	\$46,179

SOURCE: Innovation Group, 2005.

As shown, new residents to the County and City of Madera are expected to generate \$46,302 and \$46,179 in revenue under Alternative A.

Most overnight casino patrons are expected to stay at the proposed hotel. The proposed hotel development itself would not contribute to the tax rolls because it would be located on trust land and not subject to local jurisdiction. It is possible that some patrons will stay at local hotels, leading to additional hotel tax revenue for Madera County. However, these stays are expected to be minimal and to avoid overestimation, no additional revenue has been assumed from this source.

Costs vs. Revenue

This section provides a comparison of the costs and revenues estimated as a result of Alternative A. **Table 4.7-17** compares one-time costs and revenue for Madera County. As shown, under Alternative A, total revenues would exceed total costs by \$131,809. While County MOU revenues specifically allotted for fire protection would be slightly lower than expected costs, the shortfall would be more than offset by revenue from sales and use taxes.

TABLE 4.7-17
COMPARISON OF ONE-TIME MADERA COUNTY
COSTS AND REVENUES – ALTERNATIVE A

Category	Cost	Revenue
Sales and Use Taxes	\$0	\$216,809
Fire Protection	\$2,350,000 ⁶	\$1,915,000 ^{1,2}
Roads ³	NA	NA
Recreation ⁴	\$0	\$200,000 ¹
Schools ⁴	\$0	\$150,000 ¹
MOU Legal Fees ⁵	\$50,000	\$50,000 ¹
<i>Total</i>	<i>\$2,400,000</i>	<i>\$2,531,809</i>

NOTES: ¹MOU payment.

²Covered in excess of taxes.

³A cost estimate has not been made. However, the Tribe agrees in the County MOU to pay its fair share of traffic mitigation as noted in the traffic study for this EIS, which is estimated in the MOU to range between \$4.6 and 15.6 million.

⁴Although one-time impacts are not expected in these areas, the County MOU provided revenues, which could be used for these areas or at the County's discretion.

⁵The MOU calls for a contribution of this amount and it is assumed the County has used the entire amount in negotiating the MOU.

⁶The estimate for a new fire station is between \$1.2 and \$2 million. An average cost of \$1.6 million is used here.

SOURCE: Innovation Group, 2005.

Table 4.7-18 compares annual costs (both development-induced and resident-induced) and revenue for Madera County. As shown, under Alternative A, total revenues would exceed total costs by \$1,008,683. While County MOU revenues specifically allotted for law enforcement and other services would be lower than expected costs or not specifically allotted, the shortfall would be more than accounted for by revenue from excess MOU contributions, property taxes, and sales and use taxes. In addition, annual contributions of \$1,100,000 would be provided to four foundations created by the County MOU, including an Educational Foundation. These foundations would be controlled by a board, not entirely within the control of the County. Thus, they were conservatively not included in the calculations below. Nonetheless, the funds in these foundations would likely be used, at least in part, for various County services, facilities, and programs.

TABLE 4.7-18
COMPARISON OF MADERA COUNTY ANNUAL COSTS AND REVENUES
- ALTERNATIVE A

Category	Cost	Revenue
Open Space/Parks ⁴	\$0	\$70,000 ¹
General Fund Public Facilities Budget ⁴	\$0	\$500,000 ¹
Property and Sales and Use Taxes	\$12,518	\$129,832
Administrative Services	\$89,862	²
Fire Protection	\$709,215	\$1,200,000 ¹
Law Enforcement	\$529,849	\$515,000 ¹²
Judicial Services	\$12,356	²
Department of Corrections	\$90,936	²
Behavioral Health Services	\$39,103	\$50,000 ¹
Social Services	\$29,996	\$250,000 ¹
Resources Management Agency	\$18,275	²
Educational Services	\$174,039	³
Total	\$1,706,149	\$2,714,832

NOTES: ¹MOU payment.

²Covered in excess of MOU payments and taxes.

³Covered in excess of MOU payments and taxes. Also could use the recurring \$400,000 for the Educational Foundation created by the County MOU. However, since this Foundation would be governed by a board that includes members of the Tribe, it was conservatively not considered as offsetting costs of Alternative A.

⁴Although one-time impacts are not expected in these areas, the County MOU provided revenues, which could be used for these areas or at the County's discretion.

SOURCE: Innovation Group, 2005.

Table 4.7-19 compares annual costs (both development-induced and resident-induced) and revenue for the City of Madera. As shown, under Alternative A, total revenues would exceed total costs by \$856,771. While County MOU revenues were not specifically allotted for any City of Madera programs, they can be used at the City's discretion.

TABLE 4.7-19
COMPARISON OF CITY OF MADERA ANNUAL COSTS AND REVENUES
- ALTERNATIVE A

Category	Cost	Revenue
General MOU Contribution	\$0	\$250,000 ¹
Property and Sales and Use Taxes	\$0	\$46,179
City Administration	\$9,790	²
Finance Department	\$3,110	²
City Attorney	\$928	²
Public Works	\$17,573	²
Law Enforcement Services	\$46,001	\$675,000 ¹
Fire Protection Services	\$18,350	²
Community Development	\$4,991	²
Parks and Recreation	\$12,536	²
Grant Oversight	\$1,129	²
<i>Total</i>	\$114,408	\$971,179

NOTES: ¹MOU Payment. City MOU payments that cannot be applied to expected costs are not listed in this table.

²Covered in excess of MOU payments and taxes.

SOURCE: Innovation Group, 2005.

Overall, MOU contributions and tax revenues generated by Alternative A by far outweigh any negative fiscal impacts to either the City of Madera or Madera County. Thus, a beneficial fiscal impact would result.

Economic Effects to the Madera Irrigation District (MID)

As noted above, if the Madera site is taken into trust, local taxes and assessments would no longer apply. The seven parcels comprising the Madera site are currently within the MID service area and are therefore subject to various assessments which MID uses to fund its operations. The Madera site MID assessments currently total approximately \$6,800. A loss of assessment fees would affect MID's ongoing regional efforts to address groundwater overdraft and operate its water supply facilities. However, the Madera site would no longer be within the MID service area and MID would not accrue costs related to the site. Therefore, this would be a less than significant effect. Nonetheless, the Tribe has negotiated a MOU with MID that includes annual payments to MID of \$11,500 in lieu of any fees, assessments, or taxes.

Increased Pumping Costs for Neighboring Wells

As discussed in **Section 4.3.1**, on-site groundwater pumping would lead to drawdown of the groundwater table, resulting in effects to neighboring wells. These effects could include increased pumping and maintenance costs caused from pumping water from lower depths. As described in detail in **Appendix L**, lower capacity (mostly residential) wells would not be noticeably affected by these increased costs (costs of a few dollars per year would be expected).

Costs would be measurable for water wells pumping at higher rates, but the percentage increase of pumping and electrical costs would still be very small. Thus, significant effects to pumping costs for neighboring wells would not occur. Nonetheless, mitigation measures are contained in **Section 5.2.6** that would reduce less than significant effects to pumping costs.

ALTERNATIVE B – REDUCED INTENSITY

Employment

Alternative B's effects on construction and operation employment would be similar to those of Alternative A, but reduced given the reduced size and scope of development proposed.

The effects are measured in three ways: direct employment, indirect employment and induced employment. Direct employment includes those employees who are directly employed at the facility either during construction or during operation. Indirect employment includes those employees who provide services and are employed at least in part due to the facility but are not directly employed at the facility. The third category is induced employment. This category includes all the other jobs that are created due to the ripple effect of spending throughout the economy as a whole. As described under Alternative A, the RIMS II model was used to predict the direct, indirect, and induced employment created by this alternative.

As described below, Alternative B would result in the creation of numerous employment opportunities within Madera County, which would be a beneficial effect to the region's unemployment rate and the local economy as a whole.

Construction

Construction employment and spending is temporary, but it can have substantial impacts on the economy. For Alternative B, construction spending is estimated to be approximately \$212 million. Based on the almost \$212 million in spending for construction, RIMS II projects that Alternative B would create 1,802 direct, indirect, and induced jobs. Although most of these jobs fall within the construction sector, they are spread out over 20 different segments of the economy (Innovation Group, 2005). These jobs would be filled by workers that commute to the area and local residents, some of which may currently be unemployed. This would result in a temporary reduction in the unemployed population and in the unemployment rate, a beneficial impact to the local economy.

Operation

Operational employment includes those jobs that are generated from the operation of Alternative B. These impacts would last as long as the casino is in operation. Direct employment includes all positions at the casino. SC Madera Management, LLC anticipates that the Alternative B

project facilities would employ 879 full-time employees and 139 part-time employees or 962 FTEs.

Indirect employment includes those jobs that provide support services to but are not directly paid by the casino. Induced employment calculates the impacts of these direct and indirect jobs on the rest of the economy as spending by direct and indirect employees ripples through the economy. RIMS II projects that Alternative B would create 1,485 jobs in Madera County (**Table 4.7-20**). Of those, 523 are indirect and induced jobs. Most of the direct jobs fall within the arts, entertainment and recreation, and accommodation and food services sectors. Indirect and induced jobs are spread out over 20 different segments of the economy (Innovation Group, 2005).

As stated in **Section 3.7.1**, unemployment in Madera County is somewhat high, with an average unemployed population of approximately 5,600, resulting in an unemployment rate of approximately nine percent in 2004. Most of the 1,485 jobs created by Alternative B are expected to be filled by County residents (between 65 and 73.5 percent – see **Appendix R**) and most of the Madera County residents filling the jobs are expected to be currently unemployed given the availability of unemployed workers in the local labor market (80 percent of jobs would be filled by those currently unemployed – see **Appendix R**), resulting in a reduction in the unemployed population of 807 and reducing the unemployment rate to approximately 7.5 percent. This would be a beneficial impact to the local economy.

TABLE 4.7-20
OPERATION IMPACT ON EMPLOYMENT – ALTERNATIVE B

Employment Sector	Jobs Created
Agriculture, Forestry, Fishing and Hunting	2.72
Mining	0.15
Utilities	0.55
Construction	5.16
Manufacturing	15.12
Wholesale Trade	7.86
Retail Trade	58.26
Transportation and Warehousing	9.34
Information	7.08
Finance and Insurance	5.24
Real Estate, Rental, and Leasing	12.30
Professional, Scientific, and Technical Services	6.36
Management of Companies and Enterprises	12.57
Administrative and Waste Management Services	11.30
Educational Services	2.47
Health Care and Social Assistance	30.88
Arts, Entertainment, and Recreation	879.61
Accommodation and Food Services	388.82
Other Services	23.04
Households	5.80
<i>Total (rounded to nearest single job)</i>	<i>1,485</i>

SOURCE: Innovation Group, 2005.

Population

Given that Alternative B is projected to increase employment in Madera County by 1,802 temporary positions and 1,485 permanent positions, it is necessary to estimate how that increase in employed persons would affect the population as a whole. An increase in population is not itself an environmental impact. However, an increase in population could lead to impacts such as 1) creating demand for governmental services, which is discussed in more detail below, and 2) creating growth in housing or other facilities to serve the increase in population, which is discussed in more detail in **Section 4.12**.

Construction

The temporary construction jobs would not result in an increase in local population. It is typical for construction workers to travel for employment opportunities during the week and then return home on the weekends. Thus, it is expected that those jobs that can be filled locally would be and those that cannot would be filled by individuals who would travel for the work as opposed to relocating. Therefore, the population would not show any change from the influx of temporary construction jobs.

Operation

The 1,485 permanent jobs created by Alternative B would result in increases in the local population because some of these jobs would be filled by individuals who move into Madera County for permanent employment. In order to project what percentage of people will move into the County, it must be determined what percentage of individuals working at the casino would live in Madera County. As with Alternative A, Alternative B development would occur on the Madera site. Thus, the same assumption applies, that 65 percent or 625 of the direct casino jobs would be Madera County residents.

Some of the indirect and induced jobs would also be filled by Madera County residents. Applying the same commuting ratio (73.5%) as for Alternative A, the casino would yield a Madera County resident pool of 384. As with Alternative A, it is projected that the number of new employees who would actually move into Madera County would be low. Again we conservatively project that up to 20 percent of employees would move to the County from other areas. If 20% of the new employees who live in Madera County are new residents of Madera County, then the number of employees that move into the County would be 202 (**Table 4.7-21**). The 202 figure includes 20% of the 625 direct employees expected to live in the County and 20% of the 384 indirect and induced employees expected to live in the County.

If 202 new employees move into Madera County, these would not be the only new residents in the County who moved in because of the casino. These employees would in some cases bring families. Using the same employee per household ratio used for Alternative A, a total of 534 new

County residents would be expected under Alternative B, increasing the population from 141,007 to 141,541 (**Table 4.7-21**).

As described under Alternative A, for developments on the Madera site, it is projected that 50 percent of development-induced residents would move into the City of Madera, and the other 50 percent would live elsewhere in the County. As noted above, approximately 534 new County residents are expected under Alternative B, with 267 expected to settle in the City of Madera, increasing the City population from 50,842 to 51,109. Note that the Socioeconomic Assessment (**Appendix R**) assumes that 5 of the 534 new residents would live in the City of Chowchilla. However, given that these 5 residents are not expected to result in measurable socioeconomic effects to the City of Chowchilla they have been added to the unincorporated County totals for a conservative analysis for unincorporated County, where measurable socioeconomic effects are expected.

TABLE 4.7-21
NEW RESIDENTS IN MADERA COUNTY – ALTERNATIVE B

Direct, indirect, and induced jobs filled by Madera County residents	1,009
New employees moving to Madera County ¹	202
Number of employees per household	1.2
Number of new households ²	168
Number of persons per household	3.18
<i>Total New Residents</i> ³	<i>534</i>

NOTES: ¹20% of jobs filled by Madera County residents
²New employees moving to Madera County divided by number of employees per household
³Number of new households multiplied by number of persons per household

SOURCE: Innovation Group, 2005.

Social Effects

Crime

As noted under Alternative A, no definitive link between casinos and regional crime rates was found. Therefore, although an increase in calls for service is expected, an increase in regional crime rates is not expected to result from Alternative B. Thus, Alternative B's impact to crime would be less than significant.

Problem Gambling

Although the Alternative B casino would be reduced in size when compared to Alternative A, the effects to problem gambling are conservatively not assumed to differ. However, under Alternative B, the County MOU would not apply and annual funds would not be provided for problem gambling services. Thus, a potentially significant effect would result. Mitigation measures in **Section 5.2.6** would mitigate this effect to a less than significant level.

Effects to Surrounding Property Values

As discussed under Alternative A, it is not expected that the operation of a casino on the Madera site would have a negative effect on surrounding or regional property values. Thus a less than significant effect to property values would result.

Economic Effects to Local Government

This section provides information on how Alternative B would increase the demand for governmental services in the County and the associated cost to expand these services, so a reduction of the quality of service is not borne by the community. There are two main ways that the project would impact government services. The first is through the demand for services that the casino itself would create. The second is through the demand created by the new residents who would move to Madera County to work in the casino. Governmental services could also be impacted by new visitors drawn to the County by Alternative B.

Casino Demand and Costs

The following section describes the demand for services and resulting economic cost created by the casino itself. These services include fire, law enforcement, medical services and judicial services as well as road improvements and the need for more social services and mental health professionals. Although the demands are similar to those of Alternative A, they are generally smaller, given the reduced intensity size and scope of the Alternative B casino.

Because the Madera site is located within unincorporated Madera County, most development-induced demands would be borne by the County.

Fire Protection

Fire protection services would be slightly less impacted by Alternative B than by Alternative A. According to Division Chief Paul Helm, Alternative B would still require a new fire station and that cost is estimated to be \$1.6 million. The new fire engine would not need to be an aerial apparatus as there is no hotel tower component in this alternative. A regular fire engine is half the cost of an aerial apparatus at \$375,000.

Because the fire engine would not be an aerial apparatus, the staffing needs of the station would decrease relative to Alternative A. The County has a goal of filling two fire fighter positions per station, which requires that six persons be hired. The station would also recruit 12 volunteers to assist with fires. Expected fire personnel costs for Alternative B are displayed in **Table 4.7-22**.

TABLE 4.7-22
FIRE PERSONNEL COSTS – ALTERNATIVE B

	Cost Per Unit (dollars)	Total (dollars)
Fire Engineers Salary and Benefits (3)	71,366	214,098
Fire Captains Salary and Benefits (3)	81,408	244,224
Volunteer Memberships (12)	54	648
Sets of Equipment (18)	1,200	21,600
<i>Total</i>		<i>480,570</i>

SOURCE: Innovation Group, 2005.

Law Enforcement

An increased demand on local law enforcement services would result after implementation of Alternative B, given the increased public presence on the project site and increased traffic on area roadways. It is estimated that the demands for law enforcement services would be the same as with Alternative A, since the size of the casino is similar to that of Alternative A (five deputies and a half-time sergeant position). One position requires 5 sheriff deputies to fill and for every 10 deputies there is a sheriff's sergeant to oversee them. **Table 4.7-23** details the cost of filling both the five deputy positions and a half-time sergeant position.

TABLE 4.7-23
LAW ENFORCEMENT PERSONNEL COSTS – ALTERNATIVE B

	Cost Per Unit (dollars)	Total (dollars)
Deputy Sheriff Salary and Benefits (5)	50,000	250,000
Sheriffs Sergeant Salary and Benefits (.5)	60,000	30,000
Equipment	10,000	60,000
Retirement	15,844	95,061
Health Insurance	5,118	28,149
Workers' Compensation Insurance	6,951	38,231
Uniform Allowance	900	4,950
<i>Total</i>		<i>506,391</i>

SOURCE: Innovation Group, 2005.

Emergency Medical Services

As noted under Alternative A, the cost for emergency medical services is borne by the individual (typically their insurance company) who calls for service and the cost of calls from law enforcement is outlined in the Sheriff's budget rather than separately here.

Judicial Services

The level of criminal activity would be lower at the smaller Alternative B facility than at the larger one in Alternative A, so that even less work is projected to be generated for the judicial system. As such, there would be no measurable impact to judicial services under Alternative B.

Department of Corrections

Increased criminal activity resulting from Alternative B would place an added burden on the Madera County Department of Corrections (MCDC). A description of County correctional facilities can be found under Alternative A.

As with Alternative A, it is conservatively assumed that the casino would create three arrests per month. The cost to house one inmate for one night is \$53. This figure includes food, clothing, staff salaries, building, utilities, etc. The average stay is 24 nights. Assuming 36 arrests per year, the total cost per year to house these inmates would be \$45,792.

With 36 additional prisoners staying an average of 24 nights, the prison would have 864 additional cell nights filled. This is the equivalent of having an additional 2.4 prisoners in prison for a year. The additional burden of housing 2.4 prisoners a year would not warrant a capital investment by the County because it would not raise the total prisoner population above or near the 395 level noted above under Alternative A (**Appendix R**).

Behavioral Health Services

As the number of problem gamblers in the County is assumed to be the same as Alternative A, the number of new licensed counselors remains the same as in Alternative A. **Table 4.7-24** details the cost of a half-time licensed counselor.

TABLE 4.7-24
BEHAVIORAL HEALTH SERVICES PERSONNEL COSTS – ALTERNATIVE B

	Cost Per Unit (dollars)	Total (dollars)
Licensed Clinician Salary and Benefits (0.5)	54,220	27,110
Retirement	8,311	4,155
Health Insurance	5,324	2,662
Workers' Compensation Insurance	168	84
Equipment	5,000	5,000
<i>Total</i>		<i>39,011</i>

SOURCE: Innovation Group, 2005.

Resource Management Agency

The Resource Management Agency is a unified agency that brings together several different County departments: Roads, Planning, Environmental Health, Sanitation, Engineering, Building

Inspection and Fire Marshall. The only department expected to need any investment due to the demands of the casino would be the roads department. Traffic impacts and the need for traffic mitigation are discussed in **Section 4.8**.

New Resident Demand and Costs

This section describes the demand for increased governmental services that would be created by new residents in the County (267) and City (267) resulting from Alternative B. These services include a broader range of services than those discussed previously and include everything from animal control to welfare support. For those services that are uniquely offered by the County, we have assumed the entire County population will bear their cost.

Madera County. Costs to the County from the introduction of new residents, based on the present County budget and services provided, include costs to administrative services, fire protection services, law enforcement services, judicial services, prison services, behavioral health services, social services, educational services, and resource management services. **Table 4.7-25** details the amount of spending per capita the County incurs for these services and the cost of providing services to the new residents, which is less than for Alternative A since fewer residents would be generated by Alternative B.

TABLE 4.7-25
PER CAPITA COST OF COUNTY SERVICES – ALTERNATIVE B

Service	2004 Budget (dollars)	2004 Population	Per Capita Spending (dollars)	Number of New Residents/ Students under Alternative B	Cost (dollars)
Administrative Services	14,424,302	134,194	107.49	534	57,400
Fire Protection Services	3,514,327	134,194	26.19	267	6,993
Law Enforcement Services	7,531,330	134,194	56.12	267	14,984
Judicial Services	3,967,291	134,194	29.56	267	7,893
Department of Corrections ^a	14,510,159	134,194	108.00	267	28,836
Behavioral Health Services	14,101	134,194	0.11	534	59
Social Services	4,815,277	134,194	35.88	534	19,160
Resource Management Agency	2,993,317	134,194	21.86	534	11,673
Educational Services ^c	27,668,234	27,821 ^b	994.51	112	111,385
<i>Total</i>					258,383

NOTES: ^aIncludes both the adult and juvenile correctional facilities operated by the County.

^bCounty student population for 2004-2005 school year.

^cNote that the Socioeconomic Assessment includes data for the Madera Unified School District (MUSD) rather than the County as a whole. The MUSD is the largest school district in the County and will be most heavily impacted by development on the Madera site. The per capita spending in the MUSD is 888.25, which is lower than that for the County as a whole. For a conservative analysis we have included data for the County as a whole here.

SOURCE: California Department of Education, 2005; Innovation Group, 2005.

Administrative services include the cost of running the County's government as well as those costs not covered in any other section below. It includes the costs of the following departments: the County Board of Supervisors, library, animal control, human resources, information technology, insurance, tax collection, elections, contingency fund and other costs. With each additional resident of the County, these costs increase.

Some of the school districts in Madera County cross County and City lines. Thus, impacts to educational services are discussed Countywide, including the Cities of Madera and Chowchilla and all of the school districts within the County. County school districts are expected to experience an increase in the number of students due to the general population's increase under Alternative B. 20.9 percent of the Madera County population is estimated to be school-age children. Thus, if 534 people are added to the population under Alternative B, it is estimated that 20.9 percent, or 112 people would be school-age children. As noted in **Section 3.9.6**, Madera Unified School District, which includes the Madera site and is expected to accommodate a majority of project-generated students, is currently undergoing a capital development campaign involving new school construction and other improvements.

School district expansion typically occurs to accommodate planned residential growth. As noted in **Section 4.11.1**, residential growth is currently taking place at a rapid pace in Madera County. As noted in **Section 4.12.1**, new Madera County residents induced by Alternative B are expected to utilize currently planned residential units but would not induce additional residential growth. Thus, as the school system already has under development more than enough capacity to accommodate the number of students attributable to the casino, Alternative B would not result in the demand for a new school to accommodate the 112 new students that would be added to the system. However, costs would increase, as detailed in **Table 4.7-25**.

City of Madera. Costs to the City of Madera from the introduction of new residents, based on the present City budget and services provided, include costs to City administration, the finance department, the City attorney, public works, law enforcement services, fire protection services, community development, parks and recreation, and grant oversight. **Table 4.7-26** details the amount of spending per capita the City incurs for these services and the cost of providing services to the new residents.

TABLE 4.7-26
PER CAPITA COST OF CITY OF MADERA SERVICES – ALTERNATIVE B

Service	2004-2005 Budget (dollars)	2004 Population	Per Capita Spending (dollars)	Number of New Residents under Alternative B	Cost for New Residents (dollars)
City Administration	1,113,982	47,569	23.42	267	6,253
Finance Department	354,018	47,569	7.44	267	1,986
City Attorney	105,378	47,569	2.22	267	593
Public Works	2,000,000 ^a	47,569	42.04	267	11,225
Law Enforcement Services	5,234,927	47,569	110.05	267	29,383
Fire Protection Services	2,088,297	47,569	43.90	267	11,721
Community Development	567,833	47,569	11.94	267	3,188
Parks and Recreation	1,426,700	47,569	29.99	267	8,007
Grant Oversight	128,349	47,569	2.70	267	721
<i>Total</i>					<i>73,077</i>

NOTES: ^aActually 213 in the 2004-2005 budget. \$2,000,000 is assumed to be a reasonable amount for public works for the purposes of determining a per capita cost given the 2003-2004 City public works general fund expenditures of \$1,933,872.

SOURCE: City of Madera, 2004; Innovation Group, 2005.

Revenues

The MOU negotiated between the County and Tribe applies only to Alternative A. Thus, MOU revenues are not expected under Alternative B unless the County and the Tribe renegotiate the existing MOU. Thus, only one source of revenue is expected under Alternative B: indirect tax revenue. Alternative B would negatively affect County revenue received from property taxes on the Madera site after it is taken into trust by the Federal Government.

Taxes. Under Alternative B, the Madera site would go through a process by which it is placed into trust, which is a requirement before gaming is allowed under IGRA. By placing the land in trust, it would no longer be subject to property taxes. As shown above in **Table 4.7-13**, total property tax losses would be \$12,518.

The increase in County sales and use tax after the implementation of Alternative B was calculated using RIMS II. **Table 4.7-27** details the output in terms of off-site dollars spent in the retail

TABLE 4.7-27
SALES AND USE TAX REVENUE – ALTERNATIVE B

Retail Sector Output for Construction Spending (one-time)	\$18,459,233
Retail Sector Output for Operational Spending (annual)	\$5,509,972
Sales Tax Rate for Madera County	1.0%
Sales Tax on Construction Spending (one-time)	\$184,592
Sales Tax on Operational Spending (annual)	\$55,100

SOURCE: Innovation Group, 2005.

sector and the sales and use tax associated with that spending for both the one-time construction spending and the recurring operations spending. Currently, a 1% sales tax provides revenue to the locality. The rest of the 7.25% in sales tax charged goes to the State.

In addition to taxes resulting from construction and patron spending at the proposed Alternative B developments, new residents would pay property and sales taxes. Even if a new resident decides to rent, a portion of the rent payment is used to pay property taxes. **Tables 4.7-28 and 4.7-29** calculate the per capita revenue received by the City and County from sales and property taxes. As shown, new residents to the County and City of Madera are expected to generate \$29,576 and \$29,498 in revenue under Alternative B.

Given that Alternative B does not include a hotel component, overnight visitors would need to stay at nearby hotels. Although overnight visitors are less likely for Alternative B when compared with Alternative A because the Alternative B casino would have fewer amenities and be less attractive for visitors desiring to stay overnight, some number of overnight visitors is expected. It is difficult to predict the number of overnight visitors expected, however. Thus, for a conservative analysis of fiscal impacts, no increase in hotel tax revenue is calculated.

TABLE 4.7-28
MADERA COUNTY NEW RESIDENT REVENUE – ALTERNATIVE B

2002-2003 Madera County Property Tax and Sales and Use Tax Revenues	\$14,225,000
2002 Madera County Population	128,416
Per Capita Madera County Property and Sales and Use Tax Revenue	\$110.77
New Residents	267
Expected Madera County Revenue from New Residents	\$29,576

SOURCE: California Department of Finance, 2005; Innovation Group, 2005.

TABLE 4.7-29
CITY OF MADERA NEW RESIDENT REVENUE – ALTERNATIVE B

2004-2005 City of Madera Property Tax and Sales and Use Tax Revenues	\$5,255,239
2004 City of Madera Population*	47,569
Per Capita City of Madera Property and Sales and Use Tax Revenue	\$110.48
New Residents	267
Expected City of Madera Revenue from New Residents	\$29,498

SOURCE: Innovation Group, 2005.

Costs vs. Revenue

This section provides a comparison of the costs and revenues estimated as a result of Alternative B. **Table 4.7-30** compares one-time costs and revenue for Madera County. As shown, under

Alternative B, total costs would exceed total revenues by \$1,790,191 for one-time fire protection capital costs.

TABLE 4.7-30
COMPARISON OF ONE-TIME MADERA COUNTY
COSTS AND REVENUES – ALTERNATIVE B

Category	Cost	Revenue
Sales and Use Taxes	\$0	\$184,592
Fire Protection	\$1,975,000	\$0
Roads ¹	NA	NA
<i>Total</i>	<i>\$1,975,000</i>	<i>\$184,809</i>

NOTES: ¹A cost estimate has not been made. However, in order to mitigate traffic impacts to a less than significant level, the Tribe would need to pay its fair share of traffic mitigation as noted in the traffic study for this EIS.

SOURCE: Innovation Group, 2005.

Table 4.7-31 compares annual costs (both development-induced and resident-induced) and revenue for Madera County. As shown, under Alternative B, total costs would exceed total revenues by \$1,257,989.

Table 4.7-32 compares annual costs (both development-induced and resident-induced) and revenue for the City of Madera. As shown, under Alternative B, total costs would exceed total revenues by \$43,579.

TABLE 4.7-31
COMPARISON OF MADERA COUNTY ANNUAL COSTS AND REVENUES
- ALTERNATIVE B

Category	Cost	Revenue
Property and Sales and Use Taxes	\$12,518	\$84,676
Administrative Services	\$57,400	\$0
Fire Protection	\$487,563	\$0
Law Enforcement	\$521,375	\$0
Judicial Services	\$7,893	\$0
Department of Corrections	\$74,628	\$0
Behavioral Health Services	\$39,070	\$0
Social Services	\$19,160	\$0
Resources Management Agency	\$11,673	\$0
Educational Services	\$111,385	\$0
<i>Total</i>	<i>\$1,342,665</i>	<i>\$84,676</i>

SOURCE: Innovation Group, 2005.

Overall, County costs exceed revenues by \$1,790,191 (one-time) and \$1,257,989 (annual) under Alternative B. City of Madera costs exceed revenues by \$43,579 (annual). These additional

costs would require either that the City and County raise taxes or provide a lower quality of services to the casino (where applicable) and its residents, resulting in a potentially significant effect. Mitigation measures have been identified in **Section 5.2.6** that would mitigate this impact to a less than significant level.

TABLE 4.7-32
COMPARISON OF CITY OF MADERA ANNUAL COSTS AND REVENUES
- ALTERNATIVE B

Category	Cost	Revenue
Property and Sales and Use Taxes	\$0	\$29,498
City Administration	\$6,253	\$0
Finance Department	\$1,986	\$0
City Attorney	\$593	\$0
Public Works	\$11,225	\$0
Law Enforcement Services	\$29,383	\$0
Fire Protection Services	\$11,721	\$0
Community Development	\$3,188	\$0
Parks and Recreation	\$8,007	\$0
Grant Oversight	\$721	\$0
<i>Total</i>	<i>\$73,077</i>	<i>\$29,498</i>

SOURCE: Innovation Group, 2005.

Economic Effects to the MID

Fiscal effects to the MID would be the same as Alternative A, given that the same Madera site would be taken into trust under Alternative B (except that the terms of the MID MOU would not apply). As noted under Alternative A, a less than significant effect would result. Nonetheless, mitigation measures are included in **Section 5.2.6** that recommend that the Tribe compensate MID for the loss of assessments after the site is taken into trust.

Increased Pumping Costs for Neighboring Wells

As discussed in **Section 4.3.2**, on-site groundwater pumping would lead to drawdown of the groundwater table, resulting in effects to neighboring wells. These effects could include increased pumping and maintenance costs caused from pumping water from lower depths. As described in detail in **Appendix L**, lower capacity (mostly residential) wells would not be noticeably affected by these increased costs (costs of a few dollars per year would be expected). Costs would be measurable for water wells pumping at higher rates, but the percentage increase of pumping and electrical costs would still be very small. Thus, significant effects to pumping costs for neighboring wells would not occur. Nonetheless, mitigation measures are contained in **Section 5.2.6** that would reduce less than significant effects to pumping costs.

ALTERNATIVE C – NON-GAMING USE

Employment

Alternative C's beneficial effects on construction and operation employment would be much lower than those of Alternative A, given that Alternative C does not include a casino or hotel component, but retail stores and restaurants, both of which are typically expensive to construct (for large-scale facilities) and require large numbers of employees to staff the facilities.

The effects are measured in three ways: direct employment, indirect employment and induced employment. Direct employment includes those employees who are directly employed at the facility either during construction or operation. Indirect employment includes those employees who provide services and are employed at least in part due to the facility but are not directly employed at the facility. The third category is induced employment. This category includes all the other jobs that are created due to the ripple effect of spending throughout the economy as a whole. As described under Alternative A, the RIMS II model was used to predict the direct, indirect, and induced employment created by this alternative.

As detailed below, Alternative C would result in the creation of numerous employment opportunities within Madera County, which would be a beneficial effect to the region's unemployment rate and the economy as a whole.

Construction

Construction employment and spending is temporary, but it can have substantial impacts on the economy. For Alternative C, construction spending is estimated to be approximately \$31 million, which is substantially less than for Alternatives A and B. Based on \$31 million in spending for construction, RIMS II projects that Alternative C would create 271 direct, indirect, and induced jobs. Although most of these jobs fall within the construction sector, they are spread out over 20 different segments of the economy (Innovation Group, 2005). These jobs would be filled by workers that commute to the area and local residents, some of which may currently be unemployed. This would result in a temporary reduction in the unemployed population and in the unemployment rate, a beneficial impact to the local economy.

Operation

Operational employment includes those jobs that are generated from the operation of Alternative C. These impacts would last as long as the Alternative C developments are in operation. Direct employment includes all positions at the Alternative C businesses. Indirect employment includes those jobs that provide support services to but are not directly paid by the retail development. Induced employment calculates the impacts of these direct and indirect jobs on the rest of the economy as spending by direct and indirect employees ripples through the economy. RIMS II

projects that Alternative C would create 995 direct, indirect, and induced jobs in Madera County (Table 4.7-33).

As stated in Section 3.7.1, unemployment in Madera County is somewhat high, with an average unemployed population of approximately 5,600, resulting in an unemployment rate of approximately nine percent in 2004. Most of the 995 jobs created by Alternative C are expected to be filled by County residents (approximately 73.5 percent – see Appendix R) and most of the Madera County residents filling the jobs are expected to be currently unemployed given the availability of unemployed workers in the local labor market (90 percent of jobs would be filled by those currently unemployed – see Appendix R), resulting in a reduction in the unemployed population of 658 and reducing the unemployment rate to approximately eight percent. This would be a beneficial impact to the local economy.

TABLE 4.7-33
OPERATION IMPACT ON EMPLOYMENT – ALTERNATIVE C

Employment Sector	Jobs Created
Agriculture, Forestry, Fishing and Hunting	1.18
Mining	0.08
Utilities	0.39
Construction	2.94
Manufacturing	14.01
Wholesale Trade	4.69
Retail Trade	729.57
Transportation and Warehousing	11.05
Information	7.95
Finance and Insurance	4.16
Real Estate, Rental, and Leasing	12.08
Professional, Scientific, and Technical Services	4.37
Management of Companies and Enterprises	41.82
Administrative and Waste Management Services	11.50
Educational Services	1.79
Health Care and Social Assistance	22.31
Arts, Entertainment, and Recreation	2.72
Accommodation and Food Services	106.62
Other Services	11.54
Households	4.19
<i>Total (rounded to nearest single job)</i>	<i>995</i>

SOURCE: Innovation Group, 2005.

Population

Given that Alternative C is projected to increase employment in Madera County, it is necessary to estimate how that increase in employed persons would affect the population as a whole. An increase in population is not itself an environmental impact. However, an increase in population could lead to impacts such as 1) creating demand for governmental services, which is discussed in more detail below, and 2) creating growth in housing or other facilities to serve the increase in population, which is discussed in more detail in Section 4.12.

Construction

The temporary construction jobs would not result in an increase in local population. It is typical for construction workers to travel for employment opportunities during the week and then return home on the weekends. Thus, it is expected that those jobs that can be filled locally would be and those that cannot would be filled by individuals who would travel for the work as opposed to relocating. Therefore, the population would not show any change from the influx of temporary construction jobs.

Operation

The 995 permanent jobs created by Alternative C would result in increases in the local population because some of these jobs would be filled by individuals who move into Madera County for permanent employment. In order to project what percentage of people will move into the County, it must be determined what percentage of individuals working at the Alternative C businesses would live in Madera County.

Unlike Alternative A, Alternative C does not contain a casino component. Thus, a comparison cannot easily be made with the experience of the Chuckchansi casino. Therefore, typical commuter ratios were utilized for all of the permanent jobs created by Alternative C to estimate the number of direct, indirect, and induced employees that would live in Madera County. Thus, applying a 73.5 percent commuting ratio to the total employment estimate of 995 would result in a Madera County resident pool of 732. As with Alternative A, it is projected that the number of new employees who would actually move into Madera County would be low. Given that retail and restaurant employment opportunities are much more pervasive than casino employment, it is projected that even fewer residents would move into the County under Alternative C. To be conservative it is projected that 10 percent of employees would move to the County from other areas. If 20% of the new employees who live in Madera County are new residents of Madera County, then the number of employees that move into the County would be 73 (**Table 4.7-34**).

If 73 new employees move into Madera County, these would not be the only new residents in the County who moved in because of Alternative C. These employees would in some cases bring families. Using the same employee per household ratio used for Alternative A, a total of 194 new County residents would be expected under Alternative C, increasing the population from 141,007 to 141,201 (**Table 4.7-34**).

For developments on the Madera site, it is projected that 50 percent of development-induced residents would move into the City of Madera, and the other 50 percent would live elsewhere in the County. As noted above, approximately 194 new County residents are expected under Alternative C, with 97 expected to settle in the City of Madera, increasing the City population from 50,842 to 50,939. Note that the Socioeconomic Assessment (**Appendix R**) assumes that 2 of the 194 new residents would live in the City of Chowchilla. However, given that these 2

residents are not expected to result in measurable socioeconomic effects to the City of Chowchilla they have been added to the unincorporated County totals for a conservative analysis for unincorporated County, where measurable socioeconomic effects are expected.

TABLE 4.7-34
NEW RESIDENTS IN MADERA COUNTY – ALTERNATIVE C

Direct, indirect, and induced jobs filled by Madera County residents	732
New employees moving to Madera County ¹	73
Number of employees per household	1.2
Number of new households ²	61
Number of persons per household	3.18
<i>Total New Residents</i> ³	194

NOTES: ¹20% of jobs filled by Madera County residents
²New employees moving to Madera County divided by number of employees per household
³Number of new households multiplied by number of persons per household

SOURCE: Innovation Group, 2005.

Social Effects

Crime

The potential concerns regarding effects to crime that are associated with operation of a casino would not be present with the retail development proposed for Alternative C. Commercial uses associated with a shopping center and restaurants are not expected to characteristically result in increased crime rates in the region. Thus, Alternative C's impact to crime would be less than significant.

Problem Gambling

Given that a casino is not proposed for Alternative C, no additional problem gamblers would be generated.

Effects to Surrounding Property Values

Some of the same concerns with lowering property values may be present with respect to Alternative C, given that it proposes a large retail development. However, some of the same assumptions to increasing property values due to speculation would also apply. Therefore, land values in the region and in the vicinity of the Madera site would not be significantly affected by Alternative C.

Economic Effects to Local Government

This section provides information on how Alternative C would increase the demand for governmental services in the County and the associated cost to expand these services, so a reduction of the quality of service is not bore by the community. There are two main ways that

the project would impact government services. The first is through the demand for services that the Alternative C developments would create. The second is through the demand created by the new residents who would move to Madera County to work in the Alternative C developments. Governmental services could also be impacted by new visitors drawn to the County by Alternative C.

Shopping Center Demand and Costs

The following section describes the demand for services and resulting economic cost created by the shopping center development itself. These services include fire, law enforcement, medical services and judicial services as well as road improvements and the need for more social services and mental health professionals.

Because the Madera site is located within unincorporated Madera County, most development-induced demands would be borne by the County.

Fire Protection

Fire protection services would be slightly less impacted by Alternative C than by Alternative A. According to Division Chief Paul Helm, Alternative C would still require a new fire station and that cost is estimated to be \$1.6 million. The new fire engine would not need to be an aerial apparatus as there is no hotel tower component in this alternative. A regular fire engine is half the cost of an aerial apparatus at \$375,000.

Because the fire engine would not be an aerial apparatus, the staffing needs of the station would decrease relative to Alternative A. The County has a goal of filling two fire fighter positions per station, which requires that six persons be hired. The station would also recruit 12 volunteers to assist with fires. Expected fire personnel costs for Alternative C are displayed in **Table 4.7-35**.

TABLE 4.7-35
FIRE PERSONNEL COSTS – ALTERNATIVE C

	Cost Per Unit (dollars)	Total (dollars)
Fire Engineers Salary and Benefits (3)	71,366	214,098
Fire Captains Salary and Benefits (3)	81,408	244,224
Volunteer Memberships (12)	54	648
Sets of Equipment (18)	1,200	21,600
<i>Total</i>		<i>480,570</i>

SOURCE: Innovation Group, 2005.

Law Enforcement

An increased demand on local law enforcement services would result after implementation of Alternative C, given the increased public presence on the project site and increased traffic on area

roadways. Unlike Alternative A, Alternative C developments are not expected to provide private security services on the site. Experience with other shopping centers reveals that sheriff departments often station a deputy at a retail location on a full-time basis because of the amount of crime that is perpetrated on the premises. Common criminal activities include breaking into cars, car theft, shoplifting and disorderly conduct. In addition to preventing criminal activity, sheriffs assist with emergency situations and traffic incidents at the shopping center. Given this information, it is estimated that the Sheriff's department will need to hire 5 deputies and a half-time sergeant to accommodate the shopping center's demand for services. One position requires 5 sheriff deputies to fill and for every 10 deputies there is a sheriff's sergeant to oversee them. **Table 4.7-36** details the cost of filling both the five deputy positions and a half-time sergeant position.

TABLE 4.7-36
LAW ENFORCEMENT PERSONNEL COSTS – ALTERNATIVE C

	Cost Per Unit (dollars)	Total (dollars)
Deputy Sheriff Salary and Benefits (5)	50,000	250,000
Sheriff's Sergeant Salary and Benefits (0.5)	60,000	30,000
Equipment	10,000	60,000
Retirement	15,844	95,061
Health Insurance	5,118	28,149
Workers' Compensation Insurance	6,951	38,231
Uniform Allowance	900	4,950
<i>Total</i>		<i>506,391</i>

SOURCE: Innovation Group, 2005.

Emergency Medical Services

As noted under Alternative A, the cost for emergency medical services is borne by the individual (typically their insurance company) who calls for service and the cost of calls from law enforcement is outlined in the Sheriff's budget rather than separately here.

Judicial Services

The level of criminal activity would be lower at the retail facility than at the casino in Alternative A and the types of crimes committed would not be expected to be particularly complex, so that even less work is projected to be generated for the judicial system. As such, there would be no measurable impact to judicial services under Alternative C.

Department of Corrections

Increased criminal activity would place an added burden on the Madera County Department of Corrections (MCDC). A description of County correctional facilities can be found under Alternative A.

As with Alternative A, it is conservatively assumed that the Alternative C developments would create three arrests per month. The cost to house one inmate for one night is \$53. This figure includes food, clothing, staff salaries, building, utilities, etc. The average stay is 24 nights. Assuming 36 arrests per year, the total cost per year to house these inmates would be \$45,792.

With 36 additional prisoners staying an average of 24 nights, the prison would have 864 additional cell nights filled. This is the equivalent of having an additional 2.4 prisoners in prison for a year. The additional burden of housing 2.4 prisoners a year would not warrant a capital investment by the County because it would not raise the total prisoner population above or near the 395 level noted above under Alternative A (**Appendix R**).

Behavioral Health Services

No additional problem gamblers or specific development-related effects to behavioral health services would occur.

Resource Management Agency

The Resource Management Agency is a unified agency that brings together several different County departments: Roads, Planning, Environmental Health, Sanitation, Engineering, Building Inspection and Fire Marshall. The only department expected to need any investment due to the demands of the retail development would be the roads department. Traffic impacts and the need for traffic mitigation are discussed in **Section 4.8**.

New Resident Demand and Costs

This section describes the demand for increased governmental services that would be created by new residents in the County (97) and City (97) resulting from Alternative C. These services include a broader range of services than those discussed previously and include everything from animal control to welfare support. For those services that are uniquely offered by the County, we have assumed the entire County population will bear their cost.

Madera County. Costs to the County from the introduction of new residents, based on the present County budget and services provided, include costs to administrative services, fire protection services, law enforcement services, judicial services, prison services, behavioral health services, social services, educational services, and resource management services. **Table 4.7-37** details the amount of spending per capita the County would incur for these services and the cost of providing services to the new residents, which is less than for Alternative A since fewer residents would be generated by Alternative C.

TABLE 4.7-37
PER CAPITA COST OF COUNTY SERVICES – ALTERNATIVE C

Service	2004 Budget (dollars)	2004 Population	Per Capita Spending (dollars)	Number of New Residents/ Students under Alternative C	Cost (dollars)
Administrative Services	14,424,302	134,194	107.49	194	20,853
Fire Protection Services	3,514,327	134,194	26.19	97	2,540
Law Enforcement Services	7,531,330	134,194	56.12	97	5,444
Judicial Services	3,967,291	134,194	29.56	97	2,867
Department of Corrections ^a	14,510,159	134,194	108.00	97	10,476
Behavioral Health Services	14,101	134,194	0.11	194	21
Social Services	4,815,277	134,194	35.88	194	6,961
Resource Management Agency	2,993,317	134,194	21.86	194	4,241
Educational Services ^c	27,668,234	27,821 ^b	994.51	41	40,775
<i>Total</i>					<i>94,178</i>

NOTES: ^aIncludes both the adult and juvenile correctional facilities operated by the County.

^bCounty student population for 2004-2005 school year.

^cNote that the Socioeconomic Assessment includes data for the Madera Unified School District (MUSD) rather than the County as a whole. The MUSD is the largest school district in the County and will be most heavily impacted by development on the Madera site. The per capita spending in the MUSD is 888.25, which is lower than that for the County as a whole. For a conservative analysis we have included data for the County as a whole here.

SOURCE: California Department of Education, 2005; Innovation Group, 2005.

Administrative services include the cost of running the County's government as well as those costs not covered in any other section below. It includes the costs of the following departments: the County Board of Supervisors, library, animal control, human resources, information technology, insurance, tax collection, elections, contingency fund and other costs. With each additional resident of the County, these costs increase.

Madera County provides numerous social services to its underprivileged citizens as detailed above under Alternative A. Currently, there are 0.6 social workers for every 1,000 residents of the County. In order to maintain this ratio, the County would need to hire 0.06 social workers for the 97 new residents in the County. This is too low to justify hiring a new social worker, even on a part-time basis, and could be accommodated by improved efficiencies or overtime pay, which account for the estimated per capita costs shown in **Table 4.7-37**.

Some of the school districts in Madera County cross County/City lines. Thus, impacts to educational services are discussed Countywide, including the Cities of Madera and Chowchilla and all of the school districts within the County. County school districts are expected to experience an increase in the number of students due to the general population's increase under Alternative C. 20.9 percent of the Madera County population is estimated to be school-age children. Thus, if 194 people are added to the population under Alternative C, it is estimated that

20.9 percent, or 41 people would be school-age children. As noted in **Section 3.9.6**, Madera Unified School District, which includes the Madera site and is expected to accommodate a majority of Alternative C generated students, is currently undergoing a capital development campaign involving new school construction and other improvements.

School district expansion typically occurs to accommodate planned residential growth. As noted in **Section 4.11.1**, residential growth is currently taking place at a rapid pace in Madera County. As noted in **Section 4.12.1**, new Madera County residents induced by Alternative C are expected to utilize currently planned residential units and would not induce additional residential growth. Thus, as the school system already has under development more than enough capacity to accommodate the number of students attributable to the casino, Alternative C would not result in the demand for a new school to accommodate the 41 new students that would be added to the system. However, costs would increase, as detailed in **Table 4.7-37**.

City of Madera. Costs to the City of Madera from the introduction of new residents, based on the present City budget and services provided, include costs to City administration, the finance department, the City attorney, public works, law enforcement services, fire protection services, community development, parks and recreation, and grant oversight. **Table 4.7-38** details the amount of spending per capita the City incurs for these services and the cost of providing services to the new residents.

TABLE 4.7-38
PER CAPITA COST OF CITY OF MADERA SERVICES – ALTERNATIVE C

Service	2004-2005 Budget (dollars)	2004 Population	Per Capita Spending (dollars)	Number of New Residents under Alternative C	Cost for New Residents (dollars)
City Administration	1,113,982	47,569	23.42	97	2,272
Finance Department	354,018	47,569	7.44	97	722
City Attorney	105,378	47,569	2.22	97	215
Public Works	2,000,000 ^a	47,569	42.04	97	4,078
Law Enforcement Services	5,234,927	47,569	110.05	97	10,675
Fire Protection Services	2,088,297	47,569	43.90	97	4,258
Community Development	567,833	47,569	11.94	97	1,158
Parks and Recreation	1,426,700	47,569	29.99	97	2,909
Grant Oversight	128,349	47,569	2.70	97	262
<i>Total</i>					26,549

NOTES: ^aActually 213 in the 2004-2005 budget. \$2,000,000 is assumed to be a reasonable amount for public works for the purposes of determining a per capita cost given the 2003-2004 City public works general fund expenditures of \$1,933,872.

SOURCE: City of Madera, 2004; Innovation Group, 2005.

Revenues

The MOU negotiated between the County and Tribe applies only to Alternative A. Thus, MOU revenues are not expected under Alternative C unless the County and the Tribe were to renegotiate the existing MOU. Thus, only one source of revenue is expected under Alternative C: indirect tax revenue. Alternative C would negatively affect County revenue received from property taxes on the Madera site after it is taken into trust by the Federal Government.

Taxes. Under Alternative C, the Madera site would go through a process by which it is placed into trust. By placing the land in trust, it would no longer be subject to property taxes. As shown above in **Table 4.7-13**, total property tax losses would be \$12,518.

The increase in County sales and use tax after the implementation of Alternative C was calculated using RIMS II. **Table 4.7-39** details the output in terms of off-site dollars spent in the retail sector and the sales and use tax associated with that spending for both the one-time construction spending and the recurring operations spending. Currently, a 1% sales tax provides revenue to the locality. The rest of the 7.25% in sales tax charged goes to the state.

In addition to taxes resulting from construction and patron spending at the proposed Alternative C developments, new residents would pay property and sales taxes. Even if a new resident decides to rent, a portion of the rent payment is used to pay property taxes. **Tables 4.7-40** and **4.7-41** calculate the per-capita revenue received by the City and County from sales and property taxes.

TABLE 4.7-39
SALES AND USE TAX REVENUE – ALTERNATIVE C

Retail Sector Output for Construction Spending (one-time)	\$2,774,395
Retail Sector Output for Operational Spending (annual)	\$69,840,504
Sales Tax Rate for Madera County	1.0%
Sales Tax on Construction Spending (one-time)	\$27,744
Sales Tax on Operational Spending (annual)	\$698,405

SOURCE: Innovation Group, 2005.

TABLE 4.7-40
MADERA COUNTY NEW RESIDENT REVENUE – ALTERNATIVE C

2002-2003 Madera County Property Tax and Sales and Use Tax Revenues	\$14,225,000
2002 Madera County Population	128,416
Per Capita Madera County Property and Sales and Use Tax Revenue	\$110.77
New Residents	97
Expected Madera County Revenue from New Residents	\$10,745

SOURCE: California Department of Finance, 2005; Innovation Group, 2005.

TABLE 4.7-41
CITY OF MADERA NEW RESIDENT REVENUE – ALTERNATIVE C

2004-2005 City of Madera Property Tax and Sales and Use Tax Revenues	\$5,255,239
2004 City of Madera Population	47,569
Per Capita City of Madera Property and Sales and Use Tax Revenue	\$110.48
New Residents	97
Expected City of Madera Revenue from New Residents	\$10,717

SOURCE: Innovation Group, 2005.

As shown, new residents to the County and City of Madera are expected to generate \$10,745 and \$10,717 in revenue under Alternative C.

Given that Alternative C does not include a hotel component, overnight visitors would need to stay at nearby hotels, although overnight visitors are much less likely for Alternative C when compared with Alternative A, because typically shopping center customers are drawn from the surrounding region only. Thus, a very limited increase in hotel tax revenue is expected.

Costs vs. Revenue

This section provides a comparison of the costs and revenues estimated as a result of Alternative C. **Table 4.7-42** compares one-time costs and revenue for Madera County. As shown, under Alternative C, total costs would exceed total revenues by \$1,947,256 for one-time fire protection capital costs.

Table 4.7-43 compares annual costs (both development-induced and resident-induced) and revenue for Madera County. As shown, under Alternative C, total costs would exceed total revenues by \$430,299.

TABLE 4.7-42
COMPARISON OF ONE-TIME MADERA COUNTY
COSTS AND REVENUES – ALTERNATIVE C

Category	Cost	Revenue
Sales and Use Taxes	\$0	\$27,744
Fire Protection	\$1,975,000	\$0
Roads ¹	NA	NA
<i>Total</i>	<i>\$1,975,000</i>	<i>\$27,744</i>

NOTES: ¹A cost estimate has not been made. However, in order to mitigate traffic impacts to a less than significant level, the Tribe would need to pay its fair share of traffic mitigation as noted in the traffic study for this EIS.

SOURCE: Innovation Group, 2005.

TABLE 4.7-43
COMPARISON OF MADERA COUNTY ANNUAL COSTS AND REVENUES
- ALTERNATIVE C

Category	Cost	Revenue
Property and Sales and Use Taxes	\$12,518	\$709,150
Administrative Services	\$20,853	\$0
Fire Protection	\$483,110	\$0
Law Enforcement	\$511,835	\$0
Judicial Services	\$2,867	\$0
Department of Corrections	\$56,268	\$0
Behavioral Health Services	\$21	\$0
Social Services	\$6,961	\$0
Resources Management Agency	\$4,241	\$0
Educational Services	\$40,775	\$0
<i>Total</i>	<i>\$1,139,449</i>	<i>\$709,150</i>

SOURCE: Innovation Group, 2005.

Table 4.7-44 compares annual costs (both development-induced and resident-induced) and revenue for the City of Madera. As shown, under Alternative C, total costs would exceed total revenues by \$15,832.

TABLE 4.7-44
COMPARISON OF CITY OF MADERA ANNUAL COSTS AND REVENUES
- ALTERNATIVE C

Category	Cost	Revenue
Property and Sales and Use Taxes	\$0	\$10,717
City Administration	\$2,272	\$0
Finance Department	\$722	\$0
City Attorney	\$215	\$0
Public Works	\$4,078	\$0
Law Enforcement Services	\$10,675	\$0
Fire Protection Services	\$4,258	\$0
Community Development	\$1,158	\$0
Parks and Recreation	\$2,909	\$0
Grant Oversight	\$262	\$0
<i>Total</i>	<i>\$26,549</i>	<i>\$10,717</i>

SOURCE: Innovation Group, 2005.

Overall, County costs exceed revenues by \$1,947,256 (one-time) and \$432,299 (annual) under Alternative C. City of Madera costs exceed revenues by \$15,832 (annual). These additional costs would require that the City and County raise taxes or provide a lower quality of services to the Madera site (where applicable) and its residents, resulting in a potentially significant effect.

Mitigation measures have been identified in **Section 5.2.6** that would mitigate this impact to a less than significant level.

Economic Effects to the MID

Fiscal effects to the MID would be the same as Alternative A, given that the same Madera site would be taken into trust under Alternative C (except that the terms of the MID MOU would not apply). As noted under Alternative A, a less than significant effect would result. Nonetheless, mitigation measures are included in **Section 5.2.6** that recommend that the Tribe compensate MID for the loss of assessments after the site is taken into trust.

Increased Pumping Costs for Neighboring Wells

As discussed in **Section 4.3.3**, on-site groundwater pumping would lead to drawdown of the groundwater table, resulting in effects to neighboring wells. These effects could include increased pumping and maintenance costs caused from pumping water from lower depths. As described in detail in **Appendix L**, lower capacity (mostly residential) wells would not be noticeably affected by these increased costs (costs of a few dollars per year would be expected). Costs would be measurable for water wells pumping at higher rates, but the percentage increase of pumping and electrical costs would still be very small. Thus, significant effects to pumping costs for neighboring wells would not occur. Nonetheless, mitigation measures are contained in **Section 5.2.6** that would reduce less than significant effects to pumping costs.

ALTERNATIVE D – NORTH FORK LOCATION

Employment

Alternative D's effects on construction and operation employment would be substantially reduced when compared to those of Alternative A, given that Alternative D would not include a hotel component, would include a much smaller casino, and would be located in a competitively disadvantageous area.

The effects are measured in three ways: direct employment, indirect employment and induced employment. Direct employment includes those employees who are directly employed at the facility either during construction or during operation. Indirect employment includes those employees who provide services and are employed at least in part due to the facility but are not directly employed at the facility. The third category is induced employment. This category includes all the other jobs that are created due to the ripple effect of spending throughout the economy as a whole. As described under Alternative A, the RIMS II model was used to predict the direct, indirect, and induced employment created by this alternative.

As detailed below, Alternative D would result in the creation of numerous employment opportunities within Madera County, which would be a beneficial effect to the region's unemployment rate and the economy as a whole.

Construction

Construction employment and spending is temporary, but it can have substantial impacts on the economy. For Alternative D, construction spending is estimated to be approximately \$41 million. Based on the \$41 million in spending for construction, RIMS II projects that Alternative D would create 351 jobs, including 226 direct and 125 indirect or induced jobs. Although most of these jobs fall within the construction sector, they are spread out over 20 different segments of the economy (Innovation Group, 2005). These jobs would be filled by workers that commute to the area and local residents, some of which may currently be unemployed. This would result in a temporary reduction in the unemployed population and in the unemployment rate, a beneficial impact to the local economy.

Operation

Operational employment includes those jobs that are generated from the operation of Alternative D. These impacts would last as long as the casino is in operation. Direct employment includes all positions at the casino. It is anticipated that the Alternative D project facilities would employ 139 full-time employees and 23 part-time employees or 153 FTEs.

Indirect employment includes those jobs that provide support services to but are not directly paid by the casino. Induced employment calculates the impacts of these direct and indirect jobs on the rest of the economy as spending by direct and indirect employees ripples through the economy. RIMS II projects that Alternative D would create 167 jobs in Madera County (**Table 4.7-45**). Of those, 14 are indirect and induced jobs. Most of the direct jobs fall within the arts, entertainment and recreation, and accommodation and food services sectors. Indirect and induced jobs are spread out over 20 different segments of the economy (Innovation Group, 2005).

As stated in **Section 3.7.1**, unemployment in Madera County is somewhat high, with an average unemployed population of approximately 5,600, resulting in an unemployment rate of approximately nine percent in 2004. Most of the 167 jobs created by Alternative D are expected to be filled by County residents (approximately 73.5 percent – see **Appendix R**) and most of the Madera County residents filling the jobs are expected to be currently unemployed given the availability of unemployed workers in the local labor market (90 percent of jobs would be filled by those currently unemployed – see **Appendix R**), resulting in a reduction in the unemployed population of 111 and reducing the unemployment rate slightly to approximately 8.7 percent. This would be a beneficial impact to the local economy.

Population

Given that Alternative D is projected to increase employment in Madera County by 351 temporary positions and 167 permanent positions, it is necessary to estimate how that increase in employed persons would affect the population as a whole. An increase in population is not itself an environmental impact. However, an increase in population could lead to impacts such as 1) creating demand for governmental services, which is discussed in more detail below, and 2) creating growth in housing or other facilities to serve the increase in population, which is discussed in more detail in **Section 4.12**.

Construction

The temporary construction jobs would not result in an increase in local population. It is typical for construction workers to travel for employment opportunities during the week and then return home on the weekends. Thus, it is expected that those jobs that can be filled locally would be and those that cannot would be filled by individuals who would travel for the work as opposed to relocating. Therefore, the population would not show any change from the temporary influx of construction jobs.

TABLE 4.7-45
OPERATION IMPACT ON EMPLOYMENT – ALTERNATIVE D

Employment Sector	Jobs Created
Agriculture, Forestry, Fishing and Hunting	0.29
Mining	0.02
Utilities	0.07
Construction	0.79
Manufacturing	1.78
Wholesale Trade	0.90
Retail Trade	5.18
Transportation and Warehousing	1.11
Information	0.83
Finance and Insurance	0.62
Real Estate, Rental, and Leasing	1.43
Professional, Scientific, and Technical Services	0.84
Management of Companies and Enterprises	1.43
Administrative and Waste Management Services	1.37
Educational Services	0.29
Health Care and Social Assistance	3.59
Arts, Entertainment, and Recreation	108.74
Accommodation and Food Services	32.58
Other Services	4.56
Households	0.67
<i>Total (rounded to nearest single job)</i>	<i>167</i>

SOURCE: Innovation Group, 2005.

Operation

The 167 direct, indirect, and induced permanent jobs created by Alternative A would result in increases in the local population because some of these jobs would be filled by individuals who

move into Madera County for employment. In order to project what percentage of people will move into the County, it must be determined what percentage of individuals working at the casino would live in Madera County. As noted above under Alternative A, approximately 65 percent of Chukchansi's employees are Madera County residents. General commuting patterns indicate that 73.5 percent of Madera County jobs are filled by Madera County residents. Given the small size of the Alternative D casino and the high level of unemployment in the County, it is assumed that a greater percentage of direct, indirect, and induced employees (73.5 percent) would come from Madera County for Alternative D, when compared to Alternative A.

Of the 73.5 percent or 123 of employees that would live in Madera County, it is projected that very few would move in from other areas given the large number of unemployed persons in the County compared to the number of jobs available. Of course, some employees would undoubtedly move in from other areas. For this reason, it is conservatively projected that 10 percent of the employees that live in Madera County would move in from other areas. Using this 10 percent figure, it is expected that 12 direct, indirect, and induced employees would move into the County under Alternative D (**Table 4.7-46**).

If 12 new employees move into Madera County, these would not be the only new residents in the County who moved in because of the casino. These employees would in some cases bring families. Using the same employee per household ration used for Alternative A, a total of 32 new County residents would be expected under Alternative D, increasing the population from 141,007 to 141,039 (**Table 4.7-46**).

TABLE 4.7-46
NEW RESIDENTS IN MADERA COUNTY – ALTERNATIVE D

Direct, indirect, and induced jobs filled by Madera County residents	123
New employees moving to Madera County ¹	12
Number of employees per household	1.2
Number of new households ²	10
Number of persons per household	3.18
<i>Total New Residents</i> ³	32

NOTES: ¹10% of jobs filled by Madera County residents

²New employees moving to Madera County divided by number of employees per household

³Number of new households multiplied by number of persons per household

SOURCE: Innovation Group, 2005.

For Alternative D, it is projected that 38 percent of development-induced residents would move into the City of Madera, and the other 62 percent would live elsewhere in the County. As noted above, 32 new County residents are expected under Alternative D, with 12 expected to settle in the City of Madera. Note that the Socioeconomic Assessment (**Appendix R**) assumes that at most 1 of the 32 new residents would live in the City of Chowchilla. However, given that this 1

resident is not expected to result in measurable socioeconomic effects to the City of Chowchilla they have been added to the unincorporated County totals for a conservative analysis for unincorporated County, where measurable socioeconomic effects are expected.

Social Effects

Crime

As noted under Alternative A, no definitive link between casinos and regional crime rates was found. Therefore, although an increase in calls for service is expected, an increase in regional crime rates is not expected to result from Alternative D. Thus, Alternative D's impact to crime would be less than significant.

Problem Gambling

Although the Alternative D casino would be reduced in size when compared to Alternative A, the effects to problem gambling are conservatively not assumed to differ. However, under Alternative D, the County MOU would not apply and annual funds would not be provided for problem gambling services. Thus, a potentially significant effect would result. Mitigation measures in **Section 5.2.6** would mitigate this effect to a less than significant level.

Effects to Surrounding Property Values

As with Alternative A, high-value residential properties are not present in the immediate vicinity of the North Fork site and nuisance effects would be minimized because of the heavy tree cover and varied terrain within and surrounding the North Fork site. Thus, as analyzed above under Alternative A, land values in the region and in the vicinity of the North Fork site would not be significantly affected by Alternative D.

Economic Effects to Local Government

This section provides information on how Alternative D would increase demand for governmental services in the County and the associated cost to expand these services, so a reduction of the quality of service is not bore by the community. There are two main ways that the project would impact government services. The first is through the demand for services that the casino itself would create. The second is through the demand created by the new residents who would move to Madera County to work in the casino. Governmental services could also be impacted by new visitors drawn to the County by Alternative D.

Casino Demand and Costs

The following section describes the demand for services and resulting economic cost created by the casino itself. These services include fire, law enforcement, medical services and judicial services as well as road improvements and the need for more social services and mental health professionals. The demands are much smaller than for Alternative A, given the reduced size and

scope of the Alternative D casino. Because the North Fork Site is located within unincorporated Madera County and not near any incorporated cities, all development-induced demands would be borne by the County.

Fire Protection

The demand for fire protection services would include typical structure fire risks (which are similar to those of Alternative A) and risks associated with forest fires. The latest nearby forest fire was in July 2005. Although the annual probability and the cost of such wildfires are difficult to estimate because of the human and weather factors related to fires, the expected cost is certainly greater than zero. Given the remote location of Alternative D, the expected cost would be greater than for the other alternatives, which are located in a semi-developed/agricultural area of Madera County with better access to fire prevention and fighting capabilities. The existence of a casino in the Alternative D location would make firefighting there more complicated and costly while increased human activity in the area would raise the probability of fire.

According to Division Chief Paul Helm, the Chukchansi fire station might be able to provide service to the Alternative D casino without exceeding the 4-minute level of service standard. Given the uncertainty of the situation, the likelihood that the one station would not adequately serve both casinos, and the added risk of forest fires, it is assumed that a new fire station and truck would be necessary to serve the Alternative D developments. Unlike with Alternative A, the new fire engine would not need to be an aerial apparatus as there is no high-rise component in this alternative. A regular fire engine is half the cost of an aerial apparatus at \$375,000. The fire station is expected to cost \$1,200,000.

Because the fire engine would not be an aerial apparatus, the staffing needs of the station would decrease relative to Alternative A. The County has a goal of filling two firefighter positions per station, which requires that six persons be hired. The station would also recruit 12 volunteers to assist with fires. Expected fire personnel costs for Alternative D are displayed in **Table 4.7-47**.

TABLE 4.7-47
FIRE PERSONNEL COSTS – ALTERNATIVE D

	Cost Per Unit (dollars)	Total (dollars)
Fire Engineers Salary and Benefits (3)	71,366	214,098
Fire Captains Salary and Benefits (3)	81,408	244,224
Volunteer Memberships (12)	54	648
Sets of Equipment (18)	1,200	21,600
<i>Total</i>		<i>480,570</i>

SOURCE: Innovation Group, 2005.

Law Enforcement

An increased demand on local law enforcement services would result after implementation of Alternative D, given the increased public presence on the project site and increased traffic on area roadways. Assuming that the rate of calls is proportional to the size of the facility, the Alternative D casino would make fewer calls for sheriff assistance than the Chukchansi Casino or the Alternative A casino/hotel resort. Fewer calls require fewer officers to respond to those calls. It is therefore assumed that the Sheriff's office will need to increase its deputies by a half-time position (**Appendix R**). A position requires five sheriff deputies to fill. **Table 4.7-48** details the cost of adding these individuals to the force.

TABLE 4.7-48
LAW ENFORCEMENT PERSONNEL COSTS – ALTERNATIVE D

	Cost Per Unit (dollars)	Total (dollars)
Deputy Sheriff Salary and Benefits (3)	50,000	150,000
Sheriff's Sergeant Salary and Benefits (0.5)	60,000	30,000
Equipment	10,000	40,000
Retirement	15,844	61,111
Health Insurance	5,118	17,913
Workers' Compensation Insurance	6,951	24,329
Uniform Allowance	900	3,150
<i>Total</i>		326,503

SOURCE: Innovation Group, 2005.

Emergency Medical Services

As noted under Alternative A, the cost for emergency medical services is borne by the individual (typically their insurance company) who calls for service and the cost of calls from law enforcement is included in the Sheriff's budget rather than separately here.

Judicial Services

The level of criminal activity would be lower at the smaller Alternative D facility than at the larger one in Alternative A, so that even less work is projected to be generated for the judicial system. As such, there would be no measurable impact to judicial services under Alternative D.

Department of Corrections

Increased criminal activity resulting from Alternative D would place an added burden on the MCDC. A description of County correctional facilities can be found under Alternative A.

Assuming the number of arrests per year is proportional to the size of the facility, the North Fork facility would have 3.5 arrests per year, given the 24 arrests per year experienced at the Chukchansi facility. To be conservative, it is assumed that the Alternative D facility experiences half the number of arrests as the Chukchansi Casino. The cost to house one inmate for one night

is \$53. This figure includes food, clothing, staff salaries, building, utilities, etc. The average stay is 24 nights. Assuming 12 arrests per year, the total cost per year to house these inmates would be \$15,264.

With 12 additional prisoners staying an average of 24 nights, the prison would have 288 additional cell nights filled. This is the equivalent of having an additional one prisoner in prison for approximately ten months. The additional burden of housing one prisoner a year (or less) would not warrant a capital investment by the County because it would not raise the total prisoner population above or near the 395 level noted above under Alternative A (**Appendix R**).

Behavioral Health Services

As the number of problem gamblers in the County is assumed to be the same as Alternative A, the number of new licensed counselors remains the same as for Alternative A. **Table 4.7-49** details the cost of a half-time licensed counselor.

TABLE 4.7-49
BEHAVIORAL HEALTH SERVICES PERSONNEL COSTS – ALTERNATIVE D

	Cost Per Unit (dollars)	Total (dollars)
Licensed Clinician Salary and Benefits (0.5)	54,220	27,110
Retirement	8,311	4,155
Health Insurance	5,324	2,662
Workers' Compensation Insurance	168	84
Equipment	5,000	5,000
<i>Total</i>		<i>39,011</i>

SOURCE: Innovation Group, 2005.

Resource Management Agency

The Resource Management Agency is a unified agency that brings together several different County departments: Roads, Planning, Environmental Health, Sanitation, Engineering, Building Inspection and Fire Marshall.

New Resident Demand and Costs

This section describes the demand for increased governmental services that would be created by new residents in the County (20) and City (12) resulting from Alternative D. These services include a broader range of services than those discussed previously and include everything from animal control to welfare support. For those services that are uniquely offered by the County, we have assumed the entire County population will bear their cost.

Madera County. Costs to the County from the introduction of new residents, based on the present County budget and services provided, include costs to administrative services, fire protection services, law enforcement services, judicial services, prison services, behavioral health services, social services, educational services, and resource management services. **Table 4.7-50**

details the amount of spending per capita the County incurs for these services and the cost of providing services to the new residents.

Administrative services include the cost of running the County's government as well as those costs not covered in any other section below. It includes the costs of the following departments: the County Board of Supervisors, library, animal control, human resources, information technology, insurance, tax collection, elections, contingency fund and other costs. With each additional resident of the County, these costs increase.

Due to the influx of new people to the County under Alternative D, the demand for social services would increase. Madera County provides numerous social services to its underprivileged citizens as described under Alternative A. Currently, there are 0.6 social workers for every 1,000 residents of the County. The projected number of new residents under Alternative D is so low that it would have a miniscule effect on this ratio and an additional full or part-time social worker would not be required.

TABLE 4.7-50
PER CAPITA COST OF COUNTY SERVICES – ALTERNATIVE D

Service	2004 Budget (dollars)	2004 Population	Per Capita Spending (dollars)	Number of New Residents/ Students under Alternative D	Cost (dollars)
Administrative Services	14,424,302	134,194	107.49	32	3,440
Fire Protection Services	3,514,327	134,194	26.19	20	524
Law Enforcement Services	7,531,330	134,194	56.12	20	1,122
Judicial Services	3,967,291	134,194	29.56	20	591
Department of Corrections ^a	14,510,159	134,194	108.00	20	2,160
Behavioral Health Services	14,101	134,194	0.11	32	4
Social Services	4,815,277	134,194	35.88	32	1,148
Resource Management Agency	2,993,317	134,194	21.86	32	700
Educational Services	27,668,234	27,821 ^b	994.51	7	6,962
<i>Total</i>					16,651

NOTES: ^aIncludes both the adult and juvenile correctional facilities operated by the County.

^bCounty student population for 2004-2005 school year.

SOURCE: California Department of Education, 2005; Innovation Group, 2005.

Some of the school districts in Madera County cross County and City lines. Thus, impacts to educational services are discussed Countywide, including the Cities of Madera and Chowchilla and all of the school districts within the County. County school districts are expected to experience an increase in the number of students due to the general population's increase under Alternative D. 20.9 percent of the Madera County population is estimated to be school-age children. Thus, if 32 people are added to the population under Alternative D, it is estimated that 20.9 percent, or 7 people would be school-age children. As mentioned in **Section 3.9.6**, the North

Fork site is located within the Chawanakee Unified School District, which currently has substantially lower student-to-teacher ratios than Madera County as a whole. Most of the seven school-age children would be housed by the Chawanakee Unified School District, which is expected to accommodate these few additional students without the need for any physical expansion of facilities. However, costs would increase, as detailed in **Table 4.7-50**.

City of Madera. Costs to the City of Madera from the introduction of new residents, based on the present City budget and services provided, include costs to City administration, the finance department, the City attorney, public works, law enforcement services, fire protection services, community development, parks and recreation, and grant oversight. **Table 4.7-51** details the amount of spending per capita the City incurs for these services and the cost of providing services to the new residents.

TABLE 4.7-51
PER CAPITA COST OF CITY OF MADERA SERVICES – ALTERNATIVE D

Service	2004-2005 Budget (dollars)	2004 Population	Per Capita Spending (dollars)	Number of New Residents under Alternative D	Cost for New Residents (dollars)
City Administration	1,113,982	47,569	23.42	12	281
Finance Department	354,018	47,569	7.44	12	89
City Attorney	105,378	47,569	2.22	12	27
Public Works	2,000,000 ^a	47,569	42.04	12	505
Law Enforcement Services	5,234,927	47,569	110.05	12	1,321
Fire Protection Services	2,088,297	47,569	43.90	12	527
Community Development	567,833	47,569	11.94	12	143
Parks and Recreation	1,426,700	47,569	29.99	12	360
Grant Oversight	128,349	47,569	2.70	12	32
<i>Total</i>					3,285

NOTES: ^aActually 213 in the 2004-2005 budget. \$2,000,000 is assumed to be a reasonable amount for public works for the purposes of determining a per capita cost given the 2003-2004 City public works general fund expenditures of \$1,933,872.

SOURCE: City of Madera, 2004; Innovation Group, 2005.

Revenues

The MOU negotiated between the County and the Tribe applies only to Alternative A. Thus, MOU revenues are not expected under Alternative D unless the County and the Tribe were to renegotiate the existing MOU. Thus, only one source of revenue is expected under Alternative D: indirect tax revenue. Unlike the Madera site, the North Fork site is already held in trust by the Federal Government. Therefore, property taxes currently do not apply to this site and would not apply after the implementation of Alternative D. Thus, unlike Alternative A, Alternative D would not negatively affect County revenue received from property taxes.

Taxes. The increase in County sales and use tax after the implementation of Alternative D was calculated using RIMS II. **Table 4.7-52** details the output in terms of off-site dollars spent in the retail sector and the sales and use tax associated with that spending for both the one-time construction spending and the recurring operations spending. Currently, a 1% sales tax provides revenue to the locality. The rest of the 7.25% in sales tax charged goes to the State.

In addition to taxes resulting from construction and patron spending at the proposed Alternative D developments, new residents would pay property and sales taxes. Even if a new resident decides to rent, a portion of the rent payment is used to pay property taxes. **Tables 4.7-53** and **4.7-54** calculate the per capita revenue received by the City and County from sales and property taxes. As shown, new residents to the County and City of Madera are expected to generate \$2,215 and \$1,326 in revenue under Alternative D.

TABLE 4.7-52
SALES AND USE TAX REVENUE – ALTERNATIVE D

Retail Sector Output for Construction Spending (one-time)	\$3,593,494
Retail Sector Output for Operational Spending (annual)	\$452,822
Sales Tax Rate for Madera County	1.0%
Sales Tax on Construction Spending (one-time)	\$35,935
Sales Tax on Operational Spending (annual)	\$4,528

SOURCE: Innovation Group, 2005.

TABLE 4.7-53
MADERA COUNTY NEW RESIDENT REVENUE – ALTERNATIVE D

2002-2003 Madera County Property Tax and Sales and Use Tax Revenues	\$14,225,000
2002 Madera County Population	128,416
Per Capita Madera County Property and Sales and Use Tax Revenue	\$110.77
New Residents	20
Expected Madera County Revenue from New Residents	\$2,215

SOURCE: California Department of Finance, 2005; Innovation Group, 2005.

TABLE 4.7-54
CITY OF MADERA NEW RESIDENT REVENUE – ALTERNATIVE D

2004-2005 City of Madera Property Tax and Sales and Use Tax Revenues	\$5,255,239
2004 City of Madera Population	47,569
Per Capita City of Madera Property and Sales and Use Tax Revenue	\$110.48
New Residents	12
Expected City of Madera Revenue from New Residents	\$1,326

SOURCE: Innovation Group, 2005.

Given that Alternative D does not include a hotel component, overnight visitors would need to stay at nearby hotels. Although overnight visitors are less likely for Alternative D when

compared with Alternative A because the Alternative D casino would have fewer amenities and be less attractive for visitors desiring to stay overnight, some number of overnight visitors is expected. It is difficult to predict the number of overnight visitors expected, however. Thus, for a conservative analysis of fiscal impacts, no increase in hotel tax revenue is calculated.

Costs vs. Revenue

This section provides a comparison of the costs and revenues estimated as a result of Alternative D. **Table 4.7-55** compares one-time costs and revenue for Madera County. As shown, under Alternative D, total costs would exceed total revenues by \$1,539,065 for one-time fire protection costs.

TABLE 4.7-55
COMPARISON OF ONE-TIME MADERA COUNTY
COSTS AND REVENUES – ALTERNATIVE D

Category	Cost	Revenue
Sales and Use Taxes	\$0	\$35,935
Fire Protection	\$1,575,000	\$0
Roads ¹	NA	NA
<i>Total</i>	<i>\$1,575,000</i>	<i>\$35,935</i>

NOTES: ¹A cost estimate has not been made. However, in order to mitigate traffic impacts to a less than significant level, the Tribe would need to pay its fair share of traffic mitigation as noted in the traffic study for this EIS.

SOURCE: Innovation Group, 2005.

Table 4.7-56 compares annual costs (both development-induced and resident-induced) and

TABLE 4.7-56
COMPARISON OF MADERA COUNTY ANNUAL COSTS AND REVENUES
- ALTERNATIVE D

Category	Cost	Revenue
Property and Sales and Use Taxes	\$0	\$6,743
Administrative Services	\$3,440	\$0
Fire Protection	\$481,094	\$0
Law Enforcement	\$327,625	\$0
Judicial Services	\$591	\$0
Department of Corrections	\$17,424	\$0
Behavioral Health Services	\$39,015	\$0
Social Services	\$1,148	\$0
Resources Management Agency	\$700	\$0
Educational Services	\$6,962	\$0
<i>Total</i>	<i>\$877,999</i>	<i>\$6,743</i>

SOURCE: Innovation Group, 2005.

revenue for Madera County. As shown, under Alternative D, total costs would exceed total revenues by \$871,256.

Table 4.7-57 compares annual costs (both development-induced and resident-induced) and revenue for the City of Madera. As shown, under Alternative D, total costs would exceed total revenues by \$1,959.

Overall, County costs exceed revenues by \$1,539,065 (one-time) and \$871,256 (annual) under Alternative D. City of Madera costs exceed revenues by \$1,959 (annual). These additional costs would require either that the City and County raise taxes or provide a lower quality of services to the casino (where applicable) and its residents, resulting in a potentially significant effect. Mitigation measures have been identified in **Section 5.2.6** that would mitigate this impact to a less than significant level.

TABLE 4.7-57
COMPARISON OF CITY OF MADERA ANNUAL COSTS AND REVENUES
- ALTERNATIVE D

Category	Cost	Revenue
Property and Sales and Use Taxes	\$0	\$1,326
City Administration	\$281	\$0
Finance Department	\$89	\$0
City Attorney	\$27	\$0
Public Works	\$505	\$0
Law Enforcement Services	\$1,321	\$0
Fire Protection Services	\$527	\$0
Community Development	\$143	\$0
Parks and Recreation	\$360	\$0
Grant Oversight	\$32	\$0
<i>Total</i>	<i>\$3,285</i>	<i>\$1,326</i>

SOURCE: Innovation Group, 2005.

Economic Effects to the MID

The North Fork site is not located within the service area of the MID. Thus, Alternative D would have no effect on the MID.

Increased Pumping Costs for Neighboring Wells

As discussed in **Section 4.3.4**, on-site groundwater pumping would lead to drawdown of the groundwater table, resulting in effects to neighboring wells. These effects could include increased pumping and maintenance costs caused from pumping water from lower depths. Unlike Alternatives A-C, the groundwater characteristics are not well known underneath the North Fork site. Thus, the extent of impacts to pumping costs for neighboring wells, although not

expected to be substantial given the relatively low pumping rates proposed under Alternative D, is unknown. Thus, potentially significant effects to pumping costs for neighboring wells would occur. Mitigation measures are contained in **Section 5.2.6** that would reduce these effects to a less than significant level.

ALTERNATIVE E – NO ACTION

Under the No-Action Alternative both the Madera site and North Fork site would remain as currently developed with rural residential (North Fork site) and rural residential / agricultural (Madera site) land uses. No potential socioeconomic effects resulting from development would occur, including beneficial effects to employment and the economy and negative effects to local services.

4.7.2 ENVIRONMENTAL JUSTICE

In accordance with Executive Order 12898, this section identifies communities where minority and low-income populations reside, as defined in **Section 3.7.4**, and analyzes project impacts related to these communities. Compliance with this Executive Order has been incorporated into the NEPA compliance requirements of the BIA. A significant environmental justice effect would result if an alternative results in a disproportionately high, adverse effect to minority and low-income populations and if such an effect occurs with greater frequency for these populations than for the general population as a whole.

ALTERNATIVE A – PROPOSED PROJECT

No low-income communities were identified (**Section 3.7.4**) in the vicinity of the Madera site. The census tract containing the Madera site and adjacent tracts contained minority communities, however. Tribal-operated casinos are present in the area as well. Thus, potential environmental justice impacts for Alternative A include any disproportionately high and adverse effects to local minority populations in the vicinity of the Madera site and competition-related effects to area tribal casinos.

Effects to Minority Communities

This EIS analyzes the potential environmental effects that would occur in the surrounding communities and the region. As noted in **Sections 4.0** and **5.0** of this EIS, no significant environmental effects have been identified in the vicinity of the Madera site, after the implementation of mitigation measures. The only effect identified that could not be mitigated to a less than significant level is the regional effect to air pollution (see **Sections 4.4** and **5.2.3**). This regional effect is the result of additional mobile source emissions and would not result in a disproportionately high and adverse effect to minority communities, but would be dispersed throughout the air basin. No negative impacts specific to identified minority communities, other

than tribal casino competition (see below), were identified. Therefore, a less than significant environmental justice effect would occur to local minority communities.

Note that Alternative A would have a beneficial impact to the Tribe. It would provide employment opportunities for Tribal members and would provide a sustained revenue stream to fund Tribal governmental programs.

Competition

Alternative A contains a casino component that would compete with nearby existing and proposed tribal casinos. The Innovation Group (2005) conducted a gravity model impact analysis in an attempt to estimate impacts to nearby facilities. Gravity models are commonly used for commercial developments, public facilities, and residential developments. The gravity model estimates where a population will shop or gamble based on travel distance and the size and quality of competing facilities. The gravity model is based on the concept that the attractiveness (or “gravitational pull”) of a facility is related to its size, quality, and distance from a given population.

Under Alternative A, the proposed project would compete most directly with the Chukchansi, Table Mountain and the proposed Big Sandy facilities (see **Section 3.7.4** for a description and locations). The introduction of the Alternative A casino would expand the local market, increasing total gaming expenditures at venues in the immediate market area by over \$90 million. Nonetheless, given the competitiveness of the market, some decline in market share at competing facilities is expected. While actual revenues for the properties is proprietary to the respective tribes, the Innovation Group projects a market share decline of approximately 20 percent at Chukchansi as a result of the operation of the proposed project, and a market share decline of approximately 17 percent is projected at both the Table Mountain and Big Sandy facilities. The Palace and Tuolumne Black Oak would also be impacted, though the market share declines at both of those facilities would be much lower at approximately six percent.

It should be noted that even in the scenario where market share declines by 20%, the impact on the viability of operations is not one that jeopardizes the casino’s ability to remain open. First, market share may decline at competing casinos by the above percentages, or they may also decline at lower percentages, depending on a number of factors, including the ability of individual casinos to add features and effectively market their facilities. Second, a decline of this rate is typical in a market with limited existing casinos. Finally, the current central California gaming market is not over-saturated and therefore multiple operators can successfully co-exist in the long run. Thus, while continued expansion in the number of casinos in the central California market potentially brings additional challenges for existing casinos to effectively market their facilities, it also brings a potential opportunity for the region to build on its increased draw as an overall tourist attraction, which can generate additional revenue potential for the existing gaming

operations. Market share reductions are typical when a new casino is introduced into an existing market; however the effect on profitability ultimately depends on many factors, including market share, the saturation level of the market, the various marketing efforts of the individual casinos, the collaborative efforts of competing casinos to expand the local market, and the efforts of individual casinos to add features or redesign facilities. Thus, even in the worst case, should market share at competing facilities decline by the above percentages, all of the facilities are expected to remain open and to continue to generate sustainable profits for their tribal owners. Therefore, disproportionately high and adverse effects to competing tribes would not occur and a less than significant environmental justice effect would result.

ALTERNATIVE B – REDUCED INTENSITY

No low-income communities were identified (**Section 3.7.4**) in the vicinity of the Madera site. The census tract containing the Madera site and adjacent tracts contained minority communities, however. Tribal-operated casinos are present in the area as well. Thus, potential environmental justice impacts for Alternative B include any disproportionately high and adverse effects to local minority populations in the vicinity of the Madera site and competition-related effects to area tribal casinos.

Effects to Minority Communities

Under Alternative B, potential environmental effects would be lessened when compared to Alternative A. The only effect identified that could not be mitigated to a less than significant level is the regional effect to air pollution (see **Sections 4.4** and **5.2.3**). This regional effect is the result of additional mobile source emissions and would not result in a disproportionately high and adverse effect to minority communities, but would be dispersed throughout the air basin. Thus, all localized environmental effects would be less than significant after mitigation and no impacts specific to identified minority communities, other than tribal casino competition (see below), were identified. Therefore, a less than significant environmental justice effect would occur to local minority communities.

As with Alternative A, Alternative B would have a beneficial impact to the Tribe. It would provide employment opportunities for Tribal members and would provide a sustained revenue stream to fund Tribal governmental programs. However, employment and revenues would be reduced when compared to Alternative A, due to the reduced intensity of development proposed under Alternative B.

Competition

Like Alternative A, Alternative B contains a casino component that could potentially compete with nearby existing and proposed tribal casinos. Alternative B would expand the regional gaming market by approximately \$55 million. As with Alternative A, the Alternative B casino

would compete most directly with the Chukchansi, Table Mountain and the proposed Big Sandy facilities. While actual revenues for the properties is proprietary to the respective tribes, the Innovation Group projects a market share decline of approximately 18.6 percent at Chukchansi as a result of the operation of the project, and a market share decline of approximately 15 – 16 percent is projected at both the Table Mountain and Big Sandy facilities. The Palace and Tuolumne Black Oak would also be impacted, though the market share declines at both of those facilities would be much lower at approximately five to six percent.

As noted above under Alternative A, even in the scenario where market share declines by 20%, the impact on the viability of operations is not one that jeopardizes its ability to remain open. Thus, even in the worst case, should market share decline at competing facilities by the above percentages, all of the facilities are expected to remain open and to continue to generate sustainable profits for their tribal owners. Therefore, disproportionately high and adverse effects to competing tribes would not occur and a less than significant environmental justice effect would result.

ALTERNATIVE C – NON-GAMING USE

No low-income communities were identified (**Section 3.7.4**) in the vicinity of the Madera site. The census tract containing the Madera site and adjacent tracts contained minority communities, however. Tribal-operated casinos are present in the area as well, however Alternative C does not include a casino component and would therefore not have any competition-related impacts. Thus, potential environmental justice impacts for Alternative B include any disproportionately high and adverse effects to local minority populations in the vicinity of the Madera site.

Effects to Minority Communities

Under Alternative C, potential environmental effects would be lessened when compared to Alternative A. The only effect identified that could not be mitigated to a less than significant level is the regional effect to air pollution (see **Sections 4.4** and **5.2.3**). This regional effect is the result of additional mobile source emissions and would not result in a disproportionately high and adverse effect to minority communities, but would be dispersed throughout the air basin. Thus, all localized environmental effects would be less than significant after mitigation and no impacts specific to identified minority communities were identified. Additionally, no competition would exist. Therefore, a less than significant environmental justice effect would occur to local minority communities.

As with Alternative A, Alternative C would have a beneficial impact to the Tribe. It would provide employment opportunities for Tribal members and would provide a sustained revenue stream to fund Tribal governmental programs. However, employment and revenues would be substantially reduced when compared to Alternative A, due to changed use proposed under Alternative C.

ALTERNATIVE D – NORTH FORK LOCATION

No low-income or minority communities were identified (**Section 3.7.4**) in the vicinity of the North Fork site. Tribal-operated casinos are present in the area, however. Thus, potential environmental justice impacts for Alternative D include competition-related effects to area tribal casinos.

Effects to Minority Communities

No minority communities are present in the vicinity of the North Fork site. Therefore, a less than significant environmental justice effect would occur.

Note that, if the proposed Alternative D casino development could be financed and operated at a profit, Alternative D would have a beneficial impact to the Tribe. However, as noted in **Section 2.7** and **Appendix R** (see Appendix 1 to the Socioeconomic Assessment), due the rural location of the North Fork site and high construction costs associated with development on the North Fork site, it would be very difficult to obtain financing for, and profitably operate the Alternative D casino. If the Alternative D casino cannot be financed or operated at a profit, Tribal employment and revenue needs would not be met. Even if the Alternative D casino can be operated at a profit, employment and revenue benefits to the Tribe would be substantially reduced when compared to Alternative A.

Competition

Like Alternative A, Alternative D contains a casino component that would compete with nearby existing and proposed tribal casinos. Unlike Alternatives A and B, the small Alternative D casino would have a negligible effect on market growth. As with Alternative A, the Alternative D casino would compete most directly with the Chukchansi, Table Mountain and the proposed Big Sandy facilities. While actual revenues for the properties is proprietary to the respective tribes, the Innovation Group projects a market share decline of approximately two percent at Chukchansi as a result of the operation of the project, and a market share decline of approximately one to two percent is projected at both the Table Mountain and Big Sandy facilities. The Palace and Tuolumne Black Oak would also be impacted, though the market share declines at both of those facilities would be much lower, at less than one percent.

As noted above under Alternative A, even in the scenario where market share declines by 20%, the impact on the viability of operations is not one that jeopardizes its ability to remain open. Thus, even in the worst case, should market share decline at competing facilities by the above percentages, all of the facilities are expected to remain open and to continue to generate sustainable profits for their tribal owners. Therefore, disproportionately high and adverse effects

to competing tribes would not occur and a less than significant environmental justice effect would result.

ALTERNATIVE E – NO ACTION

Under the No Action Alternative, no development is proposed. Thus, no disproportionate effects to low-income or minority populations would occur.

4.8 RESOURCE USE PATTERNS

4.8.1 INTRODUCTION

TRANSPORTATION/CIRCULATION

A detailed traffic study was developed for the proposed alternatives and is presented in **Appendix M** of this EIS.

Consultation

Consultation with the County and City of Madera, City of Chowchilla and Caltrans has occurred throughout project development and the environmental study process and is ongoing. Scoping meetings were held with the above-listed agencies to present traffic study methodology and parameters and solicit comments and input useful for analysis of potential traffic impacts resulting from the proposed build alternatives. During the development of the traffic study, information regarding planned transportation and development (both residential and commercial) projects was obtained from the County and City of Madera, the City of Chowchilla and Caltrans.

Methodology

The methodology in which the traffic study is based is discussed in **Section 3.8** and **Appendix M**. The Build-Out (2008) Without Project forecasted traffic volumes were calculated using growth increment/growth rate data developed from the 2001 and the 2025 No Project model runs. For City or Caltrans segments and intersections showing negative or no growth by 2008, a 1% growth factor applied to the Existing count data was used to calculate the 2008 Without Project volumes and should be considered worst-case. For County segments and intersections that are showing negative or no growth by 2008, a 3% growth factor applied to the Existing count data was used to calculate the 2008 Without Project traffic volumes and should be considered worst-case.

Trip Generation

During the traffic scoping process with the County and City of Madera, City of Chowchilla and Caltrans District 6, trip generation methodology was discussed and agreed upon. The following methodology and sources were determined appropriate for analysis of potential traffic impacts resulting from build-out of any of the build alternatives.

Land uses for the various build alternatives are identified as casino, hotel, and retail/commercial. Both hotel and retail/commercial uses have been classified in the Institute of Transportation Engineers Trip Generation Manual (7th edition) (ITE, 2003). While trip rates for casinos are found in the ITE manual, these rates are for Nevada-style gaming and are not an appropriate rate for the casino alternatives evaluated herein. Trip rates were derived not only from standards contained within the ITE periodicals, but also relevant publications by other entities such as the

San Diego Area Association of Governments (SANDAG), or actual counts at local casinos. The resources from which the casino land use trip rates were derived were from several case studies, which are described in **Appendix M**. Utilizing trip generation rates from comparable facilities for the North Fork Project provides a conservative estimate of a.m. and p.m. peak hour trips. A p.m. peak hour trip rate of 3.93 trips/thousand square feet of gaming facility was utilized in this analysis.

Hotel Land Uses. The hotel component base trip generation information was developed using the Institute of Transportation Engineers (ITE) *Trip Generation* manual and the corresponding software. The traffic study (**Appendix M**) concluded that when a hotel is part of a casino-hotel establishment, the daily trip rate for the hotel was 3.0 trips per room. **Table 4.8-1** shows the project trip generation rate for the casino and hotel and the distribution of entering versus exiting traffic in terms of percentage.

TABLE 4.8-1
PROJECT TRIP RATE AND DIRECTIONAL DISTRIBUTION (CASINO AND HOTEL LAND USES)

Land Use	Period	Average Rate	Directional Distribution (%)	
			Enter	Exit
Casino (per ksf casino floor area)	Daily	43.8 ¹	50	50
	A.m. Peak of Street	2.36 ¹	70	30
	P.m. Peak of Street	3.93 ¹	53	47
Hotel (per room)	Daily	3.00 ²	50	50
	A.m. Peak of Street	0.21 ²	61	39
	P.m. Peak of Street	0.22 ²	53	47

NOTES: ¹ ksf = one thousand square feet.

² Trip rate is ITE Land Use Code 310 – Hotel. Rate reduced by 36.5% to account for internal capture to/from casino.

SOURCE: TPG Consulting, Inc. 2006; AES, 2006.

Alternative C Land Uses. The Alternative C trip generation information was developed using the ITE *Trip Generation* manual and the corresponding software (ITE, 2003). The following describes the likely land uses proposed under Alternative C and the corresponding land use code, as reported in the ITE *Trip Generation* manual:

- Free-standing discount superstores: similar to the free-standing discount stores described in Land Use 815, with the exception that they also contain a full-service grocery

department under the same roof that shares entrances and exits with the discount store area.

- Discount club: a discount store or warehouse where shoppers pay a membership fee in order to take advantage of discounted prices on a wide variety of items such as food, clothing, tires and appliances; many items are sold in large quantities or bulk.
- Fast-food restaurant with drive-through window: characterized by a large carryout clientele; long hours of services (some are open for breakfast, all are open for lunch and dinner, some are open late at night or 24 hours) and high turnover rates for eat-in customers.
- High-turnover (sit-down) restaurants: consist of sit-down, full-service eating establishments with turnover rates of approximately one hour or less.

Table 4.8-2 presents the daily and a.m. and p.m. peak hour average rates and the directional distribution for Alternative C land uses.

TABLE 4.8-2
PROJECT TRIP RATE AND DIRECTIONAL DISTRIBUTION (ALTERNATIVE C LAND USES)

Land Use	Period	Average Rate ¹	Directional Distribution (%)	
			Enter	Exit
Free Standing Discount Superstore	Daily	49.21	50	50
	A.m. Peak of Street	1.84	51	49
	P.m. Peak of Street	3.87	49	51
Discount Club	Daily	41.80	50	50
	A.m. Peak of Street	0.56	71	29
	P.m. Peak of Street	4.24	50	50
Fast Food Restaurant w/drive-through	Daily	496.12	50	50
	A.m. Peak of Street	53.11	51	49
	P.m. Peak of Street	34.64	52	48
High Turnover (sit-down) Restaurant	Daily	127.15	50	50
	A.m. Peak of Street	11.52	52	48
	P.m. Peak of Street	10.92	61	39

NOTES: The rates shown are based on the number of square feet as the independent variable.

¹ Per thousand square feet.

SOURCE: TPG Consulting, Inc., 2006; AES, 2006.

Level of Service Threshold

The California Department of Transportation (Caltrans) considers LOS C transitioning to D to be acceptable measure. LOS D, E or F is unacceptable. Madera County considers LOS D to be acceptable, and LOS E or F unacceptable. Each table presenting LOS results at the study

roadway segments and intersections under Build-Out conditions (2008) are shown with the corresponding LOS threshold for reference. **Section 3.8.1** provides more discussion of the LOS thresholds.

Signal Warrant Analysis

Rural and urban peak hour volume warrants (Warrant 3) were prepared for all unsignalized intersections, as appropriate, based on the methodology presented in the *Manual on Uniform Traffic Control Devices* (US DOT FHWA, 2003), and the *MUTCD California Supplement* (US DOT FHWA, 2004). According to the *Manual on Uniform Traffic Control Devices*, “the satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.” Therefore, prior to making a final determination on installation of a proposed signal, a thorough engineering investigation, including collision history, should be conducted.

2008 Without Project Condition

This section discusses the 2008 traffic conditions without the project trips added for the Madera site and the North Fork site. These conditions represent the 2008 baseline (no project) scenario.

Planned Roadway Improvements

Roadway improvements in the Madera site study area, as reported in the Madera County 2004 Regional Transportation Plan (RTP) and through information provided by Caltrans, include improvements to signalize and convert the freeway ramp to a “hook” ramp at Avenue 16 at the SR-99 SB ramps. This improvement is anticipated to be in place by 2008 and therefore was considered as such.

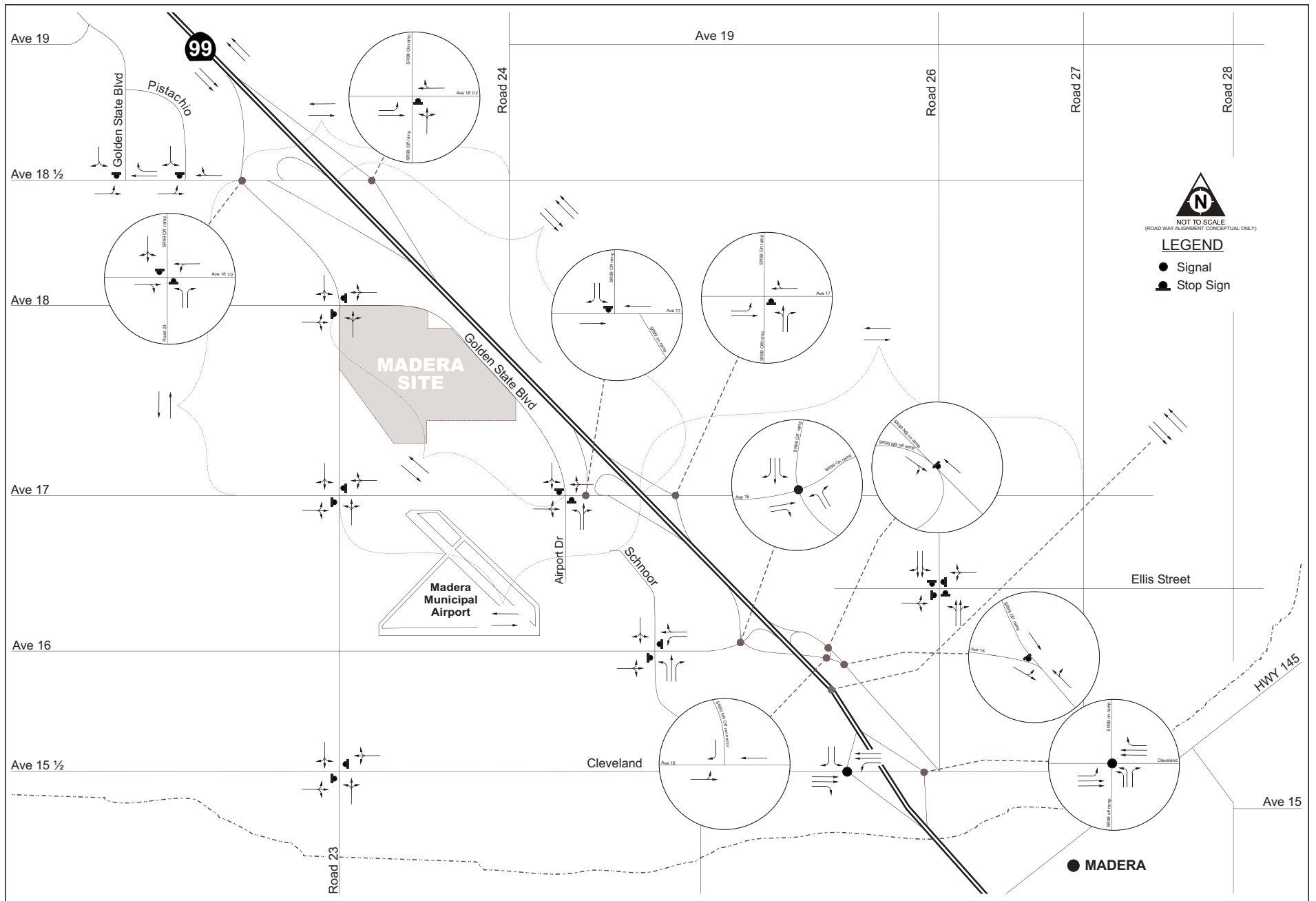
Traffic Results

Madera Site

Figures 4.8-1 and **4.8-2** present the 2008 Without Project Lane Configuration and Traffic Controls for the Madera site study intersections.

Table 4.8-3 summarizes the results of this weekday freeway and roadway segment analysis for the 2008 level of service conditions. As shown in **Table 4.8-3** below, based on 2008 traffic volumes, the following seven freeway segments and one roadway segment currently operate at an unacceptable LOS:

- SR-99 SB – North of Avenue 18½
- SR-99 NB – Avenue 18½ to Avenue 17
- SR-99 SB – Avenue 18½ to Avenue 17
- SR-99 NB – South of Avenue 17



See Map 4.8-2

Figure 4.8-1
Madera Site – 2008 Lane Configuration and Intersection Control

See Map 4.8-1

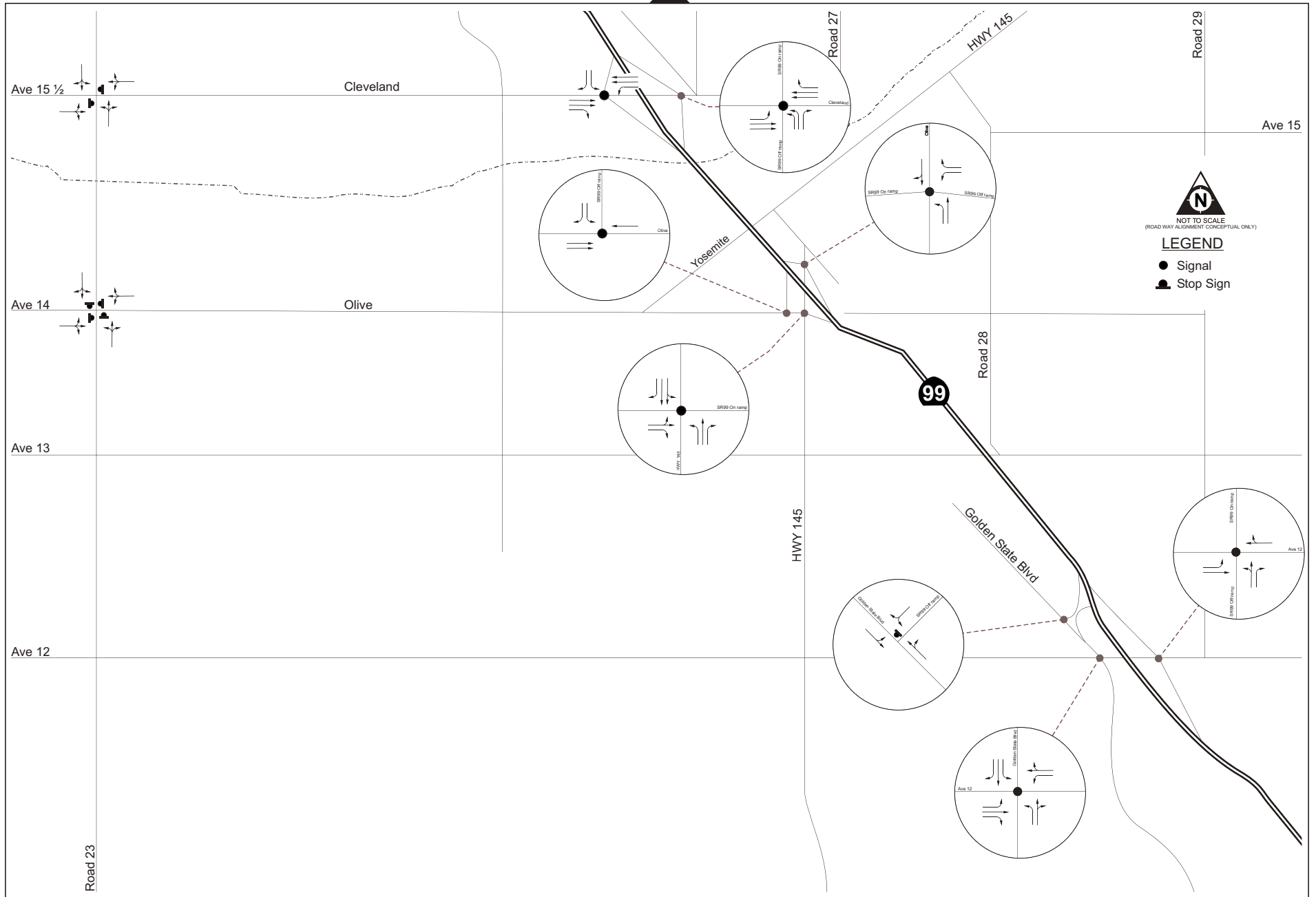


Figure 4.8-2
Madera Site – 2008 Lane Configuration and Intersection Control

TABLE 4.8-3
 FREEWAY AND ROADWAY SEGMENT PERFORMANCE –
 2008 WITHOUT PROJECT (MADERA SITE)

Segment	LOS Threshold	2008 w/o Project			
		LOS		Density (pc/mi/ln) ¹	
		AM	PM	AM	PM
Freeway Segment					
SR-99 NB – North of Avenue 18½	C	C	C	24.1	25.7
SR-99 SB – North of Avenue 18½	C	C	D	19.9	33.6
SR-99 NB – Avenue 18½ to Avenue 17	C	D	D	26.9	28.2
SR-99 SB – Avenue 18½ to Avenue 17	C	C	E	21.6	39.1
SR-99 NB – South of Avenue 17	C	D	F	31.6	---
SR-99 SB – South of Avenue 17	C	C	F	23.1	---
Roadway Segment					
Avenue 18½ - Road 24 to Road 23	D	B	B	NA	NA
Road 23 – Avenue 18½ to Avenue 17	D	B	C	NA	NA
Avenue 17 – Road 23 to SR-99	D	A	F	NA	NA
Avenue 17 – SR-99 to Road 27	D	F	F	NA	NA
Golden State Boulevard – Avenue 17 to Road 23	D	A	A	NA	NA

NOTES: **Bold** text denotes unacceptable LOS.

NA = not applicable.

¹ density = passenger car per mile per lane.

--- = beyond software limitations

SOURCE: TPG Consulting, Inc. 2006; AES 2006.

- SR-99 SB – South of Avenue 17
- Avenue 17 – Road 23 to SR-99
- Avenue 17 – SR 99 to Road 27

2008 without project intersection conditions are presented in **Table 4.8-4**. The following Twelve study intersections show an unacceptable LOS without the addition of project traffic:

- Avenue 18½ at SR-99 SB ramps/Road 23
- Avenue 18½ at SR-99 NB ramps/Road 23
- Avenue 17 at SR-99 NB ramps
- Avenue 17 at SR-99 SB ramps
- Avenue 12/Golden State Boulevard at SR-99 SB ramps
- Avenue 17 at Road 23
- Avenue 17 at Golden State Boulevard
- Avenue 16 at Schnoor Avenue
- Avenue 16/Avenue 16 Connector at SR 99 NB Ramps
- Cleveland Avenue/Avenue 15½ at SR 99 NB Ramps
- SR-145/Madera Avenue at SR-99 NB ramps
- Olive Avenue/Avenue 14/SR-99 SB on-ramp at SR-145

TABLE 4.8-4
INTERSECTION PERFORMANCE-
2008 WITHOUT PROJECT (MADERA SITE)

Intersection	LOS Threshold	2008 w/o Project			
		AM		PM	
		LOS	Delay (secs) ¹	LOS	Delay (secs)
Avenue 18½ at SR-99 SB ramps/Road 23					
• WB Left-Through	C	A	8.9	A	8.9
• NB Approach		D	25.6	F	63.3
• SB Approach		D	30.0	F	178.0
Avenue 18½ at SR-99 NB ramps					
• EB Left	C	A	8.5	A	8.3
• NB Approach		E	44.3	F	144.0
Avenue 17 at SR-99 SB ramps					
• SB Approach	C	F	153.6	F	8216
Avenue 17 at SR-99 NB ramps					
• EB Left	C	B	10.2	C	15.7
• NB Approach		F	738.0	F	5934
Avenue 12/Golden State Boulevard at SR-99 SB ramps					
• SB Left-Through	C	A	8.4	A	9.0
• WB Approach		C	15.6	F	303.5
Avenue 12 at Golden State Boulevard					
	D	C	20.9	C	29.8
Avenue 12 at SR-99 NB ramps					
	C	B	13.9	B	14.6
Avenue 18 at Road 23					
• NB Left-Through-Right	D	A	7.7	A	8.0
• SB Left-Through-Right		A	7.8	A	8.0
• WB Approach		B	10.8	B	11.0
• EB Approach		B	11.1	B	13.4
Avenue 17 at Road 23					
• NB Left-Through-Right	D	A	7.5	A	7.6
• SB Left-Through-Right		A	7.8	A	8.2
• WB Approach		B	14.7	F	50.5
• EB Approach		B	12.5	C	7.0
Avenue 17 at Golden State Boulevard					
• EB Left-Through-Right	D	A	9.1	B	11.0
• WB Left-Through-Right		A	8.9	B	13.7
• NB Approach		F	73.0	F	---
• SB Approach		F	282.2	F	---
Ellis Street at Road 26					
	D	B	14.62	F	96.48
Avenue 15½ at Road 23					
• NB Left-Through-Right	D	A	7.8	A	8.5
• SB Left-Through-Right		A	7.9	A	8.2
• WB Approach		B	11.9	B	14.6

Intersection	LOS Threshold	2008 w/o Project			
		AM		PM	
		LOS	Delay (secs) ¹	LOS	Delay (secs)
• EB Approach		A	9.77	C	16.62
Avenue 14 at Road 23	D	A	9.77	C	16.62
Avenue 16 at Schnoor Avenue					
• NB Left		A	7.4	A	7.6
• SB Left-Through-Right	D	A	7.8	A	7.7
• WB Approach		B	11.5	F	63.4
• EB Approach		B	14.2	E	49.5
Avenue 16 at SR-99 SB ramps	C	B	14.8	C	21.3
Avenue 16/Avenue 16 Connector at SR-99 NB ramps	C				
• EB Left		B	12.6	D	26.5
Avenue 16 at SR-99 NB ramp connector					
• SB Left-Through	C	A	8.2	A	9.5
• WB Right		A	9.6	B	12.8
Gateway/Avenue 16 at SR 99 NB Ramps	C				
• WB Left		B	11.1	C	15.4
Cleveland Avenue/Avenue 15½ at SR-99 NB ramps	C	B	14.2	D	35.1
Cleveland Avenue/Avenue 15½ at SR-99 SB ramps	C	B	13.0	C	34.3
SR-145/Madera Avenue at SR-99 NB ramps	C	D	36.5	D	54.8
Olive Avenue/Avenue 14 at SR-99 SB off-ramp	C	B	15.4	C	29.8
Olive Avenue/Avenue 14/SR-99 SB on-ramp at SR-145	C	C	26.6	E	61.1
Avenue 18½ at Pistachio Drive					
• EB Approach	D	A	8.9	A	9.1
• SB Approach		C	22.5	D	25.5
Avenue 18½ at Golden State Boulevard					
• EB Approach	D	A	7.7	A	7.8
• SB Approach		B	11.1	B	12.2

NOTES: **Bold** text denotes unacceptable LOS.

¹ Delay in seconds per vehicle.

N/A = Not Available

--- = beyond software limitations

SOURCE: TPG Consulting, Inc. 2006; AES 2006.

Figures 4.8-3 and 4.8-4 present the 2008 Without Project intersection volumes at each of the Madera site study intersections.

North Fork Site. The 2008 Without Project Lane Configuration and Traffic Controls for the North Fork site study intersections are the same as shown in Section 3.8-2. No changes in roadway geometry are planned in the North Fork site area between the existing conditions and 2008.

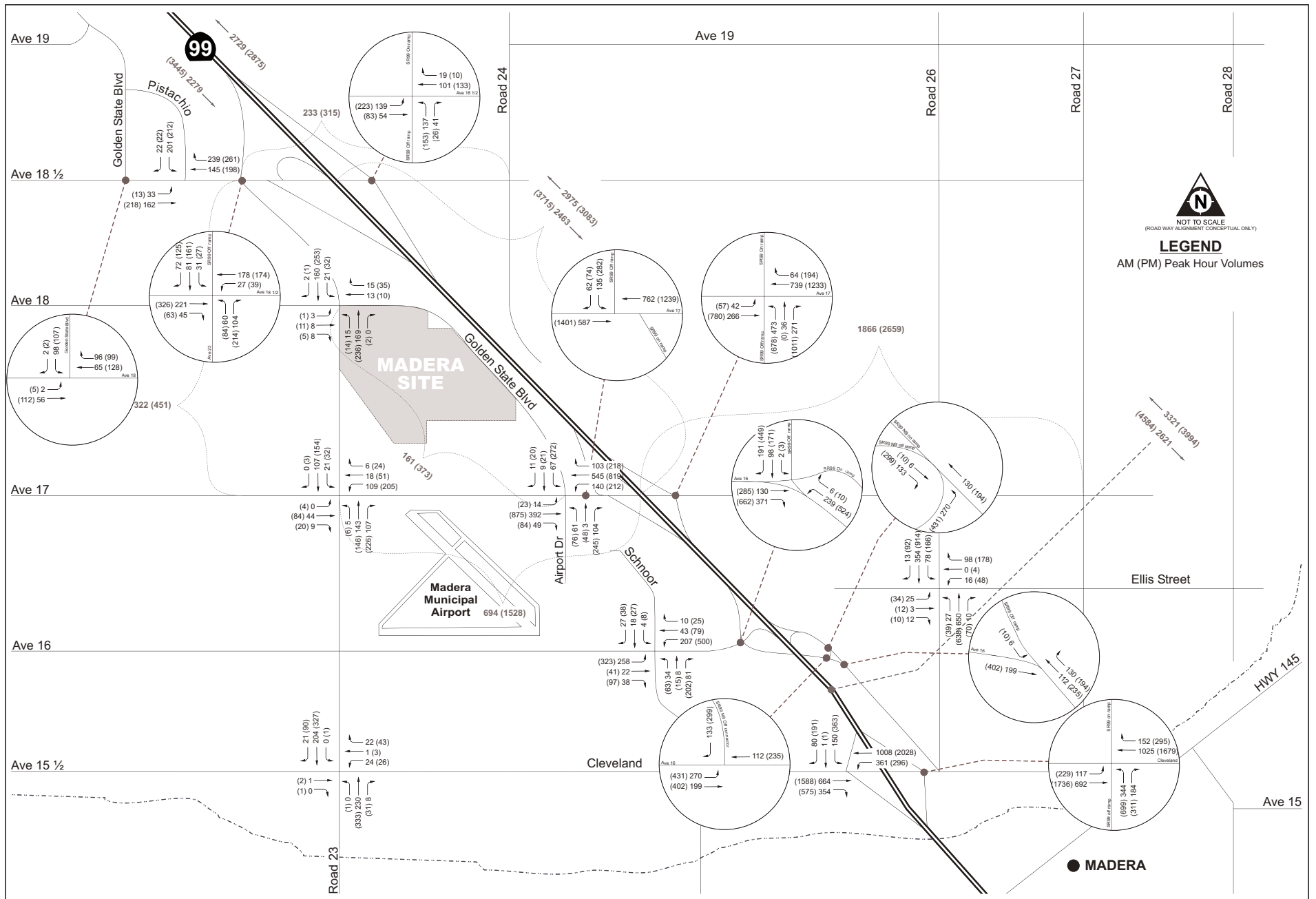


Figure 4.8-3
Madera Site – 2008 Intersection Volumes

See Map 4.8-3

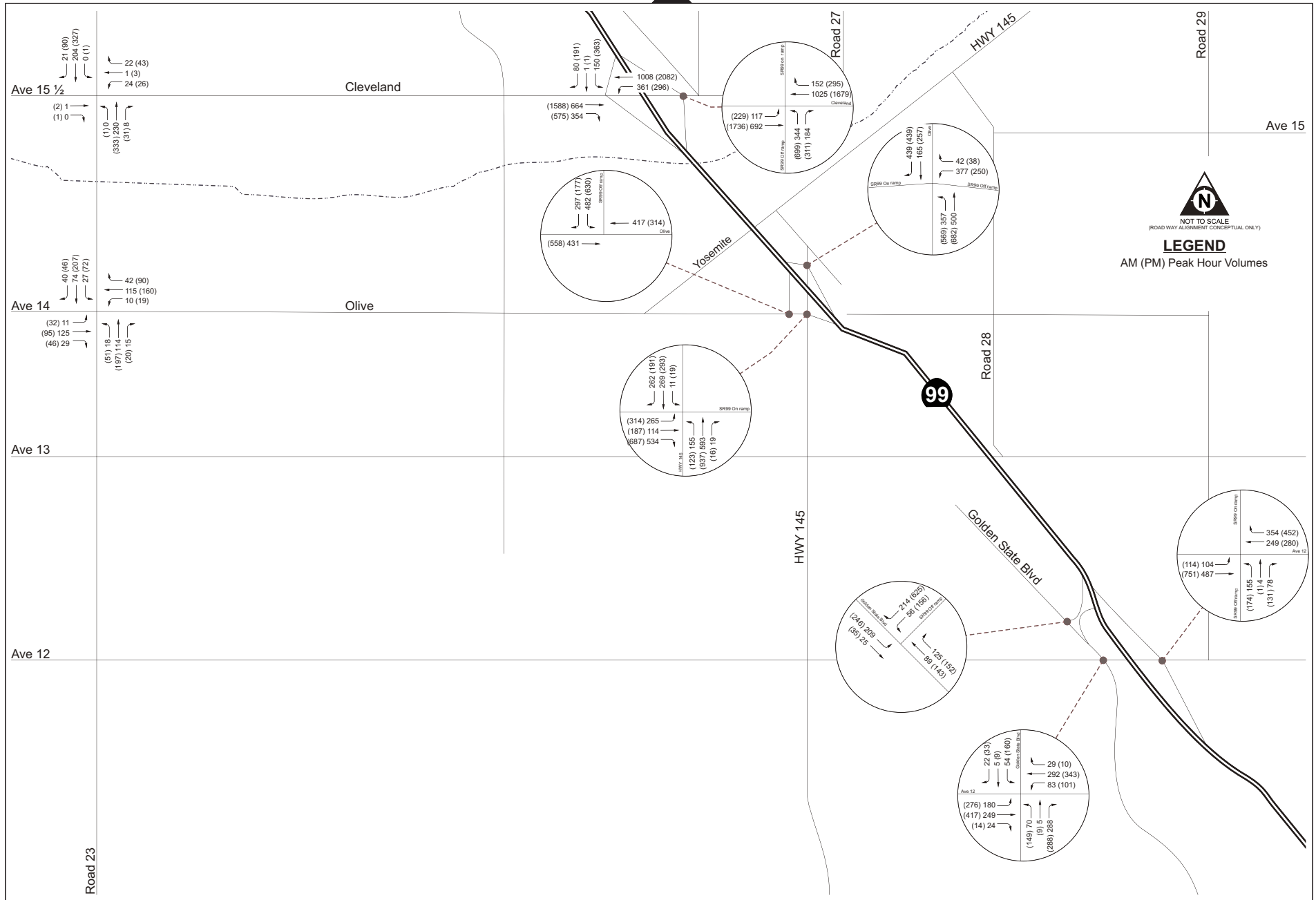


Figure 4.8-4
Madera Site – 2008 Intersection Volumes

2008 Without Project conditions are presented in **Table 4.8-5**. The following study intersection shows an unacceptable LOS:

- SR-41 at Road 200

TABLE 4.8-5
INTERSECTION OPERATIONS-
2008 WITHOUT PROJECT (NORTH FORK SITE)

Intersection	LOS Threshold	2008 w/o Project			
		AM		PM	
		LOS	Delay (secs) ¹	LOS	Delay (secs)
SR-145 at SR-41	C	B	19.7	C	25.1
SR-41 at Road 200					
• SB Left	D	A	8.3	B	10.7
• WB Approach		F	87.7	E	47.5
SR-41 at Thornberry Road					
• SB Left	C	A	9.5	A	9.4
• WB Approach		C	22.2	C	17.7
SR-41 at SR-49	C	B	16.6	C	24.2
Malum Ridge Road at Road 225 (Mammoth Pool Road)	D	A	8.36	A	8.85
Road 225 (Mammoth Pool Road) at Cascadel Road					
• SB Left	D	A	7.4	A	7.3
• WB Approach		A	8.8	A	8.6
Cascadel Road at Mission Drive (Federal Road 209)					
• WB left-Through	D	A	7.3	A	7.3
• NB Approach		A	8.8	A	8.8
North Fork Road at Auberry Road					
• NB Left-Through-Right		A	7.5	A	7.6
• SB Left-Through-Right	D	A	7.6	A	7.5
• WB Approach		A	9.6	B	10.1
• EB Approach		B	10.2	A	9.7
North Fork Road at Crane Valley Road					
• EB Left-Through	D	A	7.5	A	7.5
• SB Approach		A	9.3	B	10.0

NOTES: **Bold** text denotes unacceptable LOS.

¹ Delay in seconds per vehicle.

SOURCE: TPG Consulting 2006; AES 2006.

Figure 4.8-5 presents the 2008 Without Project intersection volumes at each of the North Fork site study intersections.



NOT TO SCALE
(ROAD WAY ALIGNMENT CONCEPTUAL ONLY)

LEGEND

AM (PM) Peak Hour Volumes

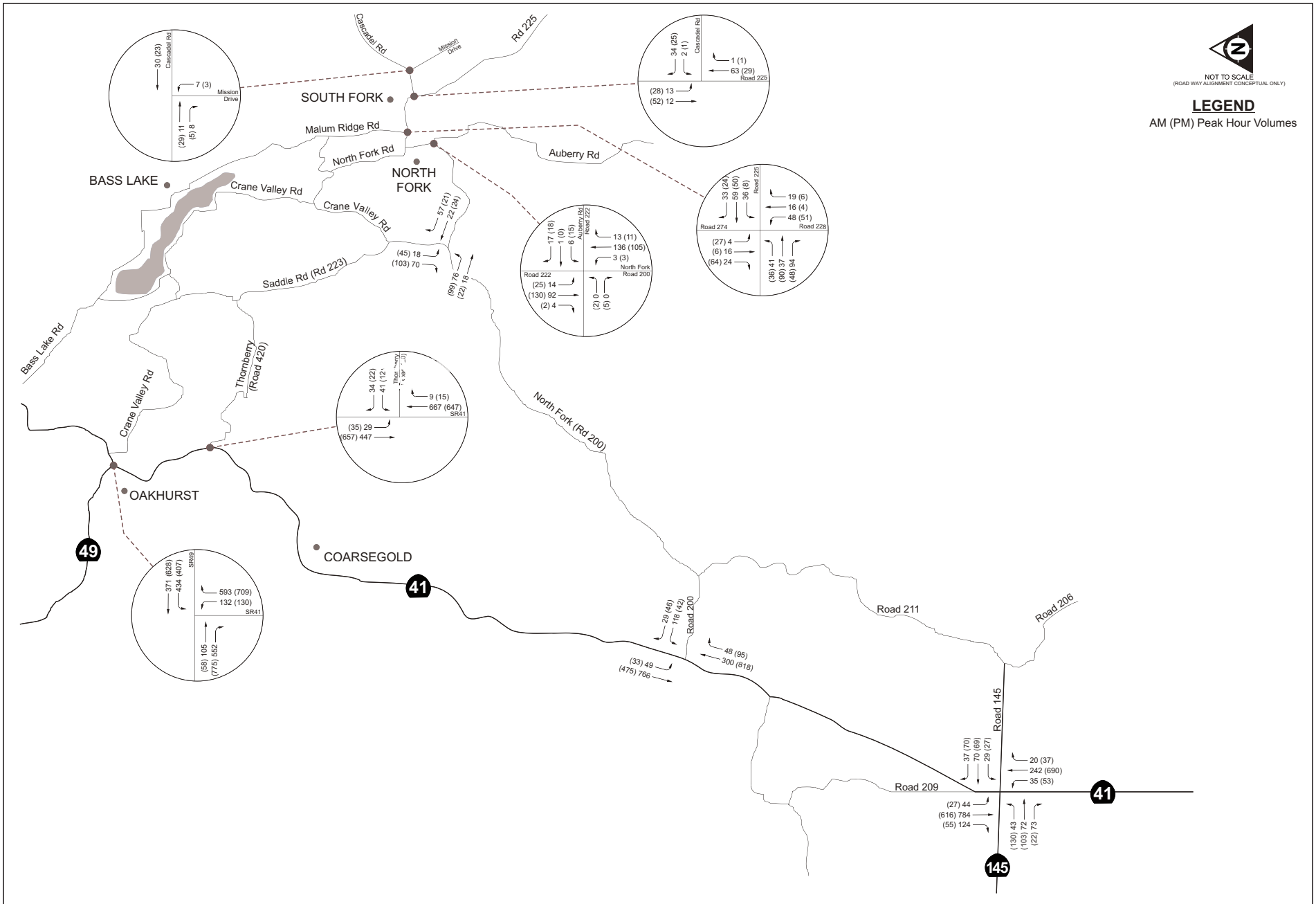


Figure 4.8-5
North Fork Site – 2008 Intersection Volumes

4.8.2 ALTERNATIVE A – PROPOSED PROJECT

TRANSPORTATION/CIRCULATION

This section discusses the 2008 with Project condition where project trips calculated for Alternative A are added to the baseline condition.

Trip Generation

Project trip generation was calculated for Alternative A, based on the earlier discussed trip generation methodology, and is presented in **Table 4.8-6**.

TABLE 4.8-6
PROJECT TRIP GENERATION - ALTERNATIVE A

Land Uses	Size	Daily	AM		PM	
			In	Out	In	Out
Casino	268,480 sf ¹	11,759	443	190	559	496
Hotel	224,530 sf/200 Rooms ²	600	25	16	23	21
Total	493,010 sf/200 Rooms	12,359	468	206	582	517

NOTES: ¹ sf = square feet.

² Trip rate is ITE Land Use Code 310 – Hotel. Rate reduced by 36.5% to account for internal capture to/from casino.

³ All figures are approximate.

SOURCE: TPG Consulting, Inc. 2006; AES, 2006.

No captured or pass-by trip reductions were utilized other than the hotel trips captured by the casino as identified in the San Diego study documents and discussed in the previous trip generation section.

Trip Distribution and Assignment

A distribution pattern was prepared based on model-generated trip distribution data. Based on the trip distribution pattern presented in **Figure 4.8-6**, the project trips were assigned to the local project area roadways. Trip counts at each of the study intersections are presented in **Figures 4.8-7** and **4.8-8**.

2008 Traffic Condition With Project

This section discusses the 2008 traffic conditions with Alternative A project trips added. The 2008 Without Project conditions are reported as a baseline.

Freeway and Roadway Segment Performance

Table 4.8-7 summarizes the results of this weekday freeway and roadway segment analysis for the 2008 With Project (Alternative A) level of service conditions. As shown in **Table 4.8-7** below, the following five freeway segments and one roadway segment are shown to operate at an unacceptable LOS:

TABLE 4.8-7
 FREEWAY AND ROADWAY SEGMENT PERFORMANCE –
 2008 WITH ALTERNATIVE A

Segment	LOS Threshold	2008 w/o Project				With Alternative A			
		LOS		Density (pc/mi/ln) ¹		LOS		Density (pc/mi/ln)	
		AM	PM	AM	PM	AM	PM	AM	PM
Freeway Segment									
<i>SR-99 NB – North of Avenue 18½</i>	C	C	C	24.1	25.7	C	D	24.3	26.3
<i>SR-99 SB – North of Avenue 18½</i>	C	C	D	19.9	33.6	C	D	20.3	34.6
<i>SR-99 NB – Avenue 18½ to Avenue 17</i>	C	D	D	26.9	28.2	D	D	26.9	28.2
<i>SR-99 SB – Avenue 18½ to Avenue 17</i>	C	C	E	21.6	39.1	C	E	21.6	39.1
<i>SR-99 NB – South of Avenue 17</i>	C	D	F	31.6	---	E	F	35.4	---
<i>SR-99 SB – South of Avenue 17</i>	C	C	F	23.1	---	C	F	24.1	---
Roadway Segment									
<i>Avenue 18½ – Road 24 to Road 23</i>	D	B	B	NA	NA	B	B	NA	NA
<i>Road 23 – Avenue 18½ to Avenue 17</i>	D	B	C	NA	NA	B	C	NA	NA
<i>Avenue 17 – Road 23 to SR-99</i>	D	A	F	NA	NA	B	F	NA	NA
<i>Avenue 17 – SR-99 to Road 27</i>	D	F	F	NA	NA	F	F	NA	NA
<i>Golden State Boulevard – Avenue 17 to Road 23</i>	D	A	A	NA	NA	A	A	NA	NA

NOTES: **Bold** text denotes unacceptable LOS.

NA = not applicable.

OF = Overflow

--- = beyond software limitations

¹ density = passenger car per mile per lane.

SOURCE: TPG Consulting, Inc. 2006; AES 2006.

- SR-99 SB – North of Avenue 18½
- SR-99 NB – North of Avenue 18½
- SR-99 NB – Avenue 18½ to Avenue 17
- SR-99 SB – Avenue 18½ to Avenue 17
- SR-99 NB – South of Avenue 17
- SR-99 SB – South of Avenue 17
- Avenue 17 – SR-99 to Road 27
- Avenue 17 – Road 23 to SR-99

Intersection Performance

- The 2008 Without Project traffic volumes were combined with vehicle trips expected to be generated by Alternative A. **Table 4.8-8** summarizes the 2008 with Alternative A Peak Hour intersection conditions. The 2008 Without Project intersection conditions are provided as a baseline. With the addition of project traffic under Alternative A, the following 14 study intersections are forecast to operate at an unacceptable LOS:

TABLE 4.8-8
INTERSECTION OPERATIONS – 2008 WITH ALTERNATIVE A

Intersection	LOS Thres- hold	2008 w/o Project				Alternative A			
		AM		PM		AM		PM	
		LOS	Delay (secs) ¹	LOS	Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)
Avenue 18½ at SR-99 SB ramps/Road 23									
• WB Left-Through	C	A	8.9	A	8.9	A	9.0	A	9.0
• NB Approach		D	25.6	F	63.3	E	45.1	F	---
• SB Approach		D	30.0	F	178.0	F	56.6	F	397.7
Avenue 18½ at SR-99 NB ramps									
• EB Left	C	A	8.5	A	8.3	A	8.7	A	8.6
• NB Approach		E	44.3	F	144.0	F	62.7	F	284.2
Avenue 17 at SR-99 SB ramps									
• SB Approach	C	F	153.6	F	8216	F	564.7	F	29611
Avenue 17 at SR-99 NB ramps									
• EB Left	C	B	10.2	C	15.7	B	10.6	C	16.9
• NB Approach		F	738.0	F	5934	F	1610	F	13114
Avenue 12/Golden State Boulevard at SR-99 SB ramps									
• SB Left-Through	C	A	8.4	A	9.0	A	8.0	A	9.0
• WB Approach		C	15.6	F	303.5	C	16.4	F	331.3
Avenue 12 at Golden State Boulevard									
	D	C	20.9	C	29.8	C	22.8	C	30.8
Avenue 12 at SR-99 NB ramps									
	C	B	13.9	B	14.6	B	14.8	B	17.5
Avenue 18 at Road 23									
• NB Left-Through-Right	D	A	7.7	A	8.0	A	7.7	A	8.0
• SB Left-Through-Right		A	7.8	A	8.0	A	8.0	A	8.2
• WB Approach		B	10.8	B	11.0	B	11.0	B	11.7
• EB Approach		B	11.1	B	13.4	B	12.5	C	16.5
Avenue 17 at Road 23									
• NB Left-Through-Right	D	A	7.5	A	7.6	A	7.5	A	7.7
• SB Left-Through-Right		A	7.8	A	8.2	A	7.9	A	8.4
• WB Approach		B	14.7	F	50.5	C	16.2	F	100.9
• EB Approach		B	12.5	C	7.0	B	13.2	C	20.0
Avenue 17 at Golden State Boulevard									
• EB Left-Through-Right	D	A	9.1	B	11.0	B	10.5	B	14.1
• WB Left-Through-Right		A	8.9	B	13.7	A	8.9	B	13.7
• NB Approach		F	73.0	F	---	F	417.0	F	---
• SB Approach		F	282.2	F	---	F	---	F	---
Ellis Street at Road 26									
	D	B	14.62	F	96.48	C	15.31	F	110.19
Avenue 15½ at Road 23									
• NB Left-Through-Right	D	A	7.8	A	8.5	A	7.8	A	8.6

4.0 Environmental Consequences

• SB Left-Through-Right		A	7.9	A	8.2	A	8.0	A	8.3
• WB Approach		B	11.9	B	14.6	B	12.5	C	15.9
• EB Approach		B	12.5	C	16.9	B	13.1	C	18.4
Avenue 14 at Road 23	D	A	9.77	C	16.62	B	10.09	C	19.49
Avenue 16 at Schnoor Avenue									
• NB Left		A	7.4	A	7.6	A	7.4	A	7.6
• SB Left-Through-Right	D	A	7.8	A	7.7	A	7.8	A	7.8
• WB Approach		B	11.5	F	63.4	B	12.4	F	125.2
• EB Approach		B	14.2	E	49.5	C	15.9	F	84.3
Avenue 16 at SR-99 SB ramps	C	B	14.8	C	21.3	B	14.9	C	21.4
Avenue 16/Avenue 16 Connector at SR-99 NB ramps									
• EB Left		B	12.6	D	26.5	B	13.2	D	32.8
Avenue 16 at SR-99 NB ramps Connector									
• SB Left-Through	C	A	8.2	A	9.5	A	8.2	A	9.6
• WB Right		A	9.6	B	12.8	A	9.6	B	12.8
Gateway/Avenue 16 at SR 99 NB Ramps									
• WB Left	C	B	11.1	C	15.4	B	11.2	C	16.1
Cleveland Avenue/Avenue 15½ at SR-99 NB ramps									
	C	B	14.2	D	35.1	B	14.5	D	36.4
Cleveland Avenue/Avenue 15½ at SR-99 SB ramps									
	C	B	13.0	C	34.3	B	13.1	D	41.7
SR-145/Madera Avenue at SR-99 NB ramps									
	C	D	36.5	D	54.8	D	39.4	E	64.5
Olive Avenue/Avenue 14 at SR-99 SB off-ramp									
	C	B	15.4	C	29.8	B	15.6	C	32.1
Olive Avenue/Avenue 14/SR-99 SB on-ramp at SR-145									
	C	C	26.6	E	61.1	C	30.2	E	69.5
Avenue 18½ at Pistachio Drive									
• EB Approach		A	8.9	A	9.1	A	8.9	A	9.1
• SB Approach	D	C	22.5	D	25.5	C	23.3	D	27.0
Avenue 18½ at Golden State Boulevard									
• EB Approach		A	7.7	A	7.8	A	7.7	A	7.8
• SB Approach	D	B	11.1	B	12.2	B	11.3	B	12.5

NOTES: **Bold** text denotes unacceptable LOS.

¹ Delay in seconds per vehicle.

N/A = Not Available

--- = beyond software limitations

SOURCE: TPG Consulting, Inc. 2006; AES 2006.

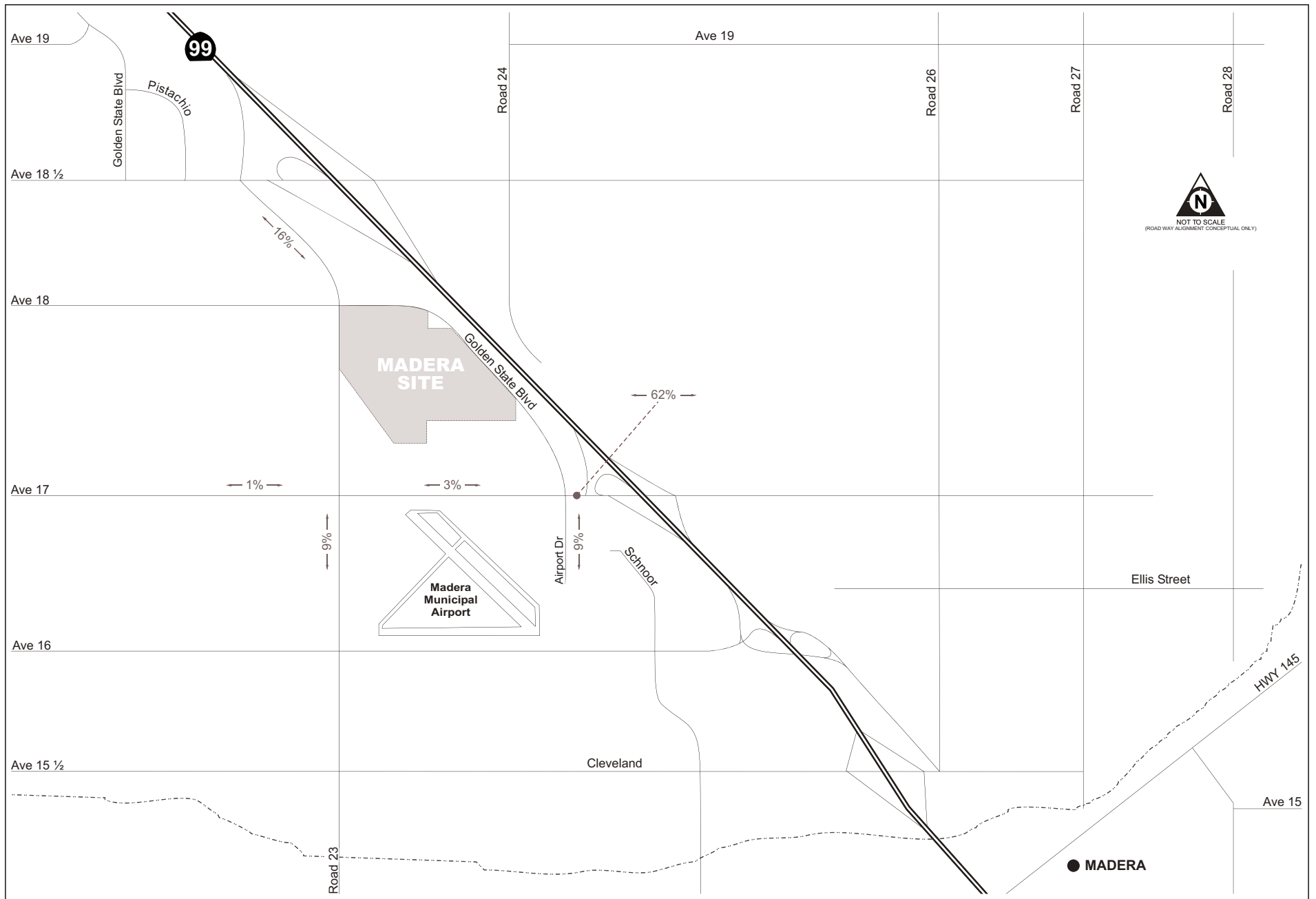
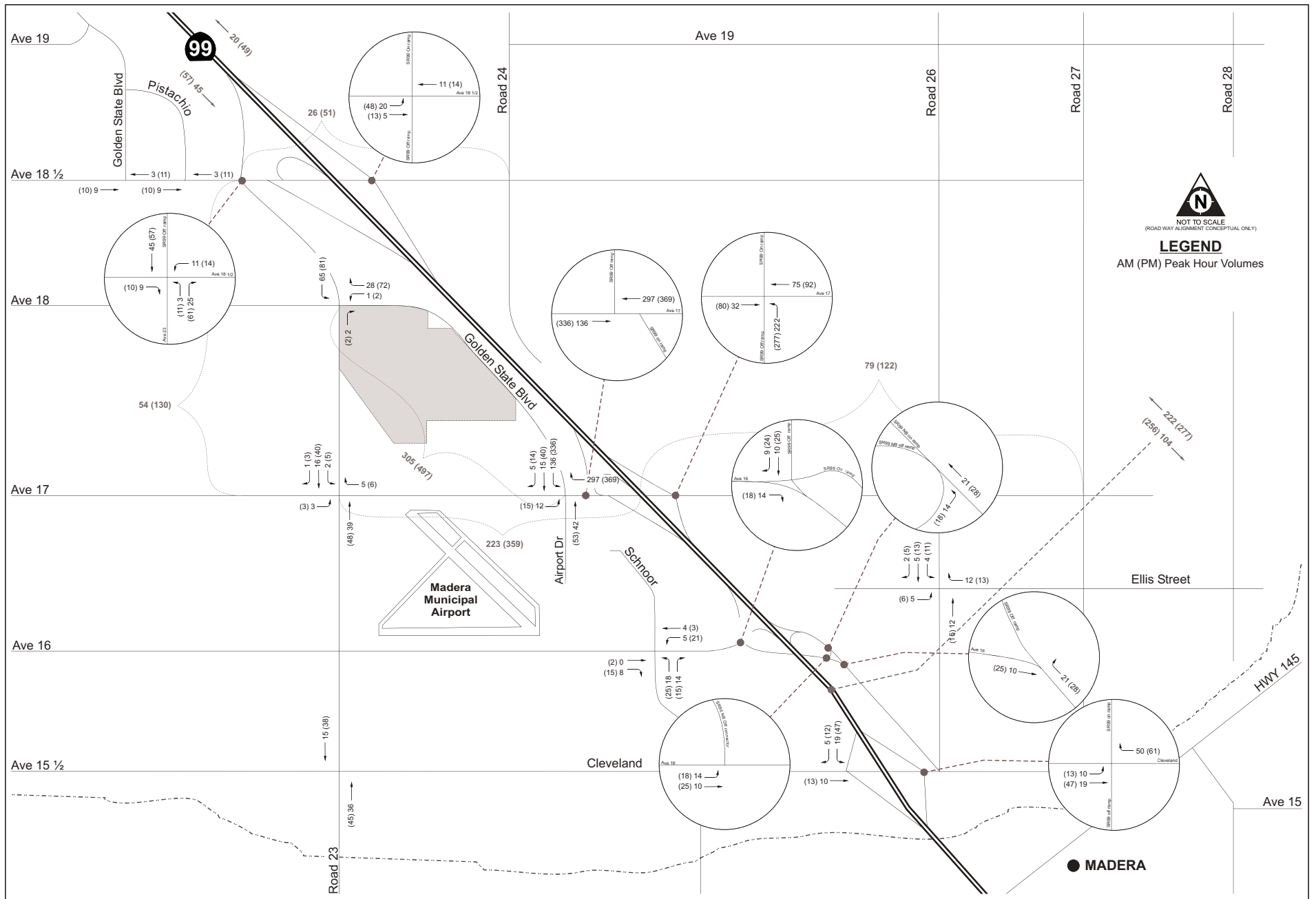


Figure 4.8-6
Madera Site – Trip Distribution Percentages With Alternative A



See Map 4.8-8

Figure 4.8-7
Madera Site – Intersection Trip Assignment With Alternative A

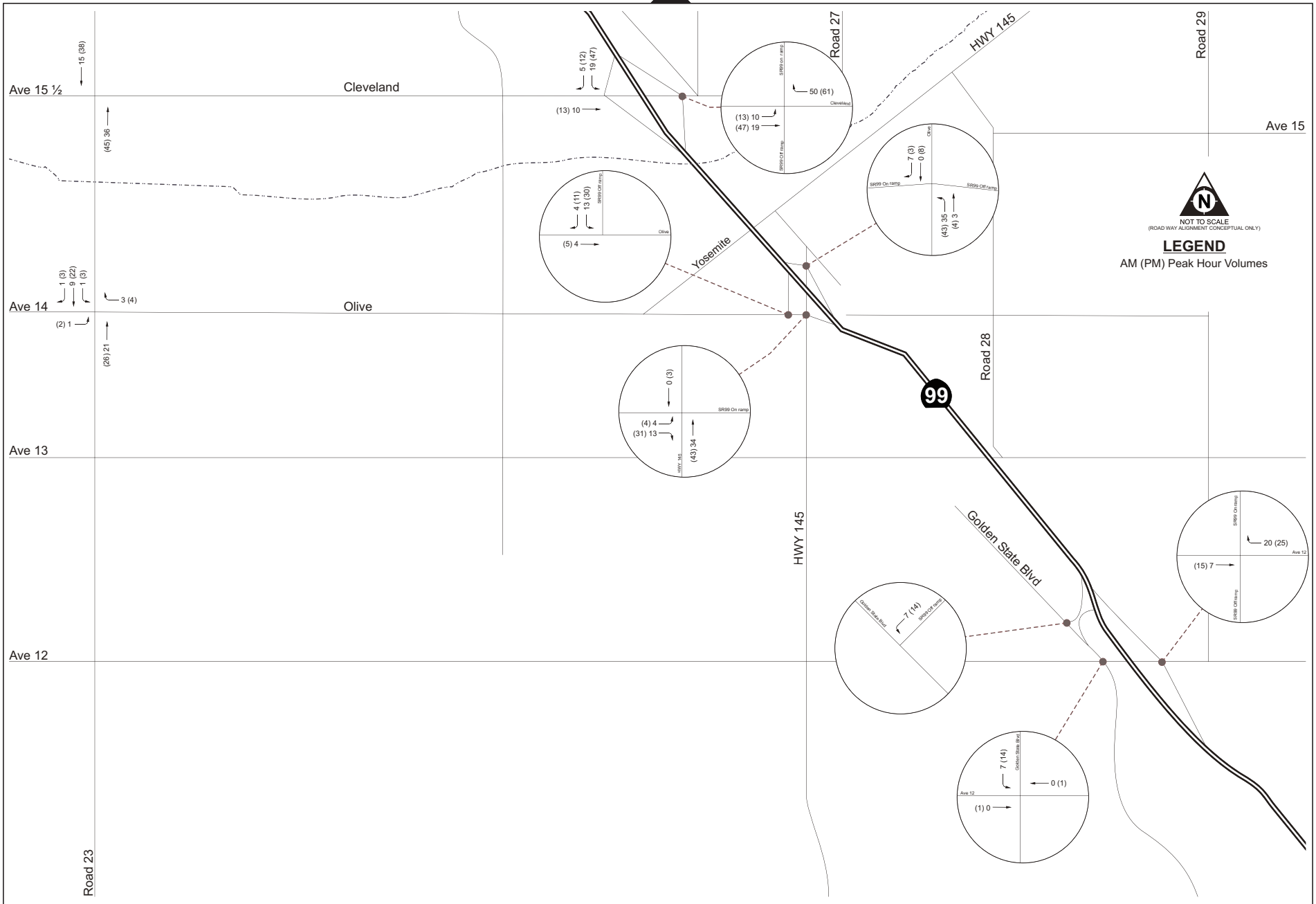


Figure 4.8-8
 Madera Site – Intersection Trip Assignment With Alternative A

- Avenue 18½ at SR-99 SB ramps/Road 23
- Avenue 18½ at SR-99 NB ramps
- Avenue 17 at SR-99 SB ramps
- Avenue 17 at SR-99 NB ramps
- Avenue 12/Golden State Boulevard at SR-99 SB ramps
- Avenue 17 at Road 23
- Avenue 17 at Golden State Boulevard
- Ellis Street at Road 26
- Avenue 16 at Schnoor Avenue
- Avenue 16/Avenue 16 connector at SR99 NB ramps
- Cleveland Avenue/Avenue 15½ at SR 99 NB ramps
- Cleveland Avenue/Avenue 15½ at SR 99 SB ramps
- SR-145/Madera Avenue at SR-99 NB ramps
- Olive Avenue/Avenue 14/SR-99 SB on-ramp at SR-145

Figures 4.8-9 and 4.8-10 present the 2008 With Alternative A intersection volumes at each of the Madera site study intersections.

Impact Analysis

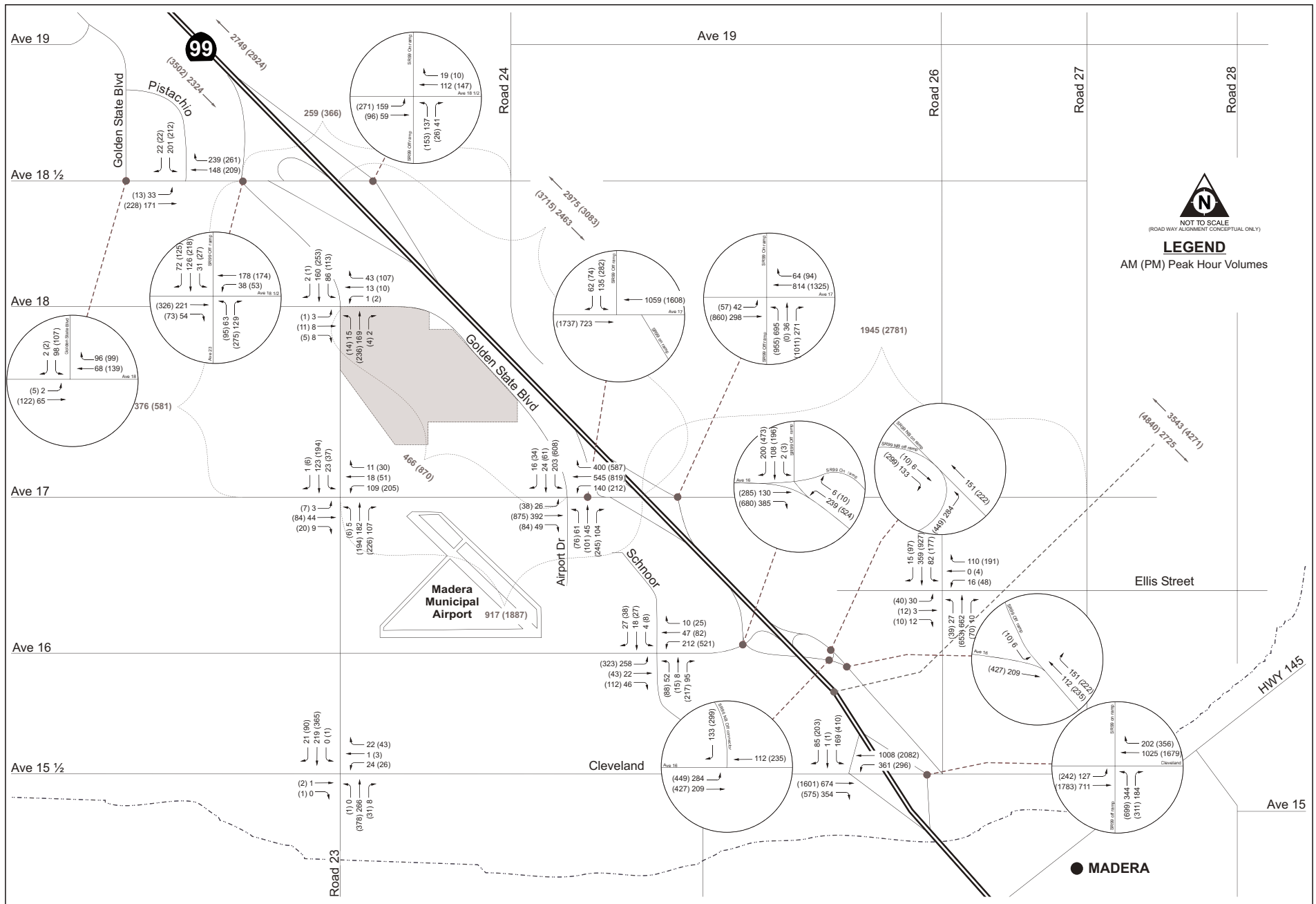
Alternative A's contribution to unacceptable traffic operations represents a significant impact. Mitigation measures for the 2008 With Project (Alternative A) are discussed in **Section 5.2.7** of this document. With the incorporation of project mitigation measures, each of the intersections and roadway segments that are shown to have an unacceptable LOS would be improved to an acceptable LOS. This would result in a less than significant impact.

LAND USE

Consistency with Local Land Use Regulations

Madera County or City of Madera land use regulations would not apply to the Madera site once the land is taken into trust. The only applicable land use regulations would be Tribal, as the Madera site would be converted to reservation land. The Tribe relies upon the Tribal Council, the governing body of the Tribe, to guide and regulate land use on tribal lands. The Tribal Government desires to work cooperatively with local and State authorities on matters related to land use. Accordingly, Madera County and the City of Madera land use regulations are assessed below.

Alternative A would involve commercial development on land that is currently outside Madera city limits but within the City's area of influence. Alternative A would be consistent with most goals, objectives, and policies of Madera County and the City of Madera (see **Section 3.8.3**).



See Map 4.8-10

Figure 4.8-9
Madera Site – 2008 Intersection Volumes With Alternative A

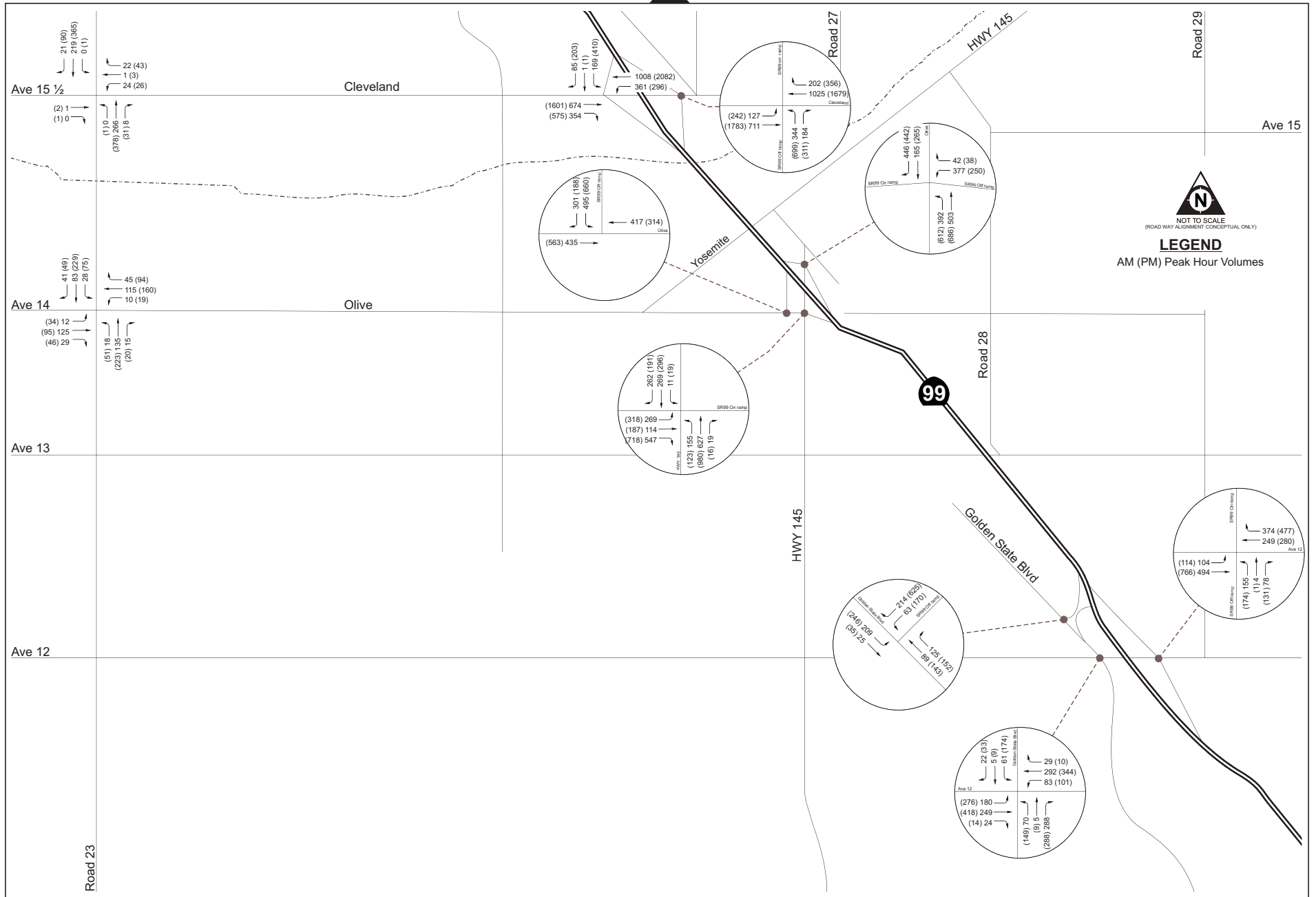


Figure 4.8-10
Madera Site – 2008 Intersection Volumes With Alternative A

Table 4.8-9 lists the policies of the Madera County General Plan and indicates the consistency of each project alternative, for ease of comparison.

The Tribe entered into an MOU with Madera County on August 16, 2005. MOU terms relevant to land use include the following:

- A. 6 (g) No Golf Course. The Tribe does not intend to, and unless otherwise agreed by the City of Madera, the Tribe shall not, construct a golf course on the Trust Property until the earlier of (i) twenty years from the date of the MOU, (ii) the date on which the aggregate number of rounds of golf played on the Madera Municipal Golf course in any given calendar year exceeds 60,000 18-hole equivalent rounds, or (iii) the date on which the Madera Municipal Golf Course is sold or ceases operations.
- B. 6 (h) No Water Park. The Tribe does not intend to, and, unless otherwise agreed by the County, the Tribe shall not develop, construct or operate a water park on the Trust Property within twenty years from the date of the MOU.

Note that consistency or inconsistency with local land use regulations does not by itself constitute an environmental impact. Environmental impacts, such as potential conflicts with neighboring land uses, are discussed below.

Airport Compatibility

The Madera site is within the influence of the Madera Municipal Airport. Most of the proposed development sections of the Madera site are within Zone D, with a portion of the parking lot and an access road lying in Zones B1 and B2. No development would occur in Zone A (**Figure 3.8-12**).

No Alternative A structures would exceed 70 feet in height, well below the 150 foot building restriction that applies to the portions of the Madera site where development is proposed (**Figure 3.8-13**).

Madera Municipal Airport's main runway is approximately 5,544 feet long (Madera, 2007), which subjects all objects within 20,000 feet and exceeding a 100:1 horizontal slope to Federal Aviation Administration (FAA) notification requirements. The proposed hotel/casino for Alternative A would be within 20,000 feet of the airport runway and approximately 71.5 feet tall (including a lightning rod). The proposed hotel/casino for Alternative A is subject to FAA notification because it exceeds the 100:1 horizontal slope requirement. All other proposed structures for Alternative A, including the parking, water and wastewater structures do not exceed the 100:1 horizontal slope requirement for development adjacent to an airport runway.

TABLE 4.8-9
MADERA COUNTY GENERAL PLAN LAND USE CONSISTENCY

Madera County General Plan		Land Use Consistency (Yes or No)				Discussion
Section	Goal or Policy Summary	Alt A	Alt B	Alt C	Alt D	
Commercial Land Use						
1.D	To designate adequate commercial land for and promote development of commercial uses to meet the present and future needs of Madera County residents and visitors and maintain economic viability.	Yes	Yes	Yes	Yes	The Proposed Action and Alternatives would add a major commercial attraction to the region. Development of each alternative will ensure that any negative effects are mitigated to the fullest extent possible.
1.D.4	To designate adequate commercial land for and promote development of commercial uses to meet the present and future needs of Madera County residents and visitors and maintain economic vitality.	Yes	Yes	Yes	Yes	The Proposed Action and Alternatives would add a major commercial attraction to the region. Development of each alternative will ensure that any negative effects are mitigated to the fullest extent possible.
Jobs-Housing Balance						
1.F	To work toward a jobs-housing balance in existing urban areas and new growth areas.	No	No	No	No	The Proposed Action and Alternatives are estimated to draw from 10 to 263 new households to the County, depending on the alternative, without providing additional housing. Yet, existing housing can accommodate new households and this number of new households would only occupy up to 0.8% of the currently proposed housing projects.
1.F.2	Designate and encourage the development of employment-generating uses in appropriate areas near existing and designated residential development.	Yes	Yes	Yes	Yes	The Proposed Action and Alternatives would result in the creation of numerous employment opportunities within Madera County.
Visual and Scenic Resources						
1.H	To protect the visual and scenic resources of Madera County as important quality-of-life amenities and asset in the promotion of recreation and tourism.	No	No	No	No	The Proposed Action and the Alternatives at the Madera site would represent a change to the viewshed and be visible from several public vantage points. The Alternative at the North Fork site would represent a change to the viewshed, but not be visible from public vantage points.
1.H.1	Require that new development in scenic rural areas avoid location structures along ridgelines, on steep slopes, or in other highly-visible locations, except when the location is necessary to avoid hazards or when the screening measures to minimize the visibility of structures and graded areas are incorporated into the project.	Yes	Yes	Yes	No	The Madera site does not contain ridgelines or steep slopes. The North Fork site consists almost entirely of steep slopes, including the proposed location for the Alternative D casino.
1.H.2	Require new development to incorporate sound soil conservation practices and minimizes land alterations.	Yes	Yes	Yes	No	A grading and drainage plan that includes erosion control measures will be used for the design and build out of the Proposed Project and Alternatives. Substantial land alteration is necessary for the development of a casino on the North Fork site.
Streets and Highways						
2.A	To provide for the long-range planning and development of the County's roadway system, ensure the safe and efficient movement of people and goods, and provide sufficient access	Yes	Yes	Yes	Yes	Traffic studies were conducted to assess the effect of the Proposed Project and Alternatives on traffic and roadways. Mitigation for negative traffic impacts is contained in Section 5.2.7 .

Madera County General Plan		Land Use Consistency (Yes or No)				Discussion
Section	Goal or Policy Summary	Alt A	Alt B	Alt C	Alt D	
	to existing and new development.					
2.A.9	To identify the potential impacts of new development on traffic service levels, the County shall require the preparation of traffic impact analyses for developments determined to be large enough to have potentially significant traffic impacts. The County may allow exceptions to the level of service standards where it finds that the improvements or other measures required to achieve the LOS standards are unacceptable.	Yes	Yes	Yes	Yes	Traffic studies were conducted to assess the effect of the Proposed Project and Alternatives on traffic and roadways. Mitigation for negative traffic impacts is contained in Section 5.2.7 . Acceptable LOS standards are maintained after mitigation.
2.A.17	Require proposed new development projects to analyze their contribution to increased traffic and to implement improvements necessary to address the increase.	Yes	Yes	Yes	Yes	Traffic studies were conducted to assess the effect of the Proposed Project and Alternatives on traffic and roadways. Mitigation for negative traffic impacts is contained in Section 5.2.7 .
2.A.19	Assess fees on new development sufficient to cover the fair share portion of that development's impacts on the local and regional transportation system. Exceptions may be made when new development generates significant public benefits and when alternative sources of funding can be identified to offset foregone revenues.	Yes	Yes	Yes	Yes	Traffic studies were conducted to assess the effect of the Proposed Project and Alternatives on traffic and roadways. Mitigation for negative traffic impacts is contained in Section 5.2.7 .
2.A.21	Require that new nonresidential development provide for off-street parking, either on-site or through contributions to consolidated lots or structures, particularly where these facilities are located in or near residential areas.	Yes	Yes	Yes	Yes	Surface parking spaces and parking structure spaces will be provided for Alternatives A and B. Surface parking spaces will be provide for Alternatives C and D.
Transit Goal						
2.B	To promote a safe and efficient mass transit system, including both rail and bus, to reduce congestion, improve the environment, and provide viable non-automotive means of transportation in and through Madera County	No	No	No	No	No mass transit system is planned for transportation to and from the Proposed Project or Alternatives. Various mass-transit related mitigation measures are recommended in Section 5.0 to reduce air quality and transportation impacts. Railway-specific mitigation measures are not included.
2.B.7	Require new development to provide sheltered public transit stops, with turnouts. The County will also consider development of turnouts in existing developed areas when roadway improvements are made or as deemed necessary for traffic flow and public safety.	Yes	Yes	Yes	No	No mass transit system is planned for transportation to and from the Proposed Action or Alternatives. Various mass-transit related mitigation measures, including providing public transit stops, are recommended in Section 5.0 , for all alternatives except for Alternative D, to reduce air quality and transportation impacts.
Transportation Control Measures (TCM)						
2.C	To maximize the efficient use of transportation facilities so as to: 1) reduce travel demand on the County's roadway system; 2) reduce the amount of investment required in new or expanded facilities; 3) reduce the quantity of emissions of pollutants from automobiles; and 4) increase the energy	No	No	No	No	The Proposed Action and Alternatives will increase the travel demand on the County's roadway system.

Madera County General Plan		Land Use Consistency (Yes or No)				Discussion
Section	Goal or Policy Summary	Alt A	Alt B	Alt C	Alt D	
	efficiency of the transportation system.					
2.C.4	Encourage major traffic generators to develop and implement trip reduction measures.	Yes	Yes	Yes	Yes	No trip reduction measures are proposed by any of the project alternatives. Trip reduction measures are recommended in Section 5.2.3 .
2.C.5	Require major development projects to prepare transportation studies that address potential use of bicycle routes and facilities and the use of public transportation.	Yes	Yes	Yes	Yes	Traffic studies were conducted to assess the effect of the Proposed Project and Alternatives on traffic and roadways. These studies addressed impacts and potential use of non-automobile transportation. Mitigation for negative traffic impacts is contained in Section 5.2.7 .
Non-motorized Transportation						
2.D	To provide a safe, comprehensive, and integrated system of facilities for non-motorized transportation to meet the needs of commuters and recreational users.	Yes	Yes	Yes	Yes	Non-motorized transportation systems would be provided according to applicable plans when developing the Proposed Project and Alternatives, including traffic mitigation.
2.D.7	Require developers to finance and install pedestrian walkways, equestrian trails, and multipurpose paths in new development, as appropriate.	Yes	Yes	Yes	Yes	Non-motorized transportation systems, including pedestrian walkways, would be provided according to applicable plans when developing the Proposed Project and Alternatives, including traffic mitigation.
General Public Facilities and Services						
3.A	To ensure the timely development of public facilities and to maintain an adequate level of service to meet the needs of existing and future development.	Yes	Yes	Yes	Yes	The Proposed Project and Alternatives would maintain an adequate level of service for their public facilities, including water and wastewater facilities.
3.A.1	Ensure through the development review process that adequate public facilities and services are available to serve new development. The County shall not approve new development where existing facilities are inadequate unless the applicant can demonstrate that all necessary public facilities will be installed or adequately financed and maintained (through fees or other means).	Yes	Yes	Yes	Yes	Adequate public facilities and services will be installed as part of the construction of the Proposed Project or Alternatives.
Public Facilities and Services Funding						
3.B	To ensure that adopted facility and service standards are achieved and maintained through the use of equitable funding methods.	Yes	Yes	Yes	Yes	The Tribe would fund any additional improvements and maintenance required for the public services to the Proposed Project or Alternatives.
3.B.1	Require that new development pay its fair share of the cost of developing new facilities and services and upgrading existing public facilities and services subject to the requirements of California Government Code Section 66000, et seq. (AB1600); exceptions may be made when new development generates significant public benefits (e.g., low income housing) and when alternative sources of funding can be identified to offset foregone revenues.	Yes	Yes	Yes	Yes	The Tribe would be required to pay for its fair share of the cost of constructing public facilities required by the Proposed Project or Alternatives.
Water Supply and Delivery						

Madera County General Plan		Land Use Consistency (Yes or No)				Discussion
Section	Goal or Policy Summary	Alt A	Alt B	Alt C	Alt D	
3.C	To ensure the availability of an adequate and safe water supply and the maintenance of high quality water in water bodies and aquifers used as sources of domestic and agricultural water supply.	Yes	Yes	Yes	Yes	The USEPA NPDES storm water program would regulate discharge of stormwater from construction activities at the site of the Proposed Project or Alternatives. The Proposed Project and Alternatives would be designed to incorporate stormwater detention basins and the use of sediment/grease traps.
3.C.1	Approve new development only if an adequate water supply to serve such development is demonstrated.	Yes	Yes	Yes	Yes	An on-site groundwater well would be able to adequately supply the Proposed Project and Alternatives.
3.C.2	Approve new development based on the following guidelines for water supply: a. Urban and suburban developments should rely on community water systems. b. Rural communities should rely on community water systems. Individual wells may be permitted in cases where no community water system exists or can be extended to the property but development will be limited to densities, which can be safely developed with wells. c. Agricultural areas should rely on public water systems where available, otherwise individual water wells are acceptable.	No	No	No	No	After consultation with the City of Madera, it is proposed that Alternatives A-C rely primarily on on-site wells for their water supply. Alternative D would rely either on on-site supply or a community water system.
3.C.3	Limit development in areas identified as having severe water table depression to uses that do not have high water usage or to uses served by a surface water supply.	Yes	Yes	Yes	Yes	The sites for the Proposed Project and Alternatives have not been identified as having severe water table depression. Mitigation measures are included in Section 5.2.2 to reduce impacts to groundwater.
3.C.4	Require that water supplies serving new development meet state water quality standards.	Yes	Yes	No	Yes	The water supplies for the gaming alternatives would be required by any Tribal-State Compact to meet federal and state water quality standards. Alternative C development would be required to meet federal water quality standards.
3.C.5	Require that new development adjacent to bodies of water used as domestic water sources adequately mitigate potential water quality impacts on these water bodies.	Yes	Yes	Yes	Yes	The USEPA NPDES storm water program would regulate discharge of stormwater from construction activities at the site of the Proposed Project or Alternatives. The Proposed Project and Alternatives would be designed to incorporate stormwater detention basins and the use of sediment/grease traps.
3.C.6	Promote efficient water use and reduced water demand by: a. Requiring water-conserving design and equipment in new construction. b. Encouraging water-conserving landscaping and other conservation measures. c. Encouraging retrofitting existing development with water-conserving devices. d. Encouraging use of recycled or gray water for landscaping.	Yes	Yes	Yes	Yes	The Proposed Project and Alternatives would conserve water as recommended in Section 5.2.2 . If an on-site wastewater treatment plant (WWTP) is constructed, gray water would be recycled in the operation of each alternative development.

Madera County General Plan		Land Use Consistency (Yes or No)				Discussion
Section	Goal or Policy Summary	Alt A	Alt B	Alt C	Alt D	
3.C.7	Promote the use of reclaimed wastewater to offset the demand for new water supplies.	Yes	Yes	Yes	Yes	If an on-site WWTP is used for the Proposed Project or Alternatives, reclaimed water would be used for toilet flushing and landscape irrigation.
Wastewater Collection, Treatment and Disposal						
3.D	To ensure adequate wastewater collection and treatment and the safe disposal of liquid and solid waste.	Yes	Yes	Yes	Yes	Wastewater from the Proposed Project and Alternatives would be treated either at an on-site or off-site WWTP.
3.D.2	Promote efficient water use and reduced wastewater system demand by: a. Requiring water-conserving design and equipment in new construction; b. Encouraging retrofitting with water-conserving devices; and c. Designing wastewater systems to minimize inflow and infiltration, to the extent economically feasible.	Yes	Yes	Yes	Yes	The Proposed Project and Alternatives would conserve water as recommended in Section 5.2.2 .
3.D.3	Permit on-site sewage treatment and disposal on parcels where all current regulations can be met; where parcels have the area, soils, and other characteristics that permit such disposal facilities without threatening surface or groundwater quality or posing any other health hazards; and where community sewer service is not available and cannot be provided.	Yes	Yes	Yes	Yes	The Proposed Project and Alternatives may include an on-site WWTP while complying with all current regulations.
3.D.4	Require that the development, operation, and maintenance of on-site disposal systems complies with the requirements and standards of the County Department of Environmental Health.	Yes	Yes	Yes	Yes	Development, operation, and maintenance of on-site disposal systems for the Proposed Project and Alternatives would comply with County standards and requirements.
Storm Drainage and Flood Control						
3.E	To provide efficient, cost-effective, and environmentally sound storm drainage and flood control facilities.	Yes	Yes	Yes	Yes	Construction of the Proposed Project and Alternatives would comply with the Grading and Drainage Plan and would be designed to incorporate the stormwater detention basins and the use of sediment/grease traps.
3.E.2	Require new development to provide protection from the 100-year flood as a minimum.	Yes	Yes	Yes	Yes	Construction of the Proposed Project and Alternatives would comply with the Grading and Drainage Plan, which includes elevation of proposed development above the 100-year floodplain elevation.
3.E.4	Require new development to pay its fair share of the costs of Madera County storm drainage and flood control improvements.	Yes	Yes	Yes	Yes	Such payments would not be necessary, given that storm drainage systems would be contained on-site. Detention basins would ensure that off-site drainage is equal or less than pre-development levels.
3.E.5	Encourage project designs that minimize drainage concentrations and impervious coverage and maintain, to the extent feasible, natural site drainage conditions.	Yes	Yes	Yes	Yes	The Proposed Project and Alternatives would include construction of a storm drainage system to manage stormwater flow that would convey the stormwater detention basins, and would include the use of vegetated swales and vegetated stormwater detention basins. Natural site cover will be maintained to the extent possible.
3.E.6	Future drainage system discharges shall comply with	Yes	Yes	Yes	Yes	Future drainage system discharges for the Proposed Project and

Madera County General Plan		Land Use Consistency (Yes or No)				Discussion
Section	Goal or Policy Summary	Alt A	Alt B	Alt C	Alt D	
	applicable state and federal pollutant discharge requirements.					Alternatives would comply with applicable state and federal pollutant discharge requirements.
3.E.7	Encourage the use of natural stormwater drainage systems to preserve and enhance natural features.	Yes	Yes	Yes	Yes	The Proposed Project and Alternatives would include construction of a storm drainage system to manage stormwater flow that would convey the stormwater detention basins, and would include the use of vegetated swales and vegetated stormwater detention basins.
Landfills, Transfer Stations, and Solid Waste Recycling						
3.F	To ensure the safe and efficient disposal or recycling of solid waste generated in Madera County.	Yes	Yes	Yes	Yes	Recycling bins would be installed for the Proposed Project and Alternatives. Green waste and recyclables would be separated from main waste, and cardboard and paper products would be compacted.
3.F.2	Promote maximum use of solid waste source reduction, recycling, composting, and environmentally safe transformation of wastes.	Yes	Yes	Yes	Yes	Recycling bins would be installed for the Proposed Project and Alternatives. Green waste and recyclables would be separated from main waste, and cardboard and paper products would be compacted.
3.F.6	Require that all new development comply with applicable provisions of the Madera County Integrated Waste Management Plan.	Yes	Yes	Yes	Yes	The Proposed Project and Alternatives would comply with the applicable provisions of the Madera County Integrated Waste Management Plan.
Law Enforcement, Fire, and Emergency Medical Services						
3.G	To ensure the prompt and efficient provision of law enforcement, fire, and emergency medical facility and service needs.	Yes	Yes	Yes	Yes	The Tribe would make one-time and annual payments to the City of Madera and Madera County to fund increased law enforcement, fire, and emergency medical services. These payments would either be made in the current MOU with Madera County under Alternative A, or as recommended in Section 5.2.6 for the remaining alternatives.
3.G.3	Require new development to pay its fair share of the costs for providing law enforcement, fire, and emergency medical facilities, subject to the requirements of California Government Code Section 66000 et seq. (AB1600).	Yes	Yes	Yes	Yes	The Tribe would make one-time and annual payments to the City of Madera and Madera County to fund increased law enforcement, fire, and emergency medical services. These payments would either be made in the current MOU with Madera County under Alternative A, or as recommended in Section 5.2.6 for the remaining alternatives.
3.G.4	Require that new development be designed to maximize safety and security and minimize fire hazard risks to life and property.	Yes	Yes	Yes	Yes	The Proposed Project and Alternatives would be designed to maximize safety and practice preventative measures such as the use of spark arrestors on equipment.
Fire Protection Services						
3.H	To protect residents of and visitors to Madera County from injury and loss of life and to protect property and watershed resources from fires.	Yes	Yes	Yes	Yes	The Tribe would make one-time and annual payments to the City of Madera and Madera County to fund increased fire protection services. These payments would either be made in the current MOU with Madera County under Alternative A, or as recommended in Section 5.2.6 for the remaining alternatives. Additional fire protection mitigation measures are contained in Section 5.2.8 . These MOU contributions and mitigation measures have been determined after discussions with local fire protection providers regarding adequate service requirements for each

Madera County General Plan		Land Use Consistency (Yes or No)				Discussion
Section	Goal or Policy Summary	Alt A	Alt B	Alt C	Alt D	
						alternative.
3.H.4	Require new development to develop or fund fire protection facilities that, at a minimum, maintain the (above) service level standards (see Policy 3.H.1 or 3.H.2 in the Madera County General Plan Policy Document or Section 3.8 of this document for service level standards).	Yes	Yes	Yes	Yes	The Tribe would make one-time and annual payments to the City of Madera and Madera County to fund increased fire protection services. These payments would either be made in the current MOU with Madera County under Alternative A, or as recommended in Section 5.2.6 for the remaining alternatives. Additional fire protection mitigation measures are contained in Section 5.2.8 . These MOU contributions and mitigation measures have been determined after discussions with local fire protection providers regarding adequate service requirements for each alternative.
3.H.5	Ensure that all proposed developments are reviewed for compliance with fire safety standards by responsible local fire agencies per the Uniform Fire Code and other state and local ordinances.	Yes	Yes	Yes	Yes	Fire protection features, including sprinkler systems and fire-resistant construction, would be incorporated into the Proposed Project and Alternatives. They would comply with applicable fire safety standards.
Utilities						
3.J.3	Require proposed new development in identified underground conversion districts and along scenic corridors to construct underground utility lines on and adjacent to the site of proposed development or, when this is infeasible, to contribute funding for future undergrounding.	Yes	Yes	Yes	Yes	Gas and electricity can be hooked up to existing overhead PG&E lines located near the site and telecommunication cables can be extended to the property line for the Proposed Project and Alternatives.
Agriculture and Natural Resources						
5.A	To designate adequate agricultural land and promote development of agricultural uses to support the continued viability of Madera County's agricultural economy.	Yes	Yes	Yes	Yes	The development for Alternatives A-C is located primarily on Farmland of Local Importance as classified by the Natural Resources Conservation Service (NRCS). More than half of the Madera site would remain in open space and could be used for agricultural purposes under Alternatives A-C, however. In addition, Section 5.2.7 recommends the purchase of agricultural conservation easements to mitigate the conversion of agricultural land under Alternatives A-C. Alternative D is not located on Important Farmland.
5.A.1	Maintain agriculturally designated areas for agricultural uses and direct urban uses to designated new growth areas, existing communities, and/or cities.	No	No	No	No	The Madera site is currently zoned for agricultural uses and would be partially developed under Alternatives A-C. Alternative D is currently trust land and is therefore not subject to local land use regulations. The North Fork site is not, however, a designated growth area, existing community, or city.
5.A.2	Discourage the conversion of prime agricultural land to urban uses unless an immediate and clear need can be demonstrated that indicates a lack of land for non-agricultural uses.	No	No	No	Yes	A very small piece of prime agricultural land would be converted from agricultural uses under Alternatives A-C. The North Fork site does not include prime agricultural land.
5.A.3	Ensure that new development and public works projects do	No	No	No	Yes	The Madera site is currently zoned for agricultural uses and would be

Madera County General Plan		Land Use Consistency (Yes or No)				Discussion
Section	Goal or Policy Summary	Alt A	Alt B	Alt C	Alt D	
	not encourage further expansion of urban uses into designated agricultural areas.					partially developed under Alternatives A-C. Alternative D is currently trust land and is therefore not subject to local land use regulations.
5.A.5	Allow the conversion of existing agricultural land to urban uses only within designated urban and rural residential areas, new growth areas, and city spheres of influence where designated for urban development on the General Plan Land Uses Diagram.	No	No	No	No	The Madera site is currently zoned for agricultural uses and would be partially developed under Alternatives A-C. Alternative D is currently trust land and is therefore not subject to local land use regulations, including the General Plan.
5.A.6	Encourage continued and, where possible, increased agricultural activities on lands designated for agricultural uses.	Yes	Yes	Yes	Yes	The Madera site is currently zoned for agricultural uses and would be partially developed under Alternatives A-C. Alternative D is currently trust land and is therefore not subject to local land use regulations.
5.A.13	Require development within or adjacent to designated agricultural areas to incorporate design, construction, and maintenance techniques that protect agriculture and minimize conflicts with adjacent agricultural uses.	Yes	Yes	Yes	Yes	The Proposed Action and Alternatives have been designed to minimize conflicts with adjacent agricultural uses to the extent possible. In addition, Section 5.2.7 recommends that a Tribal right to farm ordinance be enacted.
Water Resources						
5.C	To protect and enhance the natural qualities of Madera County's streams, creeks and groundwater.	Yes	Yes	Yes	Yes	The Proposed Project and Alternatives would generally protect and enhance the natural qualities of Madera County's streams, creeks, and groundwater to the extent possible through avoidance, flood control, mitigation measures (see Section 5.0) and BMPs.
5.C.2	Minimize sedimentation and erosion through control of grading, cutting of trees, removal of vegetation, placement of roads and bridges, and use of off-road vehicles. The County shall discourage grading activities during the rainy season, unless adequately mitigated, to avoid sedimentation of creeks and damage to riparian habitat.	Yes	Yes	Yes	Yes	All grading activities for the Proposed Project and Alternatives would be done using SWPPP measures and BMPs as outlined in the Grading and Drainage Plan and required by the Clean Water Act.
5.C.3	Require new development of facilities near rivers, creeks, reservoirs, or substantial aquifer recharge areas to mitigate any potential impacts of release of pollutants in floodwaters or flowing river, stream, creek, or reservoir waters.	Yes	Yes	Yes	Yes	All grading activities for the Proposed Project and Alternatives would be done using SWPPP measures and BMPs as outlined in the Grading and Drainage Plan and required by the Clean Water Act. Construction of the Proposed Project and Alternatives would comply with the Grading and Drainage Plan and would be designed to incorporate the stormwater detention basins and the use of sediment/grease traps.
5.C.4	Require the use of feasible and best management practices (BMPs) to protect streams from the adverse effects of construction activities, and shall encourage the urban storm drainage systems and agricultural activities to use BMPs.	Yes	Yes	Yes	Yes	All grading activities for the Proposed Project and Alternatives would be done using SWPPP measures and BMPs as outlined in the Grading and Drainage Plan and required by the Clean Water Act. Construction of the Proposed Project and Alternatives would comply with the Grading and Drainage Plan and would be designed to incorporate the stormwater detention basins and the use of sediment/grease traps.
5.C.5	Approve only wastewater disposal facilities that will not contaminate groundwater or surface water.	Yes	Yes	Yes	Yes	The WWTP used for the Proposed Project or Alternatives would use an immersed membrane bioreactor (MBR) system to provide tertiary-treated

Madera County General Plan		Land Use Consistency (Yes or No)				Discussion
Section	Goal or Policy Summary	Alt A	Alt B	Alt C	Alt D	
						water for reuse or disposal. Wastewater disposal would be regulated according to the requirements of the Clean Water Act.
5.C.7	Protect groundwater resources from contamination and further overdraft by encouraging water conservation efforts and supporting the use of surface water for urban and agricultural uses wherever feasible.	Yes	Yes	Yes	Yes	The Proposed Project and Alternatives would conserve water as recommended in Section 5.2.2 . If an on-site wastewater treatment plant (WWTP) is constructed, gray water would be recycled in the operation of each alternative development.
Wetland and Riparian Areas						
5.D	To protect wetland communities and related riparian areas throughout Madera County as valuable resources.	Yes	Yes	Yes	Yes	Wetlands and riparian areas would be completely avoided by Alternatives A-C. A small amount of wetlands would be impacted by Alternative D. Such impacts would be mitigated, as required by the Clean Water Act.
5.D.1	Comply with the wetlands policies of the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, and the California Department of Fish and Game. Coordination with these agencies at all levels of project review shall continue to ensure that appropriate mitigation measures and the concerns of these agencies are adequately addressed.	Yes	Yes	Yes	Yes	All federal environmental laws would apply to trust land.
5.D.2	Require new development to mitigate wetland loss in both regulated and non-regulated wetlands through any combination of avoidance, minimization, or compensation.	Yes	Yes	Yes	Yes	Wetlands and riparian areas would be completely avoided by Alternatives A-C. A small amount of wetlands would be impacted by Alternative D. Such impacts would be mitigated, as required by the Clean Water Act.
5.D.3	Development should be designed in such a manner that pollutants and siltation will not significantly adversely affect the value or function of wetlands.	Yes	Yes	Yes	Yes	The Proposed Project and Alternatives would be designed to incorporate stormwater detention basins and the use of sediment/grease traps.
5.D.4	Require riparian protection zones around natural watercourses. Riparian protection zones shall include the bed and bank of both low- and high-flow channels and associated riparian vegetation, the band of riparian vegetation outside the high-flow channel, and buffers of 100 feet in width as measured from the top of bank of unvegetated channels and 50 feet in width as measured from the outer edge for the canopy of riparian vegetation. Exceptions may be made in existing developed areas where existing development and lots are located within the setback areas.	No	No	No	No	Buffers would be maintained around riparian areas to the extent possible (these buffers would not be 100 feet in width, in all cases, however), although some encroachment would occur under Alternative D.
5.D.5	Identify and conserve remaining upland habitat areas adjacent to wetlands and riparian areas that are critical to the feeding or nesting of wildlife species associated with these wetland and riparian areas.	Yes	Yes	Yes	Yes	Upland habitat areas adjacent to wetlands and riparian areas would be conserved to the extent possible.
5.D.6	Require new private or public developments to preserve and enhance existing native riparian habitat unless public safety concerns require removal of habitat for flood control or other	Yes	Yes	Yes	No	Riparian habitat would be preserved and enhanced under Alternatives A-C. Some riparian habitat would be developed under Alternative D.

Madera County General Plan		Land Use Consistency (Yes or No)				Discussion
Section	Goal or Policy Summary	Alt A	Alt B	Alt C	Alt D	
	public purposes. In cases where new private or public development results in modification or destruction of riparian habitat for purposes of flood control, the developers shall be responsible for creating new riparian habitats within or near the project area at a ration of three acres of new habitat for every acre destroyed.					
Fish and Wildlife Habitat						
5.E	To protect, restore, and enhance habitats that support fish and wildlife species so as to maintain populations at viable levels.	No	No	No	No	Alternatives A-D would affect wildlife habitats, but not at levels that would threaten the viability of species populations. Nonetheless, Alternatives A-D are development projects whose main purpose is not habitat restoration.
5.E.2	Require development in areas known to have particular value of wildlife to be carefully planned and, where possible, located so that the reasonable value of the habitat for wildlife is maintained.	Yes	Yes	Yes	No	Unlike the North Fork site, the Madera site is not particularly valuable for wildlife. Wildlife habitat on approximately half of the North Fork site would be substantially degraded under Alternative D.
5.E.3	Encourage private landowners to adopt sound wildlife habitat management practices, as recommended by the California Department of Fish and Game officials and the U.S. Fish and Wildlife Service.	Yes	Yes	Yes	Yes	Construction and development of the Proposed Project or Alternatives would maintain wildlife habitat to the extent required by the Endangered Species Act and as recommended in Section 5.2.4 .
Vegetation						
5.F	To preserve and protect the valuable vegetation resources of Madera County.	Yes	Yes	Yes	Yes	The Proposed Project or Alternatives would not have a significant effect on regional vegetation resources.
5.F.1	Encourage landowners and developers to preserve the integrity of existing terrain and natural vegetation in visually sensitive areas such as hillsides and ridges, and along important transportation corridors.	No	No	No	No	The integrity of existing terrain will be maintained under Alternatives A-C. Natural vegetation will not be preserved under Alternative A-C, which would be located along SR-99, an important transportation corridor. Neither the integrity of existing terrain, nor existing vegetation would be maintained under Alternative D, which is located in a visually sensitive area.
5.F.2	Require developers to use native and compatible non-native species, especially drought-resistant species, to the extent possible in fulfilling landscaping requirements imposed as conditions of discretionary permit approval or for project mitigation.	Yes	Yes	Yes	Yes	Native plants would be used as recommended in Section 5.2.4 to mitigate for the removal of native vegetation under Alternative D. be used to the extent possible for landscaping. Use of native plants in landscaping is recommended in Section 5.2.3 to conserve water.
5.F.6	Require that new development preserve natural woodlands to the maximum extent possible.	Yes	Yes	Yes	Yes	The Proposed Project and Alternatives have been designed to preserve natural woodlands to the maximum extent possible.
Open Space for the Preservation of Natural Resources						
5.H	To preserve and enhance open space lands to maintain the natural resources of the County.	Yes	Yes	Yes	Yes	The Proposed Project and Alternatives have been designed to preserve and enhance open space lands to maintain natural resources to the extent possible.

Madera County General Plan		Land Use Consistency (Yes or No)				Discussion
Section	Goal or Policy Summary	Alt A	Alt B	Alt C	Alt D	
5.H.2	Require that new development be designed and constructed to preserve the following types of areas and features as open space to the maximum extent feasible: a. High erosion hazard areas; b. Scenic and trial corridors; c. Streams and streamside vegetation; d. Wetlands; e. Other significant stands of vegetation; f. Wildlife corridors; and g. Any areas of special ecological significance.	Yes	Yes	Yes	No	The Proposed Project and Alternatives have been designed to preserve the noted areas to the maximum extent possible, with the exception of Alternative D, which would encroach into wetlands.
5.H.5	Require that significant natural, open space, and cultural resources be identified in advance of development and incorporated into site-specific development project design.	Yes	Yes	Yes	Yes	Significant natural, open space, and cultural resources have been identified as part of constraints analyses and analyses during the preparation of this Environmental Impact Statement, and have been considered by the Tribe and the lead agency in designing the Proposed Project and Alternatives.
Air Quality						
5.J	To protect and improve air quality in Madera County and the region.	No	No	No	No	Alternatives A-D would marginally contribute to worsening regional air quality.
5.J.5	Require new development projects that exceed adopted SJVUAPCD emission thresholds to submit an air quality analysis for review and approval. Based on this analysis, the County shall require appropriate mitigation measures consistent with the SJVUAPCD's 1991 Air Quality Attainment Plan (or updated edition).	Yes	Yes	Yes	Yes	An air quality analysis has been completed for the Proposed Project and Alternatives. Mitigation measures have been recommended as a result of this analysis (Section 5.2.3).
5.J.11	Require developers to pave all access roads, driveways, and parking areas serving new commercial and industrial development.	Yes	Yes	Yes	Yes	Access roads, driveways, and parking areas would be paved under the Proposed Project and Alternatives.
Air Quality – Transportation/Circulation						
5.K	To integrate air quality planning with the transportation planning process.	Yes	Yes	Yes	Yes	The Proposed Project and Alternatives have incorporated air quality planning with the transportation planning process.
5.K.1	Require new development to be planned to result in smooth flowing traffic conditions for major roadways. This includes traffic signals and traffic signal coordination, parallel roadways, and intra- and inter-neighborhood connections where significant reductions in overall emissions can be achieved.	Yes	Yes	Yes	Yes	The Proposed Project and Alternatives have incorporated air quality planning with the transportation planning process. For instance, analysis determined that the development alternatives' impact on CO would be considered significant if the project would degrade operation of a signalized intersection to level of service (LOS) E or F, or substantially worsen LOS at a signalized intersection already operating at F. Traffic impacts would be mitigated to reduce these LOS levels.
5.K.5	Require large new developments to dedicate land for and construct appropriate improvements for suitably located park-	No	No	No	No	No park-and-ride lots are proposed for the Proposed Project or Alternatives.

Madera County General Plan		Land Use Consistency (Yes or No)				Discussion
Section	Goal or Policy Summary	Alt A	Alt B	Alt C	Alt D	
	and-ride lots, subject to the requirements of California Government Code Section 66000 et seq. (AB 1600).					
Seismic and Geological Hazards						
6.A	To minimize loss of life, injury, and property damage due to seismic and geological hazards.	Yes	Yes	Yes	Yes	The Proposed Project or Alternatives would minimize loss of life, injury, and property damage due to seismic and geological hazards to the extent possible.
6.A.1	Require the preparation of a soils engineering and geologic-seismic analysis prior to permitting development in areas prone to geological or seismic hazards (i.e., groundshaking, landslides, liquefaction, critically expansive soils).	Yes	Yes	Yes	Yes	Construction of the Proposed Project or Alternatives would incorporate earthquake design provisions, which safe guard against major structural failures and loss of life.
Flood Hazards						
6.B	To minimize the risk of loss of life, injury, damage to property, and economic and social dislocations resulting from flood hazards.	Yes	Yes	Yes	Yes	The Proposed Project or Alternatives would minimize the risk of loss of life, injury, property damage, and economic and social dislocations resulting from flood hazards to the extent possible.
6.B.1	Require flood-proofing of structures in areas subject to flooding.	Yes	Yes	Yes	Yes	The Grading and Drainage Plan incorporates fill to elevate the finished floor of the Proposed Project or Alternatives at least 1.0 foot above the FEMA 100-year floodplain.
6.B.3	Restrict uses in designated floodways to those that are tolerant of occasional flooding and do not restrict or alter flow of floodwaters. Such uses may include agriculture, outdoor recreation, mineral extraction, and natural resource areas.	Yes	Yes	Yes	Yes	The Proposed Action or Alternatives will be designed in a manner constant with the requirements for structures within the 100-year flood plain.
6.B.4	Require that all development within areas subject to 100-year floods be designed and constructed in a manner that will not cause floodwaters to be diverted onto adjacent property or increase flood hazards to other areas.	Yes	Yes	Yes	Yes	Construction of the Proposed Project and Alternatives would comply with the Grading and Drainage Plan and would be designed to incorporate the stormwater detention basins.
6.B.5	Require flood control structures, facilities, and improvements to be designed to conserve resources, incorporate and preserve scenic values, and to incorporate opportunities for recreation, where appropriate.	Yes	Yes	Yes	Yes	The Proposed Project and Alternatives would design flood control improvements to conserve resources and preserve scenic values and recreation to the extent possible. Stormwater detention basins, for instance, would be vegetated.
Fire Hazards						
6.C	To minimize the risk of loss of life, injury, and damage to property and watershed resources resulting from unwanted fires.	Yes	Yes	Yes	Yes	The Tribe would make one-time and annual payments to the City of Madera and Madera County to fund increased fire protection services. These payments would either be made in the current MOU with Madera County under Alternative A, or as recommended in Section 5.2.6 for the remaining alternatives. Additional fire protection mitigation measures are contained in Section 5.2.8 . These MOU contributions and mitigation measures have been determined after discussions with local fire protection providers regarding adequate service requirements for each alternative.

Madera County General Plan		Land Use Consistency (Yes or No)				Discussion
Section	Goal or Policy Summary	Alt A	Alt B	Alt C	Alt D	
6.C.3	New development shall be required to have water systems that meet County fire flow requirements. Where minimum fire flow is not available to meet County standards, alternative fire protection measures, including sprinkler systems, shall be identified and may be incorporated into development if approved by the appropriate fire protection agency.	Yes	Yes	Yes	Yes	The Proposed Project and Alternatives would comply with County fire flow requirements.
6.C.4	The County shall review project proposals to identify potential fire hazards and prevent or mitigate such hazards to acceptable levels of risk.	Yes	Yes	Yes	Yes	The Tribe would make one-time and annual payments to the City of Madera and Madera County to fund increased fire protection services. These payments would either be made in the current MOU with Madera County under Alternative A, or as recommended in Section 5.2.6 for the remaining alternatives. Additional fire protection mitigation measures are contained in Section 5.2.8 . These MOU contributions and mitigation measures have been determined after discussions with local fire protection providers regarding adequate service requirements for each alternative.
6.C.5	Require development to have adequate access for fire and emergency vehicles and equipment. All major subdivisions shall have two points of ingress and egress.	Yes	Yes	Yes	Yes	The Tribe would make one-time and annual payments to the City of Madera and Madera County to fund increased fire protection services. These payments would either be made in the current MOU with Madera County under Alternative A, or as recommended in Section 5.2.6 for the remaining alternatives. Additional fire protection mitigation measures are contained in Section 5.2.8 . These MOU contributions and mitigation measures have been determined after discussions with local fire protection providers regarding adequate service requirements for each alternative.
Airport Hazards						
6.D	To minimize the risk of loss of life, injury, damage to property, and economic and social dislocations resulting from airport hazards.	Yes	Yes	Yes	Yes	The Proposed Project and Alternatives would minimize associated airport hazards.
6.D.1	Ensure that new development around airports does not create safety hazards such as lights from direct or reflective sources, smoke, electrical interference, hazardous chemicals, or fuel storage in violation of adopted safety standards.	Yes	Yes	Yes	Yes	The Tribe would provide nighttime lighting for the parking areas that shines only on the parking areas and not surrounding areas. The Tribe would also limit building height and prohibit anything that interferes with aircraft from the site.
6.D.2	Limit land uses in airport safety zones to those uses listed in the applicable airport comprehensive land use plans (CLUPs) as compatible uses. Exceptions shall be made only as provided for in the CLUPs. Such uses shall also be regulated to ensure compatibility in terms of location, height, and noise.	Yes	Yes	Yes	Yes	The Tribe would either maintain current aviation easements within Zones A, B1, and B2 on the Madera site or enter into an agreement with the City of Madera to allow for the protections contained in the current aviation easement. The North Fork site is not located in an airport safety zone.
Noise						
7.A	To protect County residents from the harmful and annoying	Yes	Yes	Yes	Yes	The Proposed Project and Alternatives would protect residents from

Madera County General Plan		Land Use Consistency (Yes or No)				Discussion
Section	Goal or Policy Summary	Alt A	Alt B	Alt C	Alt D	
	effects of exposure to excessive noise.					excessive noise exposure.
7.A.2	Noise created by new transportation noise sources, including roadway improvement projects, shall be mitigated so as not to exceed 60 db L _{dn} within the outdoor activity areas of existing or planned noise-sensitive land uses and 45 dB L _{dn} in interior spaces of existing or planned noise-sensitive land uses.	Yes	Yes	Yes	Yes	Increased noise from the Proposed Project and Alternative traffic, as described in Section 4.10 , would be minimal and would not be expected to exceed these levels at noise sensitive locations.
7.A.5	Noise which will be created by new non-transportation noise sources, or existing noise sources, or existing non-transportation noise sources which undergo modification that may increase noise levels, shall be mitigated so as not to exceed the noise level standards of Table 7.A.4 (of the Madera County General Plan Policy Document) on lands designated for noise-sensitive uses. This policy does not apply to noise levels associated with agricultural operations.	Yes	Yes	Yes	Yes	Noticeable noise associated with Alternatives A-D would be transportation related.
7.A.6	Enforce the State Noise Insulation Standards (California Code of Regulations, Title 24) and chapter 35 of the Uniform Building code (UBC) concerning interior noise exposure for multi-family housing, hotels and motels.	Yes	Yes	Yes	Yes	Increased noise from the Proposed Project and Alternative traffic, as described in Section 4.10 , would be minimal and would not be expected to exceed these levels at noise sensitive locations.
7.A.7	Where the development of a project may result in land uses being exposed to existing or projected future noise levels exceeding the levels specified by the policies of the noise section of the General Plan, the County shall require an acoustical analysis early in the review process so that noise mitigation may be included in the project design.	Yes	Yes	Yes	Yes	An acoustical analysis was prepared for the Proposed Project and the Alternatives.

SOURCE: County of Madera, 1995; AES, 2006.

In compliance with FAA notification requirements, the latitude, longitude, height, and distance to the Madera Municipal Airport runway of each of the four corners of the proposed hotel/casino for Alternative A were submitted to the FAA. The FAA analyzed all four corners and issued a “determination of no hazard to air navigation” statement on January 18, 2007 (**Appendix V**). The FAA determined that the location and development of a 72-foot tall hotel/casino would not constitute a hazard to air navigation. The FAA also stated that marking and lighting are not necessary for aviation safety.

The height of a crane to construct the project features would exceed the FAA 100:1 horizontal slope requirement for Alternative A. The crane height would range between 30 to 50 feet above the project features and would represent a significant impact if found to be a hazard to air navigation during construction. Mitigation measures presented in **Section 5.2.7** would reduce impacts to less than significant for potential hazards to air navigation due to the temporary use of a crane.

The proposed wastewater retention and stormwater detention ponds (**Section 2**) may attract birds, especially during spring and fall migrations. However, the Federal Aviation Administration (FAA) has indicated that the wildlife is only considered a hazard if it blocks the direct flight path (Chiang, 2005). The nearest detention basin would be approximately 0.5 miles away from the landing zone and outside of the flight path. Therefore, no significant impact to airport operations from these ponds would occur. In addition, stormwater detention ponds would be designed to detain stormwater for relatively short periods of time during storm events. These ponds would be dry for the vast majority of the year.

Distracting lights which could be mistaken for airport lights are considered a hazard to flight and are prohibited within Airport Compatibility Zones A, B1, B2, and D. Pilots may also confuse well-lit parking lots for airport runways. Light is a potentially significant impact to airport operations. Mitigation is recommended in **Section 5.2.7** that would reduce this impact to a less than significant level.

Other possible conflicts could occur between airport operations and Alternative A, including nuisance effects on the Madera site from aircraft overflights; blocking airspace over the Madera site with tall trees, buildings, or other objects; and electrical interference. Potential conflicts represent a potentially significant effect to airport operations. Mitigation is recommended in **Section 5.2.7** that would reduce these effects to a less than significant level.

Effects to Project Area

Land uses surrounding the Madera site include SR-99, rural residential, agriculture, commercial, a golf course, and the Madera Municipal Airport. Development of Alternative A would add light, noise, and traffic to the surrounding environment, potentially resulting in disturbances to

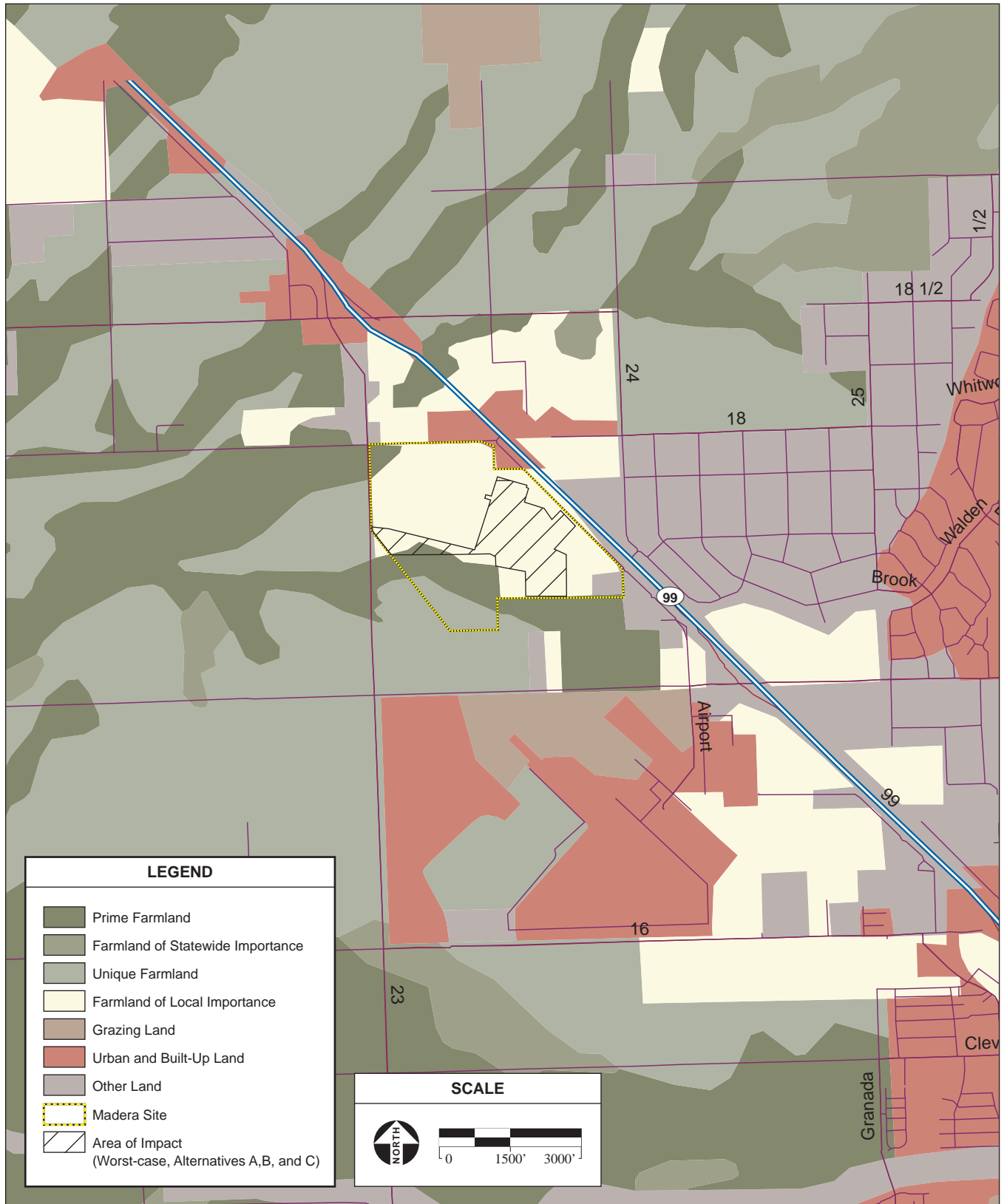
rural residences in the area. In addition, commercial development in a predominately agricultural area potentially subjects patrons and employees to nuisance effects from surrounding agricultural operations, such as noise and dust. Placing the casino near the middle of the Madera site (see **Section 2.2**) leaves a buffer between the casino/hotel and surrounding rural residential and agricultural uses. The buffer would minimize effects of noise and light on nearby residences and the effects of surrounding agricultural operations on the proposed developments. Furthermore, the Madera County right to farm ordinance (Ord. 522 § 2(part), 1989) will continue to protect neighboring farmers from nuisance suits brought by the Tribe or potential patrons on the site. Additionally, the Tribe and the Madera Irrigation District (MID) have signed a Memorandum of Understanding (MOU) under which the Tribe agrees to accept the inconvenience of nearby agricultural operations (see **Section 2.2.10**), further reducing the potential for conflicts with neighboring land uses. Thus, no significant effects, such as precluding existing or planned land uses or disruption of access or significant conflicts with existing land uses, would occur. Nonetheless, mitigation measures are discussed in **Section 5.2.7** that would reduce land use effects.

AGRICULTURE

As shown in **Sections 3.2** and **3.8**, the Madera site includes a variety of soils with varying suitability for agricultural use. The majority of the site, including the area slated for development under Alternatives A, B, and C (all have similar footprints), is classified as farmland of local importance. Farmland of local importance is defined as tracts of land that are not identified as having national (prime or unique farmland) or statewide importance, but which have nonetheless been identified by a local agency as important farmlands (7 C.F.R. § 657.5).

Most of the proposed development area (**Figure 4.8-11**) is made up of San Joaquin sandy loam 0 to 3% slope soils (SaA). SaA soils have a poor Storie Index rating of 27. A rating of 27 indicates that the soil has severe limitations and requires special management for use as crops (see **Table 3.8-14**). A small portion of the development area also occurs on Atwater loamy sand 0 to 3% slope soils (AwA). AwA soils have a good Storie Index rating of 76, indicating that the soil is suitable for most crops, but has minor limitations that require a few special management needs. Finally, a small portion of the development area occurs on Tujunga loamy sand 0 to 3% slope soils (TwA). TwA soils have an average Storie Index rating of 56, indicating that the soil is suited to a few crops or to special crops and requires special management.

The Farmland Protection Policy Act (FPPA) requires that federal agencies evaluate the value of farmland in order to evaluate adverse effects of its proposed action on the protection of farmland. According to the FPPA, farmland value is determined by a combination of two ratings: 1) the land evaluation rating and 2) the site assessment rating (7 C.F.R. § 658.5).



SOURCE: California Division of Land Resource Protection, 2002; AES, 2006

North Fork Casino EIS / 204502 ■

Figure 4.8-11
Impact to Agricultural Soils

The land evaluation rating is completed by the Natural Resource Conservation Service (NRCS) and is based on information from several sources including soil surveys, NRCS field office technical guides, soil potential/productivity ratings, land capability classifications, and important farmland determinations. Based on this information, farmland proposed for conversion is assigned a rating between 0 and 100 points, representing the relative value, for agricultural production, of the farmland to be converted compared to other farmland in the same local government jurisdiction.

The site assessment rating is completed by the Federal agency and is based on specified criteria meant to evaluate the characteristics of the site and surrounding area, other than on-site soil characteristics, that tend to affect the value of the site for agricultural production. For instance, one criterion is the size of the site in relation to the average-size farming unit in the County. A larger site is more valuable for agricultural production than a smaller site and is therefore assigned a higher rating by the Federal agency. The Federal agency must assign a rating for each of the twelve FPPA-defined site assessment criteria (see Part VI of Form AD-1006, contained in **Appendix Q**). Maximum points for each criterion ranges from 5 to 20 points, for a maximum total site assessment rating of 160 points.

The FPPA recommends that the Federal agency combine the land evaluation rating with the site assessment rating to identify the effect of its proposed action on farmland, and make a determination as to the suitability of the site for protection as farmland. Once the combined score is computed, the U.S. Department of Agriculture (USDA) recommends that sites receiving a total score of less than 160 not be given further consideration for protection and no additional sites need to be evaluated (in an attempt to reduce impacts by protecting the site in question). Sites receiving scores totaling 160 or more should be given increasingly higher levels of consideration for protection (7 C.F.R. § 658.4).

The NRCS has evaluated the relative value of the farmland to be converted under either Alternatives A, B, or C (all have a similar footprint) to be 69 out of 100 (the land evaluation rating). The site assessment rating has been computed at 74 out of 160. The combined FPPA point total is 143 out of 260 possible points, which is lower than the USDA protection threshold of 160 points (**Appendix Q**).

Given the generally poor quality of agricultural soils where development is proposed, the combined FPPA score of 143, and the retention of a large portion of the site as open space that could be used for agricultural purposes, Alternative A would have a less than significant impact on agriculture. In addition, the Tribe has agreed in the MID MOU to establish arrangements with local providers for the sale and purchase of local agricultural products and to establish an agricultural demonstration project for educational purposes on the Madera site, promoting and

benefiting regional agricultural operations. Nonetheless, mitigation measures have been included in **Section 5.2.7** that would further reduce Alternative A’s impacts to agriculture.

4.8.2 ALTERNATIVE B - REDUCED INTENSITY

TRANSPORTATION/CIRCULATION

This section discusses the 2008 with Project condition where project trips calculated for Alternative B are added to the baseline condition.

Trip Generation

Project trip generation was calculated for Alternative B, based on the earlier discussed methodology and is presented in **Table 4.8-10**. No captured or pass-by trip reductions were utilized.

Trip Distribution and Assignment

Based on the trip distribution pattern presented in **Figure 4.8-12**, the project trips were assigned to the local project area roadways. Trip counts at each of the study intersections are presented in **Figures 4.8-13 and 4.8-14**.

TABLE 4.8-10
PROJECT TRIP GENERATION - ALTERNATIVE B

Land Uses	Size	Daily	AM		PM	
			In	Out	In	Out
Casino	198,990 sf ¹	8,716	328	141	414	368
Total	198,990 sf	8,716	328	141	414	368

NOTES: ¹sf = square feet.

SOURCE: TPG Consulting, Inc. 2006; AES, 2006.

2008 Traffic Conditions

This section discusses the 2008 traffic conditions with Alternative B project trips added. The 2008 without Project conditions are reported as a baseline.

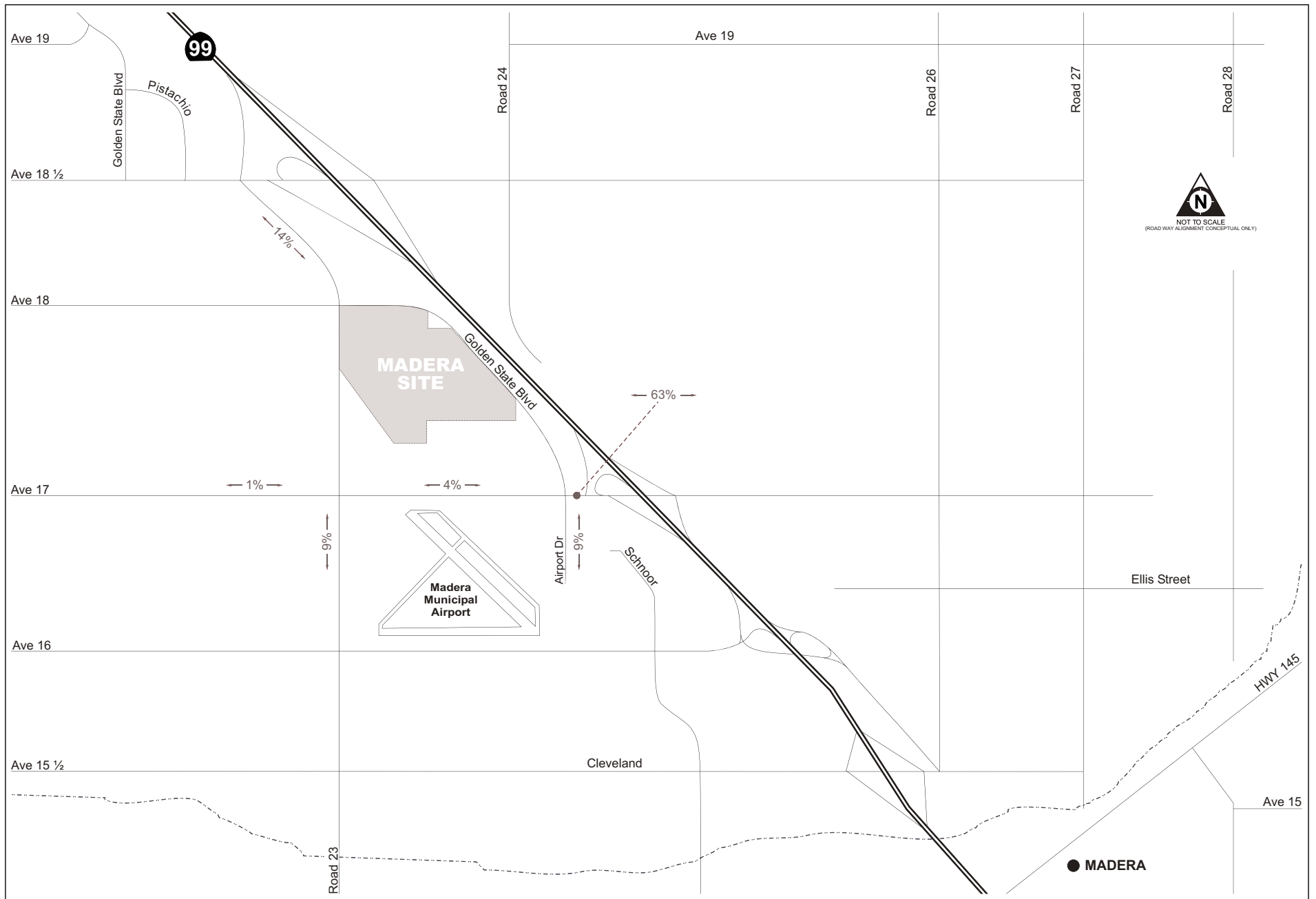
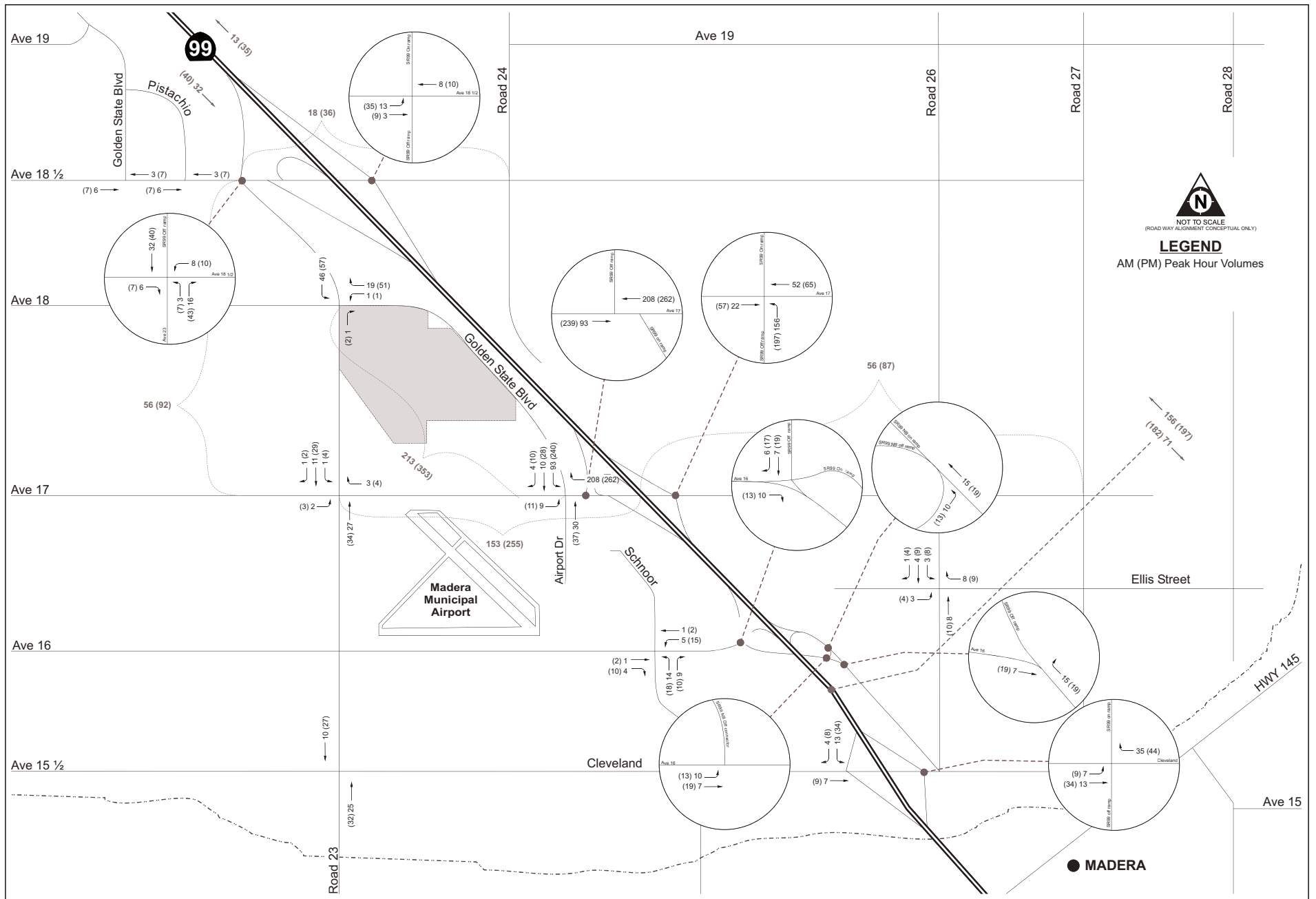


Figure 4.8-12
Madera Site – Trip Distribution Percentages With Alternative B



See Map 4.8-14

Figure 4.8-13
Madera Site – Intersection Trip Assignment With Alternative B

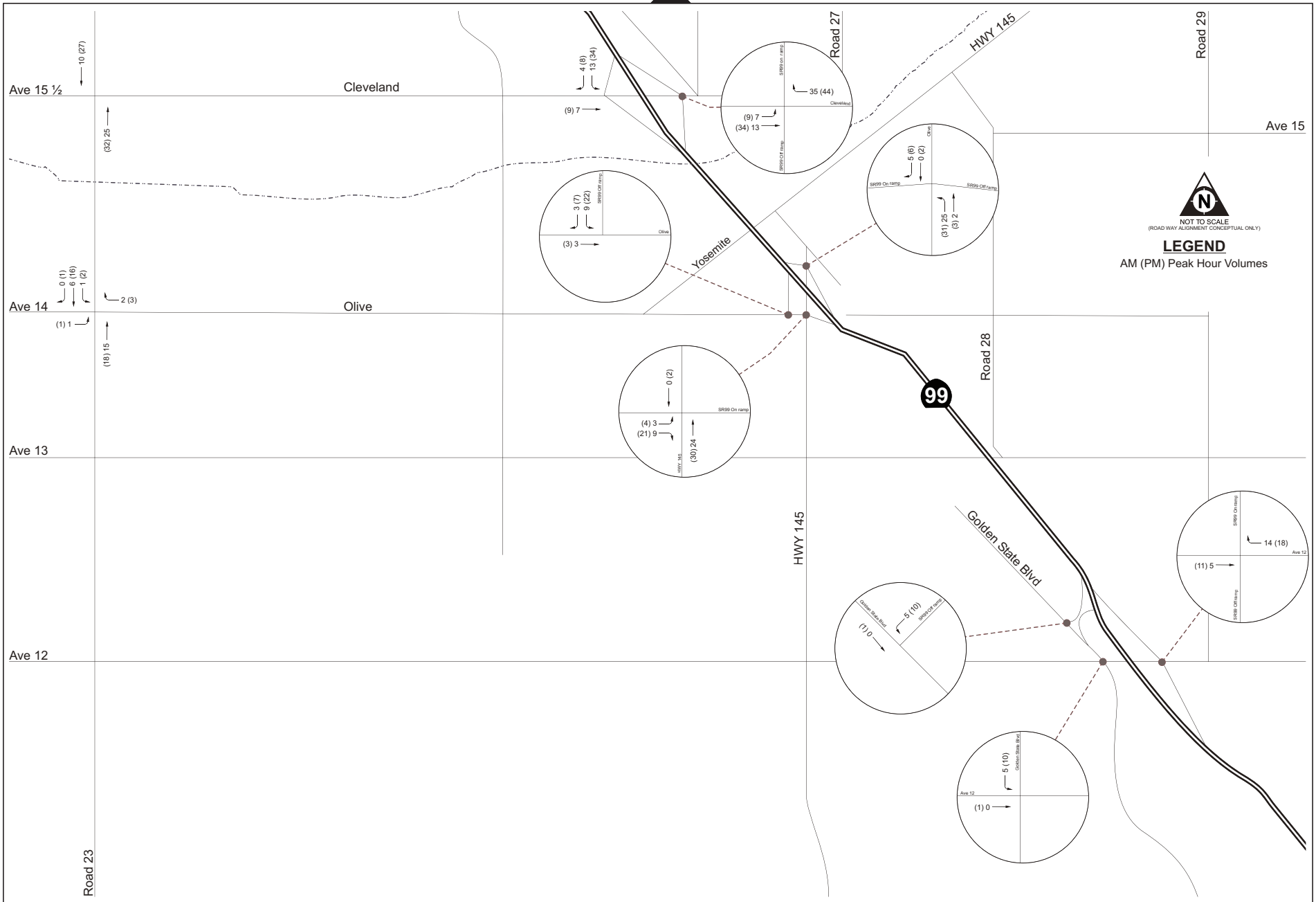


Figure 4.8-14
Madera Site – Intersection Trip Assignment With Alternative B

Freeway and Roadway Segment Performance

Table 4.8-11 summarizes the results of this weekday freeway and roadway segment analysis for the 2008 With Project (Alternative B) level of service conditions. As shown in **Table 4.8-11** below, the following six freeway segments and two roadway segment are shown to operate at an unacceptable LOS:

- SR-99 SB – North of Avenue 18½
- SR-99 NB – North of Avenue 18½
- SR-99 NB – Avenue 18½ to Avenue 17
- SR-99 SB – Avenue 18½ to Avenue 17
- SR-99 NB – South of Avenue 17
- SR-99 SB – South of Avenue 17
- Avenue 17 – SR-99 to Road 27
- Avenue 17 – Road 23 to SR 99

TABLE 4.8-11
 FREEWAY AND ROADWAY SEGMENT PERFORMANCE –
 2008 WITH ALTERNATIVE B

Segment	LOS Threshold	2008 w/o Project				With Alternative B			
		LOS		Density (pc/mi/ln) ¹		LOS		Density (pc/mi/ln)	
		AM	PM	AM	PM	AM	PM	AM	PM
Freeway Segment									
<i>SR-99 NB – North of Avenue 18½</i>	C	C	C	24.1	25.7	C	D	24.3	26.1
<i>SR-99 SB – North of Avenue 18½</i>	C	C	D	19.9	33.6	C	D	20.2	34.3
<i>SR-99 NB – Avenue 18½ to Avenue 17</i>	C	D	D	26.9	28.2	D	D	26.9	28.2
<i>SR-99 SB – Avenue 18½ to Avenue 17</i>	C	C	E	21.6	39.1	C	E	21.6	39.1
<i>SR-99 NB – South of Avenue 17</i>	C	D	F	31.6	---	D	F	34.2	---
<i>SR-99 SB – South of Avenue 17</i>	C	C	F	23.1	---	C	F	23.8	---
Roadway Segment									
<i>Avenue 18½ – Road 24 to Road 23</i>	D	B	B	NA	NA	B	B	NA	NA
<i>Road 23 – Avenue 18½ to Avenue 17</i>	D	B	C	NA	NA	B	C	NA	NA
<i>Avenue 17 – Road 23 to SR-99</i>	D	A	F	NA	NA	A	F	NA	NA
<i>Avenue 17 – SR-99 to Road 27</i>	D	F	F	NA	NA	F	F	NA	NA
<i>Golden State Boulevard – Avenue 17 to Road 23</i>	D	A	A	NA	NA	A	A	NA	NA

NOTES: **Bold** text denotes unacceptable LOS.

NA = not applicable.

OF = overflow.

¹ density=passenger car per mile per lane.

--- = beyond software limitations

SOURCE: TPG Consulting, Inc. 2006; AES 2006.

Intersection Performance

The 2008 Without Project traffic volumes were combined with vehicle trips expected to be generated by Alternative B. **Table 4.8-12** summarizes the 2008 With Alternative B Peak Hour intersection conditions. The 2008 Without Project intersection conditions are provided as a baseline. With the addition of project traffic under Alternative B, the following 14 study intersections are forecast to operate at an unacceptable LOS:

- Avenue 18½ at SR-99 SB ramps/Road 23
- Avenue 18½ at SR-99 NB ramps
- Avenue 17 at SR-99 SB ramps
- Avenue 17 at SR-99 NB ramps
- Avenue 12/Golden State Boulevard at SR-99 SB ramps
- Avenue 17 at Road 23
- Ellis Street at Road 26
- Avenue 16 at Schnoor Avenue
- Avenue 16/Avenue 16 connector at SR 99 NB ramps
- Avenue 17 at Golden State Boulevard
- Cleveland Avenue/Avenue 15½ at SR 99 NB ramps
- Cleveland Avenue/Avenue 15½ at SR 99 SB ramps
- SR-145/Madera Avenue at SR-99 NB ramps
- Olive Avenue/Avenue 14/SR-99 SB on-ramp at SR-145

TABLE 4.8-12
PEAK HOUR INTERSECTION CONDITIONS - 2008 WITH ALTERNATIVE B

Intersection	LOS Thres- hold	2008 w/o Project				Alternative A			
		AM		PM		AM		PM	
		LOS	Delay (secs) ¹	LOS	Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)
<i>Avenue 18½ at SR-99 SB ramps/Road 23</i>									
• WB Left-Through	C	A	8.9	A	8.9	A	8.9	A	9.0
• NB Approach		D	25.6	F	63.3	E	45.9	F	458.3
• SB Approach		D	30.0	F	178.0	E	45.9	F	324.1
<i>Avenue 18½ at SR-99 NB ramps</i>									
• EB Left	C	A	8.5	A	8.3	A	8.6	A	8.5
• NB Approach		E	44.3	F	144.0	F	55.4	F	239.1
<i>Avenue 17 at SR-99 SB ramps</i>									
• SB Approach	C	F	153.6	F	8216	F	402.7	F	19627
<i>Avenue 17 at SR-99 NB ramps</i>									
• EB Left	C	B	10.2	C	15.7	B	10.5	C	16.5
• NB Approach		F	738.0	F	5934	F	1301	F	10493

Avenue 12/Golden State Boulevard at SR-99 SB ramps									
• SB Left-Through	C	A	8.4	A	9.0	A	8.4	A	9.0
• NB Approach		C	15.6	F	303.5	C	16.2	F	323.1
Avenue 12 at Golden State Boulevard									
	D	C	20.9	C	29.8	C	23.1	D	35.1
Avenue 12 at SR-99 NB ramps									
	C	B	13.9	B	14.6	B	15.1	C	20.2
Avenue 18 at Road 23									
• NB Left-Through-Right		A	7.7	A	8.0	A	7.7	A	8.0
• SB Left-Through-Right	D	A	7.8	A	8.0	A	7.9	A	8.2
• WB Approach		B	10.8	B	11.0	B	10.9	B	11.3
• EB Approach		B	11.1	B	13.4	B	12.0	C	15.4
Avenue 17 at Road 23									
• NB Left-Through-Right		A	7.5	A	7.6	A	7.5	A	7.6
• SB Left-Through-Right	D	A	7.8	A	8.2	A	7.9	A	8.3
• WB Approach		B	14.7	F	50.5	C	15.7	F	83.6
• EB Approach		B	12.5	C	7.0	B	12.9	C	19.2
Avenue 17 at Golden State Boulevard									
• EB Left-Through-Right		A	9.1	B	11.0	B	10.1	B	13.1
• WB Left-Through-Right	D	A	8.9	B	13.7	A	8.9	B	13.7
• NB Approach		F	73.0	F	---	F	205.9	F	---
• SB Approach		F	282.2	F	---	F	346.2	F	---
Ellis Street at Road 26									
	D	B	14.62	F	96.48	C	15.09	F	106.43
Avenue 15½ at Road 23									
• NB Left-Through-Right		A	7.8	A	8.5	A	7.8	A	8.6
• SB Left-Through-Right	D	A	7.9	A	8.2	A	7.9	A	8.3
• WB Approach		B	11.9	B	14.6	B	12.4	C	15.5
• EB Approach		B	12.5	C	16.9	B	12.9	C	17.9
Avenue 14 at Road 23									
	D	A	9.77	C	16.62	A	9.99	C	18.41
Avenue 16 at Schnoor Avenue									
• NB Left		A	7.4	A	7.6	A	7.4	A	7.6
• SB Left-Through-Right	D	A	7.8	A	7.7	A	7.8	A	7.7
• WB Approach		B	11.5	F	63.4	B	12.2	F	105.0
• EB Approach		B	14.2	E	49.5	C	15.4	F	72.9
Avenue 16 at SR-99 SB ramps									
	C	B	14.8	C	21.3	B	14.9	C	21.4
Avenue 16/Avenue 16 Connector at SR-99 NB ramps									
• EB Left	C	B	12.6	D	26.5	B	12.9	D	30.5
Avenue 16 at SR-99 NB ramp connector									
• SB Left-Through	C	A	8.2	A	9.5	A	8.2	A	9.6
• WB Right		A	9.6	B	12.8	A	9.6	B	12.8

Gateway/Avenue 16 at SR 99 NB Ramps										
• WB Left	C	B	11.1	C	15.4	B	11.2	C	15.9	
Cleveland Avenue/Avenue 15½ at SR-99 NB ramps										
	C	B	14.2	D	35.1	B	14.5	D	36.7	
Cleveland Avenue/Avenue 15½ at SR-99 SB ramps										
	C	B	13.0	C	34.3	B	13.0	D	40.0	
SR-145/Madera Avenue at SR-99 NB ramps										
	C	D	36.5	D	54.8	D	38.5	E	61.7	
Olive Avenue/Avenue 14 at SR-99 SB off-ramp										
	C	B	15.4	C	29.8	B	15.7	C	31.7	
Olive Avenue/Avenue 14/SR-99 SB on-ramp at SR-145										
	C	C	26.6	E	61.1	C	30.1	E	67.2	
Avenue 18½ at Pistachio Drive										
• EB Approach	D	A	8.9	A	9.1	A	8.9	A	9.1	
• SB Approach		C	22.5	D	25.5	C	23.0	D	26.5	
Avenue 18½ at Golden State Boulevard										
• EB Approach	D	A	7.7	A	7.8	A	7.7	A	7.8	
• SB Approach		B	11.1	B	12.2	B	11.2	B	12.4	

NOTES: **Bold** text denotes unacceptable LOS.

¹ Delay in seconds per vehicle.

--- = beyond software limitations

SOURCE: TPG Consulting, Inc. 2006; AES 2006.

Figures 4.8-15 and 4.8-16 present the 2008 With Alternative B intersection volumes at each of the Madera site study intersections.

Impact Analysis

Alternative B's contribution to unacceptable traffic operations represents a significant impact. Mitigation measures for the 2008 with Project (Alternative B) are discussed in **Section 5.2.7** of this document. With the incorporation of project mitigation measures, each of the intersections and roadway segments that are shown to have an unacceptable LOS would be improved to an acceptable LOS. This would result in a less than significant impact.

LAND USE

Consistency with Local Land Use Regulations

Once the Madera site is converted to reservation land, the only applicable land use regulations would be Tribal. Madera County or City of Madera land use regulations would not apply. The Tribe desires to work cooperatively with local and State authorities on matters related to land use. Accordingly, Madera County and the City of Madera park land use regulations and project effects are assessed below.

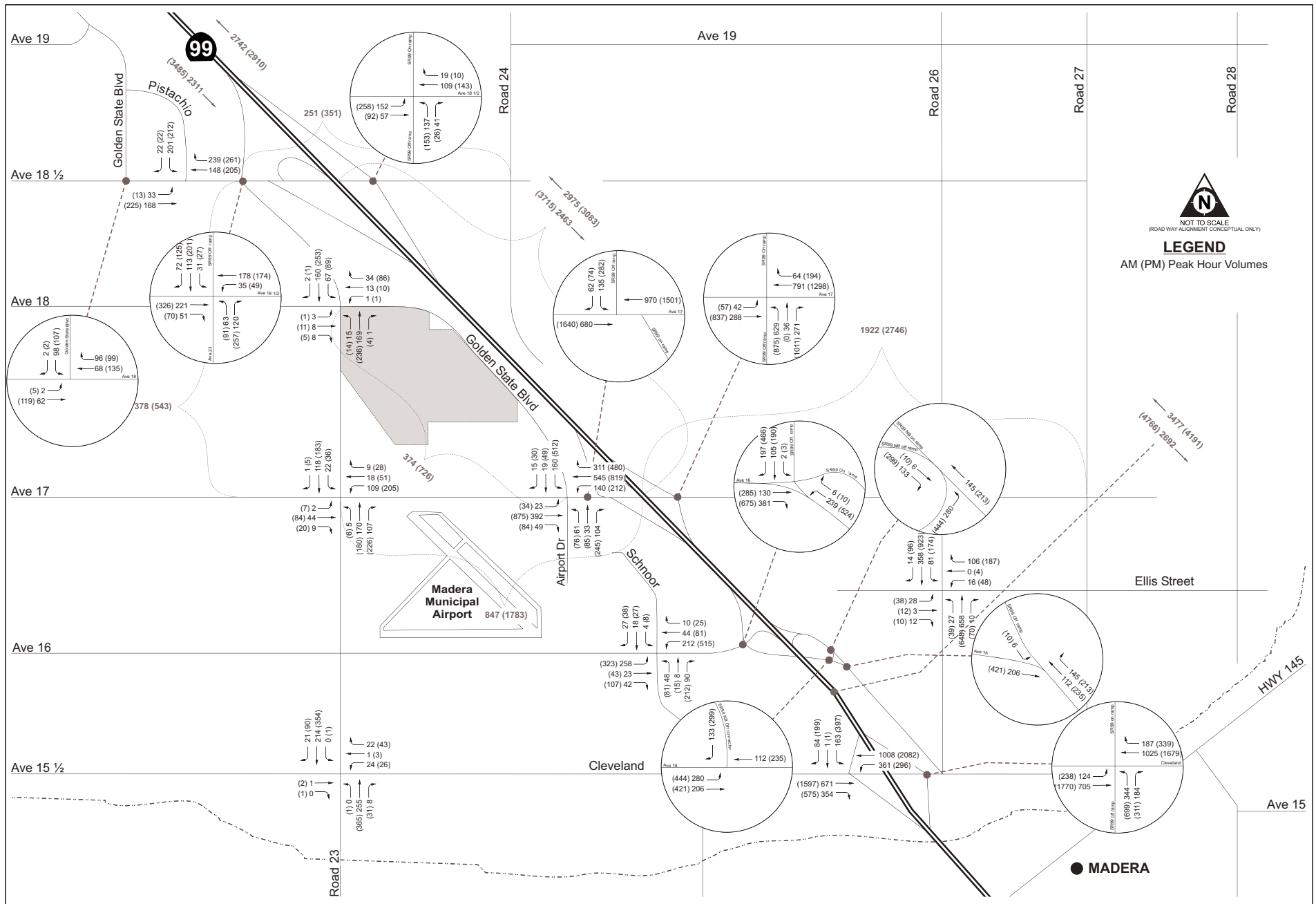


Figure 4.8-15
Madera Site – 2008 Intersection Volumes With Alternative B

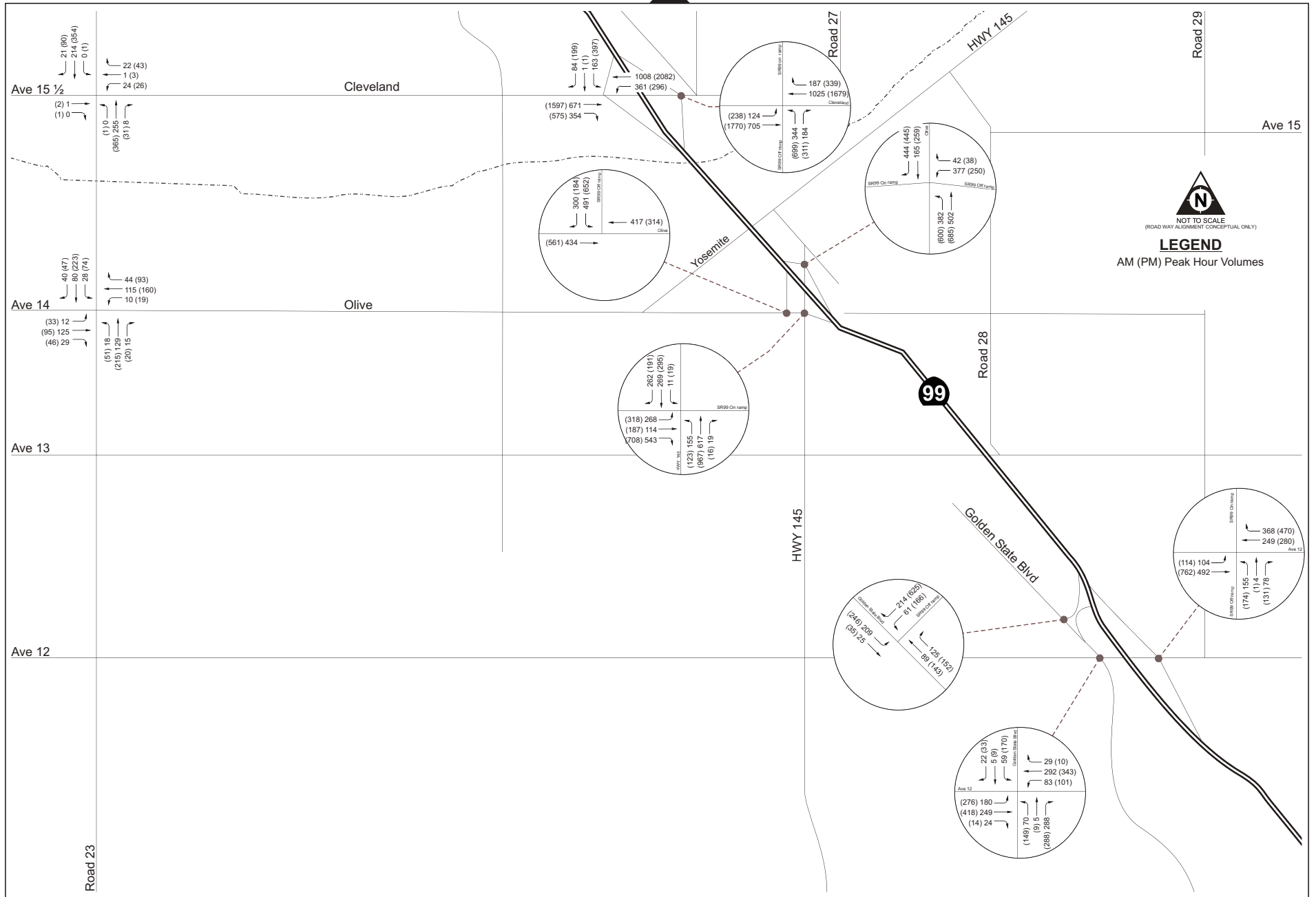


Figure 4.8-16
Madera Site – 2008 Intersection Volumes With Alternative B

Alternative B would involve commercial development on land that is currently outside Madera city limits but within the City's area of influence. Alternative B would be consistent with most goals, objectives, and policies of Madera County and the City of Madera (**Table 3.8-7, Table 4.8-9**).

Note that consistency or inconsistency with local land use regulations does not by itself constitute an environmental impact. Environmental impacts, such as potential conflicts with neighboring land uses, are discussed below.

Airport Compatibility

The Madera site is within the influence of the Madera Municipal Airport. Most of the Alternative B development sections of the Madera site are within Zone D, with a little of the parking lot and an access road lying in Zones B1 and B2. No development would occur in Zone A (**Figure 3.8-12**).

No Alternative B structures would exceed 50 feet in height, well below the 150-foot building restriction that applies to the portions of the Madera site where development would occur (**Figure 3.8-13**). The proposed casino for Alternative B would be within 20,000 feet of the airport runway and approximately 51.5 feet tall (including a lightning rod). The proposed casino for Alternative B is subject to FAA notification because it exceeds the 100:1 horizontal slope requirement. All other proposed structures for Alternative B, including the parking, water and wastewater structures do not exceed the 100:1 horizontal slope requirement for development adjacent to an airport runway. The height of the proposed casino for Alternative B is approximately 20 feet less than Alternative A and in the same location; the FAA determination of no hazard to air navigation for Alternative A would therefore also apply to Alternative B.

The height of a crane to construct the project features would exceed the FAA 100:1 horizontal slope requirement for Alternative B. The crane height would range between 30 to 50 feet above the project features and would represent a significant impact if found to be a hazard to air navigation during construction. Mitigation measures presented in **Section 5.2.7** would reduce impacts to less than significant for potential hazards to air navigation due to the temporary use of a crane.

The proposed wastewater retention and stormwater detention ponds (**Section 2**) may attract birds, especially during spring and fall migrations. However, the Federal Aviation Administration (FAA) has indicated that the wildlife is only considered a hazard if it blocks the direct flight path (Chiang, 2005). The nearest detention basin would be approximately 0.5 miles away from the landing zone and outside of the flight path. Therefore, no significant impact to airport operations from these ponds would occur. In addition, stormwater detention ponds would

be designed to detain stormwater for relatively short periods of time during storm events. These ponds would be dry for the vast majority of the year.

As with Alternative A (**Section 4.8.1**), light emissions and other possible conflicts are present between Alternative B developments and the Madera Municipal Airport. Although these potential conflicts would be slightly lessened due to the less intensive development planned for Alternative B, potential impacts to human safety or normal airport operations would be a potentially significant impact. Mitigation is recommended in **Section 5.2.7** that would reduce these impacts to a less than significant level.

Effects to Project Area

As with Alternative A, development of Alternative B would add light, noise, and traffic to the surrounding environment, but at a marginally reduced level, potentially resulting in disturbances to rural residences in the area. Unlike Alternative A, the terms of the MID MOU would not apply to Alternative B. Commercial development in a predominately agricultural area potentially subjects patrons and employees to nuisance effects from surrounding agricultural operations, such as noise and dust. As with Alternative A, the Alternative B developments would be placed near the middle of the Madera site (see **Section 2.2**), leaving a buffer between the casino and surrounding rural residential and agricultural uses. The buffer would minimize effects of noise and light on nearby residences and the effects of surrounding agricultural operations on the proposed developments. Furthermore, the Madera County right to farm ordinance (Ord. 522 § 2(part), 1989) will continue to protect neighboring farmers from nuisance suits brought by the Tribe or potential patrons on the site. Thus, no significant effects, such as precluding existing or planned land uses or disruption of access or significant conflicts with existing land uses, would occur. Nonetheless, mitigation measures are discussed in **Section 5.2.7** that would reduce land use effects.

AGRICULTURE

Effects to agriculture would be similar to Alternative A given Alternative B's similar development footprint. As with Alternative A, the combined FPPA point total is 143 out of 260 possible points, which is lower than the USDA protection threshold of 160 points (**Appendix Q**).

Given the generally poor quality of agricultural soils where development is proposed, the combined FPPA score of 143, and the retention of a large portion of the site as open space that could be used for agricultural purposes, Alternative B would have a less than significant impact on agriculture. Nonetheless, mitigation measures have been included in **Section 5.2.7** that would further reduce Alternative B's impacts to agriculture.

4.8.3 ALTERNATIVE C – NON-GAMING ALTERNATIVE

TRANSPORTATION/CIRCULATION

This section discusses the 2008 With Project condition where project trips calculated for Alternative C are added to the baseline condition.

Trip Generation

Trip generation rates for Alternative C were derived from the ITE *Trip Generation* manual presented previously in the Trip Generation discussion. These trip rates were applied to the project components to produce the project trip generation amounts, shown in **Table 4.8-13**.

TABLE 4.8-13
PROJECT TRIP GENERATION - ALTERNATIVE C

Size (sf) ¹	Type	Land Use Code	Daily	AM		PM	
				In	Out	In	Out
125,000	Free Standing Discount Superstore	813	6,151	118	113	238	246
100,000	Discount Club	861	4,180	40	16	212	212
3,000	Fast Food with Drive-Through Restaurant	934	1,488	81	78	54	50
4,000	High Turnover Sit Down Restaurant	932	509	24	22	27	17
5,000	High Turnover Sit Down Restaurant	932	636	30	28	33	21
Total			12,964	293	257	564	546

NOTES: ¹ sf = square feet

SOURCE: ITE, 2003; TPG Consulting, Inc. 2006; AES, 2006.

Trip Distribution and Assignment

Based on the trip distribution pattern presented in **Figure 4.8-17**, the project trips were assigned to the local project area roadways. Trip counts at each of the study intersections are presented in **Figures 4.8-18** and **4.8-19**.

2008 Traffic Conditions

This section discusses the 2008 traffic conditions with Alternative C project trips added. The 2008 Without Project conditions are reported as a baseline.

Freeway and Roadway Segment Performance

Table 4.8-14 summarizes the results of this weekday freeway and roadway segment analysis for the 2008 With Project (Alternative C) level of service conditions. As shown in **Table 4.8-14** below, the following six freeway and two roadway segments are shown to operate at an unacceptable LOS:

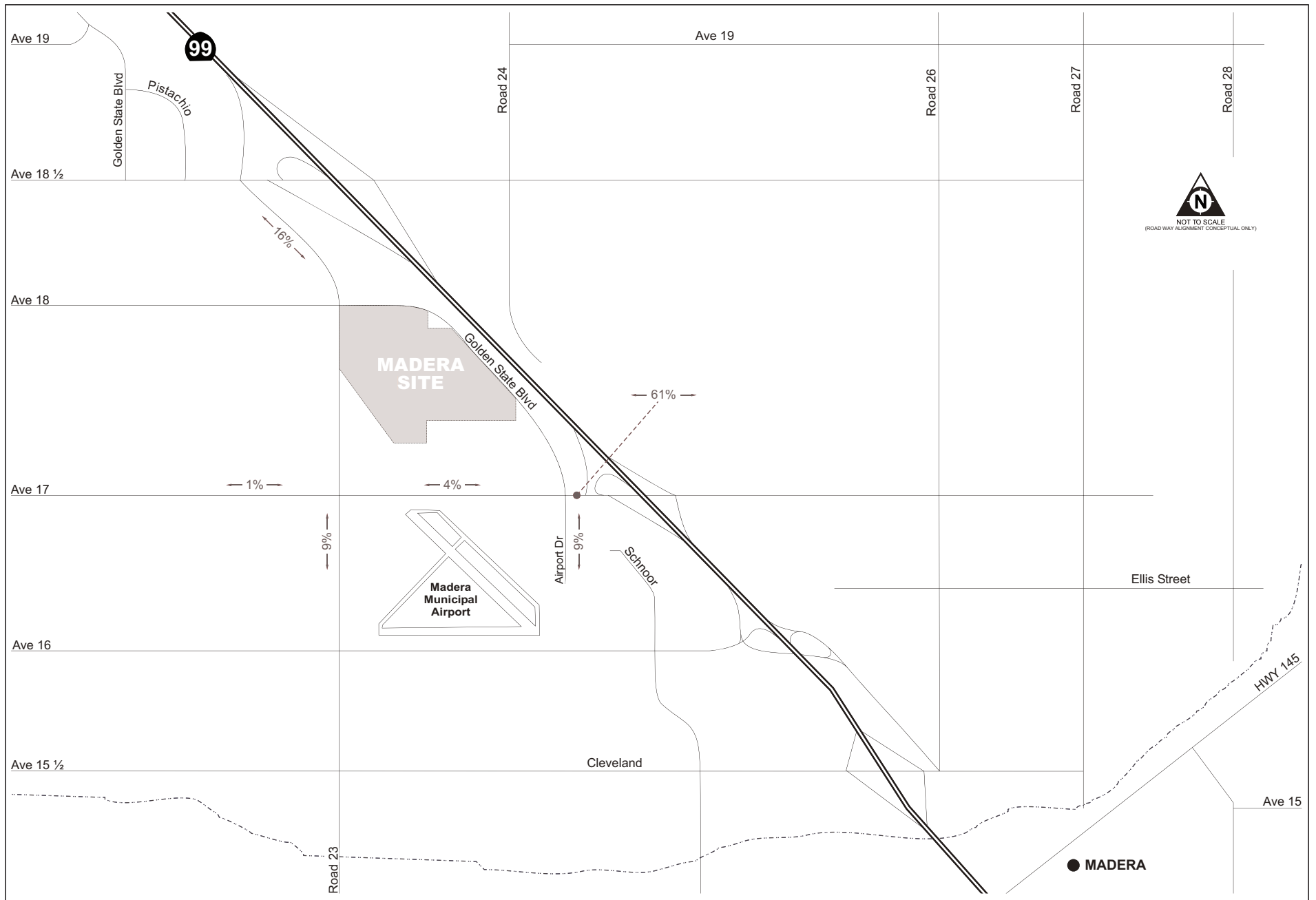


Figure 4.8-17
Madera Site – Trip Distribution Percentages With Alternative C

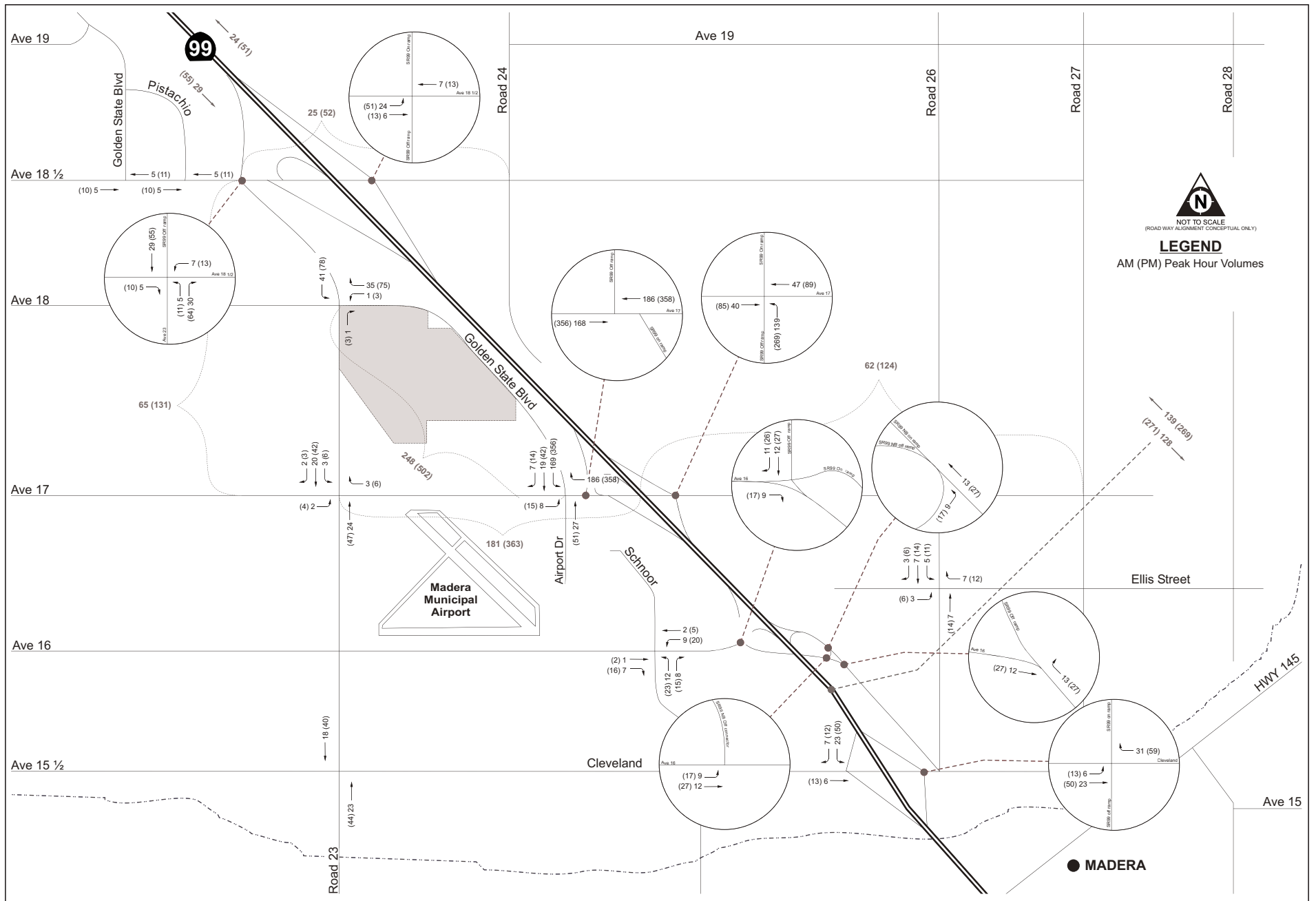


Figure 4.8-18
Madera Site – Intersection Trip Assignment With Alternative C

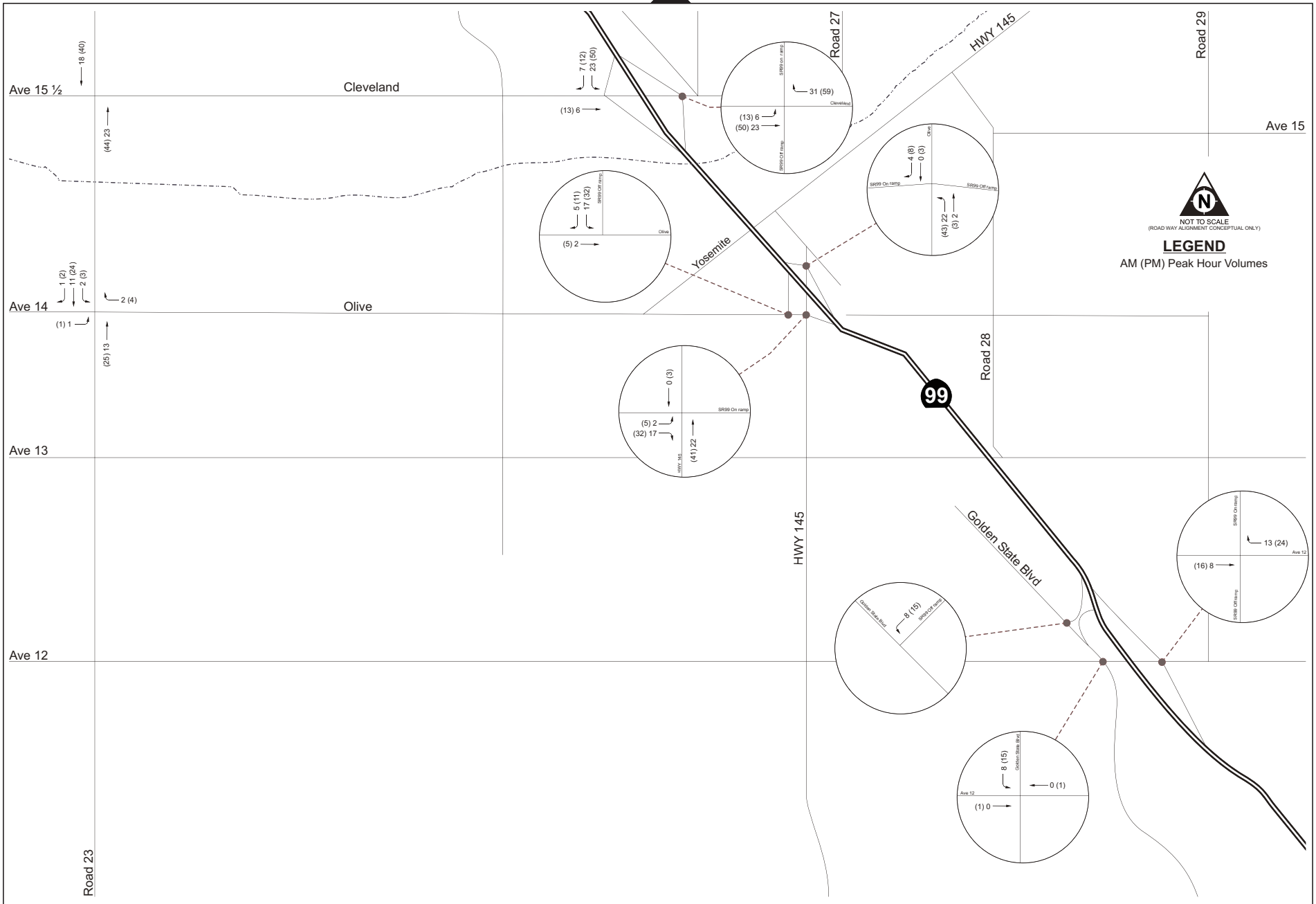


Figure 4.8-19
 Madera Site – Intersection Trip Assignment With Alternative C

- SR-99 SB – North of Avenue 18½
- SR-99 NB – North of Avenue 18½
- SR-99 NB – Avenue 18½ to Avenue 17
- SR-99 SB – Avenue 18½ to Avenue 17
- SR-99 NB – South of Avenue 17
- SR-99 SB – South of Avenue 17
- Avenue 17 – SR-99 to Road 27
- Avenue 17 – Road 23 to SR 99

TABLE 4.8-14
FREEWAY AND ROADWAY SEGMENT PERFORMANCE –
2008 WITH ALTERNATIVE C

Segment	LOS Threshold	2008 w/o Project				Alternative C			
		LOS		Density (pc/mi/ln) ¹		LOS		Density (pc/mi/ln)	
		AM	PM	AM	PM	AM	PM	AM	PM
Freeway Segment									
SR-99 NB – North of Avenue 18½	C	C	C	24.1	25.7	C	D	24.4	26.3
SR-99 SB – North of Avenue 18½	C	C	D	19.9	33.6	C	D	20.2	34.6
SR-99 NB – Avenue 18½ to Avenue 17	C	D	D	26.9	28.2	D	D	26.9	33.9
SR-99 SB – Avenue 18½ to Avenue 17	C	C	E	21.6	39.1	C	E	21.6	39.1
SR-99 NB – South of Avenue 17	C	D	F	31.6	---	D	F	33.9	---
SR-99 SB – South of Avenue 17	C	C	F	23.1	---	C	F	24.3	---
Roadway Segment									
Avenue 18½ – Road 24 to Road 23	D	B	B	NA	NA	B	B	NA	NA
Road 23 – Avenue 18½ to Avenue 17	D	B	C	NA	NA	C	C	NA	NA
Avenue 17 – Road 23 to SR-99	D	A	F	NA	NA	A	F	NA	NA
Avenue 17 – SR-99 to Road 27	D	F	F	NA	NA	F	F	NA	NA
Golden State Boulevard – Avenue 17 to Road 23	D	A	A	NA	NA	A	A	NA	NA

NOTES: **Bold** text denotes unacceptable LOS.

NA = not applicable

OF = overflow

¹ density = passenger car per mile per lane

--- = beyond software limitations

SOURCE: TPG Consulting, Inc. 2006; AES 2006.

Intersection Performance

As shown in **Table 4.8-15**, with the addition of project traffic under Alternative C, the following 15 study intersections are forecast to operate at an unacceptable LOS:

- Avenue 18½ at SR-99 SB ramps/Road 23
- Avenue 18½ at SR-99 NB ramps
- Avenue 17 at SR-99 SB ramps
- Avenue 17 at SR-99 NB ramps
- Avenue 12/Golden State Boulevard at SR-99 SB ramps

- Avenue 12 at SR-99 NB ramps
- Avenue 17 at Road 23
- Avenue 17 at Golden State Boulevard
- Ellis Street at Road 26
- Avenue 16 at Schnoor Avenue
- Avenue 16/Avenue 16 connector at SR99 NB ramps
- Cleveland Avenue/Avenue 15½ at SR 99 NB ramps
- Cleveland Avenue/Avenue 15½ at SR 99 SB ramps
- SR-145/Madera Avenue at SR-99 NB ramps
- Olive Avenue/Avenue 14/SR-99 SB on-ramp at SR-145

TABLE 4.8-15
INTERSECTION OPERATIONS - 2008 WITH ALTERNATIVE C

Intersection	LOS Thres-hold	2008 w/o Project				Alternative A			
		AM		PM		AM		PM	
		LOS	Delay (secs) ¹	LOS	Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)
Avenue 18½ at SR-99 SB ramps/Road 23									
• WB Left-Through	C	A	8.9	A	8.9	A	8.9	A	9.0
• NB Approach		D	25.6	F	63.3	E	35.6	F	---
• SB Approach		D	30.0	F	178.0	E	43.8	F	387.0
Avenue 18½ at SR-99 NB ramps									
• EB Left	C	A	8.5	A	8.3	A	8.7	A	8.6
• NB Approach		E	44.3	F	144.0	F	65.3	F	286.9
Avenue 17 at SR-99 SB ramps									
• SB Approach	C	F	153.6	F	8216	F	458.3	F	29610
Avenue 17 at SR-99 NB ramps									
• EB Left	C	B	10.2	C	15.7	B	10.4	C	16.9
• NB Approach		F	738.0	F	5934	F	1294	F	12966
Avenue 12/Golden State Boulevard at SR-99 SB ramps									
• SB Left-Through	C	A	8.4	A	9.0	A	8.4	A	9.0
• NB Approach		C	15.6	F	303.5	C	16.5	F	333.5
Avenue 12 at Golden State Boulevard									
	D	C	20.9	C	29.8	C	22.3	C	30.4
Avenue 12 at SR-99 NB ramps									
	C	B	13.9	B	14.6	B	15.1	B	17.0
Avenue 18 at Road 23									
• NB Left-Through-Right	D	A	7.7	A	8.0	A	7.7	A	8.0
• SB Left-Through-Right		A	7.8	A	8.0	A	7.9	A	8.2
• WB Approach		B	10.8	B	11.0	B	10.7	B	11.8
• EB Approach		B	11.1	B	13.4	B	12.0	C	16.7
Avenue 17 at Road 23									
	D								

4.0 Environmental Consequences

• NB Left-Through-Right		A	7.5	A	7.6	A	7.5	A	7.7
• SB Left-Through-Right		A	7.8	A	8.2	A	7.9	A	8.4
• WB Approach		B	14.7	F	50.5	C	16.1	F	104.5
• EB Approach		B	12.5	C	7.0	B	13.1	C	20.3
Avenue 17 at Golden State Boulevard									
• EB Left-Through-Right		A	9.1	B	11.0	A	9.9	B	14.0
• WB Left-Through-Right	D	A	8.9	B	13.7	A	8.9	B	13.7
• NB Approach		F	73.0	F	---	F	224.1	F	---
• SB Approach		F	282.2	F	---	F	4224	F	---
Ellis Street at Road 26	D	B	14.62	F	96.48	C	15.1	F	110.38
Avenue 15½ at Road 23									
• NB Left-Through-Right		A	7.8	A	8.5	A	7.8	A	8.6
• SB Left-Through-Right	D	A	7.9	A	8.2	A	7.9	A	8.3
• WB Approach		B	11.9	B	14.6	B	12.4	C	16.0
• EB Approach		B	12.5	C	16.9	B	13.0	C	18.4
Avenue 14 at Road 23	D	A	9.77	C	16.62	B	10.04	C	19.38
Avenue 16 at Schnoor Avenue									
• NB Left		A	7.4	A	7.6	A	7.4	A	7.6
• SB Left-Through-Right	D	A	7.8	A	7.7	A	7.8	A	7.8
• WB Approach		B	11.5	F	63.4	B	12.2	F	121.5
• EB Approach		B	14.2	E	49.5	C	15.2	F	82.8
Avenue 16 at SR-99 SB ramps	C	B	14.8	C	21.3	B	14.9	C	21.4
Avenue 16/Avenue 16 Connector at SR-99 NB ramps									
• EB Left	C	B	12.6	D	26.5	B	13.0	D	32.3
Avenue 16 at SR-99 NB ramps Connector									
• SB Left-Through	C	A	8.2	A	9.5	A	8.2	A	9.6
• WB Right		A	9.6	B	12.8	A	9.6	B	12.8
Gateway/Avenue 16 at SR 99 NB Ramps									
• WB Left	C	B	11.1	C	15.4	B	11.2	C	16.1
Cleveland Avenue/Avenue 15½ at SR-99 NB ramps									
	C	B	14.2	D	35.1	B	14.5	D	36.5
Cleveland Avenue/Avenue 15½ at SR-99 SB ramps									
	C	B	13.0	C	34.3	B	13.3	D	42.1
SR-145/Madera Avenue at SR-99 NB ramps									
	C	D	36.5	D	54.8	D	38.0	E	64.5
Olive Avenue/Avenue 14 at SR-99 SB off-ramp									
	C	B	15.4	C	29.8	B	16.1	C	32.1
Olive Avenue/Avenue 14/SR-99 SB on-ramp at SR-145									
	C	C	26.6	E	61.1	C	29.7	E	69.8
Avenue 18½ at Pistachio Drive									
▪ EB Approach	C	A	8.9	A	9.1	A	8.9	A	9.1

▪ SB Approach		C	22.5	D	25.5	C	23.1	D	27.0	
Avenue 18½ at Golden State Boulevard										
• EB Approach		D	A	7.7	A	7.8	A	7.7	A	7.8
• SB Approach			B	11.1	B	12.2	B	11.2	B	12.5

NOTES: **Bold** text denotes unacceptable LOS.

¹ Delay in seconds per vehicle.

--- = beyond software limitations

SOURCE: TPG Consulting, Inc. 2006; AES 2006.

Figures 4.8-20 and 4.8-21 present the 2008 With Alternative C intersection volumes at each of the Madera site study intersections.

Impact Analysis

Alternative C’s contribution to unacceptable traffic operations represents a significant impact. Mitigation measures for the 2008 With Project (Alternative C) are discussed in Section 5.2.7 of this document. With the incorporation of project mitigation measures, each of the intersections and roadway segments that are shown to have an unacceptable LOS would be improved to an acceptable LOS. This would result in a less than significant impact.

LAND USE

Consistency with Local Land Use Regulations

Once the Madera site is converted to reservation land, the only applicable land use regulations would be Tribal. Madera County or City of Madera land use regulations would not apply. The Tribe desires to work cooperatively with local and State authorities on matters related to land use. Accordingly, Madera County and the City of Madera land use regulations and project effects are assessed below.

Alternative C would involve commercial development on land that is currently outside Madera city limits but within the City’s area of influence. Alternative C would be consistent with most goals, objectives, and policies of Madera County and the City of Madera (Table 3.8-7, Table 4.8-9).

Note that consistency or inconsistency with local land use regulations does not by itself constitute an environmental impact. Environmental impacts, such as potential conflicts with neighboring land uses, are discussed below.

Airport Compatibility

The Madera site is within the influence of the Madera Municipal Airport. Most of the Alternative C development sections of the Madera site are within Zone D, with a little of the

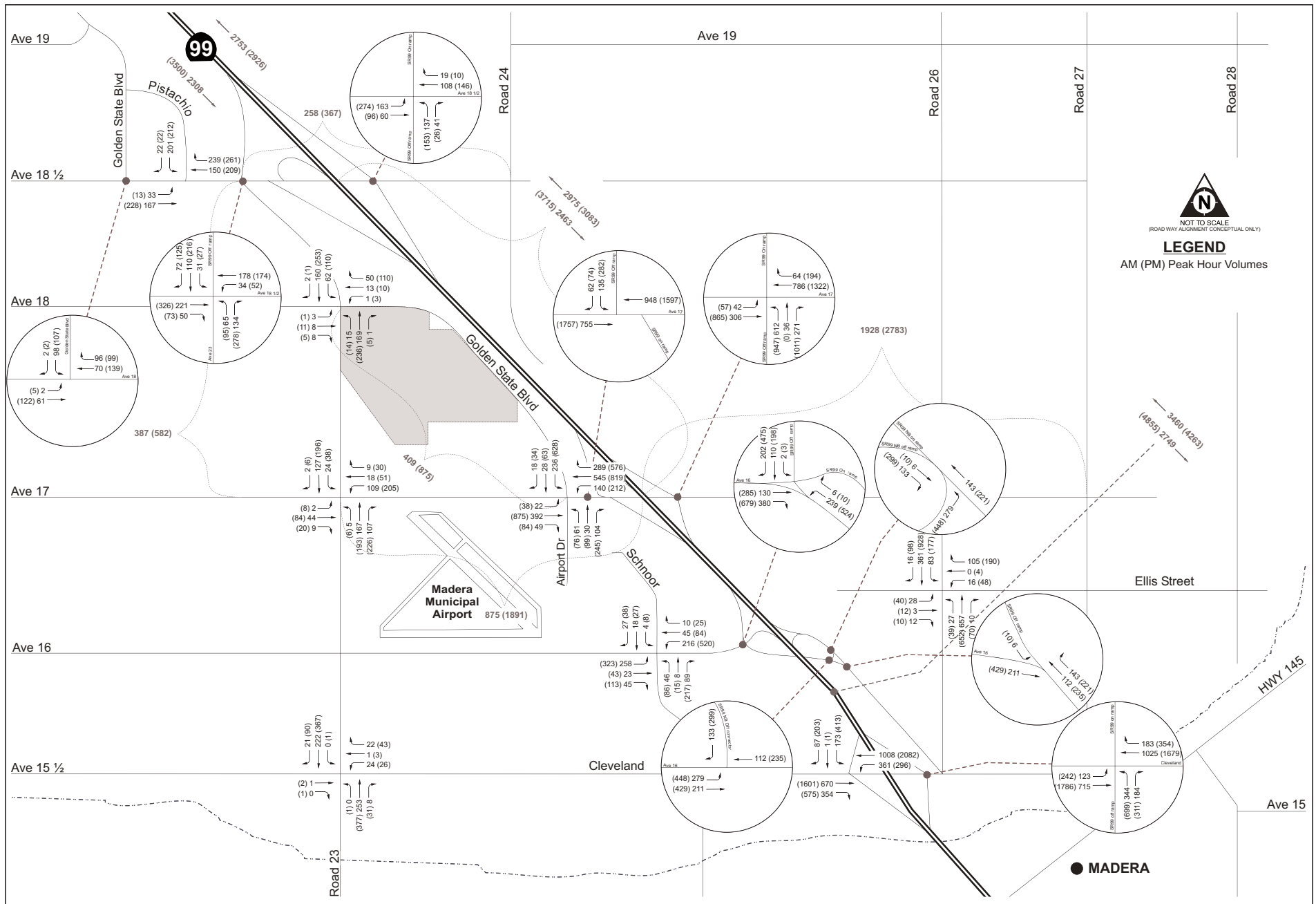


Figure 4.8-20
Madera Site – 2008 Intersection Volumes With Alternative C

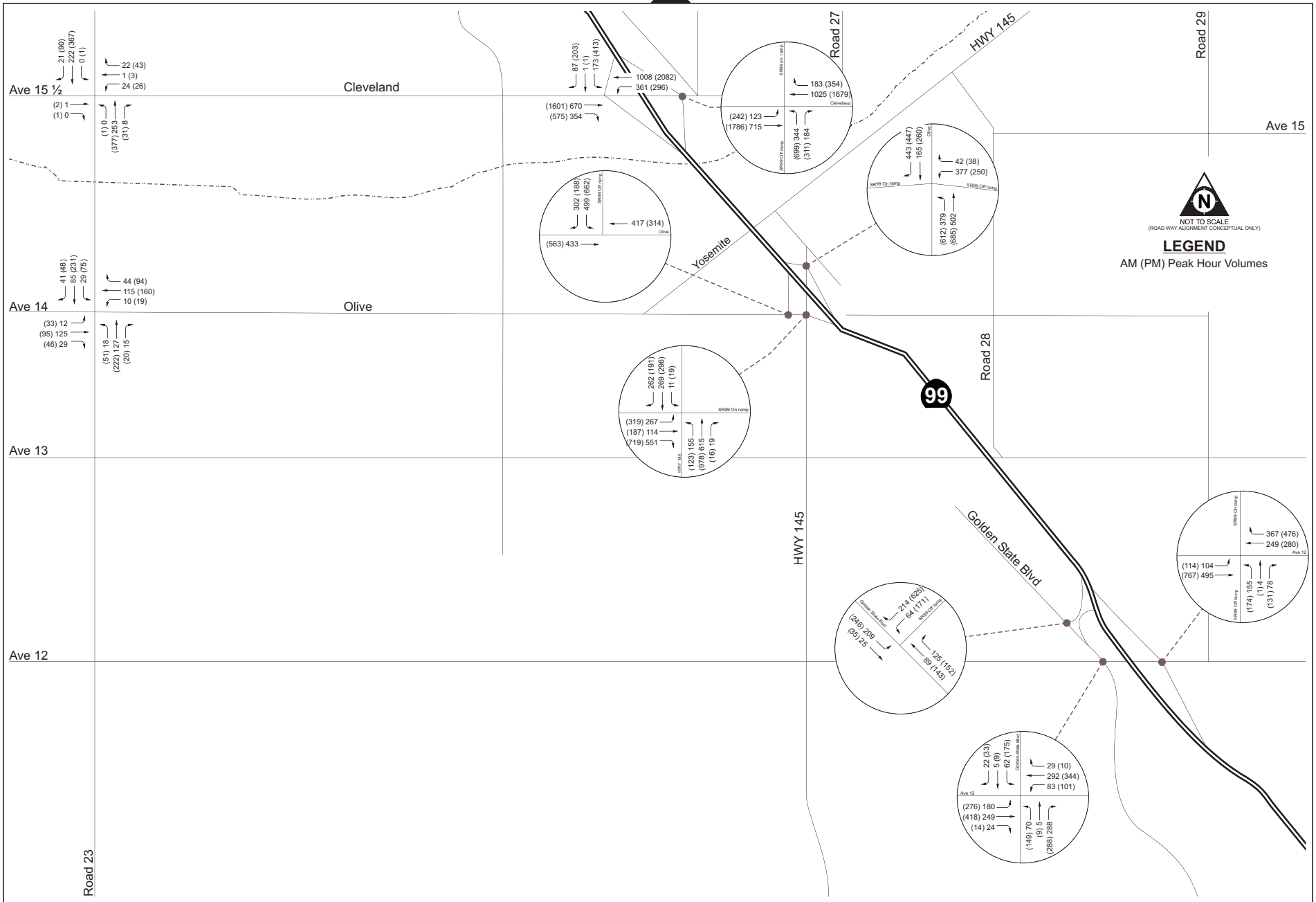


Figure 4.8-21
Madera Site – 2008 Intersection Volumes With Alternative C

parking lot and an access road lying in Zones B1 and B2. No development would occur in Zone A (**Figure 3.8-12**).

No Alternative C structures would exceed 50 feet in height, well below the 150 foot building restriction that applies to the portions of the Madera site where development would occur (**Figure 3.8-13**). Alternative C is not subject to FAA notification because the height of the proposed project's structures and distances to the Madera Municipal Airport runway do not exceed the 100:1 horizontal slope requirement.

The height of a crane to construct the project features may exceed the FAA 100:1 horizontal slope requirement for Alternative C. The crane height would range between 30 to 50 feet above the project features and would represent a significant impact if found to be a hazard to air navigation during construction. Mitigation measures presented in **Section 5.2.7** would reduce impacts to less than significant for potential hazards to air navigation due to the temporary use of a crane.

The proposed wastewater retention and stormwater detention ponds (**Section 2**) may attract birds, especially during spring and fall migrations. However, the Federal Aviation Administration (FAA) has indicated that the wildlife is only considered a hazard if it blocks the direct flight path (Chiang, 2005). The nearest detention basin would be approximately 0.5 miles away from the landing zone and outside of the flight path. Therefore, no significant impact to airport operations from these ponds would occur. In addition, stormwater detention ponds would be designed to detain stormwater for relatively short periods of time during storm events. These ponds would be dry for the vast majority of the year.

As with Alternative A (**Section 4.8.1**), light emissions and other possible conflicts are present between Alternative C developments and the Madera Municipal Airport. Although these potential conflicts would be slightly lessened due to the less intensive development planned for Alternative C, potential impacts to human safety or normal airport operations would be a potentially significant impact. Mitigation is recommended in **Section 5.2.7** that would reduce these impacts to a less than significant level.

Effects to Project Area

As with Alternative A, development of Alternative C would add light, noise, and traffic to the surrounding environment, but at a marginally reduced level, potentially resulting in disturbances to rural residences in the area. Unlike Alternative A, the terms of the MID MOU would not apply to Alternative C. Commercial development in a predominately agricultural area potentially subjects patrons and employees to nuisance effects from surrounding agricultural operations, such as noise and dust. As with Alternative A, the Alternative C developments would be placed near the middle of the Madera site (see **Section 2.2**), leaving a buffer between

the retail developments and surrounding rural residential and agricultural uses. The buffer would minimize effects of noise and light on nearby residences and the effects of surrounding agricultural operations on the proposed developments. Furthermore, the Madera County right to farm ordinance (Ord. 522 § 2(part), 1989) will continue to protect neighboring farmers from nuisance suits brought by the Tribe or potential patrons on the site. Thus, no significant effects, such as precluding existing or planned land uses or disruption of access or significant conflicts with existing land uses, would occur. Nonetheless, mitigation measures are discussed in **Section 5.2.7** that would reduce land use effects.

AGRICULTURE

Effects to agriculture would be similar to Alternative A given Alternative C’s similar development footprint. As with Alternative A, the combined FPPA point total is 143 out of 260 possible points, which is lower than the USDA protection threshold of 160 points (**Appendix Q**).

Given the generally poor quality of agricultural soils where development is proposed, the combined FPPA score of 143, and the retention of a large portion of the site as open space that could be used for agricultural purposes, Alternative C would have a less than significant impact on agriculture. Nonetheless, mitigation measures have been included in **Section 5.2.7** that would further reduce Alternative C’s impacts to agriculture.

4.8.4 ALTERNATIVE D – NORTH FORK LOCATION

TRANSPORTATION/CIRCULATION

This section discusses the 2008 With Project condition where project trips calculated for Alternative D are added to the baseline condition.

Project Trip Generation

Project trip generation was calculated for Alternative D, based on the earlier discussed trip generation methodology and is presented in **Table 4.8-16**.

TABLE 4.8-16
PROJECT TRIP GENERATION – ALTERNATIVE D

Land Uses	Size	Daily	AM			PM		
			In	Out	Total	In	Out	Total
Casino	26,001 sf ¹	1,139	43	18	61	54	48	102
Total	26,001 sf	1,139	43	18	61	54	48	102

NOTES: ¹ sf = square foot.
All figures are approximate.
SOURCE: TPG Consulting, Inc. 2006; AES, 2006.

Project Trip Distribution and Assignment

Based on the trip distribution pattern presented in **Figure 4.8-22**, the project trips were assigned to the local project area roadways. Trip counts at each of the study intersections are presented in **Figure 4.8-23**.

2008 Traffic Conditions

This section discusses the 2008 traffic conditions with Alternative D project trips added. The 2008 Without Project conditions are reported as a baseline.

Peak Hour Intersection Operations

The 2008 Without Project traffic volumes were combined with vehicle trips that are expected to be generated by Alternative D. **Table 4.8-17** summarizes the 2008 with Alternative D Peak Hour intersection conditions. The 2008 Without Project intersection conditions are provided as a baseline. Alternative D project traffic would worsen already unacceptable intersection operations at the SR-41 at Road 200 intersection.

TABLE 4.8-17
INTERSECTION OPERATIONS -
2008 WITH ALTERNATIVE D

Intersection	LOS Threshold	2008 w/o Project				With Alternative D			
		AM		PM		AM		PM	
		LOS	Delay (Secs) ¹	LOS	Delay (Secs)	LOS	Delay (Secs)	LOS	Delay (Secs)
SR-145 at SR-41	C	B	19.7	C	25.1	B	19.8	C	25.2
SR-41 at Road 200									
• SB Left		A	8.3	B	10.7	A	8.3	B	10.7
WB Approach	C	F	87.7	E	47.5	F	88.7	F	50.9
SR-41 at road 420 (Thornberry Road)									
• SB Left		A	9.5	A	9.4	A	9.5	A	9.4
• WB Approach	C	C	22.2	C	17.7	C	22.2	C	17.7
SR-41 at SR-49	C	B	16.6	C	24.2	B	16.6	C	24.5
Malum Ridge Road at Road 225 (Mammoth Pool Road)	D	A	8.36	A	8.85	A	8.57	A	8.87
Road 225 (Mammoth Pool Road) at Cascadel Road									
• SB Left	C	A	7.4	A	7.3	A	7.5	A	7.4
• WB Approach		A	8.8	A	8.6	A	8.9	A	8.8
Cascadel Road at Mission Drive									
• WB Left -Through	C	A	7.3	A	7.3	A	7.4	A	7.4
• NB Approach		A	8.8	A	8.8	A	8.9	A	9.0
North Fork Road at Auberry Road									
• NB Left -Through-Right		A	7.5	A	7.6	A	7.5	A	7.6
• SB Left -Through-Right	C	A	7.6	A	7.5	A	7.6	A	7.6
• WB Approach		A	9.6	B	10.1	A	9.7	B	10.2
• EB Approach		B	10.2	A	9.7	B	10.4	A	9.8
North Fork Road at Crane Valley Road									
• EB Left -Through	C	A	7.5	A	7.5	A	7.5	A	7.5
• SB Approach		A	9.3	B	10.0	A	9.4	B	10.2

NOTES: **Bold** text denotes unacceptable LOS.

¹ Delay in seconds per vehicle.

SOURCE: TPG Consulting 2006; AES 2006.

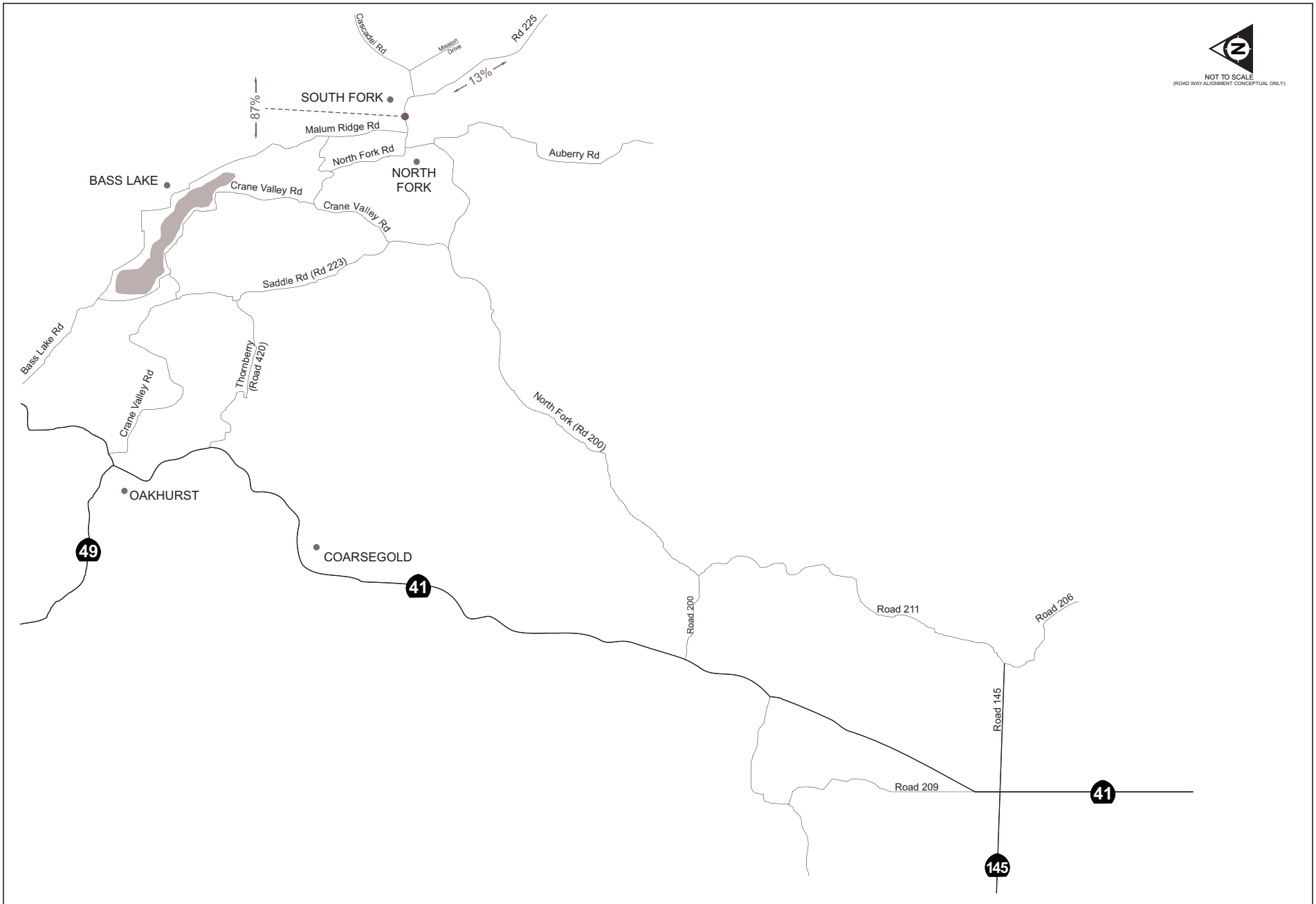


Figure 4.8-22
North Fork Site – Trip Distribution Percentages With Alternative D

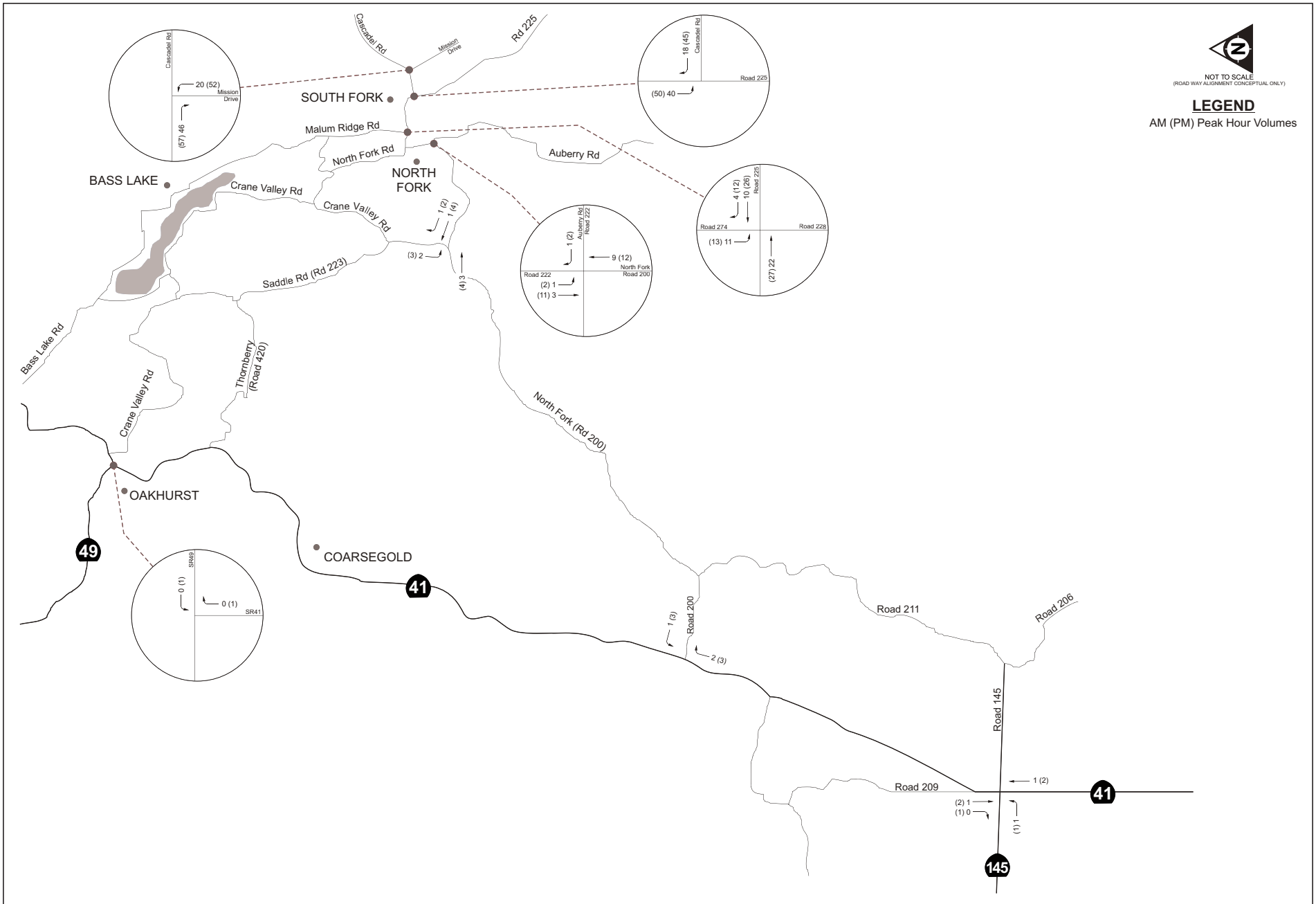


Figure 4.8-23
North Fork Site – Intersection Trip Assignment With Alternative D

Figure 4.8-24 presents the 2008 With Alternative D intersection volumes at each of the North Fork site study intersections.

Impact Analysis

Alternative D's contribution to unacceptable traffic operations represents a significant impact. Mitigation measures for the 2008 with Project (Alternative D) are discussed in **Section 5.2.7** of this document. With the incorporation of project mitigation measures, the intersection shown to have an unacceptable LOS would be improved to an acceptable LOS. This would result in a less than significant impact.

LAND USE

Consistency with Local Land Use Regulations

The North Fork site is currently held in trust by the BIA. Madera County land use regulations do not apply to the North Fork site. This would not change with the implementation of Alternative D. The Tribal Government desires to work cooperatively with local and State authorities on matters related to land use. Accordingly, Madera County land use regulations and project effects are assessed below.

Alternative D would result in commercial development on land that is currently held in trust by the Federal Government. Alternative D would be consistent with most goals, objectives, and policies of Madera County (**Section 3.8.3**). **Table 4.8-9** lists policies of the Madera County General Plan and indicates consistency with the project alternatives.

Note that consistency or inconsistency with local land use regulations does not by itself constitute an environmental impact. Environmental impacts, such as potential conflicts with neighboring land uses, are discussed below.

Airport Compatibility

Alternative D is outside the influence of the Madera Municipal Airport or any other airport. Therefore, all impacts to airport function would be less than significant.

Effects to Project Area

Land uses surrounding the North Fork site include rural residences. No significant effects, such as precluding existing or planned land uses or disruption of access or conflicts with existing land uses, would occur. However, development of Alternative D would add light, noise, and traffic to the surrounding environment, potentially resulting in disturbances to rural residences in the area. Placing the casino near the middle of the North Fork site (**Section 2.5**) would create a buffer between the casino and surrounding rural residential properties. The buffer would minimize effects of noise and light on nearby residences. Thus, no significant effects, such as precluding existing or planned land uses or disruption of access or significant conflicts with existing land



NOT TO SCALE
(ROAD WAY ALIGNMENT CONCEPTUAL ONLY)

LEGEND

AM (PM) Peak Hour Volumes

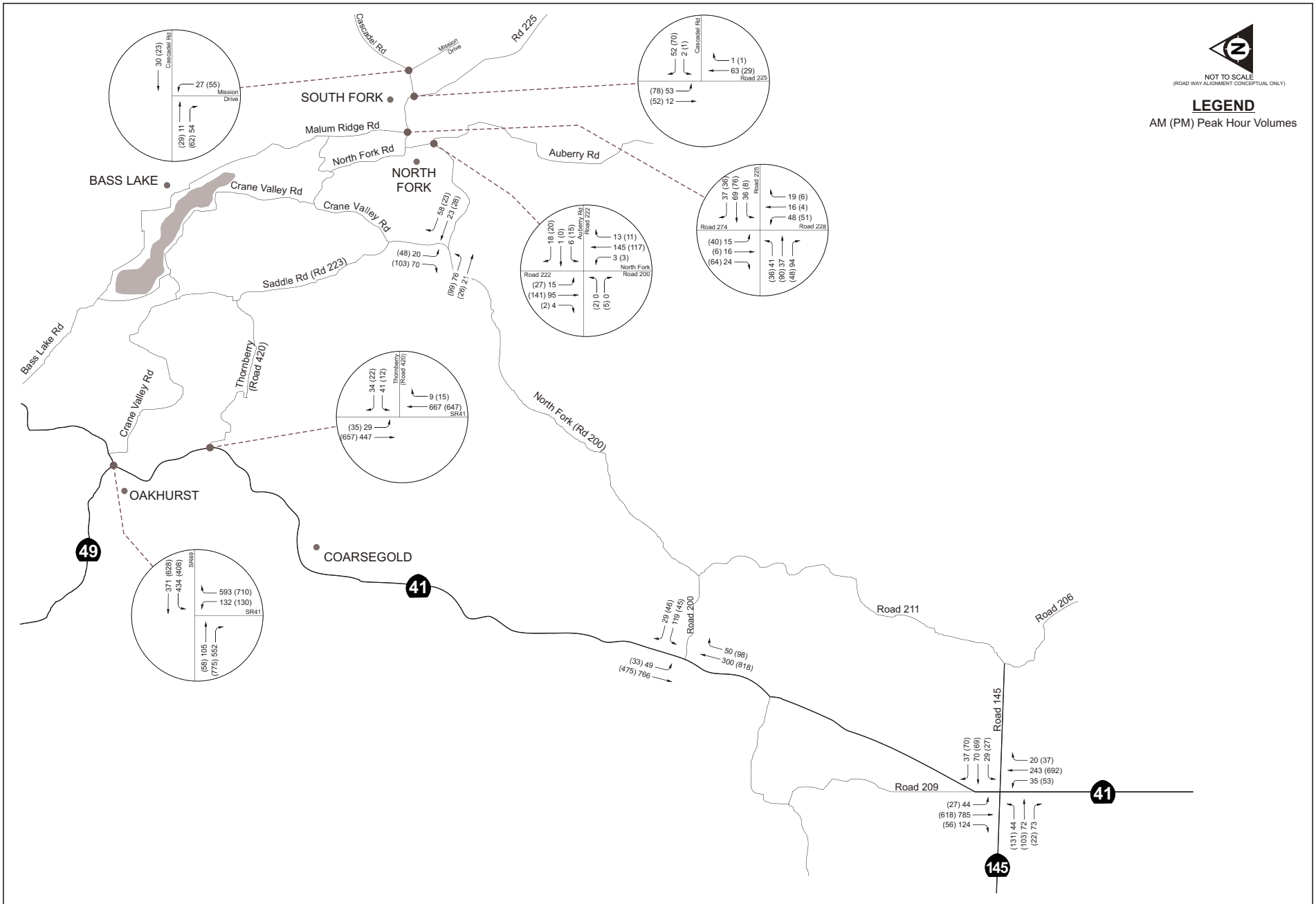


Figure 4.8-24
North Fork Site – 2008 Intersection Volumes With Alternative D

uses, would occur. Nonetheless, mitigation measures for light and traffic are discussed in **Section 5.2.7**.

AGRICULTURE

Soils within the North Fork site have not been mapped by the NRCS, and thus have not been designated according to their farming potential. Based on the location and topography of the North Fork site and the lack of agricultural activity on the site and surrounding properties, it is concluded that the North Fork site does not contain Federal, state, or locally important farmland. Due to the inferior quality of land available for farming purposes, impacts to agriculture from the development of Alternative D would be less than significant.

4.8.6 ALTERNATIVE E – NO ACTION ALTERNATIVE

TRANSPORTATION/CIRCULATION

The traffic conditions under the No Action Alternative are described as the baseline conditions for each target year (see 2008 No Project description for each Alternative). No new traffic would be added to the local roadways or State Route 99; therefore, no new traffic impacts would occur under this alternative.

LAND USE

Under this alternative, all current land uses would be retained. No impact would occur under the No Action Alternative

AGRICULTURE

Land zoned for agricultural uses would not be altered and present uses would continue. No impact would occur under the No Action Alternative.

4.9 PUBLIC SERVICES

4.9.1 ALTERNATIVE A – PROPOSED PROJECT

WATER SUPPLY

Estimated water demands for Alternative A facilities are shown in **Table 4.9-1**. These estimates assume recycled water is not available for irrigation, toilet flushing, and other non-potable uses. The domestic water demand with the use of recycled water is shown in **Table 4.9-2**. As can be seen from **Table 4.9-1**, the total average day demand for potable water, without water recycling, is estimated to be 380,000 gallons per day (gpd). It is projected that a total of 4.0 acres of landscaping would be installed with an average water demand of 5,000 gpd/acre. Therefore, a total water demand of 20,000 gpd is assumed for irrigation purposes. The recommended water supply is the average day demand of domestic water plus landscape irrigation demand.

TABLE 4.9-1
ESTIMATED WATER DEMANDS WITHOUT RECYCLED WATER (GPD)
– ALTERNATIVE A

Water Demands	Alternative A
Weekday Day	346,000
Weekend Day	464,000
Average Day Demand ¹	380,000
Average Day Landscape Irrigation ²	20,000
Recommended Water Supply³	400,000

NOTES: ¹ Water demands = wastewater flows/0.95.

² Estimated at average daily demand of 5,000 gpd/acre landscaping. Type and acreage of landscaping assumed.

³ Recommended water supply = average day demand plus landscape irrigation.

SOURCE: HSE, 2006; AES, 2006.

TABLE 4.9-2
ESTIMATED WATER DEMANDS WITH RECYCLED WATER (GPD)
– ALTERNATIVE A

Site Layout Alternative	Alternative A
Average Day Water Demand ¹	400,000
Recycled Water Demand	127,000
Recommended Domestic Water Supply ²	273,000

NOTES: ¹ 5/7 weekday + 2/7 weekend day.

² Recommended supply = average day domestic water minus recycled water.

Water demands rounded to the nearest 100 gpd.

Recycled water demand includes toilet flushing and process water.

SOURCE: HSE, 2006; AES, 2006.

As described in **Section 2.0**, the Proposed Action would include dual plumbed fixtures to use recycled water for toilet flushing and for irrigation purposes should on-site wastewater treatment be chosen.

The proposed water storage tanks for domestic and recycled water would provide sufficient storage to accommodate the estimated peak flow demand (464,000 gpd). During weekday flows when the demand is less than the average day demand, water storage tanks would be filled to provide weekend reserves. The average day demand is used to establish the water supply required from on- or off-site sources.

Water Facilities

The following discusses preliminary water supply, water treatment, water storage, and pumping requirements to supply the proposed development.

Groundwater Wells

The California Department of Water Resources has records for 259 water production wells within 2 miles of the Madera Site. The wells range in depth from approximately 120 feet to over 700 feet. The new on-site well(s) would be drilled to a depth of at least 600 feet. Groundwater quality is generally good, but manganese levels tend to increase with depth in the vicinity of the Madera site.

City of Madera Domestic Water Service

The City of Madera's nearest water well is well No. 26, located at Airport Drive. This well is approximately 600 feet deep and has a capacity of approximately 1,300 gpm. The City uses this well for standby and fire flow demands. Municipal Well No. 25, approximately a half-mile southeast of the airport, supplies the airport's water and has a production capacity of approximately 2,200 gpm. Connection to the City's water supply would require a looped system to the well, utilizing a new on-site well for primary and continuous water supply. Well No. 26 would continue to be used for redundancy and fire flow capacity in the looped system. An on-site storage tank may also be required to supplement redundancy and fire flow.

Water Storage and Pump Station

An on-site water storage tank would be required to store water produced by any on-site wells. The anticipated capacity requirements of the tank are summarized in **Table 4.9-3** below. The tank would be made of welded steel construction, meeting all American Water Works Association (AWWA) specifications for welded steel tanks. The tank would be cylindrical and could be partially or completely constructed below grade.

TABLE 4.9-3
DOMESTIC WATER STORAGE REQUIREMENTS WITH RECYCLED WATER
– ALTERNATIVE A

Site Layout Alternative	Alternative A
Domestic Water Storage (gallons) ¹	651,000
Fire Suppression (gallons) ²	500,000
Domestic Water Storage Tank Capacity (gallons) ³	1,151,000
Recommended Approximate Domestic Water Storage Tank Capacity (gallons) ⁴	1,200,000

NOTES: ¹ 2.0 times the weekend day water demand if water is recycled.
² Assumed storage required.
³ Domestic water storage plus fire suppression.
⁴ Rounded up to the nearest common tank size increment.
Water demands rounded up to the nearest 1,000 gal.

SOURCE: HSE, 2006; AES, 2006.

Because the Madera site is relatively flat, construction of a pump station would be required to maintain appropriate water pressure throughout the on-site distribution system and convey water from the storage tank to project facilities. Flow requirements would be satisfied by two fixed-speed high-service pumps that would each pump half the capacity of the project flow requirements.

Effects to Public Water Utilities

As noted above, water to supply Alternative A would be provided by on-site well water. Development of a City of Madera looped system would require the construction of water conveyance infrastructure from the City's nearest facilities. During operation of the casino, it is expected that 278 gpm, without recycled water, and 190 gpm with recycled water, would be required to adequately meet the water demands of Alternative A. Since water supply for Alternative A would be supplied either wholly from on-site wells or from an on-site well in combination with City Well No. 26 (used solely during maintenance of the primary on-site well or for fire flow), a reduction in available capacity of the City's water facilities would not occur. In addition, the Tribe would be required to pay for the cost of constructing the piping and related facilities required to create a looped system with the City. Therefore, Alternative A's effect on public water utilities would be less than significant.

WASTEWATER

Tables 4.9-4 and 4.9-5 provide estimated wastewater flows and resulting wastewater treatment plant (WWTP) design capacity for Alternative A. The use of recycled water would reduce the overall treated effluent disposal requirements, however use of recycled water would only be possible with use of an on-site WWTP. The following discussion evaluates impacts to public

services from wastewater treatment and disposal options. The on-site options include sprayfield disposal, leachfield disposal, combination sprayfield/leachfield disposal, surface water discharge, and water reuse and are described in **Section 2.2.7**. These options would have no effect on local public service providers because they would be fully paid for and operated by the Tribe on-site. Off-site disposal options include connection to the City of Madera WWTP.

TABLE 4.9-4
ESTIMATED WASTEWATER FLOWS FOR ALTERNATIVE A

	Area (ft ²)	Unit (gpd/ft ²)	Base Flow (gpd)	Typical Weekday Flows (gpd) ¹	Typical Weekend Flows (gpd) ¹	Average Day Flows (gpd) ²
Casino	121,630	1.25	151,700	87,200	128,900	99,100
Back of House	50,000	1.37	68,500	27,400	41,400	31,400
Retail	1,185	0.01	12	5	9	8
Food and Beverage	67,365	1.56	105,200	50,700	89,500	61,800
Entertainment/Lounge	7,000	0.54	3,780	1,500	2,400	1,800
Hotel	207,680	0.16	32,700	16,100	31,600	20,500
Pool and Spa	16,850	0.35	4,320	1,800	3,700	2,400
Central Plant/Cooling Towers	21,300	3.10	66,000	49,500	49,500	49,500
Total³	493,000	-	432,000	230,000	350,000	270,000

NOTES: ¹ Used for calculation purposes only.

² Average day Flows = 5/7 weekday + 2/7 weekend.

³ Wastewater flows rounded to the nearest 10,000 gpd.

SOURCE: HSE, 2006; AES, 2006.

TABLE 4.9-5
DESIGN WASTEWATER TREATMENT PLANT FLOWS
– ALTERNATIVE A

Site Layout Alternative	Alternative A Flows (GPD)
Weekday Day	230,000
Weekend Day	350,000
Average Day ¹	270,000
Recycled Water Demand	107,000
Average Day Disposal Flows ²	163,000

NOTES: ¹ 5/7 weekday + 2/7 weekend day.

² Wastewater flow minus recycled water.

Wastewater flows rounded to the nearest 100 gpd.

Estimated from similar facilities.

SOURCE: HSE, 2006; AES, 2006.

Development of an on-site wastewater treatment plant would produce treated effluent meeting NPDES requirements and Title 22 disinfected tertiary recycled water treatment standards. Additionally, wastewater would be treated to ensure compliance with all applicable discharge

limitations of a NPDES permit for surface discharge of treated effluent to waters of the U.S. On-site wastewater treatment and disposal options would not impact public services. Given the high quality of effluent that would be discharged from an on-site WWTP, no significant water quality degradation would occur (see **Section 4.3.1**) and thus indirect effects to downstream public water users and dischargers would be less than significant.

The 7.0-MGD capacity City WWTP currently has an average demand of 5.7 MGD. Planned expansion of the treatment plant would increase the WWTP's maximum capacity to 10.1 MGD. The expansion would provide the City with sufficient capacity until 2023. Alternative A would require approximately 0.27 MGD of treatment capacity. While the City has available capacity to accept wastewater from the casino-hotel, obtaining City of Madera sewer service would require connection to the City sewer lines. An additional sewer line would be needed as well as potential expansion of existing lift stations. This impact is considered significant and mitigation is provided in **Section 5.2.8**. Implementation of mitigation measures would reduce impacts to less than significant.

SOLID WASTE

Construction

Construction of Alternative A would result in a temporary increase in waste generation. Potential solid waste streams from construction would include the following:

- Paper, wood, glass, and plastics from packing materials, waste lumber, insulation, and empty non-hazardous chemical containers;
- Excess concrete; and
- Excess metal, including steel from welding/cutting operations, packing materials, and empty non-hazardous chemical containers, and aluminum from packing materials and electrical wiring.

Waste that cannot be recycled would be disposed of at the Fairmead Landfill, which accepts construction/demolition materials. This impact would be considered temporary and not significant. Nonetheless an additional mitigation measure as discussed in **Section 5.2.8** would further reduce effects to the landfill.

Operation

The California Integrated Waste Management Board has estimated waste disposal rates for the operation of various business types and residences. The business rates are expressed as tons per employee per year. The waste generation resulting from Alternative A's various components is estimated to be 7.6 tons per day (**Table 4.9-6**).

Solid waste services are expected to be provided by the City or County of Madera, which are subject to the state's recycling requirements. The development would not affect City or County diversion goals as waste from Tribal land is classified as out-of-state waste and is not calculated in local waste diversion statistics. The Alternative A development's solid waste generation would represent approximately 1.5% of the Fairmead Landfill's remaining daily capacity, which is well within capacity and is therefore less than significant. Mitigation is provided in **Section 5.2.8** to further ensure a reduction in the amount of waste that is landfilled.

TABLE 4.9-6
SOLID WASTE DISPOSAL ESTIMATE – ALTERNATIVE A

Employment Category	Number of Jobs	Business Type	Rate (Tons/Employee/Year)	Tons per Year	Tons per Day
Gaming	405	38 ¹	0.9	364.5	1.0
Hotel	72	32 ²	2.1	151.2	0.41
Food and Beverage	502	29 ³	3.1	1556.2	4.3
Other Dept.	144	33 ⁴	1.7	244.8	0.67
Entertainment	6	33	1.7	93.5	0.26
Administrative	55	33	1.7	95.2	0.26
Marketing	56	33	1.7	10.2	0.028
Maintenance	105	33	1.7	178.5	0.49
Security	90	38	0.9	81	1.22
Total	1435			2775.1	7.6

NOTES: ¹ Includes SIC code 79 Amusement and Recreation Services.

² Includes SIC code 70 Hotels.

³ Includes SIC code 58 Eating and Drinking Places.

⁴ Includes SIC code 73 Business Services.

SOURCE: CIWMB, 2005; AES, 2005.

ELECTRIC AND NATURAL GAS SERVICES

PG&E is the electricity and natural gas provider in the vicinity of the Madera site. The Madera site would be served from the existing overhead electric facilities extending east/west along Avenue 17. Additionally, PG&E could provide natural gas service via the distribution pressure gas lines stepped down from the transmission gas facilities that extend north/south between Golden State Boulevard and Highway 99, located adjacent to the Madera site. PG&E has adequate facilities and is willing to serve the Madera site (Barrow, pers. comm., 2005), thus the impact to electric facilities is less than significant.

TELECOMMUNICATIONS

SBC has facilities located along Avenue 18 on the south side of the street and Road 23 on the east side of the street. SBC also has a cable along Golden State Boulevard north of Avenue 17. SBC is responsible for providing service connection to the property line, most likely two 4-inch diameter conduits. The developer is responsible for any on-site infrastructure required to meet the SBC connection at the property boundary (Olivo, pers. comm., 2005). There are no capacity

issues with telecommunications services in the area; thus, the impact would be less than significant.

PUBLIC HEALTH AND SAFETY

Law Enforcement

Development of Alternative A would increase calls for service to law enforcement agencies due to the new resident population created by new employees moving to Madera County and the City of Madera. Operations of Alternative A would also increase calls for service due to the increased patron/employee population at the Madera site.

New Residents

The new resident population is estimated to be 836 new residents. Of these new residents, 418 would reside in the City of Madera and 418 would reside in Madera County (**Section 4.7**). Those residents residing in the City of Madera would increase demands on the City of Madera Police Department. Based on 2004 per capita expenditures and the number of new residents, it is estimated that the annual cost to the City for police services would be \$46,001. Revenues to the City exceed costs to the City as shown in **Section 4.7**. Thus, this impact would be less than significant.

New residents residing in unincorporated areas of Madera County would increase demands on the Madera County Sheriff's Department. Based on 2004 per capita expenditures and the number of new residents, it is estimated that the annual cost to the County for Sheriff Department services would total \$23,458. Additionally, judicial services and correctional services for new residents are estimated at \$12,356 and \$45,144, respectively (**Section 4.7**). Revenues to the County exceed costs to the County as shown in **Table 4.7-18 of Section 4.7**. Thus, this impact would be less than significant.

Operational

The Madera site is currently within the jurisdiction of the Madera County Sheriff's Department, which would serve Alternative A. Alternative A would increase calls for service due to the development of the site and the new presence of employees and patrons at the site. Research suggests that an increase in crime from the project would result from an increased population at the site and not from casino gambling itself. Data examining the link between casino gambling and crime, including the results of the study by the National Opinion Research Center, is presented in **Section 4.7**. The increased calls for service associated with Alternative A have the potential to increase response times and decrease the level of service provided by the Madera County Sheriff's Department. One deputy sheriff position covering 24 hours/day for 365 days/year requires the hiring of five individuals. Additionally, the Department maintains a ratio of 1 sergeant for every 10 deputies. With these standards, the Sheriff's Department estimates that

Alternative A would require the hiring of an additional five deputies and one-half sergeant to the department. The cost of one-half sergeant and five deputy positions is estimated at \$506,391 (**Appendix R**).

As discussed in **Section 2**, the Tribe has agreed in the MOU to supplement the County's budget for law enforcement with an annual contribution of \$415,000 or contribute an amount equal to the costs of the salary and benefits of one-half a sergeant position and five deputy positions. These additional positions would ensure 24-hour public safety coverage 365 days a year at the proposed casino and hotel, and provide adequate coverage during vacation time, sick time and time off of public safety staff. With the construction of the casino, the department will consider deployment options, including an on-site service office. The Tribe would employ security personnel to provide surveillance of the casino, parking areas, and surrounding grounds. Security guards would carry two-way radios to request and respond to back up or emergency calls. As funding in the MOU would fund Sheriff's Department expectations of increased demands and on-site security would be provided, the impact would be less than significant.

Judicial and Correctional Services

Increased calls for law enforcement services from Alternative A would impact judicial and correctional services. As outlined in **Table 4.7-18** in **Section 4.7**, the revenues provided by the MOU exceed the costs to the County. Funding for burdens on these services would come from the \$100,000 contribution for additional public safety support and administrative positions and the \$500,000 contribution for the public facilities budget. This impact would be less than significant.

Fire Protection/Emergency Medical Services

Development of Alternative A would increase calls for service to fire protection services due to the new resident population created by new employees moving to Madera County and the City of Madera. Operations of Alternative A would also increase calls for service due to the increased patron/employee population at the Madera site.

New Residents

As discussed under law enforcement services, development of Alternative A would result in 836 new residents, of which 418 would reside in the City of Madera and 418 would reside in Madera County. Those residents residing in the City of Madera would increase demands on the City of Madera Fire Department. Based on 2004 per capita expenditures and the number of new residents, it is estimated that the annual cost to the City for fire services would be \$18,350. Revenues to the City exceed costs to the City as shown in **Table 4.7-19** of **Section 4.7**. Thus, this impact would be less than significant.

New residents residing in unincorporated areas of Madera County would increase demands on the Madera County Fire Department. Based on 2004 per capita expenditures and the number of new residents, it is estimated that the annual cost to the County would total \$10,947. Revenues to the County exceed costs to the County as shown in **Table 4.7-18** of **Section 4.7**. Thus, this impact would be less than significant.

Construction Effects

Construction may introduce potential sources of fire to the Madera site. During construction, equipment and vehicles may come in contact with wildland areas and accidentally spark and ignite vegetation. Equipment used during grading and construction activities may also create sparks which could ignite dry grass on the site. This risk, which is similar to those that are found at other construction sites, would pose potentially significant impact to nearby fire departments that could be called to respond. Mitigation measures are described in **Section 5.2.8** that would reduce this potential impact to a less than significant level.

Operation Effects

As the site is currently undeveloped, there are few calls for service for fire protection and emergency medical services from the site. Currently the Madera County Fire Department, administered and staffed by the California Department of Forestry and Fire Protection (CDF), serves the project site. Development of Alternative A would increase calls for service to the County Fire Department, due to an increased population of employees and patrons on site. Fire protection features, including sprinkler systems and fire-resistant construction, would be incorporated into Alternative A and are discussed in **Section 2.2.2**. The Tribe has committed in the MOU (**Appendix C**) to supplement the County's budget for fire protection service with an annual contribution of \$1,200,000 or contribute an amount equal to the costs of the salary and benefits of three fire captains/fire apparatus engineers and six firefighters/fire apparatus engineer positions. The incorporation of fire protection features and contributions outlined within the MOU would reduce potentially significant operational effects on fire services to a less than significant level.

Food and Water Safety

Once land is taken into trust, state and local laws and ordinances pertaining to food and water safety for employees and customers would not be applicable to activities on the Madera site. Therefore, there is a concern that food and water safety would be neglected, impacting the health and safety of customers and employees.

All recent (1999 – present) Tribal-State Compacts have required that tribes “adopt and comply with standards no less stringent than state public health standards for food and beverage handling.” The Compacts have required further that tribes “allow inspection of food and beverage services by state or county health inspectors, during normal hours of operation, to assess

compliance with these standards, unless inspections are routinely made by an agency of the United States government to ensure compliance with equivalent standards of the United States Public Health Service.” The recent Compacts have also have required compliance with “standards no less stringent than federal water quality and safe drinking water standards applicable in California.” As with food safety, the Compacts have required that tribes “allow for inspection and testing of water quality by state or county health inspectors, as applicable, during normal hours of operation, to assess compliance with these standards, unless inspections and testing are made by an agency of the United States pursuant to, or by the Tribe under express authorization of, federal law, to ensure compliance with federal water quality and safe drinking water standards.” Violations of these food, beverage, and water quality standards are treated as violations of the Compact. It is assumed that similar standards will be included in the Tribal-State Compact (or procedures issued by the Secretary of the Interior in lieu of a Compact) with the North Fork Tribe.

The Tribe has additionally assured Madera County in its MOU with the County that it would adopt the food and beverage handling provisions and the safe drinking water standards from the 1999 model State compact in the unexpected event that such provisions are not included in the Compact between the North Fork Tribe and the State.

Finally, it should be noted that the federal Safe Drinking Water Act (SDWA) (in addition to other federal laws) is applicable on trust land. Water quality standards set by the SDWA would be applied to the public water supply at the casino/hotel resort to ensure public safety is protected. The drinking water system in the casino/hotel resort would be regulated as a Non-Transient/Non-Community (NTNC) public water system under the SDWA.

The USEPA has been consulted regarding the proposed NTNC public water system for the casino/hotel resort. After drilling the on-site wells but prior to use of the wells, the USEPA would require schematics of the system showing the well location, storage, any treatment (including disinfection), well construction details and drilling logs, anticipated visitor and employee population numbers, flow rate, and storage capacities. Typically the USEPA will visit the site at least once and perform a walk-through of the entire facility.

Baseline monitoring would be submitted to the USEPA before the public uses the water. Similar NTNC systems have requirements for monthly coliform testing, quarterly lead and copper testing and more extensive testing that is conducted annually. Monitoring requirements for the Alternative A system would likely be similar, but would be determined by the USEPA based on the size of the facility, the anticipated population, and other factors specific to the project. The USEPA would assign a Public Water System Identification Number to the drinking water system and would require the submittal of a monitoring plan for compliance with SDWA standards.

Given that the Tribal-State Compact (or Secretarial procedures) would require compliance with state food and beverage handling standards and that the SDWA would apply to trust land, a significant effect to public health and safety due to inadequate food and water safety precautions would not occur.

SCHOOLS

Operation of Alternative A would increase traffic primarily on the roads surrounding the Madera Site and Highway 99. There are no schools within a mile of the project or along Highway 99 where project traffic would be concentrated. As discussed in **Section 4.8.2** with the traffic mitigation measures all affected roads would operate at an acceptable level. The impact of traffic on school children’s safety would be less than significant as schools are located away from the primary areas of project-generated traffic and mitigation measures for traffic would ensure that roads and intersections operate at an acceptable service level.

Alternative A would result in a population increase of 836 people with approximately 175 new students. Most students would enter the Madera Unified School District (**Appendix R**). This is a 1% increase over the current number of students, compared to the normal growth of almost 2.9% per year (500 students). This growth rate is not substantially larger than current expected growth, thus the development of a new school would not be warranted (also see **Section 4.7.1**). This impact would therefore be less than significant.

4.9.2 ALTERNATIVE B – REDUCED INTENSITY ALTERNATIVE

WATER SUPPLY

The methodology used to establish potable water demand for Alternative A was used to establish potable water demand for Alternative B. Please refer to **Section 4.9.1** for a description of the methodology. **Table 4.9-7** and **Table 4.9-8** show the water demand with and without recycled water for Alternative B.

TABLE 4.9-7
ESTIMATED WATER DEMANDS WITHOUT RECYCLED WATER
– ALTERNATIVE B (GPD)

Water Demands	Alternative B
Weekday Day ¹	211,000
Weekend Day ¹	280,000
Average Day Demand ¹	231,000
Average Day Landscape Irrigation ²	20,000
Recommended Water Supply³	251,000

NOTES: ¹ Water demands = wastewater flows/0.95.

² Estimated at average daily demand of 5,000 gpd/acre landscaping. Type and acreage of landscaping assumed.

³ Recommended water supply = average day demand plus landscape irrigation.

SOURCE: HSE, 2006; AES, 2006.

TABLE 4.9-8
ESTIMATED WATER DEMANDS WITH RECYCLED WATER
– ALTERNATIVE B (GPD)

Site Layout Alternative	Alternative B
Average Day Water Demand ¹	251,000
Recycled Water Demand	85,000
Recommended Domestic Water Supply ²	166,000

NOTES: ¹ 5/7 * week day + 2/7 * weekend day.
² Recommended supply = average day domestic water minus recycled water.
Water demands rounded to the nearest 100 gpd.
Recycled water demand includes toilet flushing and process water.
SOURCE: HSE, 2006; AES, 2006.

Water Facilities

The water supply for Alternative B would be provided by an on-site groundwater well, as described under Alternative A. One million gallons of domestic water storage would be provided to store water produced by on-site well(s) (may not be necessary if a looped system with the City is utilized). The water storage tank would be made of welded steel construction, meeting all American Water Works Association (AWWA) specifications for welded steel tanks. The tank would be cylindrical and could be partially or completely constructed below grade.

Because the Madera site is relatively flat, construction of a pump station would be required to maintain appropriate water pressure throughout the on-site distribution system and convey water from the storage tank to project facilities. Flow requirements would be satisfied by two fixed-speed high-service pumps that would each pump half the capacity of the project flow requirements.

Effects to Public Water Utilities

As noted above, water to supply Alternative B would be provided by on-site well water. Development of a City of Madera looped system would require the construction of water conveyance infrastructure from the City's nearest facilities. During operation of the casino, it is expected that 174 gpm without recycled water, or 116 gpm, with recycled water, would be required to adequately meet the water demands of Alternative B. Since water supply for Alternative B would be supplied either wholly from on-site wells or from an on-site well in combination with City Well No. 26 (used solely during maintenance of the primary on-site well or for fire flow), a reduction in available capacity of the City's water facilities would not occur. In addition, the Tribe would be required to pay for the cost of constructing the piping and related facilities required to create a looped system with the City. Therefore, Alternative B's effect on public water utilities would be less than significant.

WASTEWATER

Tables 4.9-9 and 4.9-10 provide estimated wastewater flows and resulting WWTP design capacity for Alternative B. The use of recycled water would reduce the overall treated effluent disposal requirements, however use of recycled water would only be possible with use of an on-site WWTP. The following discussion evaluates impacts to public services from wastewater treatment and disposal options. The on-site options include sprayfield disposal, leachfield disposal, combination sprayfield/leachfield disposal, surface water discharge, and water reuse and are described in Section 2.3.6. These options would have no effect on local public service providers because they would be fully paid for and operated by the Tribe on-site. Off-site disposal options include connection to the City of Madera WWTP.

TABLE 4.9-9
ESTIMATED WASTEWATER FLOWS FOR ALTERNATIVE B

	Area (ft ²)	Unit (gpd/ft ²)	Base Flow (gpd)	Typical Weekday Flows (gpd) ¹	Typical Weekend Flows (gpd) ¹	Average Day Flows (gpd) ²
Casino	90,255	1.02	91,820	52,800	78,100	60,000
Back of House	37,825	1.39	52,420	21,000	31,600	24,000
Retail	1,185	0.01	12	5	9	6
Food and Beverage	53,725	1.46	78,640	37,900	66,800	46,100
Entertainment/Lounge	7,000	0.54	3,7800	1,500	2,400	1,800
Central Plant/Cooling Towers	9,000	4.44	40,000	30,000	30,000	30,000
Total ³	199,000		270,000	140,000	210,000	160,000

NOTES: ¹ Used for calculation purposes only.

² Average Day Flows = 5/7 Weekday + 2/7 Weekend.

³ Wastewater flows rounded to the nearest 10,000 gpd.

SOURCE: HSE, 2006; AES, 2006.

Development of an on-site wastewater treatment plant would produce treated effluent meeting NPDES requirements and Title 22 disinfected tertiary recycled water treatment standards. Additionally, wastewater would be treated to ensure compliance with all applicable discharge limitations of a NPDES permit for surface discharge of treated effluent to waters of the U.S. On-site wastewater treatment and disposal options would not impact public services. In addition, given the high quality of effluent that would be discharged from an on-site WWTP, no significant water quality degradation would occur (see Section 4.3.2) and thus indirect effects to downstream public water users and dischargers would be less than significant.

Obtaining City of Madera sewer service would require connection to the City sewer lines located approximately five miles southwest of the Madera site. The 7.0-MGD capacity City WWTP currently has an average demand of 5.7 MGD. Planned expansion of the treatment plant would increase the WWTP's maximum capacity to 10.1 MGD. The expansion would provide the City with sufficient capacity until 2023. Alternative B would require approximately 0.16 MGD of

treatment capacity. While the City has available capacity to accept wastewater from the casino-hotel, obtaining City of Madera sewer service would require connection to the City sewer lines. An additional sewer line would be needed as well as potential expansion of existing lift stations. This impact is considered significant and mitigation is provided in **Section 5.2.8**. Implementation of mitigation measures would reduce impacts to less than significant.

TABLE 4.9-10
DESIGN WASTEWATER TREATMENT PLANT FLOWS
– ALTERNATIVE B

Site Layout Alternative	Alternative B Flows (GPD)
Weekday Day	140,000
Weekend Day	210,000
Average Day ¹	160,000
Recycled Water Demand	65,000
Average Day Disposal Flows	105,000

NOTES: ¹ 5/7 * week day + 2/7 * weekend day.
² Wastewater flow minus recycled water.
Wastewater flows rounded to the nearest 100 gpd.
Estimated from similar facilities.
SOURCE: HSE, 2006; AES, 2006.

SOLID WASTE

Construction waste from Alternative B would consist of the same materials as those listed under Alternative A. Waste would be disposed of at the Fairmead Landfill. This impact is temporary and not significant.

Based on the number and job types of employees it is estimated that Alternative B would generate 5.2 tons per day of solid waste (**Table 4.9-11**). Solid waste services are expected to be provided by the City or County of Madera, which are subject to the state's recycling requirements. The development would not affect City or County diversion goals as waste from Tribal land is classified as out-of-state waste and is not calculated in local waste diversion statistics. The Alternative B development's solid waste generation would represent approximately 1.04% of the Fairmead Landfill's remaining daily capacity, which is well within capacity and is therefore less than significant. Mitigation is provided in **Section 5.2.8** to further ensure a reduction in the amount of waste that is landfilled.

ELECTRIC AND NATURAL GAS SERVICES

As with Alternative A, the Madera site would be served from the existing overhead electric facilities extending east/west along Avenue 17. Additionally, PG&E could provide natural gas service via the distribution pressure gas lines stepped down from the transmission gas facilities

that extend north/south between Golden State Boulevard and Highway 99, located adjacent to the Madera site. PG&E has adequate facilities and is willing to serve the Madera site (Barrow, pers. comm., 2005), thus the impact to electric facilities is less than significant.

TABLE 4.9-11
SOLID WASTE DISPOSAL ESTIMATE – ALTERNATIVE B

Employment Category	Number of Jobs	Business Type	Rate (Tons/Employee/Year)	Tons per Year	Tons per Day
Gaming	319	38	0.9	287.1	0.8
Food and Beverage	349	29	3.1	1,081.9	3.0
Other Dept.	101	33	1.7	171.7	0.5
Administrative	50	33	1.7	85	0.2
Marketing	51	33	1.7	86.7	0.2
Entertainment	6	33	1.7	10.2	0.03
Maintenance	74	33	1.7	125.8	0.3
Security	68	38	0.9	61.2	0.2
Total	1,018			1,909.6	5.2

SOURCE: CIWMB, 2005; AES, 2005.

TELECOMMUNICATIONS

Alternative B would be served from the same SBC facilities as Alternative A. Depending on final design, Alternative B may require an extension of lines to meet at the Madera site. SBC is responsible for providing service connection to the property line, most likely two 4-inch diameter conduits. The developer is responsible for any on-site infrastructure required to meet the SBC connection at the property boundary (Olivo, pers. comm., 2005). There are no capacity issues with telecommunications services in the area; thus the impact would be less than significant.

PUBLIC HEALTH AND SAFETY

Law Enforcement

As with Alternative A, development of Alternative B would increase calls for service to law enforcement agencies due to the new resident population and operation of Alternative B facilities.

New Residents

The new resident population would be 534 new residents. Of these new residents, 267 would reside in the City of Madera and 267 would reside in Madera County (**Section 4.7.1**). Those residents residing in the City of Madera would increase demands on the City of Madera Police Department. Based on 2004 per capita expenditures and the number of new residents, it is estimated that the annual cost to the City for police services would be \$29,383. Annual costs to the City would exceed revenues as shown in **Table 4.7-32** of **Section 4.7**. Thus, this impact is considered significant. Mitigation is provided in **Section 5.2.8**. Implementation of mitigation measures would reduce impacts to less than significant.

New residents residing in unincorporated areas of Madera County would increase demands on the Madera County Sheriff's Department. Based on 2004 per capita expenditures and the number of new residents, it is estimated that the annual cost to the County for Sheriff's Department services would total \$14,984. Additionally, judicial services and correctional services for new residents are estimated at \$7,893 and \$28,836, respectively. Annual costs to the County would exceed revenues as shown in **Table 4.7-31** of **Section 4.7**. Thus, this impact is considered significant. Mitigation is provided in **Section 5.2.8**. Implementation of mitigation measures would reduce impacts to less than significant.

Operational

As with Alternative A, the Madera site is within the jurisdiction of the Sheriff's Department. Alternative B would require the hiring of five deputies and one-half sergeant, at an estimated cost of \$506,391 (**Section 4.7.1**). This is based on the similar size and operations when compared to Alternative A. Hiring standards and ratios are described under Alternative A. The Tribe does not currently have an agreement to pay for these services under Alternative B. As with Alternative A, the Tribe would employ security personnel for surveillance and patrol onsite; however, even with on-site security there would be increased demands on the Sheriff's Department. This impact is considered significant and mitigation is provided in **Section 5.2.8**. Implementation of mitigation measures would reduce impacts to less than significant.

Judicial and Correctional Services

As with Alternative A, increased calls for law enforcement services would impact judicial and correctional services. However, as outlined in **Section 4.7**, **Table 4.7-31**, annual costs to the County exceed the revenues from taxes. This impact is considered significant and mitigation is provided in **Section 5.2.8**. Implementation of mitigation measures would reduce impacts to less than significant.

Fire Protection/Emergency Medical Services

As with Alternative A, Alternative B would increase calls for service to fire protection services due to the new resident population, construction of facilities, and operation of Alternative B.

New Residents

As discussed under law enforcement services, development of Alternative B would result in 534 new residents, of which 267 would reside in the City of Madera and 267 would reside in Madera County. Based on 2004 per capita expenditures and the number of new residents, it is estimated that the annual cost to the City for fire services would be \$11,721. Costs to the City would exceed revenues from the project, as shown in **Table 4.7-32** of **Section 4.7**. This impact is considered significant and mitigation is provided in **Section 5.2.8**. Implementation of mitigation measures would reduce impacts to less than significant.

New residents residing in unincorporated areas of Madera County would increase demands on the Madera County Fire Department. Based on 2004 per capita expenditures and the number of new residents, it is estimated that the annual cost to the County would total \$6,993. Costs to the County exceed revenues from the project, as shown in **Table 4.7-31** of **Section 4.7**. This impact is considered significant and mitigation is provided in **Section 5.2.8**. Implementation of mitigation measures would reduce impacts to less than significant.

Construction Effects

Construction of Alternative B may introduce potential sources of fire to the Madera site as described under Alternative A, but smaller in scale due to less developed acreage. This risk of fire, which is similar to those that are found at other construction sites, would pose potentially significant impacts to nearby fire departments that could be called to respond. Mitigation measures that would reduce the risk of construction fires to a less than significant level are listed in **Section 5.2.8**.

Operation Effects

Development of Alternative B would increase calls for service to the County Fire Department, due to an increased population of employees and patrons on site. Fire protection features, including sprinkler systems and fire-resistant construction, would be incorporated into Alternative B and are discussed in **Section 2.0**. Nonetheless, additional local fire protection resources would be required to serve Alternative B. Costs to the County exceed revenues from the project, as shown in **Table 4.7-31** of **Section 4.7**. This impact is considered significant and mitigation is provided in **Section 5.2.8**. Implementation of mitigation measures would reduce impacts to less than significant.

Food and Water Safety

Once land is taken into trust, state and local laws and ordinances pertaining to food and water safety for employees and customers would not be applicable to activities on the Madera site. Therefore, there is a concern that food and water safety would be neglected, impacting the health and safety of customers and employees.

Although the terms of the County MOU would not apply, any renegotiated MOU with the County is expected to contain the food and beverage handling and safe drinking water provisions noted under Alternative A. Even if such provisions are not included, given that the Tribal-State Compact (or Secretarial procedures) would require compliance with state food and beverage handling standards and that the SDWA would apply to trust land (as analyzed in more detail under Alternative A), a significant effect to public health and safety due to inadequate food and water safety precautions would not occur.

SCHOOLS

As discussed for Alternative A, the impact of traffic on school children's safety would be less than significant as schools are located away from the primary areas of project-generated traffic and mitigation measures for traffic would ensure that roads and intersections operate at an acceptable service level.

Alternative B would result in a population increase of 534 people with approximately 112 new students. Most students would enter the Madera Unified School District (**Appendix R**). This is a 0.6% increase over the current number of students, compared to the normal growth of 2.9% per year (500 students). This growth rate is not substantially larger than current expected growth, thus the development of a new school would not be warranted (also see **Section 4.7.1**). Costs to the County, including the cost for educational services, exceed revenues from Alternative B, as shown in **Section 4.7.1**. Thus, this impact is considered significant and mitigation is provided in **Section 5.2.8** that would reduce the impact to a less than significant level.

4.9.3 ALTERNATIVE C – RETAIL ALTERNATIVE**WATER SUPPLY**

The methodology used to establish the potable water demand for Alternative A was also used to establish potable water demand for Alternative C. Refer to **Section 4.9.1** for a description of the methodology. **Table 4.9-12** and **Table 4.9-13** show the water demand with and without recycled water for Alternative C.

TABLE 4.9-12
ESTIMATED WATER DEMANDS WITHOUT RECYCLED WATER
– ALTERNATIVE C (GPD)

Water Demands	Alternative C
Weekday Day	15,000
Weekend Day	25,000
Average Day Demand ¹	18,000
Average Day Landscape Irrigation ²	5,000
Recommended Water Supply³	23,000

NOTES: ¹ Water demands = wastewater flows/0.95.

² Estimated at average daily demand of 5,000 gpd/acre landscaping. Type and acreage of landscaping assumed.

³ Recommended water supply = average day demand plus landscape irrigation.

SOURCE: HSE, 2006; AES, 2006.

TABLE 4.9-13
ESTIMATED WATER DEMANDS WITH RECYCLED WATER
– ALTERNATIVE C (GPD)

Site Layout Alternative	Alternative C
Average Day Water Demand ¹	23,000
Recycled Water Demand	12,000
Recommended Domestic Water Supply ²	11,000

NOTES: ¹ 5/7 * week day + 2/7 * weekend day.
² Recommended supply = average day domestic water minus recycled water.
Water demands rounded to the nearest 100 gpd.
Recycled water demand includes toilet flushing and process water.
SOURCE: HSE, 2006; AES, 2006.

Water Facilities

The water supply for Alternative C would be provided by an on-site groundwater well, as described under Alternative A. One 600,000-gallon domestic water storage tank would be provided to store water produced by on-site well(s) (may not be necessary if a looped system with the City is utilized). The tank would be made of welded steel construction, meeting all AWWA specifications for welded steel tanks. The tank would be cylindrical and could be partially or completely constructed below grade.

Because the Madera site is relatively flat, construction of a pump station would be required to maintain appropriate water pressure throughout the on-site distribution system and convey water from the storage tank to project facilities. Flow requirements would be satisfied by two fixed-speed high-service pumps that would each pump half the capacity of the project flow requirements.

Effects to Public Water Utilities

As noted above, water to supply Alternative C would be provided by on-site well water. Development of a City of Madera looped system would require the construction of water conveyance infrastructure from the City's nearest facilities. During operation of the casino, it is expected that 16 gpm without recycled water, or 8 gpm, with recycled water, would be required to adequately meet the water demands of Alternative C. Since water supply for Alternative C would be supplied either wholly from on-site wells or from an on-site well in combination with City Well No. 26 (used solely during maintenance of the primary on-site well or for fire flow), a reduction in available capacity of the City's water facilities would not occur. In addition, the Tribe would be required to pay for the cost of constructing the piping and related facilities required to create a looped system with the City. Therefore, Alternative C's effect on public water utilities would be less than significant.

WASTEWATER

Tables 4.9-14 and 4.9-15 provide estimated wastewater flows and resulting WWTP design capacity for Alternative C. The use of recycled water would reduce the overall treated effluent disposal requirements, however use of recycled water would only be possible with use of an on-site WWTP. The following discussion evaluates impacts to public services from wastewater treatment and disposal options. The on-site options include sprayfield disposal, leachfield disposal, combination sprayfield/leachfield disposal, surface water discharge, and water reuse and are described in **Section 2.4.6**. These options would have no effect on local public service providers because they would be fully paid for and operated by the Tribe on-site. Off-site disposal options include connection to the City of Madera WWTP.

TABLE 4.9-14
ESTIMATED WASTEWATER FLOWS FOR ALTERNATIVE C

	Area (ft ²)	Unit (gpd/ft ²)	Base Flow (gpd)	Typical Weekday Flows (gpd) ¹	Typical Weekend Flows (gpd) ¹	Average Day Flows (gpd) ²
Retail	225,000	0.12	27,700	11,100	17,300	12,900
Food and Beverage	12,000	0.63	7,500	3,600	6,400	4,400
Total³	237,000		35,000	15,000	24,000	17,000

NOTES: ¹ Used for calculation purposes only.

² Average day flows = 5/7 Weekday + 2/7 Weekend.

³ Wastewater flows rounded to the nearest 10,000 gpd.

SOURCE: HSE, 2006; AES, 2006.

TABLE 4.9-15
DESIGN WASTEWATER TREATMENT PLANT FLOWS
– ALTERNATIVE C

Site Layout Alternative	Alternative C Flows (GPD)
Weekday Day	15,000
Weekend Day	24,000
Average Day ¹	17,000
Recycled Water Demand	5,000
Average Day Disposal Flows ²	12,000

NOTES: ¹ 5/7 weekday + 2/7 weekend day.

² Wastewater flow minus recycled water.

Wastewater flows rounded to the nearest 100 gpd.

Estimated from similar facilities.

SOURCE: HSE, 2006; AES, 2006.

Development of an on-site wastewater treatment plant would produce treated effluent meeting NPDES requirements and Title 22 disinfected tertiary recycled water treatment standards. Additionally, wastewater would be treated to ensure compliance with all applicable discharge

limitations of a NPDES permit for surface discharge of treated effluent to waters of the U.S. On-site wastewater treatment and disposal options would not impact public services. In addition, given the high quality of effluent that would be discharged from an on-site WWTP, no significant water quality degradation would occur (see **Section 4.3.3**) and thus indirect effects to downstream public water users and dischargers would be less than significant.

Obtaining City of Madera sewer service would require connection to the City sewer lines located approximately five miles southwest of the Madera site. The 7.0-MGD capacity City WWTP currently has an average demand of 5.7 MGD. Planned expansion of the treatment plant would increase the WWTP's maximum capacity to 10.1 MGD. The expansion would provide the City with sufficient capacity until 2023. Alternative C would require approximately 0.017 MGD of treatment capacity. While the City has available capacity to accept wastewater from the casino-hotel, obtaining City of Madera sewer service would require connection to the City sewer lines. An additional sewer line would be needed as well as potential expansion of existing lift stations. This impact is considered significant and mitigation is provided in **Section 5.2.8**. Implementation of mitigation measures would reduce impacts to less than significant.

SOLID WASTE

Construction waste from Alternative C would consist of the same materials as those listed under Alternative A. Waste would be disposed of at the Fairmead Landfill. This impact is temporary and not significant.

Based on the number and job types of employees, it is estimated that Alternative C would generate 1.3 tons per day of solid waste (**Table 4.9-16**). Solid waste services are expected to be provided by the City or County of Madera, which are subject to the state's recycling requirements. The development would not affect City or County diversion goals as waste from Tribal land is classified as out-of-state waste and is not calculated in local waste diversion statistics. The Alternative C development's solid waste generation would represent approximately 0.26% of the Fairmead Landfill's remaining daily capacity, which is well within capacity and is therefore less than significant. Mitigation is provided in **Section 5.2.8** to further ensure a reduction in the amount of waste that is landfilled.

TABLE 4.9-16
SOLID WASTE DISPOSAL ESTIMATE – ALTERNATIVE C

Employment Category	Number of Jobs	Business Type	Rate (Tons/Employee/Year)	Tons per Year	Tons per Day
Retail	695	26 ¹	0.3	208.5	0.6
Food and Beverage	80	29 ²	3.1	248	0.7
Total	775			456.5	1.3

NOTES: ¹ Includes SIC code 26 Retail Trade – General Merchandise Stores.

² Includes SIC code 58 Eating and Drinking Places.

SOURCE: AES, 2006; CIWMB, 2005.

ELECTRIC AND NATURAL GAS SERVICES

As with Alternative A, the Madera site would be served from the existing overhead electric facilities extending east/west along Avenue 17. Additionally, PG&E could provide natural gas service via the distribution pressure gas lines stepped down from the transmission gas facilities that extend north/south between Golden State Boulevard and Highway 99, located adjacent to the Madera site. PG&E has adequate facilities and is willing to serve the Madera site (Barrow, pers. comm., 2005), thus the impact to electric facilities is less than significant.

TELECOMMUNICATIONS

Alternative C would be served from the same SBC facilities as Alternative A. Depending on final design, Alternative C may require an extension of lines to meet at the Madera site. SBC is responsible for providing service connection to the property line, most likely two 4-inch diameter conduits to the street. The developer is responsible for any on-site infrastructure required to meet the SBC connection at the property boundary (Olivo, pers. comm., 2005). There are no capacity issues with telecommunications services in the area; thus the impact would be less than significant. Exact on-site infrastructure for Alternative C will be determined upon approval of the final construction plans.

PUBLIC HEALTH AND SAFETY

Law Enforcement

Development of Alternative C would increase calls for service to law enforcement agencies due to the new resident population and operation of Alternative C facilities.

New Residents

The new resident population is estimated to be 388 new residents. Of these new residents, 194 would reside in the City of Madera and 194 would reside in Madera County (**Section 4.7.1**). Those residents residing in the City of Madera would increase demands on the City of Madera Police Department. Based on 2004 per capita expenditures and the number of new residents, it is estimated that the annual cost to the City for police services would be \$21,350. Annual costs to the City would exceed revenues as shown in **Table 4.7-44** of **Section 4.7.1**. Thus, this impact is considered significant. Mitigation is provided in **Section 5.2.8**. Implementation of mitigation measures would reduce impacts to less than significant.

New residents residing in unincorporated areas of Madera County would increase demands on the Madera County Sheriff's Department. Based on 2004 per capita expenditures and the number of new residents, it is estimated that the annual cost to the County for Sheriff's Department services would total \$10,887. Additionally, judicial services and correctional services for new residents are estimated at \$5,735 and \$20,952, respectively. Annual costs to the County would exceed revenues as shown in **Table 4.7-43** of **Section 4.7**. Thus, this impact is considered significant.

Mitigation is provided in **Section 5.2.8**. Implementation of mitigation measures would reduce impacts to less than significant.

Operation

Under Public Law 280, the State of California and other local law enforcement agencies have enforcement authority over criminal activities on Tribal land. The Madera County Sheriff's Department would provide law enforcement services to Alternative C. Alternative C would result in fewer calls for service for public safety-related incidences than the other alternatives. This reduction is due to the fact that fewer visitors would access the facility and the hours of operation would be reduced. However, calls for service and the need for law enforcement presence would still increase on the property due to the development of land currently undeveloped. In other retail centers, often a deputy is staffed on a full-time basis to handle events on the property including car theft, shoplifting, disorderly conduct, and emergency situations. It is estimated that operation of Alternative C would require the hiring of as many as five deputies and one-half sergeant, at an estimated cost of \$506,391 (**Section 4.7.1**). Hiring standards and ratios are described under Alternative A. As there is no agreement for funding of these services, the impact to the department is considered significant. Mitigation measures have been included in **Section 5.2.8**. Implementation of mitigation measures would reduce impacts to less than significant.

Judicial and Correctional Services

Increased calls for law enforcement services would impact judicial and correctional services. As the level of criminal activity would be lower than for Alternative A due to size, and the types of crimes would not be expected to be particularly complex, less work is projected under this alternative for the judicial system. As outlined in **Section 4.7, Table 4.7-43**, annual costs to the County exceed the revenues from taxes. This impact is considered significant and mitigation is provided in **Section 5.2.8**. Implementation of mitigation measures would reduce impacts to less than significant.

Fire Protection/Emergency Medical Services

Alternative C would increase calls for service to fire protection services due to new resident population, construction of facilities, and operation of Alternative C.

New Residents

As discussed under law enforcement services, development of Alternative C would result in 288 new residents, of which 194 would reside in the City of Madera and 194 would reside in Madera County. Based on 2004 per capita expenditures and the number of new residents, it is estimated that the annual cost to the City for fire services would be \$8,517. Costs to the City exceed revenues from the project, as shown in **Table 4.7-44** of **Section 4.7**. This impact is considered

significant and mitigation is provided in **Section 5.2.8**. Implementation of mitigation measures would reduce impacts to less than significant.

New residents residing in unincorporated areas of Madera County would increase demands on the Madera County Fire Department. Based on 2004 per capita expenditures and the number of new residents, it is estimated that the annual cost to the County would total \$5,081. Costs to the County exceed revenues from the project as shown in **Table 4.7-43** of **Section 4.7**. This impact is considered significant and mitigation is provided in **Section 5.2.8**. Implementation of mitigation measures would reduce impacts to less than significant.

Construction Effects

Construction of Alternative C would introduce potential sources of fire to the Madera site that are similar to those described under Alternative A, but smaller in scale due to less developed acreage. This risk of fire, which is similar to those that are found at other construction sites, would pose potentially significant impacts to nearby fire departments that could be called to respond. Mitigation measures that would reduce the risk of construction fires to a less than significant level are listed in **Section 5.2.8**.

Operation Effects

As a large retail facility, Alternative C would have a reduced demand on fire protection services when compared with the other development alternatives. Alternative C would result in fewer calls for service for medical-related and fire-related incidences than the other alternatives. This reduction is due to fewer visitors to the facility and shorter hours of operation. There is currently no fire station that can respond within the County's response goal of 4 minutes.

According to Division Chief Paul Helm, Alternative C would still require a new fire station and fire truck. Due to the height of buildings, an aerial apparatus would not be required. The cost of a fire protection facility and fire truck would be approximately \$1,575,000. Operation of the station would require 3 fire captains, 3 fire engineers, and 12 volunteers as discussed under Alternative B. The cost of these positions, volunteer fees, and equipment sets would total \$480,570 annually (**Section 4.7.1**). As there is no current agreement for providing these services under Alternative C, the impact is considered significant. Mitigation measures that would fund these services are listed in **Section 5.2.8**. Implementation of mitigation measures would reduce impacts to less than significant.

Food and Water Safety

Once land is taken into trust, state and local laws and ordinances pertaining to food and water safety for employees and customers would not be applicable to activities on the Madera site. Therefore, there is a concern that food and water safety would be neglected, impacting the health and safety of customers and employees. Given that the SDWA would apply to trust land (as

analyzed in more detail under Alternative A), a significant impact to public health and safety due to inadequate water safety precautions would not occur.

Although the terms of the County MOU would not apply, any renegotiated MOU with the County is expected to contain the food and beverage handling and safe drinking water provisions noted under Alternative A. However, if such terms were not included in a renegotiated MOU or the MOU was not renegotiated, a potentially significant effect to public health could occur if Tribal food and beverage handling standards were inadequate. Mitigation measures contained in **Section 5.2.8** would ensure this effect is mitigated to a less than significant level.

SCHOOLS

As discussed for Alternative A, the impact of traffic on school children's safety would be less than significant as schools are located away from the primary areas of project-generated traffic and mitigation measures for traffic would ensure that roads and intersections operate at an acceptable service level.

Alternative C would result in a population increase of 388 people with approximately 81 new students entering the Madera Unified School District. This is a 0.5% increase over the current number of students and normal growth is 2.9% per year (500 students). This growth rate is not substantially larger than current expected growth, thus the development of a new school would not be warranted (also see **Section 4.7.1**). Costs to the County, including the cost for educational services, exceed revenues from Alternative C, as shown in **Section 4.7.1**. Thus, this impact is considered significant and mitigation is provided in **Section 5.2.8** that would reduce the impact to a less than significant level.

4.9.4 ALTERNATIVE D – NORTH FORK LOCATION

WATER SUPPLY

The methodology used to establish potable water demand for Alternative A was used to establish potable water demand for Alternative D. Refer to **Section 4.9.1** for a description of the methodology. **Table 4.9-17** and **Table 4.9-18** show the water demand with and without recycled water for Alternative D.

Water Facilities

The water supply for Alternative D would be provided by groundwater wells or be supplied from the Madera County Maintenance District 8A. The County of Madera assessed the groundwater conditions in eastern Madera County (County of Madera, 2002). The study found that the overall water balance and current water demands in the foothill region suggest that a sufficient quantity of water is available on a regional basis to meet current demands and support some future development. The study included a detailed review 1,492 well log records in the foothill region.

The median well yield is 8.5 gpm and average well yield is 22 gpm. These well yields are based on drillers initial airlift tests, so actual production may be lower. Well yields should be confirmed by means of a 72-hour pumping test.

TABLE 4.9-17
ESTIMATED WATER DEMANDS WITHOUT RECYCLED WATER
– ALTERNATIVE D (GPD)

Water Demands	Alternative D
Weekday Day	19,000
Weekend Day	30,000
Average Day Demand ¹	22,000
Average Day Landscape Irrigation ²	5,000
Recommended Water Supply³	27,000

NOTES: ¹ Water demands = wastewater flows/0.95.
² Estimated at average daily demand of 5,000 gpd/acre landscaping. Type and acreage of landscaping assumed.
³ Recommended water supply = average day demand plus landscape irrigation.

SOURCE: HSE, 2006; AES, 2006.

Should water supply be provided by the District, a 600,000-gallon domestic water storage tank would be provided for fire suppression needs. Because the topography of the North Fork site varies, it may be necessary to construct a pump station if the proposed storage tank cannot be placed in a location suitable to provide pressurized flow.

TABLE 4.9-18
ESTIMATED WATER DEMANDS WITH RECYCLED WATER
– ALTERNATIVE D (GPD)

Site Layout Alternative	Alternative D
Average Day Water Demand ¹	27,000
Recycled Water Demand	13,000
Recommended Domestic Water Supply ²	14,000

NOTES: ¹ 5/7 * week day + 2/7 * weekend day.
² Recommended supply = average day domestic water minus recycled water.
Water demands rounded to the nearest 100 gpd.
Recycled water demand includes toilet flushing and process water.

SOURCE: HSE, 2006; AES, 2006.

Effects to Public Water Facilities

Water to supply Alternative D could be provided by either well water or the Madera County Maintenance District 8A. Development of an off-site water supply source would require the construction of water conveyance infrastructure from the North Fork site to the nearest County facilities. During operation of the casino, it is expected that 19 gpm without recycled water, and

10 gpm with recycled water, would be required to be extracted from on-site water wells. While the District has capacity to serve the project, the addition of Alternative D would introduce an unplanned water demand to the overall water supply system. Because adequate water is available from the County, and the Tribe would pay for all infrastructure upgrades required to serve the site, there would be no significant impact to water supply services.

WASTEWATER

Tables 4.9-19 and 4.9-20 provide estimated wastewater flows and resulting WWTP design capacity for Alternative D. The use of recycled water would reduce the overall treated effluent disposal requirements, however use of recycled water would only be possible with use of an on-site WWTP. The following discussion evaluates impacts to public services from wastewater treatment and disposal options. The on-site options include sprayfield disposal, leachfield disposal, combination sprayfield/leachfield disposal, surface water discharge, and water reuse and are described in Section 2.5.6. These options would have no effect on local public service providers because they would be fully paid for and operated by the Tribe on-site.

Development of an on-site wastewater treatment plant would produce treated effluent meeting NPDES requirements and Title 22 disinfected tertiary recycled water treatment standards. Additionally, wastewater would be treated to ensure compliance with all applicable discharge limitations of a NPDES permit for surface discharge of treated effluent to waters of the U.S. On-site wastewater treatment and disposal options would not impact public services. In addition, given the high quality of effluent that would be discharged from an on-site WWTP, no significant water quality degradation would occur (see Section 4.3.4) and thus indirect effects to downstream public water users and dischargers would be less than significant.

TABLE 4.9-19
ESTIMATED WASTEWATER FLOWS FOR ALTERNATIVE D

	Area (ft ²)	Unit (gpd/ft ²)	Base Flow (gpd)	Typical Weekday Flows (gpd) ¹	Typical Weekend Flows (gpd) ¹	Average Day Flows (gpd) ²
Casino	15,451	1.00	15,500	8,900	13,180	10,130
Back of House	6,000	1.18	7,050	2,820	4,260	3,230
Food and Beverage	4,550	2.87	13,050	6,280	11,090	7,660
Total³	26,000		36,000	18,000	29,000	21,000

NOTES: ¹ Used for calculation purposes only.
² Average day flows = 5/7 weekday + 2/7 weekend.
³ Wastewater flows rounded to the nearest 10,000 gpd.

SOURCE: HSE, 2006; AES, 2006.

TABLE 4.9-20
DESIGN WASTEWATER TREATMENT PLANT FLOWS
– ALTERNATIVE D

Site Layout Alternative	Alternative D Flows (GPD)
Weekday Day	18,000
Weekend Day	29,000
Average Day ¹	21,000
Recycled Water Demand	8,000
Average Day Disposal Flows ²	13,000

NOTES: ¹ 5/7 weekday + 2/7 weekend day.
² Wastewater flow minus recycled water.
Wastewater flows rounded to the nearest 100 gpd.
Estimated from similar facilities.

SOURCE: HSE, 2006; AES, 2006.

Off-site disposal options include connection to the Madera County WWTP for the community of North Fork. Obtaining County sewer service would require connection to the County sewer lines located approximately one mile northwest of the North Fork site. The 31,000 gpd capacity WWTP plant is currently near maximum capacity and is undergoing an expansion to 60,000 gpd of capacity. By adding the Alternative D wastewater flows to the expanded WWTP, the plant would be near capacity. This impact is significant and mitigation is provided in **Section 5.2.8**. Implementation of mitigation measures would reduce impacts to less than significant.

SOLID WASTE

Construction waste from Alternative D would consist of the same materials as those listed under Alternative A. Waste would be disposed of at the Fairmead Landfill. This impact is temporary and not significant.

Based on the number and job types of employees it is estimated that Alternative D would generate 0.79 tons per day of solid waste (**Table 4.9-21**). Solid waste services are expected to be provided by the City or County of Madera, which are subject to the state's recycling requirements. The development would not affect City or County diversion goals as waste from Tribal land is classified as out-of-state waste and is not calculated in local waste diversion statistics. The Alternative D development's solid waste generation would represent approximately 0.16% of the Fairmead Landfill's remaining daily capacity, which is well within capacity and is therefore less than significant. Mitigation is provided in **Section 5.2.8** to further ensure a reduction in the amount of waste that is landfilled.

ELECTRIC AND NATURAL GAS SERVICES

PG&E is the company that provides electricity service in the vicinity of the North Fork site. PG&E has an existing overhead electric 12-kilovolt line near Road 225 and Rainbow Road.

PG&E has indicated that they would provide service to the site upon acceptance of application and the required site plans. The service would be installed under PG&E's existing tariffs, Rules 15 and 16, on file with the Public Utilities Commission (Barrow, pers. comm., 2005). PG&E has

TABLE 4.9-21
SOLID WASTE DISPOSAL ESTIMATE – ALTERNATIVE D

Employment Category	Number of Jobs	Business Type	Rate (Tons/Employee/Year)	Tons per Year	Tons per Day
Gaming	62	38 ¹	0.9	55.8	0.15
Food and Beverage	49	29 ²	3.1	151.9	0.42
Other Dept	12	33	1.7	20.4	0.06
Administrative	16	33	1.7	27.2	0.07
Marketing	4	33	1.7	6.8	0.02
Maintenance	9	33	1.7	15.3	0.04
Security	10	38	0.9	9	0.03
Total	162			286.4	0.79

NOTES: ¹ Business Type 38 Includes SIC code 73 Business Services.

² Business Type 29 Includes SIC code 58 Eating and Drinking Places.

SOURCE: CIWMB, 2005; AES, 2006.

adequate facilities and is willing to serve the North Fork site (Barrow, pers. comm., 2005), thus the impact to electric facilities is less than significant.

There are no natural gas facilities in the vicinity of the North Fork site (Barrow, pers. comm., 2005). The project would utilize solely electric appliances or propane. Implementation of Alternative D is expected to result in a less than significant effect to electric and natural gas services.

TELECOMMUNICATIONS

In order for the Ponderosa Telephone Company to provide telecommunication service to the North Fork site, an extension would be necessary to extend fiber cable from Road 225 along Rainbow Drive. Infrastructure would include fiber cable from Road 225 plus a cabinet on site (Westfall, pers. comm., 2005). Ponderosa Telephone Company could provide service and the Tribe would be required to fund the extension of the cable, so the impact is less than significant.

PUBLIC HEALTH AND SAFETY

Law Enforcement

Development of Alternative D would increase calls for service to law enforcement agencies due to the new resident population and operation of Alternative D facilities.

New Residents

The new resident population would be 32 new residents. Of these new residents, 12 would reside in the City of Madera and 20 would reside in Madera County (**Section 4.7.1**). Those residents

residing in the City of Madera would increase demands on the City of Madera Police Department. Based on 2004 per capita expenditures and the number of new residents, it is estimated that the annual cost to the City for police services would be \$1,321. Annual costs to the City would exceed revenues as shown in **Table 4.7-57** of **Section 4.7**. Thus, this impact is considered significant. Mitigation is provided in **Section 5.2.8**. Implementation of mitigation measures would reduce impacts to less than significant.

New residents residing in unincorporated areas of Madera County would increase demands on the Madera County Sheriff's Department. Based on 2004 per capita expenditures and the number of new residents, it is estimated that the annual cost to the County for Sheriff's Department services would total \$1,122. Additionally, judicial services and correctional services for new residents are estimated at \$591 and \$2,160, respectively. Annual costs to the County would exceed revenues as shown in **Table 4.7-56** of **Section 4.7**. Thus, this impact is considered significant. Mitigation is provided in **Section 5.2.8**. Implementation of mitigation measures would reduce impacts to less than significant.

Operational

The North Fork site is within the jurisdiction of the Sheriff's Department. Operation of Alternative D would require the hiring of three deputies and one-half sergeant, at an estimated cost of \$326,503 (**Section 4.7.1**). Assuming that the rate of calls is proportional to the size of the facility, Alternative D would result in fewer calls for sheriff assistance than Alternative A. Fewer calls would require fewer officers to respond to those calls. Hiring standards and ratios are described under Alternative A. The Tribe would employ security personnel for surveillance and patrol on-site; however, even with on-site security there would be increased demands on the Sheriff's Department. The Tribe does not currently have an agreement to pay for Sheriff services under Alternative D. This impact is considered significant and mitigation is provided in **Section 5.2.8**. Implementation of mitigation measures would reduce impacts to less than significant.

Judicial and Correctional Services

As with Alternative A, increased calls for law enforcement services would impact judicial and correctional services. As outlined in **Section 4.7**, **Table 4.7-56**, annual costs to the County exceed the revenues from taxes. This impact is considered significant and mitigation is provided in **Section 5.2.8**. Implementation of mitigation measures would reduce impacts to less than significant.

Fire Protection/Emergency Medical Services

As with Alternative A, Alternative D would increase calls for service to fire protection services due to the new resident population, construction of facilities, and operation of Alternative D.

New Residents

As discussed under law enforcement services, development of Alternative D would result in 32 new residents, of which 12 would reside in the City of Madera and 20 would reside in Madera County. Based on 2004 per capita expenditures and the number of new residents, it is estimated that the annual cost to the City for fire services would be \$527. Costs to the City exceed revenues from the project, as shown in **Table 4.7-57 of Section 4.7**. This impact is considered significant and mitigation is provided in **Section 5.2.8**. Implementation of mitigation measures would reduce impacts to less than significant.

New residents residing in unincorporated areas of Madera County would increase demands on the Madera County Fire Department. Based on 2004 per capita expenditures and the number of new residents, it is estimated that the annual cost to the County would total \$524. Costs to the County exceed revenues from the project, as shown in **Table 4.7.56 of Section 4.7**. This impact is considered significant and mitigation is provided in **Section 5.2.8**. Implementation of mitigation measures would reduce impacts to less than significant.

Construction Effects

Construction and operation of Alternative D may introduce potential sources of fire to the North Fork site. Although construction would be shorter in duration and take place over a smaller area than Alternative A, the risk of a serious wildfire would be greater due to the density of vegetation and rural residential developments surrounding the North Fork site. This risk of fire, which is similar to those that are found at other construction sites in the Sierra Nevada foothills, would pose a potentially significant impact to nearby fire departments that could be called to respond. Mitigation measures that would reduce the risk of construction fires to a less than significant level are listed in **Section 5.2.8**.

Operation Effects

Development of Alternative D would increase calls for service to the County Fire Department, due to an increased population of employees and patrons on site.

Development of Alternative D will increase the calls for service and may decrease the response times in the area. The response times in the vicinity of the North Fork site range from 10 to 15 minutes. It is difficult to quantify the precise affect the increase in calls would have on response times from the station, but qualitatively the increase could be a potentially significant impact. As discussed in **Section 2**, a Tribal security force would provide daily public safety needs of the casino. Mitigation measures listed in **Section 5.2.8** would further the effects from Alternative D on fire protection services in Madera County to a less than significant level.

Food and Water Safety

Given that the North Fork is already held in trust, state and local laws and ordinances pertaining to food and water safety for employees and customers would not apply to activities on the site. Therefore, there is a concern that food and water safety would be neglected, impacting the health and safety of customers and employees.

Although the terms of the County MOU would not apply, any renegotiated MOU with the County is expected to contain the food and beverage handling and safe drinking water provisions noted under Alternative A. Even if such provisions are not included, given that the Tribal-State Compact (or Secretarial procedures) would require compliance with state food and beverage handling standards and that the SDWA would apply to trust land (as analyzed in more detail under Alternative A), a significant effect to public health and safety due to inadequate food and water safety precautions would not occur.

SCHOOLS

Operation of Alternative D would increase traffic in the vicinity of the North Fork site including roads near North Fork Elementary School. Three intersections within a mile of the school were analyzed in the traffic study for increased traffic due to development of Alternative D. These intersections are 1) Malum Ridge Road and Road 225, 2) Road 225 and Cascadel Road, and 3) North Fork Road and Auberry Road. These three intersections would continue to operate at the same service levels (TPG Consulting, 2005). As intersections would operate at the same service levels, the impact to school children from increased traffic would be less than significant.

Alternative D would result in a population increase of 32 people with approximately 7 new students. Most students would enter the Chawanakee Unified School District. Due to the smaller number of students generated, a new school would not be warranted. Additional costs, described in **Section 4.7.1**, would be incurred to hire teachers and for other incidental costs of the new students. Costs to the County, including the cost for educational services, exceed revenues from Alternative D, as shown in **Table 4.7-56 of Section 4.7.1**. Thus, this impact is considered significant and mitigation is provided in **Section 5.2.8** that would reduce the impact to a less than significant level.

4.9.5 ALTERNATIVE E – NO ACTION ALTERNATIVE

WATER SUPPLY

Under the No Action Alternative, water supply to the Madera site would not be necessary. No development would take place. Thus, no effect to water supply services would result from the No Action Alternative.

WASTEWATER

No wastewater treatment or discharge would be necessary under the No Action Alternative. Thus, no effect to wastewater services would result.

SOLID WASTE

No development would take place under this alternative. Thus, the No Action Alternative would not result in solid waste production. Thus, no effect to solid waste services would result from the No Action Alternative.

ELECTRIC AND NATURAL GAS SERVICES

No development would take place under this alternative. Thus, the No Action Alternative would not result in effects to electric or natural gas services. The Tribe would not contribute to the expansion of utility service in and around the Madera or North Fork site.

TELECOMMUNICATIONS

No development would take place under this alternative. Thus, the No Action Alternative would not result in effects to telecommunication services. The Tribe would not contribute to the expansion of utility service in and around the Madera or North Fork site.

PUBLIC HEALTH AND SAFETY

Law Enforcement

No development would take place under this alternative. Thus, the No Action Alternative would not result in effects to law enforcement.

Fire Protection/Emergency Medical Service

No development would take place under this alternative. Thus, an increased need for fire protection and emergency medical services would not result. Thus, no effects to fire protection or emergency medical services would result from the No Action Alternative.

Schools

No development would take place under this alternative. There would be no increased traffic related hazards to school children. An increased demand on school services would not occur. Thus, no effect to school services would result from the No Action Alternative.

4.10 OTHER VALUES

4.10.1 ALTERNATIVE A – PROPOSED PROJECT

NOISE

Overview

The project has the potential to affect the existing ambient noise environment in the immediate project vicinity as follows:

- Construction activities associated with the development of Alternative A would cause short-term increases in the ambient noise environment.
- Mechanical equipment associated with the heating, ventilating, air conditioning (HVAC), cold food storage and wastewater treatment systems could cause an appreciable permanent increase in ambient noise levels in the immediate project vicinity.
- Truck deliveries/loading dock activities associated with the ongoing operation of the facility would result in intermittent increases in ambient noise in the immediate vicinity of loading dock areas.
- On-site traffic flow and parking lot activities associated with Alternative A would cause increases in the ambient noise environment.
- Increases in traffic volumes on the local roadway network as a result of the operation of Alternative A would result in increases in traffic noise levels along roadways that serve the Madera site.

Methodology

To evaluate changes in the ambient noise environment resulting from development of Alternative A, a combination of noise surveys, use of existing acoustical literature and studies, and application of accepted noise prediction methodologies was employed. Absolute noise levels generated by the on-site noise sources described above were compared against the Federal Highway Administration (FHWA) exterior noise abatement criteria of 67 dB to evaluate the consequences of on-site noise sources relative to existing noise-sensitive uses (residential) located in the project vicinity.

Changes in off-site traffic noise levels which would result from the project alternatives were compared against the Federal Interagency Commission on Noise (FICON) existing ambient noise level significance criteria (**Table 4.10-1**) to evaluate traffic noise consequences at existing sensitive receptors located along the roadway network which would serve the project site.

A more specific description of the methodology employed in the evaluation of environmental consequences for each of these project components follows.

Federal Interagency Committee on Noise

Some guidance as to the significance of changes in ambient noise levels is provided by the 1992 findings of FICON, which assessed the annoyance effects of changes in ambient noise levels resulting from aircraft operations. The FICON recommendations are based upon studies that relate aircraft and traffic noise levels to the percentage of persons highly annoyed by the noise. Annoyance is a summary measure of the general adverse reaction of people to noise that generates speech interference, sleep disturbance, or interference with the desire for a tranquil environment.

The rationale for the FICON recommendations is that it is possible to consistently describe the annoyance of people exposed to transportation noise in terms of Ldn. The changes in noise exposure that are shown in **Table 4.10-1** are expected to result in equal changes in annoyance at sensitive land uses. Although the FICON recommendations were specifically developed to address aircraft noise impacts, they are used in this analysis for traffic noise described in terms of Ldn. For non-transportation noise sources affecting noise-sensitive land uses, an increase in ambient noise levels of 5 dB is considered to be potentially significant.

TABLE 4.10-1
MEASURES OF SUBSTANTIAL INCREASE FOR TRANSPORTATION NOISE EXPOSURE

Ambient Noise Level Without Project (L _{dn})	Significant Impact Assumed to Occur if the Project Increases Ambient Noise Levels By:
<60 dB	+ 5 dB or more
60-65 dB	+3 dB or more
>65 dB	+1.5 dB or more

SOURCE: FICON, 1992.

Federal Noise Abatement Criteria

The Federal Highway Administration (FHWA) establishes Noise Abatement Criteria (NAC) for various land uses, which have been categorized, based upon activity and sensitivity to noise, as indicated in **Table 4.10-2**. The **Table 4.10-2** standards that are applicable to this project are 67 dB L_{eq} exterior noise level standard for Residences and Motels (Category B), and the 52 dB interior noise level standard applied to those same uses under Category E.

Construction Noise Evaluation Methodology

During the construction phase of the project, noise from construction would dominate the noise environment in the immediate area. Equipment used for construction generates noise levels as indicated in **Table 4.10-3**. Maximum noise levels from different types of equipment under different operating conditions could range from 85 dB to 88 dB at a distance of 50 feet. Construction activities are usually temporary in nature, typically occurring during normal working hours. Construction noise impacts could be significant if nighttime operations or use of unusually noisy equipment resulted in annoyance or sleep disruption for nearby residents.

TABLE 4.10-2
FHWA NOISE ABATEMENT CRITERIA

Activity Category	L _{eq} (h), dBA	Activity Category Description
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need, and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	---	Undeveloped lands.
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

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

SOURCE: Federal Highway Administration, 2000.

TABLE 4.10-3
TYPICAL CONSTRUCTION EQUIPMENT NOISE LEVELS

Type of Equipment	Maximum Noise Level, dBA at 50 feet
Scrapers	88
Bulldozers	87
Heavy Trucks	88
Backhoe	85
Pneumatic Tools	85

SOURCE: Bolt, Beranek, and Newman, 1971.

Noise would also be generated during the construction phase by increased truck traffic on area roadways. Project-generated noise sources would be truck traffic associated with transport of heavy materials and equipment to and from construction sites. This noise increase would be of short duration, and would likely occur primarily during daytime hours.

Mechanical Equipment Noise Evaluation Methodology

Although information pertaining to specific equipment types, sizes, location, and sound output is unavailable, it is likely that a combination of chillers, compressors, fans, condensers, pumps, blowers, and cooling towers would be needed to meet the project's refrigeration, HVAC, and water/wastewater treatment requirements. While specific noise levels at nearby residential uses cannot be accurately quantified at this time, recognition of the noise-generation of such equipment has been included in the assessment of potential environmental noise consequences.

Truck Deliveries and Loading Dock Activity Noise Evaluation Methodology

Truck deliveries are an integral part of commercial activities, as the delivery of food and/or merchandise to such facilities is a routine occurrence. To determine typical loading dock noise levels, noise level data collected at a typical loading dock were utilized. This level of activity is estimated to represent a reasonable worst-case hour of loading dock activity. Existing data indicates that during a busy hour of loading dock operations, the measured hourly average (L_{eq}) noise level was 60 dB at a distance of 50 feet from the loading dock (AES, 2003).

On-Site Traffic and Parking Lot Noise Evaluation Methodology

Parking lot noise can be an annoyance to adjacent sensitive receptors. Estimates of the maximum noise levels associated with some parking lot activities are presented in **Table 4.10-4**.

Conversations in parking areas may also be an annoyance to adjacent sensitive receptors. Sound levels of speech typically range from 33 dB at 50 feet for normal speech to 50 dB at 50 feet for very loud speech.

TABLE 4.10-4
NOISE LEVELS GENERATED BY PARKING LOT NOISE ACTIVITIES

Noise Source	Maximum Noise Levels (dBA)
Car Door Slamming	63
Car Starting	60
Car Accelerating	55
Car Idling	65
People Shouting, Laughing	61

SOURCE: VRPA Technologies, 2005.

Off-Site Traffic Noise Evaluation Methodology

To evaluate noise levels due to traffic, Sound 2000, the Caltrans version of the FHWA STAMINA 2.0/OPTIMA Traffic Noise Prediction Program, was used. The model allows the use of either the California reference energy mean emission levels (Calveno curves) or the National reference energy mean emission levels for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. **Appendix O** contains the noise study and noise model input data. The traffic noise prediction model results are provided in **Table 4.10-5** for Alternative A. As shown in the following table, projected noise increases are well below the 5 dB FICON significance criteria. Existing and future noise level data for the nearest sensitive receptor is also provided in **Table 4.10-5**.

TABLE 4.10-5
ALTERNATIVE A - PREDICTED NOISE LEVELS
FOR YEAR 2008 (dBA)

Receptor	2008 No Project Leq	2008 Plus Project Leq	2008 No Project vs. 2008 Plus Project (Difference)
Madera Site	55.8	55.9	0.1
Residential Receptor	63.3	64.9	1.6

SOURCE: VRPA Technologies, 2005.

Noise Effects

Construction Noise Effects

Construction activities will result in short-term increases in the local ambient noise environment in excess of the FHWA 67 dB threshold of significance. It is conservatively assumed that construction activities will take place on the entire Madera site, with the closest sensitive receptor (rural residence) from the property line of the Madera site located approximately 200 feet away. While air absorbs noise at the rate of 3 dB to 6 dB per doubling of distance, noise generated by construction activities would attenuate between 9 dB and 18 dB, and may exceed the FHWA 67 dB threshold of significance (ONCC, 2000). Mitigation measures identified in **Section 5.0** will reduce this impact to a less than significant level.

Mechanical Equipment Noise Effects

Due to the considerable distance between the proposed development and the nearest sensitive receptors (~1800 feet from proposed developed area and nearest rural residence), mechanical equipment noise associated with the operation of Alternative A is not expected to approach significant noise levels in those areas. Nonetheless, because mechanical equipment noise levels can be highly variable, it is assumed that noise levels from this equipment may exceed the significance criteria, and the noise levels are therefore considered to be significant. Mitigation measures identified in **Section 5.0** will reduce this impact to a less than significant level.

Truck Delivery/Loading Dock Noise Effects

As noted above, noise measurements taken at a typical loading dock were observed to be 60 dB at a distance of 50 feet from the noise source (AES, 2003). Because this observed noise level is well below the FHWA 67 dB exterior noise standard for sensitive receptors and the nearest sensitive receptors are located at least 1,800 feet from the proposed loading dock facilities, no significant noise effects associated with truck delivery and loading dock noise are anticipated.

On-Site Traffic Flow and Parking Lot Noise Effects

Parking lot activities, including vehicles arriving and departing, engines starting and stopping, car doors opening and closing, and busses idling, are predicted to generate noise levels of approximately 55 to 65 dB L_{eq} at a distance of 50 feet from the noise source (**Table 4.10-1**). The proposed parking areas are located approximately 1,800 feet from the nearest sensitive receptor located south of the Madera site. Because air absorbs noise at the rate of 3 to 6 dB per doubling of distance, noise generated within the parking lot would attenuate at least 18 dB to 36 dB before reaching the nearest off-site receptor (ONCC, 2000). As a result, noise from on-site traffic flow and parking activities is considered less than significant.

Off-Site Traffic Noise Effects

Development of Alternative A would result in changes in traffic noise levels as identified in **Table 4.10-5**. According to this table, project-related traffic noise is predicted to increase an average of 0.1 dB over existing conditions. Additionally, an analysis of the closest sensitive receptor to the south on Golden State Boulevard shows that project-related traffic will result in an increase of 1.6 dB at this location. Both of these estimated noise increases are below FICON significance criteria. Off-site traffic noise effects are considered less than significant.

HAZARDOUS MATERIALS*Existing Sources*

Analytical Environmental Services conducted a Phase I Environmental Site Assessment (ESA) for the Madera site in May 2005 (**Appendix P**). An update to the Phase I ESA was conducted in July 2007 (**Appendix P**). The Phase I ESAs concluded that there are no obvious signs of gross contamination, however, several recognized environmental conditions were noted. Present inside one of the cattle feeders on the Madera site was an uncontained yellow powder. The powder is elemental sulfur that is commonly used on grape crops and as an insect repellent on cattle. Several five-gallon buckets of waste oil, two 55-gallon drums, and several unmarked one-gallon containers of suspected paint or paint thinners were noted in one of the barns and corral area. A 55-gallon drum containing used oil filters was observed adjacent to a metal storage building located on the site. There were no visible soil stains around the 55-gallon drum. There was an empty 500-gallon aboveground storage tank located on the site; no signs of spills or leaks were evident in the area around the tank. Additionally, several agricultural wells with associated piping and electrical supply boxes were located throughout the site. These boxes were in various forms of disrepair; some did not appear functional. The on-site wells could pose a potential environmental threat to ground water quality since they represent a conduit for contaminants. Abandoned agricultural equipment could contain residual fuels or agricultural chemicals that would pose a threat to the environment. The previously mentioned environmental conditions if not properly addressed could result in significant environmental impacts. Mitigation is included in **Section 5.2.9** that will reduce the potential significant impacts to a less than significant level.

Construction

As noted above, several recognized environmental conditions have been found on-site. If not properly addressed prior to construction, these conditions could result in a potentially significant effect to construction workers.

The possibility exists that undiscovered contaminated soil and/or groundwater exists on the Madera site. This possibility is slight given past uses of the Madera site have been limited to agricultural uses. Although not anticipated, construction personnel could encounter contamination during construction-related earth moving activities. This could pose a risk to human health and/or the environment. The unanticipated discovery of contaminated soil and/or groundwater could have a potentially significant effect on construction workers or to the public.

During grading and construction the use of hazardous materials would include substances such as gasoline, diesel fuel, motor oil, hydraulic fluid, solvents, cleaners, sealants, welding flux, various lubricants, paint, and paint thinner. These materials would be used for the operation and maintenance of equipment, and directly in the construction of the facilities. Fueling and oiling of construction equipment would be performed daily. The most likely possible hazardous materials releases would involve the dripping of fuels, oil, and grease from construction equipment. The small quantities of fuel, oil, and grease that may drip from properly maintained vehicles would occur in relatively low toxicity and concentration. No long-term effects to the soil or groundwater would occur. Typical construction management practices limit and often eliminate the effect of such accidental releases. An accident involving a service or refueling truck would present the worst-case scenario for the release of a hazardous substance. Depending on the relative hazard of the hazardous material, if a spill of significant quantity were to occur, the accidental release could pose a hazard to construction employees as well as to the environment. This impact is potentially significant. Mitigation has been included within **Section 5.2.9** to reduce the impact to a less than significant level.

Operation

Should on-site wastewater treatment occur, the wastewater treatment plant would require the delivery, storage, and use of hazardous materials, particularly the use of sodium hypochlorite (bleach) and citric acid (HydroScience, 1999, in AES, 2002). Sodium hypochlorite is used in wastewater treatment, in household laundry detergents, and in photochemical and pulp and paper industries. Sodium hypochlorite ingestion can cause severe gastrointestinal corrosion; inhalation can cause pulmonary edema. Citric acid is used in hair products, household cleaners, and in electroplating, printing, and machinery manufacturing industries. For the proposed wastewater treatment plant, a weak (5% strength) solution of sodium hypochlorite would be used to clean or inhibit biogrowth in the immersed membranes used to filter out solids. Sodium hypochlorite

would be stored in a 55-gallon drum, within a chemical spill containment area inside the wastewater treatment plant building. A citric acid solution is periodically used to remove buildup of inorganic materials. Citric acid is purchased in dry form in 40-pound sacks. A 50-gallon mixing tank inside the wastewater treatment plant would be used to prepare the liquid citric acid solution. Both the sodium hypochlorite and the citric acid are pumped directly to a chemical dip tank when required for use.

Diesel fuel storage tanks will be needed for the operation of four emergency generators provided for the casino, one emergency generator and one fire pump provided for the hotel, and one emergency generator provided for the wastewater treatment facility and human resources building. The generators will be operated according to the manufacturer's operating procedures. Improper storage of diesel fuels could create a potentially significant risk of soil and groundwater contamination.

During operation of the facilities included under Alternative A, the majority of waste produced would be non-hazardous. The small quantities of hazardous materials that would be utilized would include motor oil, hydraulic fluid, solvents, cleaners, lubricants, paint, and paint thinner. These materials would be utilized for the operation and maintenance of the casino, emergency generators, and other project facilities. The amount and type of hazardous materials that would be generated are common to commercial sites and do not pose unusual storage, handling or disposal issues. A hazardous materials release could occur that would pose a hazard to human health or the environment if these materials are not stored, handled, or disposed of according to State, Federal, and manufacturer's guidelines.

The amount and types of hazardous materials that would be stored, used, and generated during the operation of Alternative A could have a potentially significant impact to the environment and public. Mitigation is included in **Section 5.2.9** to reduce potential impacts to less than significant from the operation of Alternative A.

VISUAL RESOURCES

An area of urban development amidst the primarily undeveloped agricultural lands of the Madera site would represent a change to the viewshed and be visible from several public vantage points, including Road 23, Avenue 18, Golden State Boulevard, and State Route 99. Development in the area includes a gas station, a fast food restaurant, and a hotel development at the intersection of State Route 99 and Avenue 18½; a large commercial greenhouse and a large auto salvage facility adjacent to the northwest corner of the site; and the Madera Municipal Airport and various commercial and light industrial facilities about a mile to the south of the site. Thus, although agricultural and rural residential uses are prevalent in the area surrounding the Madera site, commercial uses and industrial development are present in the vicinity of the site. The existing

commercial/industrial development would serve to reduce the intensity of the casino/hotel resort's visual impact on the area.

The casino/hotel resort has also been designed to reduce visual effects. An architectural rendition of the casino/hotel resort is shown in **Figure 2-2**. The proposed casino/hotel resort has been designed to avoid architectural features, such as the use of neon, which may be especially incompatible with a non-urban setting. Instead, the use of earth tones in paints and coatings, and native building materials such as stone have been utilized extensively in the project design. Architectural treatment incorporated into the various structures also serves to break up and soften the massing of the proposed buildings. In addition, landscape amenities have been incorporated into the project design to complement buildings and parking areas, including raised landscaped areas and plantings of trees and shrubs. Finally, no local or State-designated scenic corridors would be affected by the implementation of Alternative A. Thus, effects to visual resources would be less than significant.

4.10.2 ALTERNATIVE B – REDUCED INTENSITY

NOISE

The Overview and Methodology presented in Alternative A apply to the noise discussion for Alternative B.

Construction Noise Effects

As with Alternative A, construction activities may result in short-term increases in the local ambient noise environment in excess of the FHWA 67 dB threshold of significance. While construction activities will be reduced in scale and likely occur during a shorter construction duration, noise generated by construction activities may be as loud as 88 dB. Although noise would attenuate between 9 dB and 18 dB, this may exceed the FHWA 67 dB threshold of significance. This is considered a significant effect. Mitigation measures identified in **Section 5.0** will reduce this impact to a less than significant level.

Mechanical Equipment Noise Effects

The building layout for Alternative B is similar to that of Alternative A but on a reduced scale. While there is considerable distance between the proposed development and the nearest sensitive receptors, mechanical equipment noise is highly variable and may exceed the FHWA significance criteria of 67 dB. Mitigation measures identified in **Section 5.0** will reduce this impact to a less than significant level.

Truck Delivery/Loading Dock Noise Effects

The building layout for Alternative B is similar to that of Alternative A but on a reduced scale. As noted above, the observed noise levels for typical loading dock activities are well below the

FHWA 67 dB exterior noise standard for sensitive receptors and sensitive receptors are located at least 1,800 feet from the proposed facilities. Therefore, no significant noise consequences are identified for this aspect of the project.

On-Site Traffic Flow and Parking Lot Noise Effects

The proposed parking layout proposed for Alternative B is similar to that of Alternative A but on a reduced scale. As with Alternative A, parking lot noise from Alternative B would attenuate at least 18 dB to 36 dB before reaching the nearest off-site receptor (ONCC, 2000). As a result, on-site traffic flow and parking lot noise effects are considered to be less than significant.

Off-Site Traffic Noise Effects

Development of Alternative B would result in changes to traffic noise levels similar to those of Alternative A. It is estimated that project-related traffic noise would result in an increase of 0.1 dB over existing conditions. Additionally, an analysis of the closest sensitive receptor on Golden State Boulevard shows that worst case project-related traffic would result in an increase of no more than 1.6 dB at this location (**Table 4.10-6**). Both of these estimated noise increases are below FICON significance criteria. Off-site traffic noise effects are considered to be less than significant.

TABLE 4.10-6
ALTERNATIVE B PREDICTED NOISE LEVELS
FOR YEAR 2008 (dBA)

Receptor	2008 No Project Leq	2008 Plus Project Leq	2008 No Project vs. 2008 Plus Project (Difference)
Madera Site	55.2	55.3	0.1
Residential Receptor	63.3	64.9	1.6

SOURCE: VRPA Technologies, 2005.

HAZARDOUS MATERIALS

Existing Sources

The 2007 Phase I ESA identified several RECs in connection with the Madera site. Refer to **Section 3.10.2** for existing conditions and on-site RECs that were identified in the Phase I ESA. Refer to the hazardous materials discussion in **Section 4.10.1** for existing sources, as it pertains to hazardous materials. The previously mentioned environmental conditions, if not properly addressed, could result in significant environmental impacts. Mitigation is included in **Section 5.2.9** that will reduce the potential significant impacts to a less than significant level.

Construction

Potentially significant impacts resulting from Alternative B are similar to those described under Alternative A. However, potentially significant impacts would be on a smaller scale due to the reduced size of Alternative B. Mitigation has been included within **Section 5.2.9** to reduce the impacts to less than significant level.

Operation

The amount and type of hazardous materials that would be stored, used, and generated during operation of Alternative B would be similar to those of Alternative A. This could have a potentially significant impact to the environment and public, although on a smaller scale than Alternative A. Refer to **Section 4.10.1** for a discussion of hazardous materials that would be stored, used, and generated during operation of Alternative B. Mitigation has been included within **Section 5.2.10** to reduce potential impacts to a less than significant level.

VISUAL RESOURCES

The impacts on the viewshed by Alternative B would be similar, although lessened due to the reduced intensity program and absence of a hotel, when compared with Alternative A. The removal of the hotel, in particular, would lessen the visual impact of the developments when viewed from a distance, since the Alternative A hotel is proposed to be much higher in elevation than the casino. This is a less than significant impact.

4.10.3 ALTERNATIVE C – NON-GAMING USE

NOISE

The Overview and Methodology presented in Alternative A apply to the noise discussion for Alternative C.

Construction Noise Effects

Similar to Alternative A, construction activities may result in short-term increases in the local ambient noise environment in excess of the FHWA 67 dB threshold of significance. While construction activities will be reduced in scale and would likely occur during a shorter construction duration, noise levels may be as loud as 88 dB. Although noise generated by construction activities would attenuate between 9 dB and 18 dB, this may exceed the FHWA 67 dB threshold of significance. This is considered a significant effect. Mitigation measures identified in **Section 5.2.9** will reduce this impact to a less than significant level.

Mechanical Equipment Noise Effects

The location of the proposed development on the Madera site for Alternative C is similar to that of Alternative A but with a different layout and reduced development footprint. As a result, the distance from on-site mechanical equipment to the nearest off-site sensitive receptor would be

similar to that of Alternative A. While there is considerable distance between the proposed development and the nearest sensitive receptors, mechanical equipment noise is highly variable and may exceed the FHWA significance criteria of 67 dB. Mitigation measures identified in **Section 5.0** will reduce this impact to a less than significant level.

Truck Delivery/Loading Dock Noise Effects

The location of the proposed development on the Madera site for Alternative C is similar to that of Alternative A but with a different layout and reduced development footprint. As a result, truck delivery and loading dock noise effects would be similar to those described under Alternative A. As noted above, the observed noise levels for typical loading dock activities are well below the FHWA 67 dB exterior noise standard and sensitive receptors are located at least 1,800 feet from the proposed facilities. Therefore, no significant noise consequences are identified for this aspect of the project.

On-Site Traffic Flow and Parking Lot Noise Effects

The parking areas proposed for Alternative C are in a similar location to those described under Alternative A. As with Alternative A, parking lot noise from Alternative C would attenuate approximately 18 dB to 36 dB before reaching the nearest off-site receptor approximately 1800 feet away. As a result, on-site traffic flow and parking lot noise effects are considered to be less than significant.

Off-Site Traffic Noise Effects

Development of Alternative C would result in changes in traffic noise levels similar, but lower than those of Alternative A. It is estimated that project-related traffic noise would result in an increase of 0.1 dB over existing conditions. Additionally, an analysis of the closest sensitive receptor on Golden State Boulevard shows that worst case project-related traffic would result in an increase of no more than 1.6 dB at this location (**Table 4.10-7**). Both of these estimated noise

TABLE 4.10-7
ALTERNATIVE C - PREDICTED NOISE
LEVELS FOR YEAR 2008 (dBA)

Receptor	2008 No Project L_{eq}	2008 Plus Project L_{eq}	2008 No Project vs. 2008 Plus Project (Difference)
Madera Site	58.2	58.3	0.1
Residential Receptor	63.3	64.9	1.6

SOURCE: VRPA Technologies, 2005.

increases are below FICON significance criteria. Off-site traffic noise effects are considered to be less than significant.

HAZARDOUS MATERIALS

Existing Sources

The 2007 Phase I ESA identified several RECs in connection with the Madera site. Refer to **Section 3.10.2** for existing conditions and onsite RECs that were identified in the Phase I ESA. Refer to the hazardous materials discussion in **Section 4.10.1** for existing sources, as it pertains to hazardous materials. The previously mentioned environmental conditions, if not properly addressed, could result in significant environmental impacts. Mitigation is included in **Section 5.2.9** that will reduce the potential significant impacts to a less than significant level.

Construction

Potentially significant impacts resulting from Alternative C are similar to those described under Alternative A. However, potentially significant impacts would be on a smaller scale due to the reduced size of Alternative C. Mitigation has been included within **Section 5.2.9** to reduce the impacts to less than significant level.

Operation

The amount and type of hazardous materials that would be stored, used, and generated during operation of Alternative C would be the similar to those of Alternative A. This could have a potentially significant impact to the environment and public, although on a smaller scale than Alternative A. Refer to **Section 4.10.1** for a discussion of hazardous materials that would be stored, used, and generated during operation of Alternative C. Mitigation has been included within **Section 5.2.10** to reduce potential impacts to a less than significant level.

VISUAL RESOURCES

The impacts on the viewshed by Alternative C would be similar, but lessened when compared with Alternative A due largely to the absence of a hotel. The design of the commercial developments would be attractive but probably less architecturally elaborate when compared with that of Alternative A. This is a less than significant impact.

4.10.4 ALTERNATIVE D – NORTH FORK LOCATION

NOISE

The Overview and Methodology presented in Alternative A apply to the noise discussion for Alternative D.

Construction Noise Effects

Construction activities may result in short-term increases in the local ambient noise environment in excess of the FHWA 67 dB threshold of significance. While construction activities will be reduced in scale and likely occur during a shorter construction duration when compared to those of Alternatives A through C, noise generated by construction activities would be as loud as 88 dB and exceed the FHWA 67 dB threshold of significance. This is considered a significant effect. Mitigation measures identified in **Section 5.0** will reduce this impact to a less than significant level.

Mechanical Equipment Noise Effects

Mechanical equipment noise levels can be highly variable and it is assumed that noise levels from this equipment will exceed the significance criteria for the sensitive receptors located on the North Fork site. This is considered a significant effect. Mitigation measures identified in **Section 5.0** will reduce this impact to a less than significant level.

Truck Delivery/Loading Dock Noise Effects

As noted above, noise measurements taken at a typical loading dock were observed to be 60 dB at a distance of 50 feet from the loading dock (AES, 2003). Because this observed noise level is well below the FHWA 67 dB exterior noise standard for sensitive receptors, no significant noise consequences are identified for this aspect of the project.

On-Site Traffic Flow and Parking Lot Noise Effects

Parking lot activities, including vehicles arriving and departing, engines starting and stopping, car doors opening and closing, and busses idling, are predicted to generate noise levels of approximately 55 to 65 dB L_{eq} at a distance of 50 feet from the noise source (**Table 4.10-4**). The proposed parking areas would be located within 100 feet of the nearest on-site sensitive receptor. However, because this observed noise level is well below the FHWA 67 dB exterior noise standard for sensitive receptors, no significant noise consequences are identified for this aspect of the project. As a result, on-site traffic flow and parking lot noise effects are considered to be less than significant.

Off-Site Traffic Noise Effects

Development of Alternative D would result in changes in traffic noise levels as identified in **Table 4.10-8**. According to this table, project-related traffic noise level increases are predicted to increase an average of 4.8 dB over existing conditions. This estimated noise increase is below FICON significance criteria. Off-site traffic noise effects are considered to be less than significant.

TABLE 4.10-8
ALTERNATIVE D PREDICTED NOISE LEVELS
FOR YEAR 2008 (dBA)

Receptor	2008 No Project L _{eq}	2008 Plus Project L _{eq}	2008 No Project vs. 2008 Plus Project (Difference)
North Fork Site	39.3	44.1	4.8

SOURCE: VRPA Technologies, 2005.

HAZARDOUS MATERIALS

Existing Sources

Analytical Environmental Services conducted a Phase I Environmental Site Assessment (ESA) for the North Fork site in September 2005 (**Appendix P**). The Phase I ESA identified one site near the North Fork site that was listed on several regulatory agency databases for hazardous materials releases. The site is located down gradient with respect to the anticipated groundwater flow direction from the North Fork Rancheria. No hazardous materials contamination was found on the North Fork site. Implementation of this Alternative will not cause the environment or public to be affected by known hazardous materials currently on the North Fork site. Refer to **Section 3.10.2** for existing conditions, as it pertains to hazardous materials on the North Fork site.

Water from one of domestic wells on the North Fork site has been reported to have an unpleasant taste and odor and a visible oily sheen on the surface that could signify an existing environmental condition on the North Fork site. Although this sheen has not been recently verified, it could be a sign of an existing source of contamination, which could result in a potentially significant effect either during construction or operation. Mitigation is included in **Section 5.2.9** to reduce this potentially significant impact to a less than significant level.

Construction

Under Alternative D, substantially less construction would take place than for the other development alternatives, and the potential for impacts to workers would therefore be lessened. Nonetheless, a potentially significant impact would remain due to the risk of disturbing unknown hazardous materials during construction. Mitigation has been included within **Section 5.2.9** to reduce the impact to a less than significant level.

Operation

The amount and type of hazardous materials that would be stored, used, and generated during operation of Alternative D would be similar to those of Alternative A. This could have a

potentially significant impact to the environment and public, although on a smaller scale than Alternative A. Refer to **Section 4.10.1** for a discussion of hazardous materials that would be stored, used, and generated during operation of Alternative D. Mitigation has been included within **Section 5.2.10** to reduce potential impacts to a less than significant level.

VISUAL RESOURCES

An area of urban development in the otherwise undeveloped rural residential lands of the North Fork site would represent a change to the viewshed, but would not be visible from any public vantage points. In addition, no local or State-designated scenic corridors would be affected by the implementation of Alternative D. Thus, effects to visual resources would be less than significant.

4.10.5 ALTERNATIVE E – NO ACTION

NOISE

The No Action Alternative would result in a continuation of existing uses on the Madera and North Fork sites. As such, the No Action Alternative would not increase the ambient noise environment through construction or operation of facilities. No new significant effect would result under the No Action Alternative.

HAZARDOUS MATERIALS

There is no reportable hazardous materials contamination in or near the Madera or North Fork sites. Existing uses on the Madera and North Fork sites would continue under the No Action Alternative. No effects from hazardous materials would result from the No Action Alternative.

VISUAL RESOURCES

No urban transformation of the Madera site or North Fork site would take place under Alternative E. Existing land uses would continue into the foreseeable future. No visual effects would result.

4.11 CUMULATIVE EFFECTS

4.11.1 INTRODUCTION

This cumulative effects analysis broadens the scope of analysis to include effects beyond those solely attributable to the direct effects of the alternatives. Cumulative effects are defined as the effects:

(O)n the environment which result from the incremental effect of the action when added to other past, present, and reasonably foreseeable future actions regardless what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time (40 CFR Sec. 1508.7).

The analysis in this section expands the geographic and temporal borders to include the effects on specific resources, ecosystems, and human communities that occur incrementally in conjunction with other actions, projects and trends. The purpose of cumulative effects analysis, as stated by the Council on Environmental Quality (CEQ) “is to ensure that federal decisions consider the full range of consequences” (CEQ, 1997:3).

The cumulative analysis begins with: 1) identifying past, present, and future actions and projects in association with the status of the resources, ecosystems, and human communities that may be affected, and 2) defining geographic borders and time frame of the analysis.

The status of affected resources is based upon the information provided in **Section 3.0** of this document, from specific resource studies that have been undertaken for the alternatives, and from additional review and analysis.

The geographic boundaries of the cumulative effects zone have been determined by the nature of the resources affected and the distance that effects may travel. As an example, increased sedimentation of waterways that result from a project is limited to the watershed in which they occur. As a result, it is only necessary to examine incremental effects within that watershed. Air quality emissions from a project, however, travel over far greater distances and therefore necessitate analysis on a county, air basin, or regional level. For this analysis, the geographic boundary of the cumulative effects zone is generally that of Madera County, although with many resources (water, biological etc.) smaller boundaries are used.

The time frame of the cumulative effects analysis extends to 2030. For many resources, information is unavailable to extend meaningful analysis to 2030; however, attempts have been made to provide all relevant information. The year 2030 was selected as the year for cumulative analysis based on a request from Caltrans to analyze cumulative effects to this time period. AES consulted with Madera

County, the City of Madera, and the City of Chowchilla during preparation of the traffic study for this EIS specifically with respect to the scope of cumulative analysis.

As recommended by CEQ's *Considering Cumulative Effects*, not all potential cumulative effects issues have been included in this EIS; only those that are considered to be relevant or consequential have been discussed in depth (CEQ, 1997:12).

PROJECTED GROWTH

The Madera County Transportation Commission (MCTC) traffic model projects growth according to traffic analysis zones (TAZs). **Figure 4.11-1** presents the TAZs in close proximity to both the Madera site and the North Fork site. **Table 4.11-1** presents the corresponding growth projections for the associated TAZs for each general employment sector for the Madera site while **Table 4.11-2** presents this information for the North Fork site. The MCTC traffic model projects to the year 2025. Therefore, the projected number of employees is calculated based on square footage and the acreage of a parcel of land through 2025 to maximize accuracy. Based on that calculation, the projected number of employees is presented in **Tables 4.11-1** and **4.11-2**. Traffic volume projections were further calculated to 2030 based on the 2025 model volumes and expected trends at the request of Caltrans.

LIST OF OTHER ACTIONS AND PROJECTS

Transportation Projects

Several major projects are planned in the future that may affect traffic conditions near the Madera site. These projects would be completed regardless of the EIS alternatives.

Caltrans has two freeway improvement projects in process on SR-99 in the vicinity of the Madera site. These improvements are as follows:

- Avenue 16 to Avenue 17 – four-lane freeway expanded to six-lane freeway and relocation of Avenue 16 Interchange
- Avenue 17 to Avenue 21 - four-lane freeway expanded to six-lane freeway

Madera County has one roadway improvement project along Airport Drive between Avenue 17 and Yeager Road that would re-stripe the roadway to form four lanes.

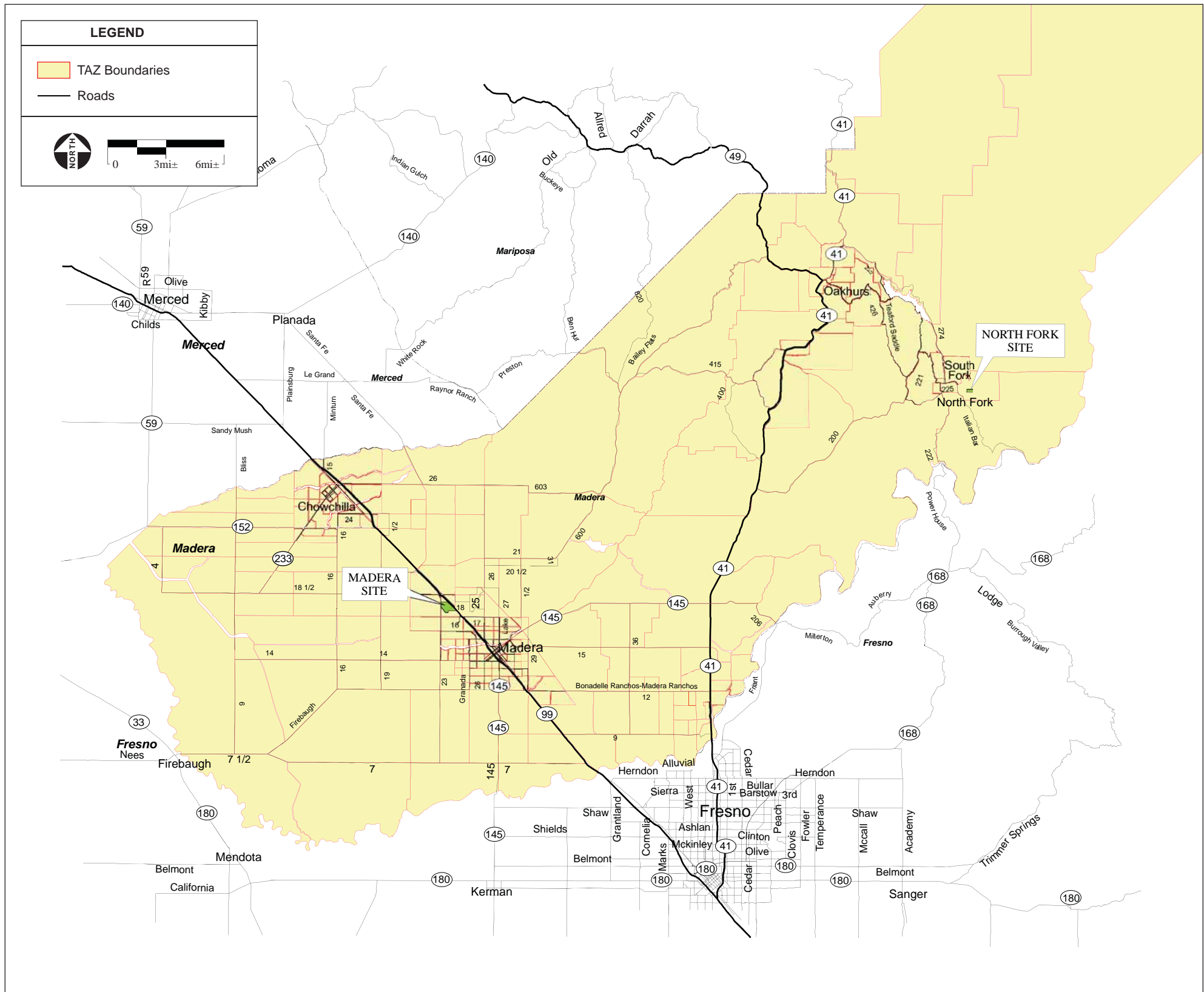
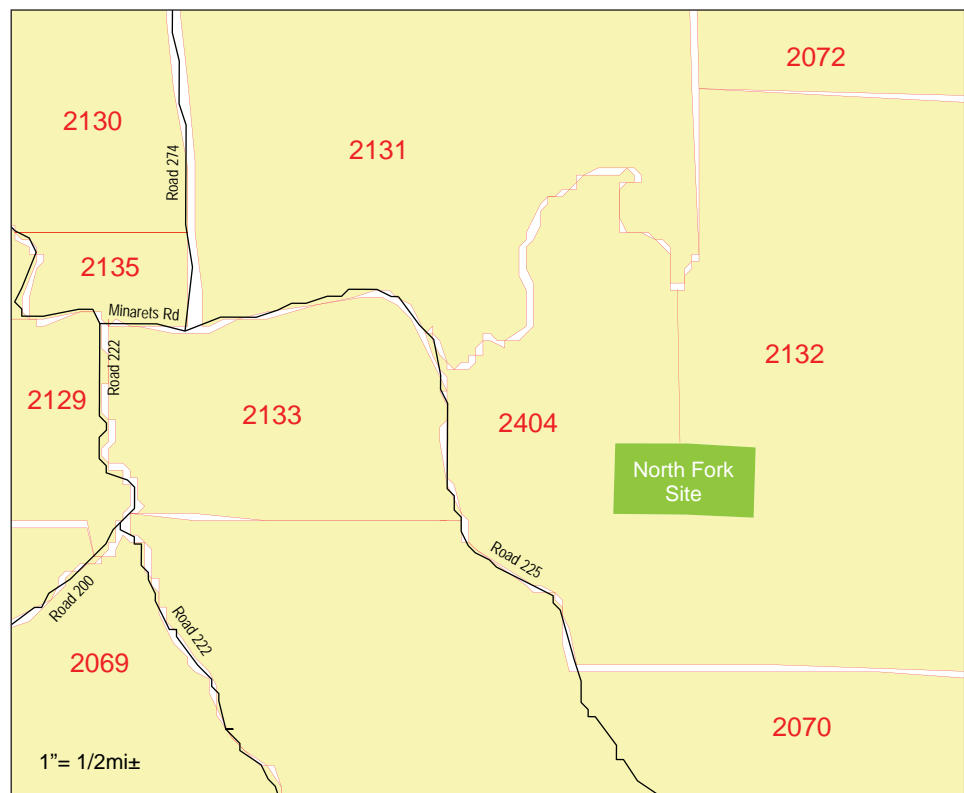
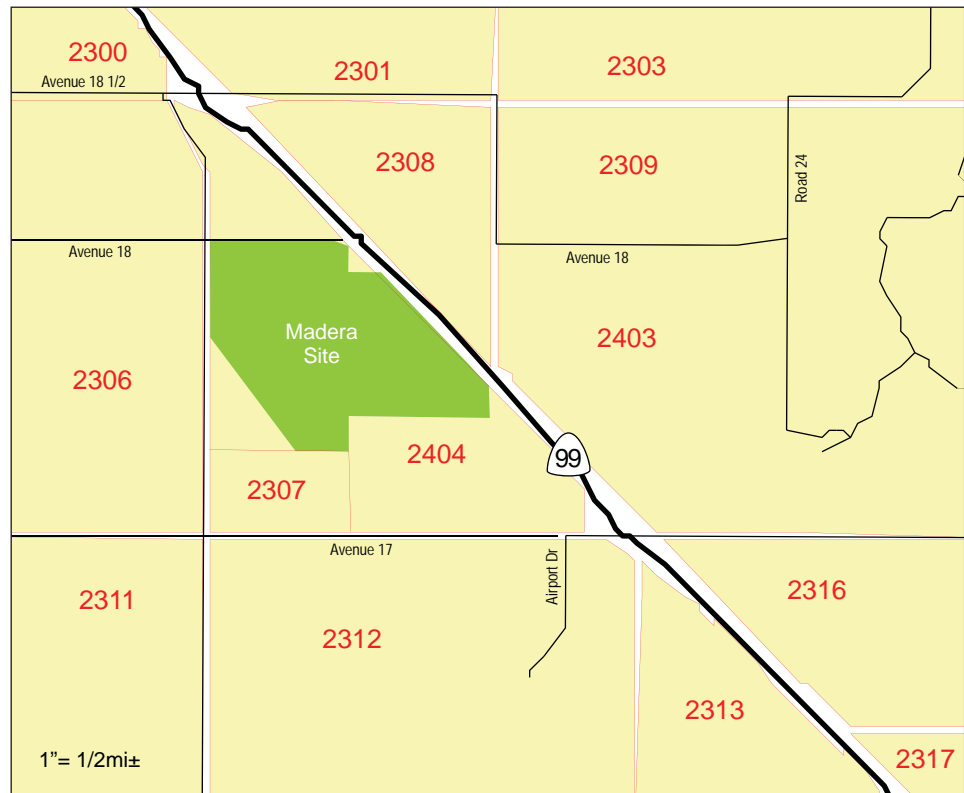


TABLE 4.11-1
PROJECTED GROWTH SURROUNDING THE MADERA SITE

TAZ	Year	Type of Employees								Total
		SFDU	MFDU	RETEMP	OFFEMP	MANEMP	OTHEMP	GOVEMP	EDUEMP	
20550	2000	10	0	0	0	0	0	0	0	10
	2025	10	0	0	0	0	0	0	0	10
	Diff + (-)	0	0	0	0	0	0	0	0	0
2300	2000	55	52	20	0	40	110	0	0	277
	2025	55	52	20	0	40	200	0	0	367
	Diff + (-)	0	0	0	0	0	90	0	0	90
2301	2000	18	0	0	0	110	15	0	0	143
	2025	18	0	0	0	110	75	0	0	203
	Diff + (-)	0	0	0	0	0	60	0	0	60
2303	2000	161	0	0	0	0	5	0	0	166
	2025	161	0	0	0	0	55	0	0	216
	Diff + (-)	0	0	0	0	0	50	0	0	50
2306	2000	23	0	5	0	0	10	0	0	38
	2025	23	0	5	0	0	60	0	0	88
	Diff + (-)	0	0	0	0	0	50	0	0	50
2307	2000	19	0	5	0	0	65	0	0	89
	2025	19	0	55	0	0	110	0	0	184
	Diff + (-)	0	0	50	0	0	45	0	0	95
2308	2000	2	0	0	0	95	180	0	0	277
	2025	2	0	0	0	95	280	0	0	377
	Diff + (-)	0	0	0	0	0	100	0	0	100
2309	2000	861	0	10	15	0	40	0	0	926
	2025	861	0	10	10	200	100	0	0	1,181
	Diff + (-)	0	0	0	(5)	200	60	0	0	255
2311	2000	1	4	0	0	0	20	0	0	25
	2025	1	4	0	0	0	70	0	0	75
	Diff + (-)	0	0	0	0	0	50	0	0	50
2312	2000	0	0	5	25	110	80	10	0	230
	2025	0	0	105	270	610	180	160	0	1,325
	Diff + (-)	0	0	100	245	500	100	150	0	1,095
2313	2000	26	48	175	25	450	450	0	0	1,174
	2025	26	698	390	270	650	650	200	0	2,884
	Diff + (-)	0	650	215	245	200	200	200	0	1,710
2316	2000	269	4	25	15	0	190	0	0	503
	2025	269	4	75	10	0	290	0	0	648
	Diff + (-)	0	0	50	(5)	0	100	0	0	145
2317	2000	33	0	0	0	0	0	0	0	33
	2025	280	0	85	500	0	46	0	0	911
	Diff + (-)	247	0	85	500	0	46	0	0	878
2403	2000	0	0	0	0	0	0	0	0	0
	2025	0	0	1198	0	0	358	0	0	1,556
	Diff + (-)	0	0	1198	0	0	358	0	0	1556

NOTES: The Madera Site is located in TAZ 2307.

SFDU = single-family dwelling unit, MFDU = multi-family dwelling unit, RETEMP = retail employee, OFFEMP = office employee, MANEMP = manufacturing employee, OTHEMP = other employee, GOVEMP = government employee, and EDUEMP = education employee.

Employee counts are based on the square footage or acreage.

Diff + (-) = the difference in employee numbers between the year 2000 and 2025

SOURCE: TPG Consulting, 2006; AES, 2006.

TABLE 4.11-2
PROJECTED GROWTH SURROUNDING THE NORTH FORK SITE

TAZ	Year	Type of Employee								Total
		SFDU	MFDU	RETEMP	OFFEMP	MANEMP	OTHEMP	GOVEMP	EDUEMP	
2069	2000	270	6	5	0	10	0	120	0	411
	2025	435	80	5	0	20	20	125	0	685
	Diff + (-)	165	74	0	0	10	20	5	0	274
2070	2000	153	0	5	0	0	0	0	0	158
	2025	175	0	0	0	0	0	0	0	175
	Diff + (-)	22	0	(5)	0	0	0	0	0	17
2072	2000	128	22	5	0	0	0	0	0	155
	2025	130	25	5	0	0	20	0	0	180
	Diff + (-)	2	3	0	0	0	20	0	0	25
2129	2000	270	4	5	10	25	40	0	0	354
	2025	450	125	10	10	75	100	50	0	820
	Diff + (-)	180	121	5	0	50	60	50	0	466
2310	2000	21	0	0	0	0	0	15	0	36
	2025	50	0	0	0	0	25	100	0	175
	Diff + (-)	29	0	0	0	0	25	85	0	139
2131	2000	52	2	5	0	20	20	5	0	104
	2025	701	0	20	5	60	150	100	0	1,036
	Diff + (-)	649	(2)	15	5	40	130	95	0	932
2132	2000	168	0	0	0	10	35	0	0	213
	2025	300	0	10	0	10	100	0	0	420
	Diff + (-)	132	0	10	0	0	65	0	0	207
2133	2000	78	50	25	10	15	10	0	100	288
	2025	120	30	45	10	15	50	0	120	390
	Diff + (-)	42	(20)	20	0	0	40	0	20	80
2134	2000	28	0	10	15	0	10	20	0	83
	2025	40	5	50	15	0	50	0	0	165
	Diff + (-)	12	5	40	0	0	40	(20)	0	77
2135	2000	5	0	20	10	0	0	75	20	130
	2025	10	0	40	10	0	0	4	20	84
	Diff + (-)	5	0	20	0	0	0	(71)	0	(46)

NOTES: The North Fork site is located in TAZ 2132.

SFDU = single-family dwelling unit, MFDU = multi-family dwelling unit, RETEMP = retail employee, OFFEMP = office employee, MANEMP = manufacturing employee, OTHEMP = other employee, GOVEMP = government employee, and EDUEMP = education employee.

Employee counts are based on the square footage or acreage.

Diff + (-) = the difference in employee numbers between the year 2000 and 2025.

SOURCE: TPG Consulting, 2006; AES, 2006.

Development Projects

The proposed developments discussed below are included in projected growth discussed in the following section and in the projected cumulative traffic volumes.

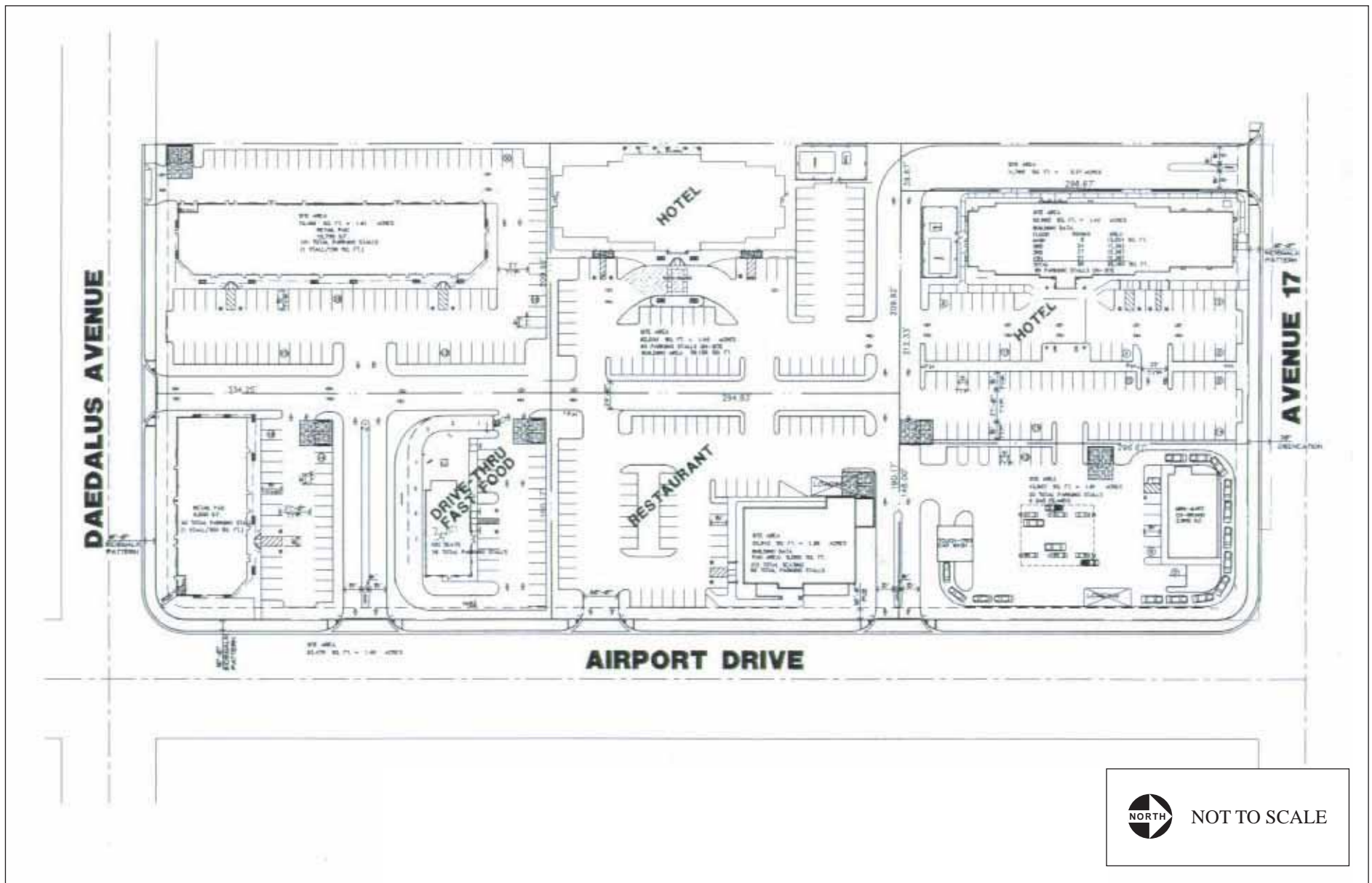
Commercial Development

Bratton Project. As shown in **Figure 4.11-2**, the development proposes a 3000 sf fast-food restaurant with drive-thru, an 8000 sf high-turnover sit-down restaurant, 24,755 sf of specialty retail, two 86-room hotels, and a 12-fueling position service station with a convenience market and car wash. The development is planned to be located south of Avenue 17 and to the west of Airport Drive.

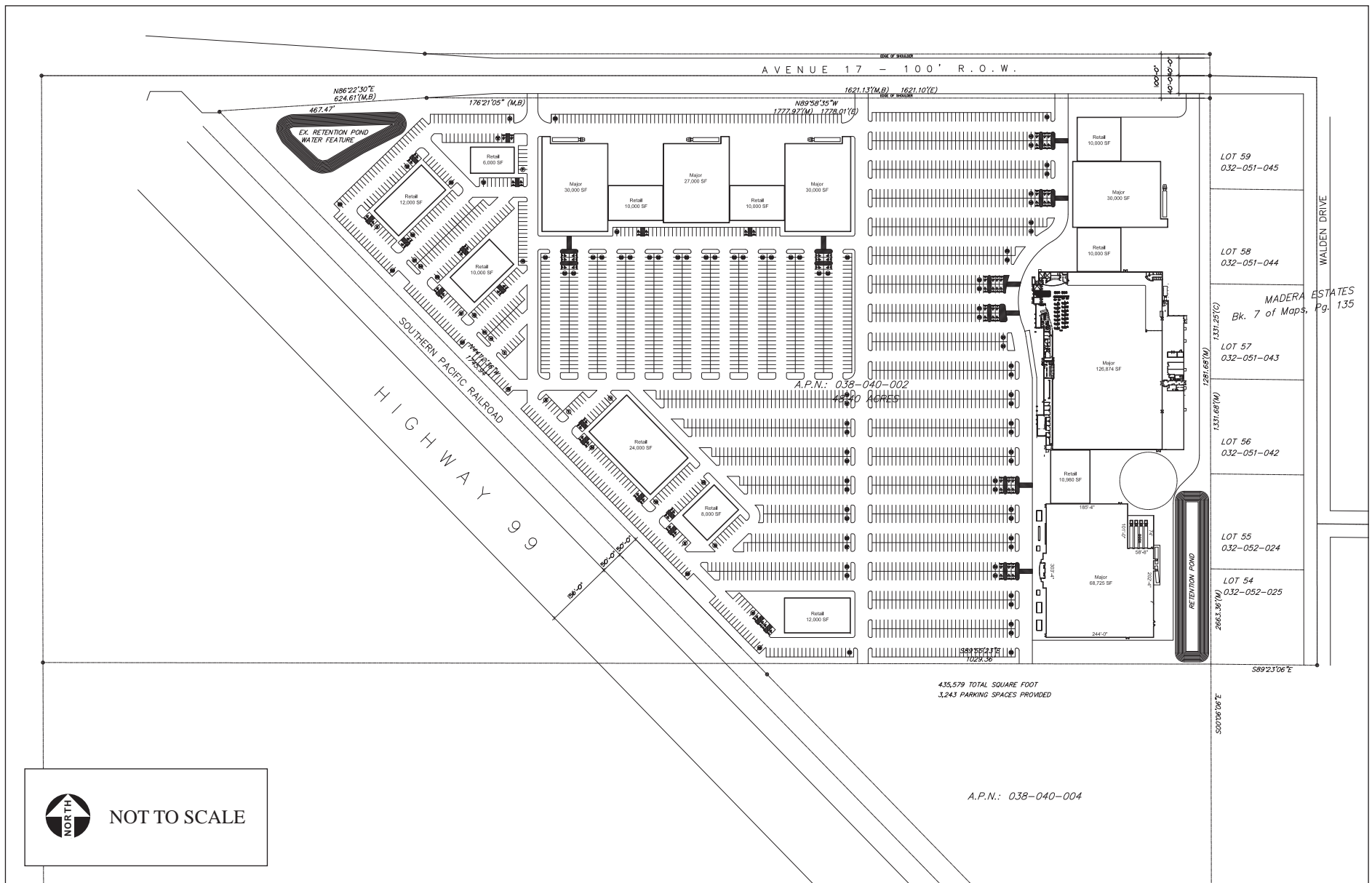
Madera Outlet Mall. An application for a general plan and specific plan amendment and rezoning has been filed for an approximately 100-acre site located north of Avenue 17 to the west of Airport Drive and Golden State Boulevard. The application filed with the City of Madera requests to revise the current general plan designation from Industrial to Commercial, expand the boundaries of Specific Plan Number 1 to include the property and to rezone the property for commercial use for the purpose of annexing and developing the property. According to the application, the property has the potential for approximately 500,000 to 600,000 square feet of commercial space. As shown in **Figure 4.11-3**, the property is currently planned for a 750,000 sf factory outlet center.

48-Acre Commercial Development. An application for a specific plan amendment and rezoning has been filed for an approximately 48-acre site located south of Avenue 17 to the east of SR-99 (**Figure 4.11-4**). The application filed with the City of Madera requests to expand the boundaries of Specific Plan Number 1 to include the property and to rezone the property for commercial development for the purpose of annexing and development. The property is located outside the City limits but has a general plan designation for service commercial uses. While no preliminary plans have been submitted or potential uses or clients identified, indications show that approximately 250,000 square feet of retail floor area can possibly be developed. The project is located in a key location at the extension point of public utilities with access and circulation to the Madera site from the south to Avenue 17.

Madera Town Center. As shown in **Figure 4.11-5**, the development entitled Madera Town Center is identified as a retail 'power center' with approximately 746,000 square feet of retail floor area planned for development. An application for a general plan, specific plan and rezoning has been filed for an approximately 100-acre site located north of Avenue 17 to the east of SR-99. According to the application filed with the City of Madera, the boundaries of the general and Specific Plan Number 1 would be expanded to include the project for commercial use development and annexation.



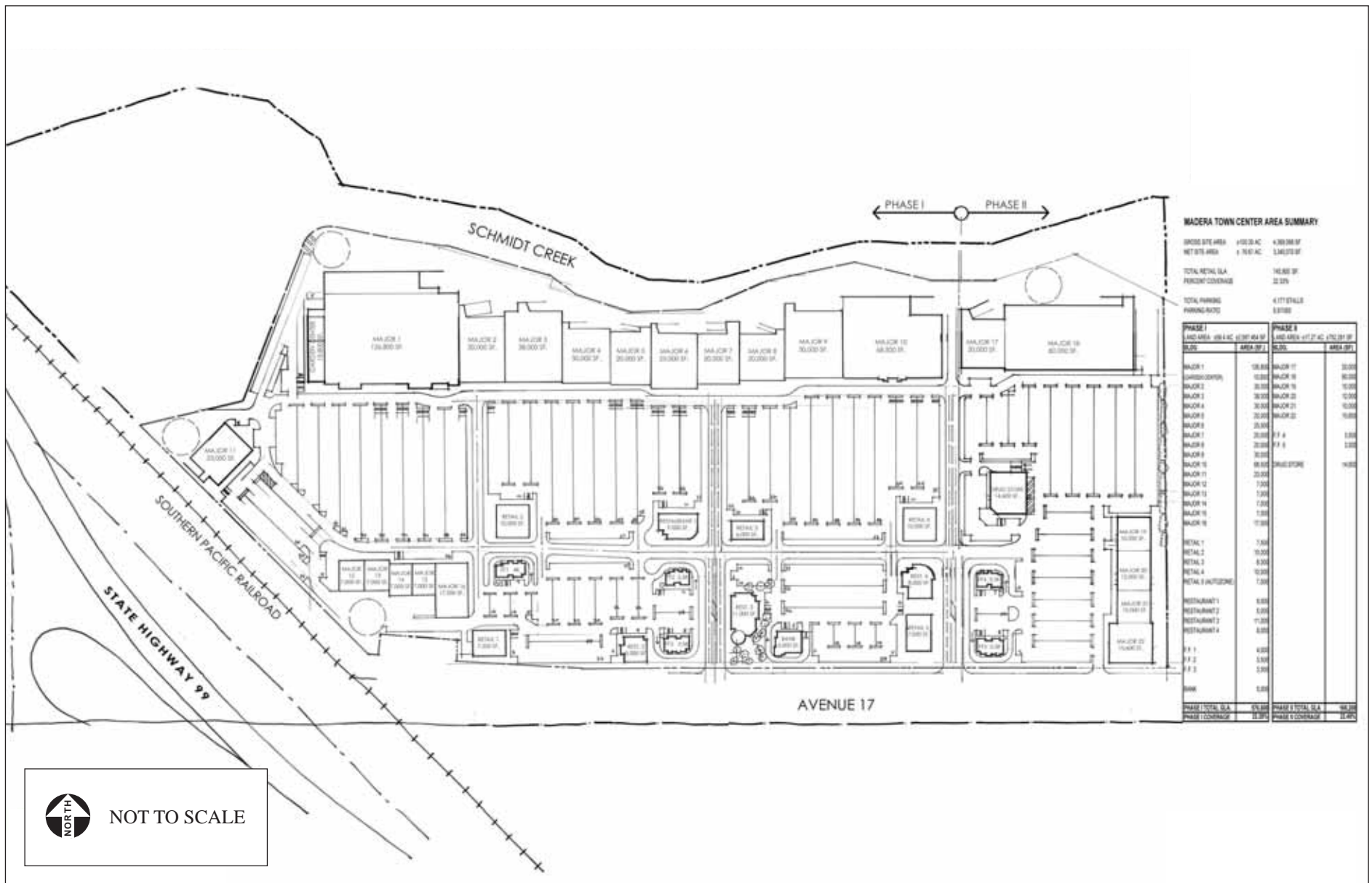




SOURCE: Gerald L. Herschman Architect, 11/14/2005; AES, 2006

North Fork Casino EIS / 204502 ■

Figure 4.11-4
48-acre Development Site Plan



NOT TO SCALE

Feland/Zilkin Project. The development proposes a 14-building, 221,000 sf multi-tenant shopping center located south of Avenue 16 and Home Depot Center, between North Schnoor and SR-99. The assumed completion date is 2008.

Madera Fairgrounds Commercial Project. The development proposes a 307,279 sf multi-tenant shopping center located south of West Cleveland Avenue, between Schnoor Avenue and SR-99 (**Figure 4.11-6**). The planned completion date is 2008.

Residential and Industrial Development

An extensive list of planned residential development projects was obtained from the City of Madera (City of Madera, 2005a). These developments are included in the projected cumulative traffic volumes. **Figure 4.11-7** presents the location of the planned residential developments in the general vicinity of the Madera site. **Table 4.11-3** presents the planned residential developments in the City of Madera and their current development status. Many of these projects are under construction. The difference between the number of approved units and the number of building permits obtained is that amount of additional growth that may occur in future phases of development (Gonzales, 2005).

Table 4.11-4 presents the future planned residential developments in unincorporated Madera County and their current development status. These developments are currently undergoing review by the County. After receiving final map approval, the developer is able to obtain any permits necessary to construct the subdivision.

In addition to residential projects waiting for approval, a number of projects have been approved but are awaiting the issuance of permits. The two largest provide for over 32,000 housing units to be developed. One of the projects would provide 28,000 housing units; it will be constructed south of Highway 41. Highway 41 provides access from Fresno to Yosemite National Park; it also provides access to the Chukchansi Casino and the North Fork site. Another 4,500-housing-unit project is proposed in the area of the State Center Community College development located just south of the City of Madera along Highway 99.

Madera Municipal Airport

Sam Scheider, Airport Operations Manager, was contacted in January 2006, regarding potential future growth projections for the Airport. AES was informed that their main emphasis is on improving their instrument approach capabilities and possibly an extension of the runway by 500 feet but there are no general growth plans projected.

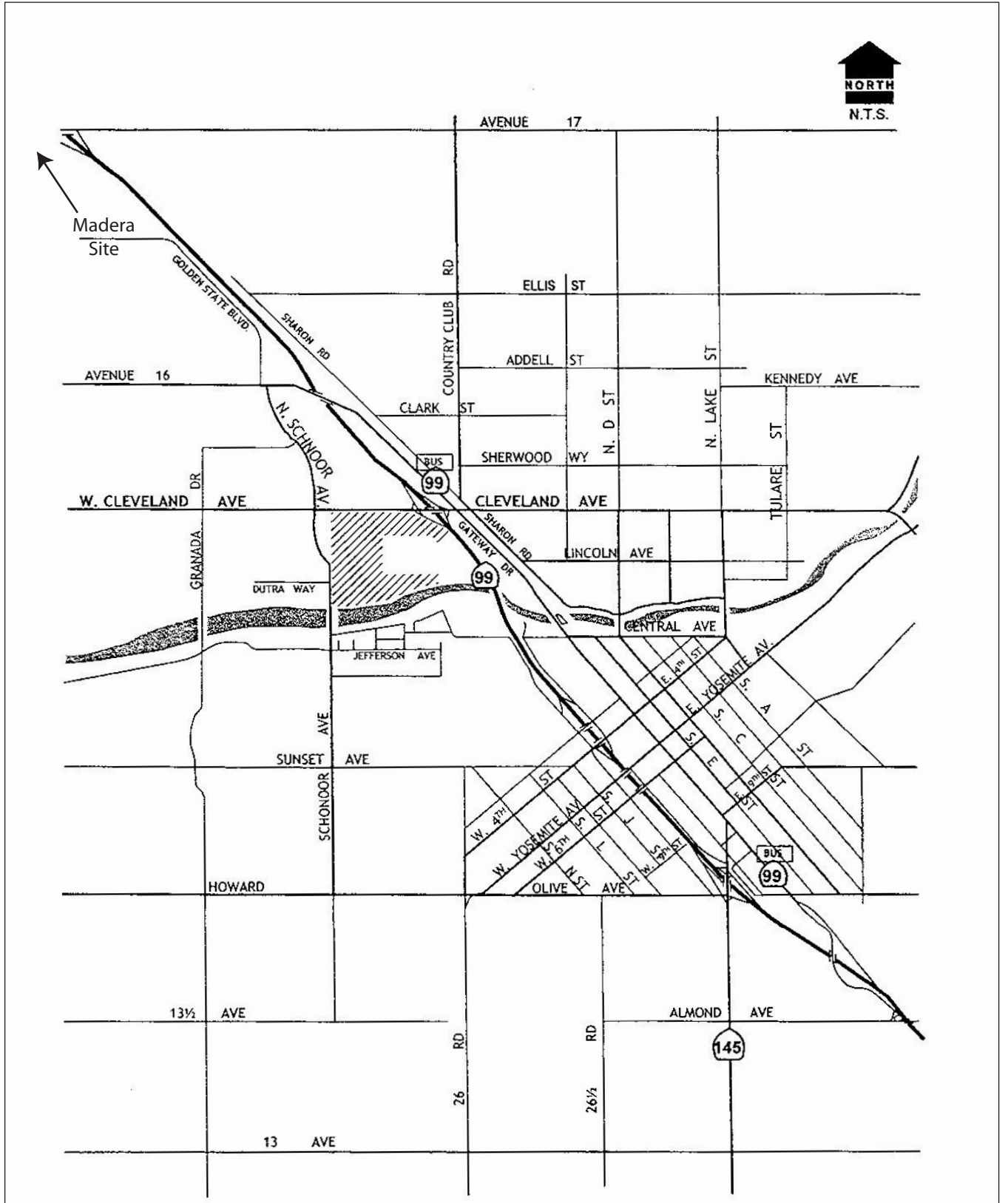
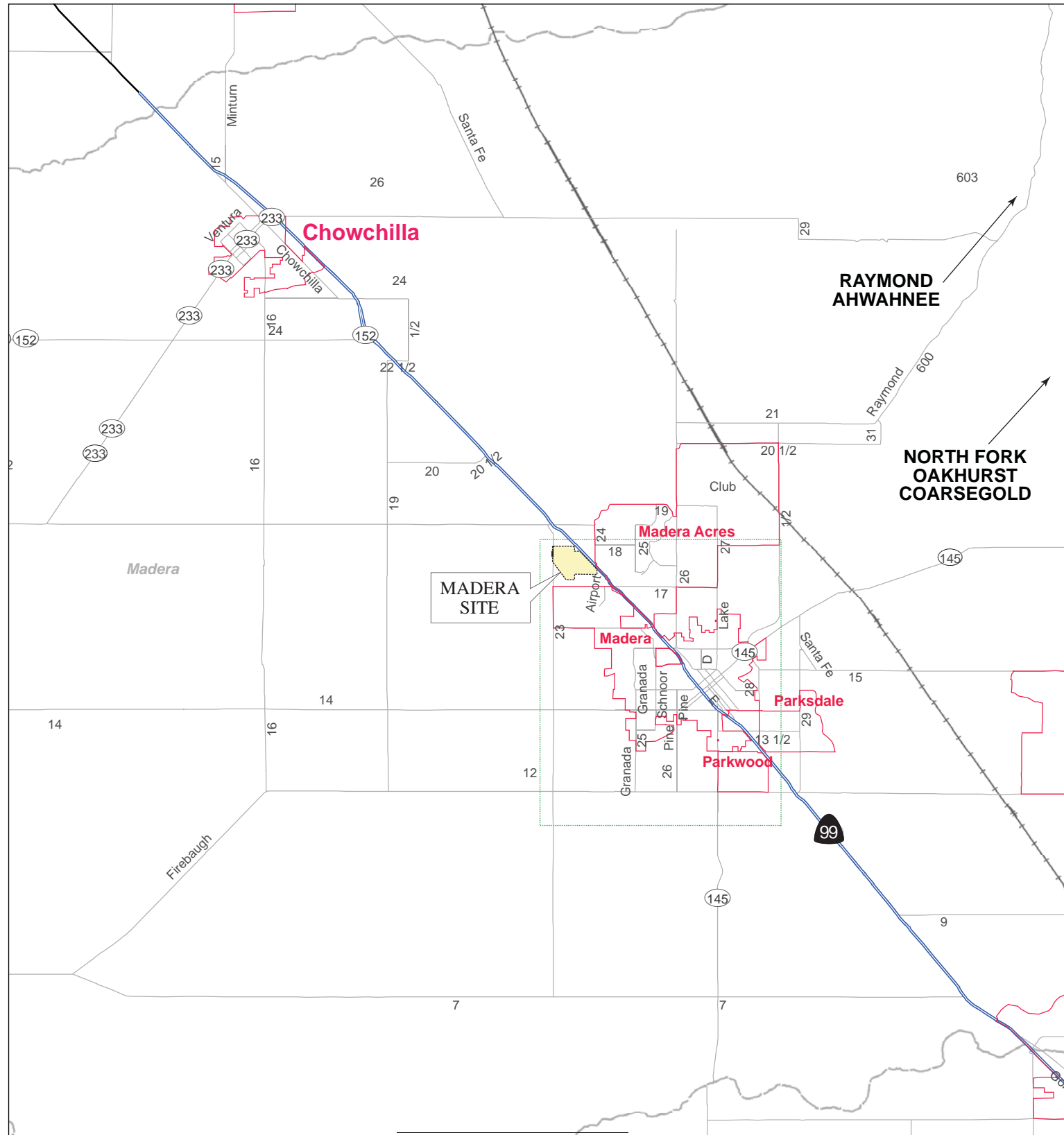


Figure 4.11-6
Madera Fairgrounds Commercial Project Location

MADERA COUNTY



CITY OF MADERA

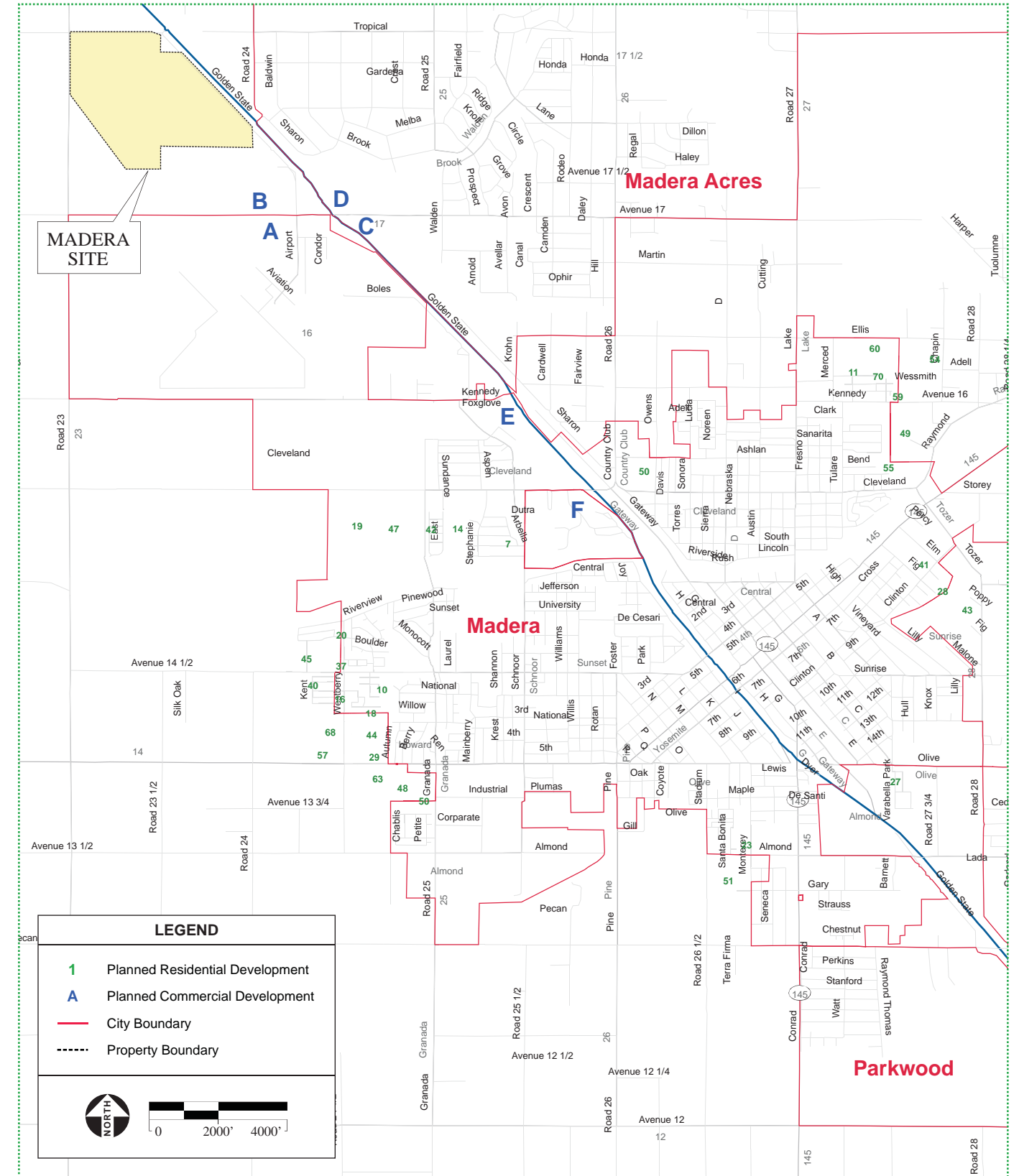


Figure 4.11-7
Planned Development in Madera County and the City of Madera

TABLE 4.11-3
PLANNED RESIDENTIAL DEVELOPMENT WITHIN THE CITY OF MADERA

Name of Development	Approved	Recorded	Map Id No.	No. of Units	No. of Building Permits
Westgate Northwest	9/13/1988	12/21/1990	1	268	255
Town & Country Estates	4/11/1989	11/24/1992	3	139	129
Mansionette Estates	11/14/1989	9/13/1994	7	163	159
Crystal Heights	4/10/1990	6/5/1991	8	98	60
Northwest Estates	5/8/1990	6/21/1995	9	12	11
Woodlands	5/8/1990	9/23/1993	10	62	41
Country Meadows	9/11/1990	9/15/1996	14	155	See Montecito Park
Sunset Southwest	6/3/1991	11/16/1995	16	139	138
Venturi	1/12/1993	11/9/1995	17	107	See Pebble Beach
Forest Hills (Basila)	3/9/1993	9/23/1993	18	81	71
Home Ranch	10/11/1994	1/11/2002	19	349	167
French Cove	7/12/1995	6/19/1996	20	89	74
Sierra Vista Homes II	8/8/1995	5/10/1999	33	15	6
Las Palmas Estates	4/17/1996	12/6/1996	27	69	68
Montecito Park	9/11/1990	9/15/1996	14	155	114
Capistrano X	2/8/2000	8/9/2000	29	162	147
La Jolla Estates South	3/10/1998	6/12/2001	11	65	64
Pebble Beach Estates	5/11/1999	4/14/2000	30	310	306
River Pointe Terrace	11/9/1999	9/10/2001	36	46	25
Lincoln Place	5/9/2000	2/15/2001	37	54	54
Riverview Apt. (Vista del Sol)	7/11/2000	NA	39	192	88
Villa Piamonte	7/11/2000	4/13/2001	40	31	20
Cottonwood Estates I	5/8/2001	4/24/2003	42	41	41
Clinton Elm III (RDA)	9/25/2001	4/23/2003	43	11	8
Capistrano XI	12/8/2001	6/7/2002	44	45	38
Vineyards West	1/8/2002	7/23/2003	45	200	75
Vista del Sierra (RDA)	3/12/2002	12/18/2003	46	48	48
Cottonwood Estates II	9/10/2002	3/4/2004	47	163	55
Capistrano XII	11/12/2002	4/30/2003	48	86	86
Cordova Estates	12/10/2002	4/3/2003	49	194	189
Capistrano XIII	2/11/2003	12/18/2003	50	42	42
Chateau at the	5/13/2003	12/1/2003	51	163	105

Name of Development	Approved	Recorded	Map Id No.	No. of Units	No. of Building Permits
Vineyards					
Highlands at Valencia	6/10/2003	10/13/2004	52	343	159
Yosemite Estates	7/9/2003	6/17/2004	23	30	24
Oakwood Estates	9/23/2003	11/18/2005	55	23	23
Kennedy Estates	10/14/2003	4/21/2005	54	203	0
Pebble Beach X	10/14/2003	8/14/2003	56	22	7
Santa Barbara Estates	1/13/2004	5/27/2005	57	90	0
South Star Estates	3/9/2004	11/18/2004	58	61	14
Sierra View Estates No. 2 II	3/9/2004	11/19/2004	59	31	31
La Jolla Estates North	3/9/2004	11/19/2004	60	93	73
Foxglove Estates	5/11/2004	1/13/2005	61	10	10
Capistrano Homes XIV	5/11/2004	4/21/2005	63	60	60
Tuscan Village	6/8/2004	2/18/2005	68	25	7
Puerto Vallarta	7/13/2004	2/23/2005	70	70	17
<i>Total</i>				<i>4,815</i>	<i>3,109</i>

SOURCE: City of Madera, 2005a; AES, 2005.

TABLE 4.11-4
PLANNED RESIDENTIAL DEVELOPMENT WITHIN MADERA COUNTY

Name of Development	Location	Acres	No. of Lots	Status
Self-Help Subdivision	Madera	38.05	125	Preliminary map
Reed Subdivision	Raymond	133.96	37	Preliminary map
Lindsey-McKeever Subdivision	Coarsegold	59.37	11	Preliminary map
Lowry Subdivision	Madera	7.45	2	Final map
Helen Smith Subdivision	Coarsegold	42.16	4	Tentative map
Hard Times Ranch Subdivision	North Fork	68.89	10	Final map
North Fork Mill	North Fork	129.56	15	Preliminary map (on hold)
Sierra Meadows Estates	Ahwahnee	442	315	Preliminary map
Riverbend Ranch Subdivision	Madera	370	333	Preliminary map (on hold)
McCaffrey Subdivision	Madera	80	455	Preliminary map (on hold)
River Ranch Estates	Madera	803	122	Tentative map
Quail Meadows Villages	Oakhurst	71.56	110	Final map
<i>Total</i>		<i>2,246</i>	<i>1,539</i>	

SOURCE: Madera County, 2005; AES, 2005.

4.11.2 ALTERNATIVE A – PROPOSED PROJECT

LAND RESOURCES

The geographic area for the analysis of cumulative impacts to land resources is the San Joaquin Valley. The principal effects to Land Resources associated with countywide development would be localized topographical changes and soil attrition, both of which are evaluated in terms of runoff characteristics, sedimentation and flow under permitting authorities and criteria relevant to **Water Resources**, below. Local permitting requirements for construction would address regional stormwater, geotechnical, seismic and mining hazards; therefore, no cumulative impacts related to Land Resources would occur as a result of Alternative A.

WATER RESOURCES

The geographic boundary of the cumulative water resources analysis is defined as the San Joaquin Valley. This boundary has been selected because the Madera site is within the San Joaquin River watershed.

Cumulative effects related to development of an on-site water supply source could occur in the project area as the result of reduced water supply from the underlying groundwater aquifer when combined with regional groundwater level declines from cumulative development's use of the aquifer.

Development of on-site groundwater resources could affect groundwater levels in the project vicinity. Adjacent groundwater wells may also be dewatered (interference drawdown) and the saturated interval (well depth minus depth to water) may be significantly lowered due to interference drawdowns. As described in **Section 4.3**, all of the known off-site wells located within a two-mile radius of the Madera site would experience minor drawdown effects from proposed pumping on the site. These effects would be exacerbated in the future, from cumulative development in the area. However, Alternative A would not result in a significant incremental contribution to the regional groundwater overdraft situation because the Tribe has signed a Memorandum of Understanding (MOU) with the Madera Irrigation District (MID) under which the Tribe agrees to purchase 450 acre feet per year of water from MID to be utilized for off-site aquifer recharge. Alternative A is expected to utilize 448 acre-feet of water per year if reclaimed water is not available and 305 acre-feet of water per year if reclaimed water is available. Thus, under either option Alternative A's regional impact would be fully mitigated. The Tribe further agrees in the MID MOU to monitor water usage and, should water usage rise above 450 acre feet in a particular year, to ensure that the aquifer is recharged by the amount of water utilized above 450 acre feet. Thus, significant cumulative impacts to groundwater would not occur.

Cumulative effects to water quality may take place as the result of future developments in combination with Alternative A. Examples of effects include:

- increased sedimentation,
- increased pollution, and
- increased stormwater flows.

Stormwater discharges from residential and industrial areas are of concern in managing surface water quality. Pollutants that accumulate in the dry summer months such as oil and grease, asbestos, pesticides, and herbicides, create water quality problems due to their presence in high concentrations during the first major autumn storm event (RWQCB, 1998).

Affected water bodies within the project area include Dry Creek and Fresno River, located just west and south of the Madera site. Schmidt Creek and Dry Creek originate in the northeastern area of Madera County and eventually flow into the Fresno River and thence the San Joaquin River. These two creeks act as flood control channels as well as regional drainage channels. These waters are currently not listed as impaired on the 303(d) list.

A watershed's runoff characteristics are altered when impervious surfaces replace natural vegetation or agricultural lands. Runoff charges may increase stream volumes, increase stream velocities, increase peak discharges, shorten the time to peak flows, and lessen groundwater contributions to stream base-flows during non-precipitation periods. Urban areas also have significant sources of non-point source pollution that can affect regional water quality when examining the entire watershed contribution to receiving waters. Transportation developments and other planned developments within the San Joaquin Valley would gradually increase urban areas, thereby increasing the potential for increased runoff volumes, velocities, and pollution. Impacts to water resources from planned cumulative developments could also increase runoff volumes and pollution when cumulatively evaluated along with Alternative A.

Alternative A could contribute to changes in runoff characteristics (volume, velocity, and hydrograph) and water quality located near the Madera site as a result of project development. However, the Tribe has made appropriate design allowances which would reduce the project's contribution to cumulative effects to a less than significant level. These include:

- Surface water detention basins that will limit post-construction runoff peak volumes to pre-construction levels.
- Sediment/grease traps to control and reduce the Total Suspended Solids (TSS) and other potentially environmentally polluting minerals or materials such as oils and greases, nutrients and metals by approximately 80%.
- Where feasible, all areas outside of buildings and roads will be kept as permeable surfaces, either as vegetation or high infiltration cover such as mulch, or gravel, or turf block.
- Rooftops will drain to either embedded cisterns or vegetated driplines to maximize infiltration prior to concentrating runoff.

- Pedestrian pathways will use a permeable surface where possible, such as crushed aggregate or stone with sufficient permeable joints.
- In accordance with the requirements of the NPDES Phase II General Permit for Storm Water Discharges from Construction Activities, the Tribe will prepare a Stormwater Pollution Prevention Plan (SWPPP) to control discharge of pollutants in stormwater.

Other development projects will incorporate similar or identical measures as required by local regulations and Federal law. With the incorporation of these features, Alternative A would not result in a significant contribution to a cumulative water quality effect.

AIR QUALITY

Ozone and PM Emissions

Ozone and PM are pollutants that affect the region as a whole, in particular Madera County (see **Section 3.4.1**). Therefore, cumulative air quality effects are assessed by comparing the incremental emissions associated with Alternative A to Countywide emissions forecasted by the California Air Resources Board (CARB) for long-term cumulative conditions. Since the farthest planning horizon for countywide emission forecasts is the year 2020, in order to have consistency, estimated emissions for the project and its alternatives were reevaluated to the year 2020 and are presented in **Table 4.11-7**.

Madera County's and the San Joaquin Valley's emissions trends from 1975 to 2020 are presented in **Table 4.11-5** (CARB, 2005). For NO_x, Madera County trends mirror those of the San Joaquin Valley Air Basin (SJVAB). There was a slight increase in emissions from 1975 to 1980 and then a reasonable decline in emissions every year since. For ROG, the similarities are not so predominant. Whereas both Madera and the SJVAB show a slight decline from 1995 to 2005 and starting to level off in future years, their past is not so similar. Madera County saw a significant decrease in ROG emissions between 1975 and 1980 and the SJVAB saw an increase in the same time period and whereas the SJVAB saw a significant decrease between 1980 and 1995, Madera County saw almost no change.

In general, ozone precursor emissions from mobile sources tend to decrease over time because emissions standards have become stricter and engine technologies have improved. For instance, the percentage of hybrid vehicles on the road is increasing every year, and this trend is expected to continue. As newer vehicles, which meet stricter emission standards and are built with the latest technology, are introduced into the vehicle fleet, they replace older, higher polluting vehicles. The decrease in emissions per vehicle was substantial enough to compensate for increases in the amount of travel. The San Joaquin Valley has a substantial motor vehicle population, and the implementation of stricter motor vehicle emissions controls has resulted in large emissions reductions for ozone precursors.

Although the long-term ambient trends indicate improving ozone levels, since 1994 the peak ozone indicators have been somewhat elevated. It is not yet clear whether these data represent a change in the overall trend. Stationary source emissions of ROG in the San Joaquin Valley have declined over the last 20 years due to new controls for oilfield emissions and new rules for control of ROG from various industrial coatings and solvent operations.

Direct emissions of PM₁₀ increased in the SJVAB and Madera County between 1975 and 2000 and are projected to continue increasing through 2020. This increase is due to the growth in emissions from area-wide sources, primarily paved road dust (CARB, 2005).

TABLE 4.11-5
REGIONAL EMISSIONS TRENDS

	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020
NO_x										
Madera County	30.0	35.7	32.8	35.8	32.5	30.6	29.8	26.8	24.1	21.8
San Joaquin Valley Air Basin	688	853	853	822	688	582	489	410	345	305
ROG										
Madera County	80.7	64.2	62.3	62.4	60.0	57.8	56.6	55.5	54.9	54.9
San Joaquin Valley Air Basin	1,411	1,470	1,295	876	720	683	621	599	593	595
PM₁₀										
Madera County	17.6	19.4	17.7	18.8	18.9	19.4	20.8	22.0	23.0	24.3
San Joaquin Valley Air Basin	387	377	378	386	350	398	394	410	420	432

NOTES: Amounts of emissions are in tons per day.

SOURCE: California Air Resources Board, 2005; AES, 2005.

The 2020 emissions estimates include the effects of projected growth in the County associated with an increase in population and construction of new residential/commercial/industrial developments. Thus, the 2020 regional inventory emission levels include the effects from the related projects discussed above in **Section 4.11.2**.

For 2020, in addition to Countywide emissions, incremental Alternative A generated emissions are also compared with the San Joaquin Valley Air Pollution Control District (SJVAPCD) significance thresholds discussed in **Section 4.4.2**. The SJVAPCD's thresholds are:

- 10 tons per year (tpy) of ROG, and
- 10 tpy of NO_x emissions.

As noted in **Section 4.4.2**, these thresholds are meant to assure compliance with the State and Federal Clean Air Acts. The SJVAPCD is projecting improved ozone levels for the San Joaquin Valley in 2020 and beyond (SJVAPCD, 2004). A plan to attain the Federal 8-hour ozone standard has not yet been adopted. Thus, it is assumed that the San Joaquin Valley Air Basin will remain in non-

attainment for the Federal 8-hour ozone standard and that similar emissions thresholds for ROG and NO_x will continue to indicate a significant air quality effect in 2020 and 2030. Similar PM₁₀ emissions thresholds are also assumed to continue to apply in 2020 and 2030, given that PM₁₀ emissions are projected to increase through the cumulative time period.

In **Table 4.11-6** long-term 2020 operational emissions associated with Alternative A (and the other alternatives for ease of comparison) are compared to countywide emissions forecasts for 2020. In 2020, unmitigated operation of Alternative A is estimated to result in:

- 11.85 tons per year (tpy) of ROG,
- 16.72 tpy of NO_x, and
- 42.95 tpy of PM₁₀ emissions.

As shown in **Table 4.11-6**, Alternative A generated only 0.210% of the Countywide total NO_x in 2020 and only generated 0.059% of ROG. The PM₁₀ contribution for Alternative A is a little more with 0.48% in 2020. The incremental effect of Alternative A is a relatively minor portion of the Countywide total for one project for ROG, NO_x, and PM₁₀. Alternative A, along with other cumulative development would exacerbate the regional trend towards higher PM₁₀ emissions but to a less than significant level, because of dust control measures being successfully implemented throughout the air basin.

TABLE 4.11-6
LONG TERM EMISSIONS IN TONS PER DAY AS A PERCENT OF COUNTY 2020 TOTAL

Project Alternative	Reactive Organic Gases (ROG)			Nitrogen Oxide Gases (NO _x)			Inhalable Particulates (PM ₁₀)		
	Project-Related Emissions	Madera County Total	% of Total	Project-Related Emissions	Madera County Total	% of Total	Project-Related Emissions	Madera County Total	% of Total
Alternative A	0.032	54.9	0.059	0.046	21.8	0.210	0.118	24.3	0.48
Alternative B	0.022	54.9	0.040	0.031	21.8	0.143	0.082	24.3	0.34
Alternative C	0.031	54.9	0.057	0.044	21.8	0.204	0.118	24.3	0.48
Alternative D	0.004	54.9	0.007	0.005	21.8	0.024	0.014	24.3	0.06

NOTES: Amounts of emissions are in tons per day.

SOURCE: California Air Resources Board, 2005; AES, 2006.

Table 4.11-7 presents a comparison of unmitigated operational and area source emissions for Alternative A (and the other alternatives for ease of comparison) to SJVAPCD emissions criteria. In 2020, both ROG and NO_x unmitigated emissions generated by Alternative A would still exceed the 10-tpy significance thresholds.

Reductions in ROG and NO_x would occur through the implementation of mitigation measures detailed in **Section 5.2.3** and the effects of mitigations as calculated by the URBEMIS model appear in **Table 4.11-8**. However, the full extent of the emission reductions that could be attributed to these mitigations cannot be fully represented by the URBEMIS program. The current, District

recommended, version of URBEMIS (version 8.70) allows the user to take advantage of environmental factors such as local serving retail and pedestrian and transit amenities in the area, but it does not allow the user to apply mitigations that are changes in the project that can mitigate the pollution. Therefore, mitigations described in **Section 5.2.3** could potentially reduce the cumulative effects of Alternative A to less than significant level, but without empirical data to generate a repeatable reduction rate, it is conservatively assumed that substantial reductions would not occur and that a significant cumulative effect on air quality remains after mitigation.

TABLE 4.11-7
2020 UNMITIGATED EMISSIONS IN TONS PER YEAR
COMPARED TO SJVAPCD THRESHOLDS

PROJECT ALTERNATIVE	EMISSIONS IN TONS PER YEAR	
	ROG	NO _x
ALTERNATIVE A	11.85	16.72
<i>Significant Cumulative Effect?</i>	Yes	Yes
ALTERNATIVE B	8.06	11.40
<i>Significant Cumulative Effect?</i>	No	Yes
ALTERNATIVE C	11.35	16.20
<i>Significant Cumulative Effect?</i>	Yes	Yes
ALTERNATIVE D	1.32	1.91
<i>Significant Cumulative Effect?</i>	No	No

NOTE: Emissions shown are for mobile sources and area sources. Significance threshold amount is 10 tpy for ROG and NO_x.

SOURCE: AES, 2006.

TABLE 4.11-8
2020 MITIGATED EMISSIONS IN TONS PER YEAR
COMPARED TO SJVAPCD THRESHOLDS

PROJECT ALTERNATIVE	EMISSIONS IN TONS PER YEAR	
	ROG	NO _x
ALTERNATIVE A	11.26	15.68
<i>Significant Cumulative Effect?</i>	Yes	Yes
ALTERNATIVE B	7.81	10.96
<i>Significant Cumulative Effect?</i>	No	Yes
ALTERNATIVE C	11.03	15.66
<i>Significant Cumulative Effect?</i>	Yes	Yes

NOTE: Emissions shown are for mobile sources and area sources. Significance threshold amount is 10 tpy for ROG and NO_x.

SOURCE: AES, 2006.

Carbon Monoxide Concentrations

As described in the traffic study of the project alternatives, traffic operations at signalized study intersections would be LOS D or better with Alternative A under 2030 long-term future cumulative background conditions and traffic mitigation measures. Based on criteria presented in the University of California Davis Institute of Transportation Studies document *Transportation Project-Level Carbon Monoxide Protocol* (Garza, et al., 1997), intersections operating at LOS D or better typically do not result in CO concentrations that exceed State or Federal standards. Therefore, Alternative A with traffic mitigation measures, in combination with increased traffic from cumulative development would have a less-than-significant impact on CO air quality.

Odor Effects

Several commercial centers are planned in the area around the intersection of Avenue 17 and State Route 99. The SJVAPCD's list of common types of facilities that have been known to produce odors in the SJV occur mostly in manufacturing/industrial zones and no industrial areas are projected for the area, therefore Alternative A (which would not result in significant odors after the implementation of mitigation measures contained in **Section 5.2.3**), in combination with cumulative development, would have a less than significant odor effect.

Toxic Air Contaminants

Alternative A and other projects, when considered cumulatively, could result in potentially significant impacts from toxic air contaminants. Several commercial centers are planned in the area around the intersection of Avenue 17 and State Route 99. Potential toxic air contaminant sources such as gasoline dispensing facilities and dry cleaners could be located in these commercial areas. The SJVAPCD permit process, City permitting processes, and future environmental review processes (applied to future development) will combine to ensure that Alternative A, in combination with cumulative development, would have a less than significant effect from toxic air contaminants.

Climate Change

In the absence of specific guidance, the following method for assessing the impact levels of project GHG emission was developed in accordance with one of several approaches presented by the Association of Environmental Professionals (AEP) in its white paper entitled, *Alternative Approaches to Analyzing Greenhouse Gas Emissions and Global Climate Change in CEQA Documents* (AEP, 2007). The AEP approach used herein involves a combination of quantitative and qualitative analysis focusing on project effects on state efforts to reduce cumulative statewide GHG emissions in the future.

As noted in **Section 3.4**, global warming is a global issue that is not being caused by any one development project, but by global increases in atmospheric GHG concentrations. Thus, solutions to the global warming problem have tended to be on the global or regional level. California's global warming policies and legislation (most notably Executive Order S-3-05 and AB 32) are intended to be regional solutions to ensure that statewide emissions are reduced substantially in the future (to

levels much lower than existing levels), doing California's part to ensure that future global emissions are reduced and ultimately to reverse the global warming trend. California's policies are also expected to encourage other countries and regions to adopt similar policies, which would further the global effort to reduce emissions (CAT, 2006).

California's Air Resources Board (CARB) and Climate Action Team (CAT) have recently identified approximately 126 strategies and measures that will be utilized for the state to meet its emissions reduction targets in 2010, 2020, and 2050 (see **Appendix W**). Most of these measures focus on statewide action meant to curb emissions by changes in statewide planning or policies rather than changes to individual development projects. However, some of the measures may be directly applicable to specific industries or individual commercial developments. Should a development alternative comply with all directly applicable measures, the alternative will be supporting the state's efforts to significantly reduce its cumulative contribution to global climate change (to levels recommended by the IPCC) and the associated impacts. Thus, for the purposes of this analysis, cumulative contributions associated with a development alternative are considered less than significant if the project complies with all strategies and measures currently identified by CARB or CAT to comply with Executive Order S-3-05 or AB 32 that directly apply to an individual commercial project similar to that proposed by the development alternative.

Carbon Dioxide Equivalent

Carbon dioxide equivalent (CO₂e) is a method by which GHGs values other than CO₂ are converted to a CO₂-like emissions value based on a heat-capturing ratio. As shown in **Table 4.11-9**, CO₂ is used as the base and is given a value of one. CH₄ has the ability to capture 21 times more heat than CO₂; therefore, CH₄ is given a CO₂e value of 21. Emissions are multiplied by the CO₂e value to achieve one GHG emission value. By providing a common measurement, CO₂e provides a means for presenting the relative overall effectiveness of emission reduction measures for various GHGs in reducing project contributions to global climate change.

TABLE 4.11-9
GREENHOUSE GAS CO₂ EQUIVALENT

Gas	CO₂e Value
CO ₂	1
CH ₄	21
N ₂ O	310
HFCs/PFCs	6,500
SF ₆	23,900

Source: BAAQMD, 2006.

Strategies and Emission Estimates

As shown in **Table 4.11-10**, the EPA and CARB approved URBEMIS 2007 emissions modeling software estimates that Alternative A would result in the emission of approximately 2,731 tons per

year of CO₂ during construction, which is expected to last 12 months. During operation, Alternative A would result in the emission of 27,116 tpy of CO₂. Based on emission factors from the Climate Change Action Registry, Alternative A would result in the emission of CH₄ and N₂O equivalent to 1,034 tpy of CO₂e. Indirect emissions of CO₂, CH₄, and N₂O would be the equivalent 6 tpy of CO₂e. Total annual emissions during operation would be equivalent to 28,156 tpy of CO₂e. Annual Alternative A GHG emissions would be approximately 0.0047 percent of California's predicted contribution to global GHG emissions in 2020 (see **Table 3.4-5**). Alternative A contributions to the annual global GHG emissions in 2020 would be approximately 0.000032 percent. While Alternative A's contributions to statewide and global emissions are miniscule, a potentially significant contribution to cumulative global emissions cannot be ruled out solely on the basis of a small percentage contribution. This is due to the potentially serious impacts of climate change and the potential for even relatively minimal concentrations to lead to a "tipping point" beyond which impacts will be irreversible.

TABLE 4.11-10
ESTIMATED ALTERNATIVE A OPERATIONAL GHG EMISSIONS

CO₂ Emissions¹					
Mobile Sources		Area Sources		Total CO₂e	
tons per year		tons per year		tons per year	
26,373		594		27,116	
CH₄ and N₂O Emission from Mobile Sources²					
Emission Factor (CO₂/CH₄/N₂O)	Miles Traveled	CH₄	N₂O	Total CO₂e	
g/mile	miles/day	tons per year		tons per year	
552.08/0.05/0.05	155,358	66	969	1,034	
Indirect GHG emissions²					
Emission Factor (Kg of CO₂/CH₄/N₂O)	Estimated kW-h Usage³	CO₂	CH₄	N₂O	Indirect CO₂e
lb/MW-h	MW-h/year	tons per year			
804.54/0.006/0.0037	33	6	0	0	6
Total Operation CO₂e tons per year					28,156

¹ Estimated from EPA and CARB approved URBEMIS air quality program (**Appendix S**)

² Emission factors from Climate Change Action Registry

³ Estimated using 4,500 kilowatts-hours/month of power used.

Source: URBEMIS, 2007; Climate Change Action Registry, 2007.

As discussed above and in **Section 3.4**, California's strategies and measures would result in a reduction of statewide emissions, including emissions resulting from Alternative A, to levels below current background levels. Of the approximately 126 strategies and measures that would ensure a statewide reduction in GHG emissions, only three were determined to apply to Alternative A (see

Table 4.11-11). The other strategies do not apply because they either apply to state entities, such as CARB and are planning-level measures, or they apply to particular industries, such as the auto repair industry. As shown in **Table 4.11-11**, Alternative A would not be in compliance with one of the three applicable state climate change strategies, resulting in a potentially significant cumulative impact based on the methodology explained above. Measures in **Section 5.2.3** would ensure compliance with all applicable strategies, resulting in a less than significant cumulative impact.

TABLE 4.11-11
COMPLIANCE WITH STATE EMISSIONS REDUCTION STRATEGIES

CAT Strategies and Early Action Measures	Alternative A Compliance
Diesel Anti-Idling: In July 2004, the CARB adopted a measure to limit diesel-fueled commercial motor vehicle idling.	Development would be located on trust lands and thus not subject to CARB restrictions on on-site diesel-fueled commercial vehicle idling.
Achieve 50 percent statewide Recycling Goal: Achieving the State's 50 percent waste diversion mandate as established by the Integrated Waste Management Act of 1989, (AB 939, Sher, Chapter 1095, Statutes of 1989), will reduce climate change emissions associated with energy intensive material extraction and production as well as methane emission from landfills. A diversion rate of 48 percent has been achieved on a statewide basis. Therefore, a 2 percent additional reduction is needed.	Solid waste services are expected to be provided by the City or County of Madera, which are subject to the state's recycling requirements. The development would not affect City or County diversion goals as waste from tribal land is classified as out-of-state waste and is not calculated in local waste diversion statistics.
Water Use Efficiency: Approximately 19 percent of all electricity, 30 percent of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce greenhouse gas emissions	As discussed in Section 2.0, Alternative A would include substantial water conservation, including the extensive use of recycled water, thus complying with the strategy to use water efficiently.

Source: State of California, Environmental Protection Agency, and Climate Action Team, 2006; AES, 2008.

BIOLOGICAL RESOURCES

This section analyzes the potential effects of Alternative A in conjunction with other projects on biological resources, including wildlife and habitats, Federally listed species, migratory birds, and jurisdictional waters of the U.S.

Wildlife and Habitats

Alternative A would not result in significant direct or indirect effects to wildlife and habitats, including state listed species. However, disturbance to habitats and increases in human activity within the vicinity from other proposed projects, including the Caltrans SR-99 freeway improvement projects and local planned development projects, could incrementally contribute to past, present and future effects to wildlife and habitats. The habitat on the Madera site that would be disturbed by

Alternative A is presently disturbed agricultural land, which is of relatively little biological value. In addition, sensitive wetland habitat on the Madera site would be avoided. Thus, Alternative A's contribution to the cumulative effects to wildlife and habitats in the region would be less than significant.

Federally Listed Species

Alternative A would not result in significant cumulative effects to Federally listed species. However, disturbance to vernal pools, burrowing owl habitat, San Joaquin pocket mouse habitat, San Joaquin kit fox habitat, and California tiger salamander habitat and increases in human activity within the vicinity from other proposed projects, including the Caltrans SR-99 freeway improvement projects and local planned development projects, could cumulatively affect Federally listed species. This is a potentially significant cumulative impact to threatened and/or endangered species. Other projects in the area will comply with local and Federal laws regulating threatened and/or endangered species to avoid impacts to such species, and unavoidable impacts will be adequately mitigated through the US Fish and Wildlife Service (USFWS). Therefore, a less than significant cumulative effect to Federally listed species would result. Nonetheless, mitigation is discussed in **Section 5.2.4**.

Migratory Birds

Alternative A and other projects, when considered cumulatively, could result in potentially significant impacts to nesting migratory birds. Other projects in the area will avoid and/or adequately mitigate for migratory birds by following the regulations set forth in the Migratory Bird Treaty Act. Potential significant direct effects to migratory birds and other special status species will be avoided or minimized by implementation of the mitigation measures identified in **Section 5.2.4**.

Waters of the U.S.

Alternative A would not directly affect any waters of the U.S. Any adverse indirect effects to waters of the U.S. would be avoided by the implementation of project features designed to prevent increased erosion and sedimentation and increase flood storage on the site. Other projects in the area will follow the provisions set forth in the Clean Water Act to reduce project impacts to a less than significant level. Therefore, Alternative A, in combination with other development projects, would not result in significant cumulative effects to waters of the U.S.

CULTURAL RESOURCES

Cumulative effects to cultural resources typically occur when sites that contain cultural features or artifacts are disturbed by development. As these resources are destroyed or displaced, important information is lost and connections to past events, people and cultures is diminished. As the City of Madera and Madera County continue to grow, resources, including historic buildings and archaeological sites, may be lost. Madera County contains extensive cultural resources, including Mono Indian sites and historical sites associated with early ranching, homesteads, and mining. Sites in Madera County include Native American archaeological sites with bedrock mortars, village sites,

and dance houses or roundhouses; and historic sites, including historic mines, homes, and churches. Impacts to these cultural resources are likely to occur as residential and commercial growth occurs in Madera County, including near the community of Madera and its surrounding cities.

No significant cultural resources were identified within or adjacent to Alternative A. However, the records search and archival research indicate that the study area is in a region sensitive for both prehistoric/pre-contact resources and historic-period resources. Prehistoric archaeological sites recorded in the general vicinity of the project area include rock alignments, human cremations, habitation areas, trails, and lithic scatters. Known historic-period archaeological sites in the general area include wagon roads, trails, homesteads and ranches. Based on this sensitivity, Alternative A may impact previously unknown buried archaeological resources, as archaeological sites may be buried with no surface manifestation. Significant cumulative impacts to cultural resources could occur if sites continued to be lost, damaged, or destroyed without appropriate recordation, preservation, or data recovery. Mitigation for potential cumulative impacts to unknown cultural resources has been specified in **Section 5.2.5**. Implementation of these mitigation measures would reduce impacts to less than significant.

SOCIOECONOMIC CONDITIONS

Cumulative socioeconomic effects could occur in the project area (in this case, Madera County) as the result of developments that affect the lifestyle and economic well being of residents. Examples of cumulative socioeconomic impacts might include urban blight, increased crime, changes in a community's tax base, and changes in the ability to access private property.

Future Conditions

Madera County's population is projected to increase rapidly to approximately 219,832 by 2030 (a 77 percent increase from 2000 data) (California Department of Finance, 2005). This is greater than the expected State population increase of 41 percent in the same time period. The San Joaquin Valley in general has recently been growing at a high rate due partially to rapidly increasing land values throughout the state and the loss of developable land in other areas of the state. Areas of the San Joaquin Valley, including Madera County have remained relatively affordable, enticing individuals and businesses to move to the area. Rapidly increasing development has led to the start of a diversification of the local economy from an agriculture dominated economy.

Incremental Cumulative Effect

Expected future population would be increased by Alternative A's expected population growth of 836 (see **Section 4.7.1**). Alternative A would introduce a substantial new source of economic activity to Madera County. Once operational, Alternative A's casino/hotel resort would become one of Madera County's largest employers. The creation of jobs would serve the growing County population. Alternative A would add to the diversification of the local economy.

As population growth occurs in the region, fiscal demands on local governments will increase for necessary services. The local governments in the region address increased service demand from new developments by requiring various development fees and assessments. Alternative A would not be subject to development fees. However, as identified in **Sections 2.2.10, 4.7.1, and 5.2.6**, the Tribe has entered into a Memoranda of Understanding (MOU) with Madera County and the City of Madera, by which the Tribe agrees to pay fees equivalent to development fees, ensuring that Alternative A's impact to the cumulative fiscal demands on local government is less than significant.

RESOURCE USE PATTERNS

Transportation/Circulation

Methodologies

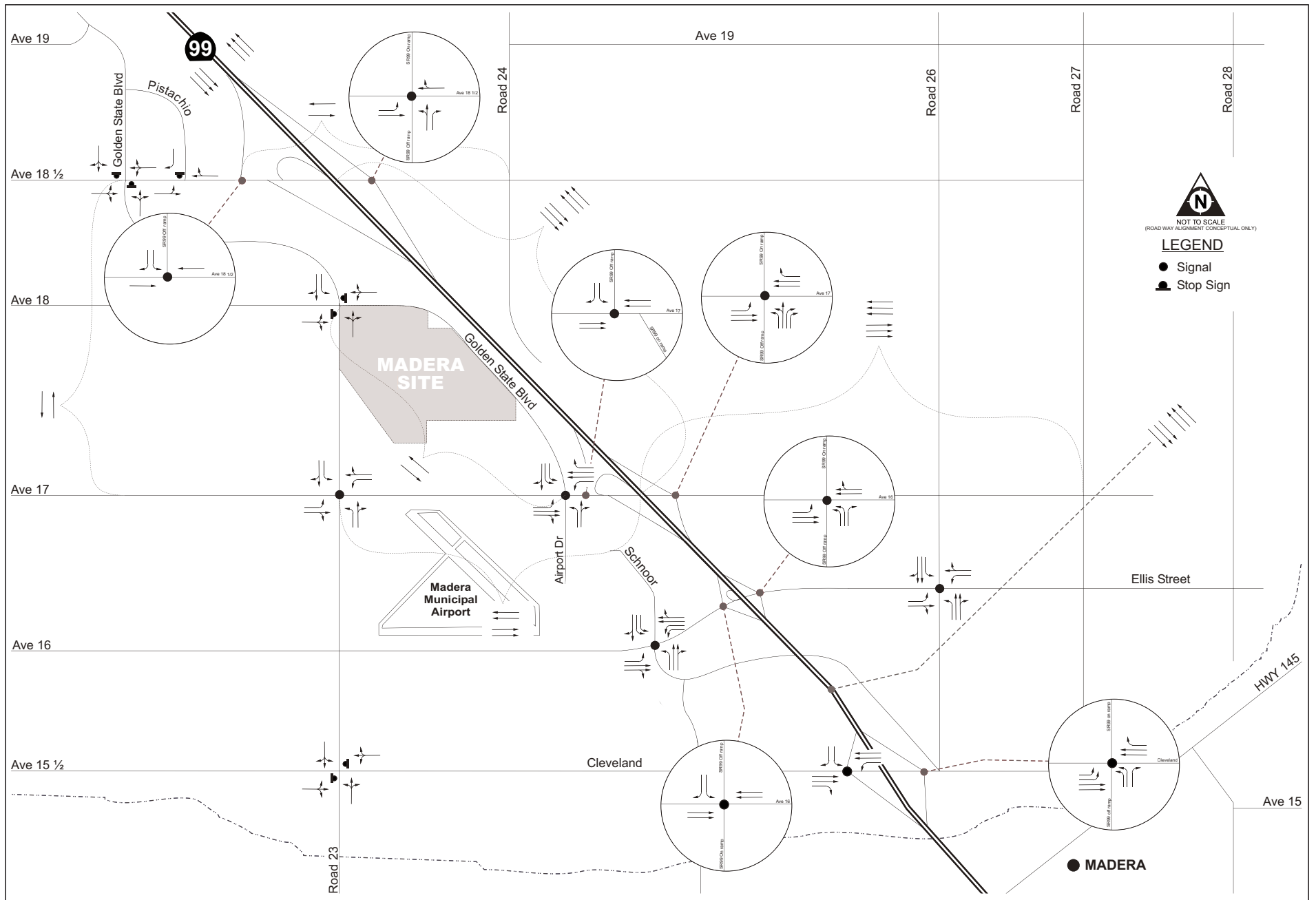
The future cumulative (2030) traffic volumes were calculated using growth increment/growth rate data developed from the 2001 and the 2025 Without Project Madera County Transportation Commission (MCTC) model runs. Additionally, the 2025 model year data (by TAZ) were adjusted to include the general plan amendments that occurred after the development of the MCTC model (**Appendix M**). For City and Caltrans segments and intersections that are showing negative or no growth by 2030, a 1 percent growth factor applied to the existing count data was used to calculate the 2030 Without Project volumes and should be considered a worst-case assumption. For County segments and intersections that are showing negative or no growth by 2030, a 3 percent growth factor applied to the existing count data was used to calculate the 2030 Without Project traffic volumes and should be considered a worst-case assumption. The various local jurisdictions each reviewed and approved of these worst-case assumptions.

2030 Traffic Condition Without Project

Figures 4.11-8 and 4.11-9 present the 2030 Cumulative lane configuration and intersection control for the Madera site study intersections.

Freeway and Roadway Segment Performance. As presented in **Table 4.11-12**, the following six freeway segments and one roadway segment are shown to operate at an unacceptable LOS without the addition of project traffic:

- SR-99 NB – North of Avenue 18 ½
- SR-99 SB – North of Avenue 18½
- SR-99 NB – Avenue 18½ to Avenue 17
- SR-99 SB – Avenue 18½ to Avenue 17
- SR-99 NB – South of Avenue 17
- SR-99 SB – South of Avenue 17
- Avenue 17 – SR-99 to Road 27



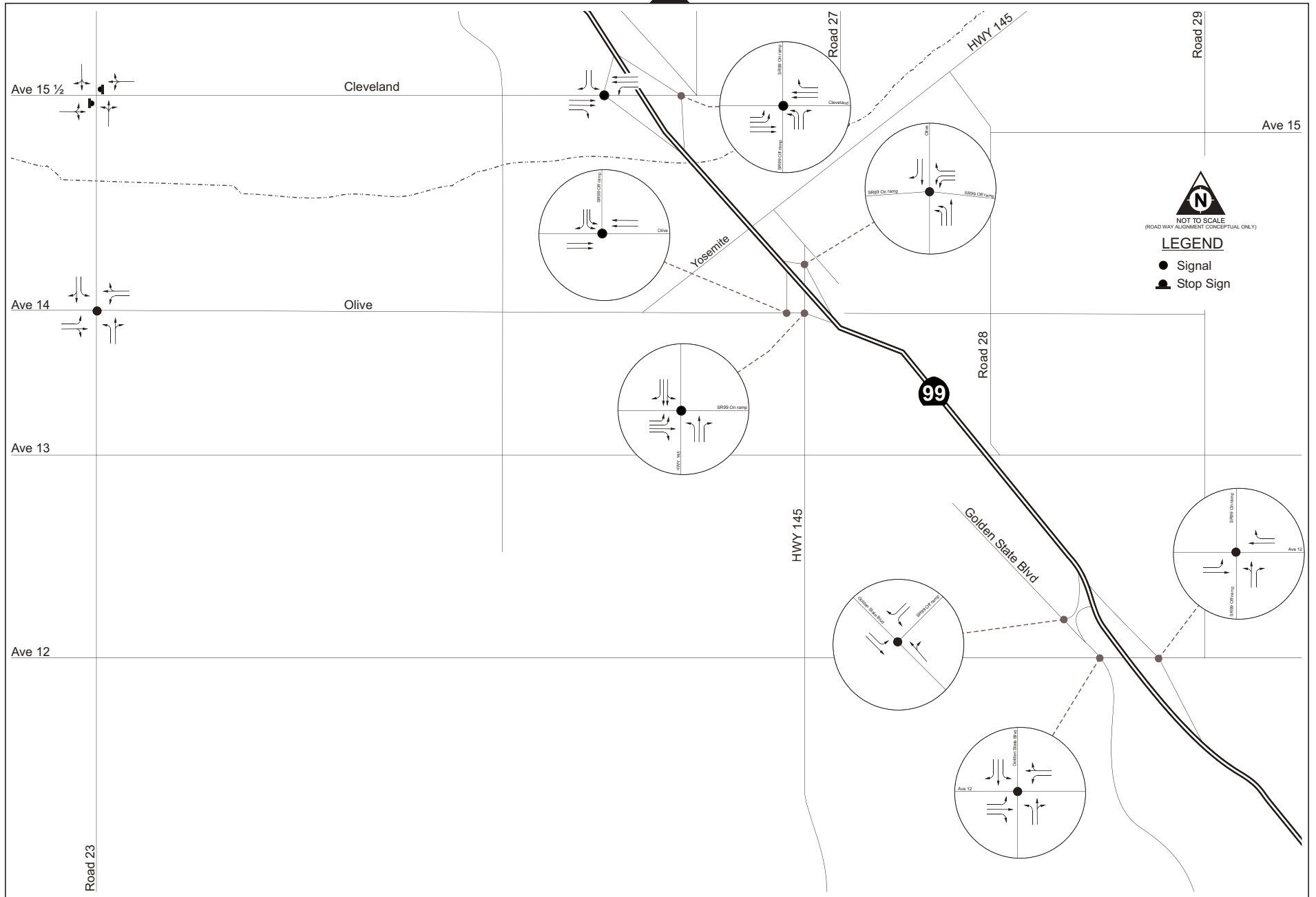


Figure 4.11-9
Madera Site – 2030 Lane Configuration and Intersection Control

TABLE 4.11-12
FREEWAY AND ROADWAY SEGMENT PERFORMANCE – 2030 WITHOUT PROJECT (MADERA SITE)

Segment	LOS Threshold	2030 w/o Project			
		LOS		Density (pc/mi/ln) ¹	
		AM	PM	AM	PM
Freeway Segment					
<i>SR-99 NB – North of Avenue 18 ½</i>	C	C	D	25.2	26.1
<i>SR-99 SB – North of Avenue 18 ½</i>	C	C	E	20.3	35.2
<i>SR-99 NB – Avenue 18 ½ to Avenue 17</i>	C	D	D	28.3	28.9
<i>SR-99 SB – Avenue 18 ½ to Avenue 17</i>	C	C	E	22.2	41.9
<i>SR-99 NB – South of Avenue 17</i>	C	D	F	33.1	---
<i>SR-99 SB – South of Avenue 17</i>	C	C	F	23.3	---
Roadway Segment					
<i>Avenue 18½ - Road 24 to Road 23</i>	D	C	D	NA	NA
<i>Road 23 – Avenue 18½ to Avenue 17</i>	D	D	D	NA	NA
<i>Avenue 17 – Road 23 to SR-99</i>	D	A	D	NA	NA
<i>Avenue 17 – SR-99 to Road 27</i>	D	B	E	NA	NA
<i>Golden State Boulevard – Avenue 17 to Road 23</i>	D	A	A	NA	NA

SOURCE: TPG Consulting, Inc. 2006; AES 2006.

NOTES: **Bold** text denotes unacceptable LOS.

NA= not applicable

¹ density = passenger car per mile per lane

--- = beyond software limitations

Intersection Operations. The 2030 Without Project traffic volumes are presented in **Figures 4.11-10** and **4.11-11**. As presented in **Table 4.11-13**, the following 13 intersections are forecast to operate at an unacceptable LOS without the addition of project traffic:

- Avenue 17 at SR-99 SB ramps
- Avenue 17 at SR-99 NB ramps
- Avenue 12/Golden State Boulevard at SR-99 SB ramps
- Avenue 12 at Golden State Boulevard
- Avenue 12 at SR-99 NB ramps
- Avenue 17 at Road 23
- Avenue 17 at Golden State Boulevard
- Cleveland Avenue/Avenue 15½ at SR-99 NB ramps
- Cleveland Avenue/Avenue 15½ at SR-99 SB ramps
- SR-145/Madera Ave at SR-99 NB ramps
- Olive Avenue/Avenue 14 at SR-99 SB off-ramp
- Olive Avenue/Avenue 14/SR-99 SB on-ramp at SR-145
- Avenue 18½ at Golden State Boulevard/Road 23- WB approach
- Avenue 18½ at Golden State Boulevard/Road 23- EB approach

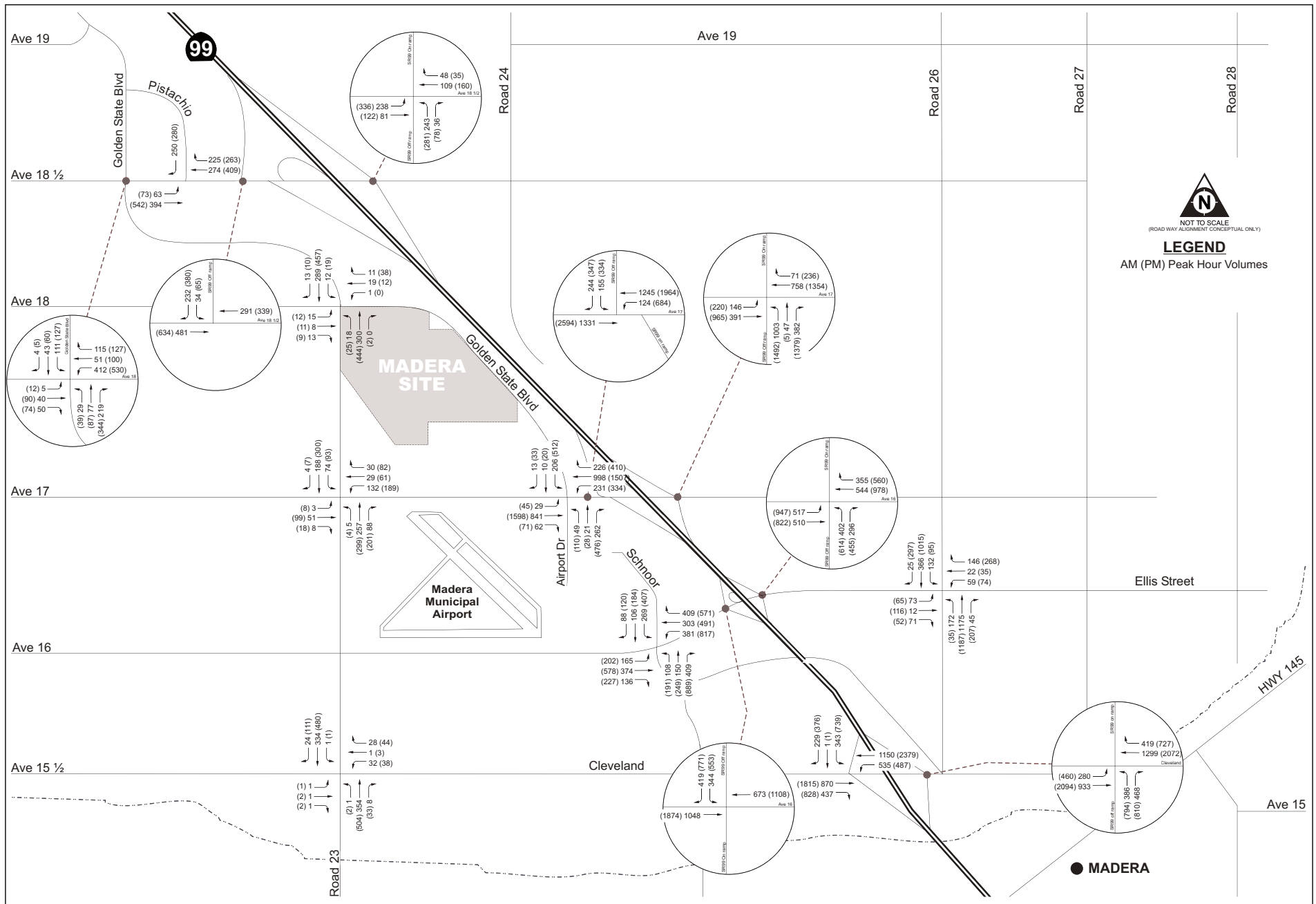


Figure 4.11-10
Madera Site – 2030 Intersection Volumes

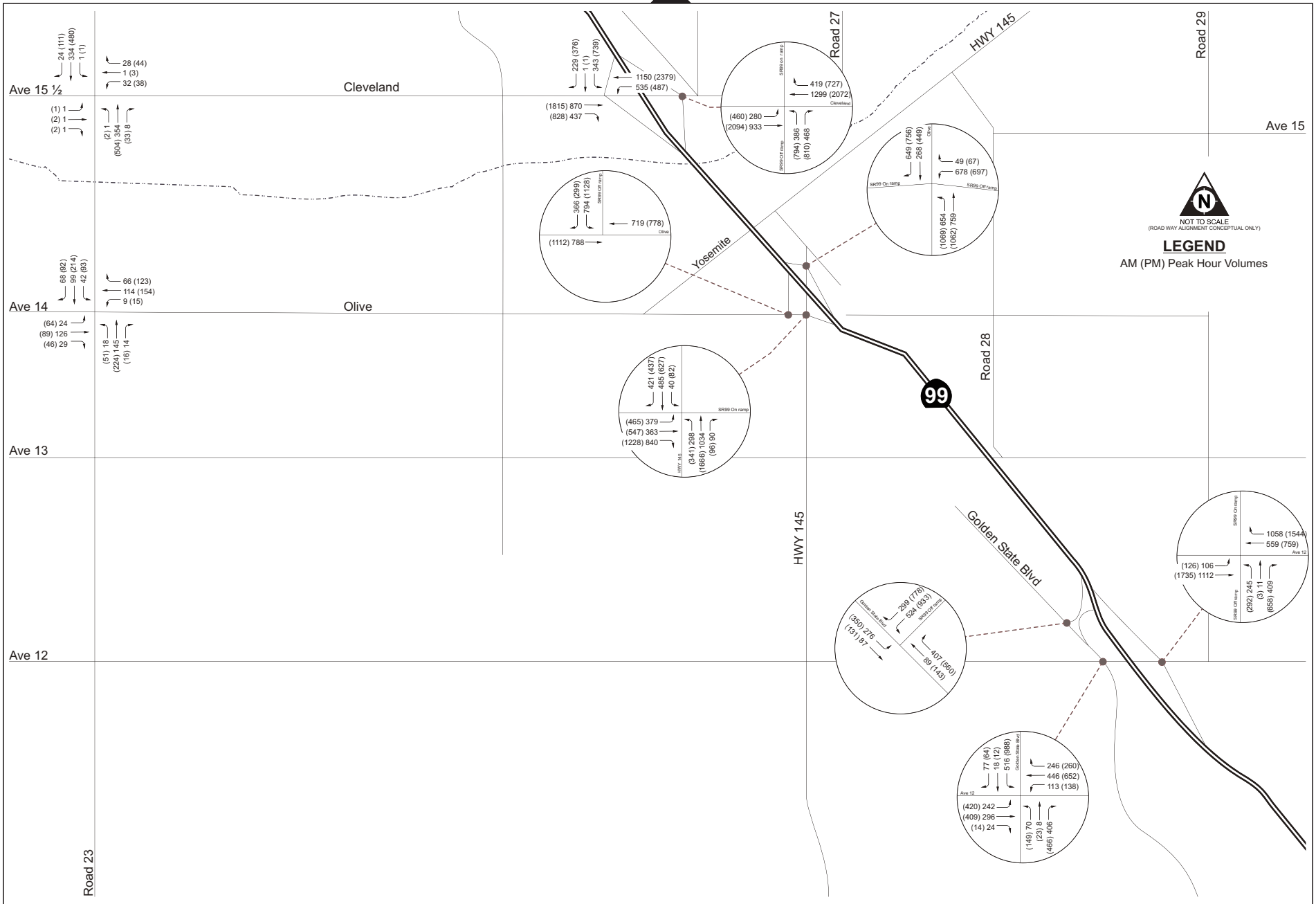


Figure 4.11-11
Madera Site – 2030 Intersection Volumes

TABLE 4.11-13
PEAK HOUR INTERSECTION CONDITIONS – 2030 WITHOUT PROJECT (MADERA SITE)

Intersection	LOS Thres-hold	2030 w/o Project			
		LOS	AM Delay (secs) ¹	PM LOS	PM Delay (secs)
Avenue 18½ at SR-99 SB ramps/Road 23	C	A	9.4	B	14.8
Avenue 18½ at SR-99 NB ramps	C	C	27.9	C	30.2
Avenue 17 at SR-99 SB ramps	C	A	7.9	F	87.5
Avenue 17 at SR-99 NB ramps	C	C	26.5	F	113.6
Avenue 12/Golden State Boulevard at SR-99 SB ramps	C	D	41.8	F	245.9
Avenue 12 at Golden State Boulevard	D	F	126.8	F	418.3
Avenue 12 at SR-99 NB ramps	C	D	41.7	F	243.3
Avenue 18 at Road 23					
• NB Left-Through-Right		A	8.1	A	8.7
• SB Left-Through-Right	D	A	8.2	A	8.6
• WB Approach		B	14.3	C	15.6
• EB Approach		B	14.8	C	25.0
Avenue 17 at Road 23	D	B	18.1	C	26.4
Avenue 17 at Golden State Boulevard	D	C	24.1	F	125.9
Ellis Street at Road 26	D	C	22.2	C	24.4
Avenue 15½ at Road 23					
• NB Left-Through-Right		A	8.2	A	9.1
• SB Left-Through-Right	D	A	8.2	A	8.8
• WB Approach		C	15.8	D	25.8
• EB Approach		B	14.6	D	25.3
Avenue 14 at Road 23	D	B	15.9	C	22.8
Avenue 16 at SR-99 SB ramps	C	B	14.8	C	21.3
Avenue 16/Ellis Street at Golden State Boulevard	C	C	22.8	E	72.4
Avenue 16/Ellis Street at SR 99 SB Ramps	C	B	13.7	E	69.9
Avenue 16/Ellis Street at SR 99 NB Ramps	C	C	27.5	F	153.0
Cleveland Avenue/Avenue 15½ at SR-99 NB ramps	C	C	24.5	F	177.3
Cleveland Avenue/Avenue 15½ at SR-99 SB ramps	C	C	27.1	F	202.0
SR-145/Madera Avenue at SR-99 NB ramps	C	C	20.3	F	53.2
Olive Avenue/Avenue 14 at SR-99 SB off-ramp	C	F	101.7	F	273.1
Olive Avenue/Avenue 14/SR-99 SB on-ramp at SR-145	C	F	102.5	F	357.7
Avenue 18½ at Pistachio Drive					
• EB Approach		A	9.9	B	11.1
	D				
• SB Right		C	19.8	D	33.4
Avenue 18½ at Golden State Boulevard/road 23	D				

• NB left-Through-Right	A	7.7	A	7.8
• SB Left-Through-Right	B	10.0	B	12.7
• WB Approach	F	974.3	F	---
• EB Approach	F	---	F	---

NOTES:¹ delay in seconds

Bold text denotes unacceptable LOS.

OF = overflow

--- = beyond software limitations

SOURCE: TPG Consulting, Inc. 2006; AES 2006.

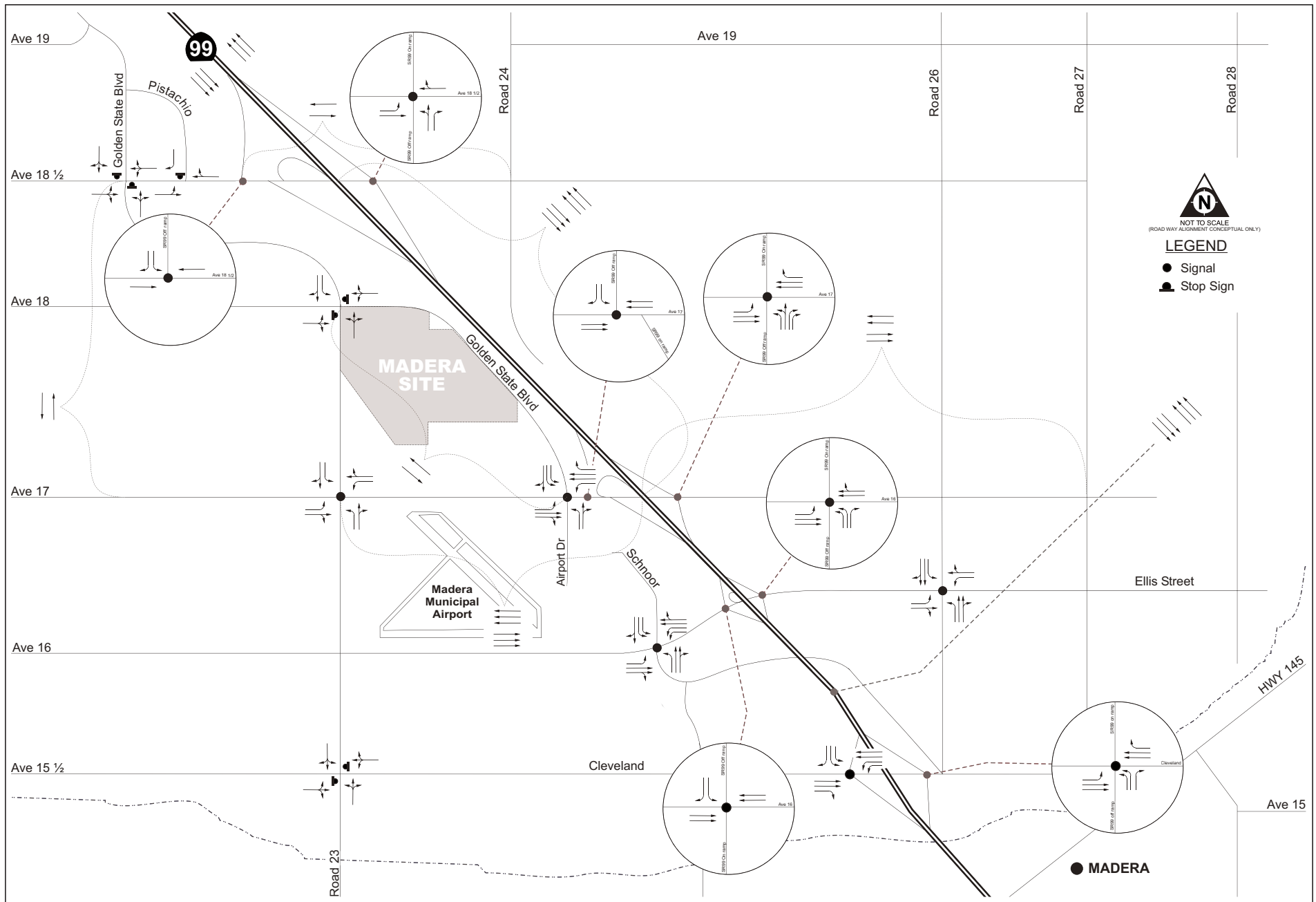
2030 Traffic Conditions With Project

This section discusses the 2030 traffic conditions with Alternative A project trips added. The 2030 Without Project conditions are reported as a baseline. **Figures 4.11-12** and **4.11-13** present the 2030 lane configuration and intersection control considered to be in place at that time after the implementation of Alternative A. The 2030 lane configuration and intersection control represent the existing configuration and controls plus improvements needed to mitigate impacts from the addition of project traffic generated under Alternative A in the Build-Out (2008) condition.

existing configuration and controls plus improvements needed to mitigate impacts from the addition of project traffic generated under Alternative A in the Build-Out (2008) condition.

Freeway and Roadway Segment Performance. The 2030 Without Project traffic volumes were combined with vehicle trips expected to be generated by Alternative A. **Table 4.11-14** summarizes the 2030 With Alternative A peak hour freeway and roadway segment conditions. The 2030 Without Project conditions are provided as a baseline. With the addition of project traffic under Alternative A, the following six freeway segment and one roadway segment are shown to operate at an unacceptable LOS:

- SR-99 NB – North of Avenue 18½
- SR-99 SB – North of Avenue 18½
- SR-99 NB – Avenue 18½ to Avenue 17
- SR-99 SB – Avenue 18½ to Avenue 17
- SR-99 NB – South of Avenue 17
- SR-99 SB – South of Avenue 17
- Avenue 17 – Road 23 to Road SR-99



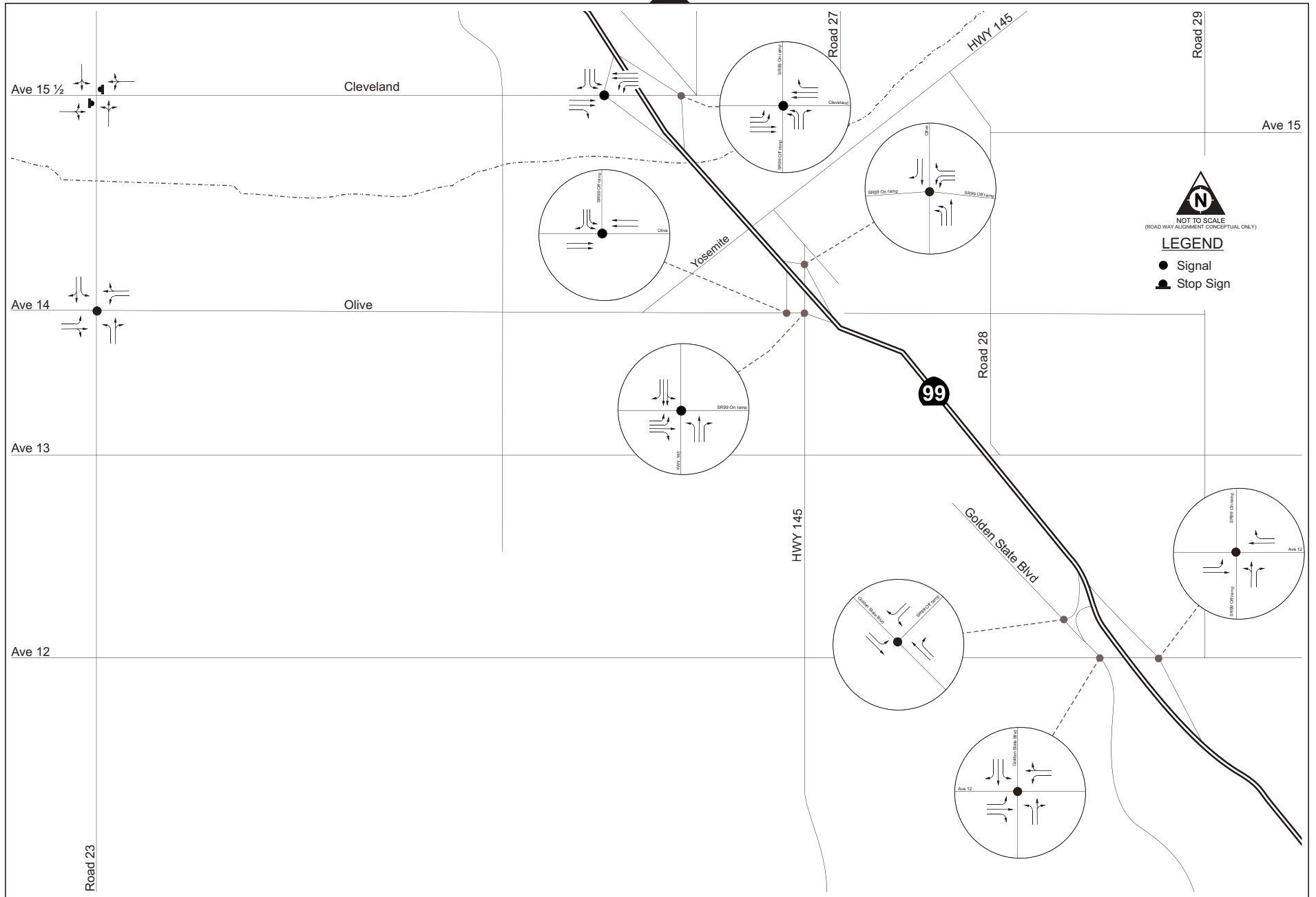


Figure 4.11-13
Madera Site – 2030 Lane Configuration and Intersection Control With Alternative A

TABLE 4.11-14
FREEWAY AND ROADWAY SEGMENT PERFORMANCE –
2030 WITH ALTERNATIVE A

Segment	LOS		2030				With Alternative A			
	Threshold	LOS		Density (pc/mi/ln) ¹		LOS		Density (pc/mi/ln)		
		AM	PM	AM	PM	AM	PM	AM	PM	
Freeway Segment										
<i>SR-99 NB – North of Avenue 18 ½</i>	C	C	D	25.2	26.1	C	D	25.4	26.5	
<i>SR-99 SB – North of Avenue 18 ½</i>	C	C	E	20.3	35.2	C	E	20.6	36.0	
<i>SR-99 NB – Avenue 18 ½ to Avenue 17</i>	C	D	D	28.3	28.9	D	D	28.3	28.9	
<i>SR-99 SB – Avenue 18 ½ to Avenue 17</i>	C	C	E	22.2	41.9	C	E	22.2	41.9	
<i>SR-99 NB – South of Avenue 17</i>	C	D	F	33.1	---	E	F	36.8	---	
<i>SR-99 SB – South of Avenue 17</i>	C	C	F	23.3	---	B	E	17.9	35.7	
Roadway Segment										
<i>Avenue 18½ - Road 24 to Road 23</i>	D	C	D	NA	NA	C	D	NA	NA	
<i>Road 23 – Avenue 18½ to Avenue 17</i>	D	D	D	NA	NA	D	D	NA	NA	
<i>Avenue 17 – Road 23 to SR-99</i>	D	A	D	NA	NA	A	E	NA	NA	
<i>Avenue 17 – SR-99 to Road 27</i>	D	B	E	NA	NA	A	B	NA	NA	
<i>Golden State Boulevard – Avenue 17 to Road 23</i>	D	A	A	NA	NA	A	B	NA	NA	

NOTES: **Bold** text denotes unacceptable LOS.

NA = not applicable

¹ density = passenger car per mile per lane

OF = overflow

--- = beyond software limitations

SOURCE: TPG Consulting, Inc., 2006; AES 2006.

Intersection Operations. Table 4.11-15 summarizes the 2030 With Alternative A peak hour intersection conditions. The 2030 Without Project intersection conditions are provided as a baseline. The 2030 Without Project traffic volumes were combined with vehicle trips expected to be generated by Alternative A. With the addition of project traffic under Alternative A, the following 17 study intersections are forecast to operate at an unacceptable LOS:

- Avenue 17 at SR-99 SB ramps
- Avenue 17 at SR-99 NB ramps
- Avenue 12/Golden State Boulevard at SR-99 SB ramps
- Avenue 12 at Golden State Boulevard
- Avenue 12 at SR-99 NB ramps
- Avenue 18 at Road 23 EB approach
- Avenue 18 at Road 23 EB approach
- Avenue 17 at Golden State Boulevard
- Avenue 16/Ellis Street at Golden State Boulevard
- Avenue 16/Ellis Street at SR 99 SB ramps
- Avenue 16/Ellis Street at SR 99 NB ramps
- Cleveland Avenue/Avenue 15½ at SR-99 NB ramps

TABLE 4.11-15
PEAK HOUR INTERSECTION CONDITIONS – 2030 WITH ALTERNATIVE A

Intersection	LOS Threshold	2030				With Project			
		AM		PM		AM		PM	
		LOS	Delay (secs) ¹	LOS	Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)
Avenue 18½ at SR-99 SB ramps/Road 23	C	A	9.4	B	14.8	B	10.1	C	20.9
Avenue 18½ at SR-99 NB ramps	C	C	27.8	C	30.2	C	27.8	C	28.3
Avenue 17 at SR-99 SB ramps	C	A	7.9	F	87.5	A	8.3	F	176.1
Avenue 17 at SR-99 NB ramps	C	C	26.5	F	113.6	D	36.1	F	146.5
Avenue 12/Golden State Boulevard at SR-99 SB ramps	C	D	41.8	F	245.9	D	51.2	F	251.3
Avenue 12 at Golden State Boulevard	D	F	126.8	F	418.3	F	126.0	F	420.3
Avenue 12 at SR-99 NB ramps	C	D	41.7	F	243.3	D	44.5	F	251.7
Avenue 18 at Road 23									
• NB left-Through-Right	D	A	8.1	A	8.7	A	8.1	A	8.7
• SB left-Through-Right		A	8.2	A	8.6	A	8.4	A	9.0
• WB Approach		B	14.3	C	15.6	B	14.2	C	17.0
• EB Approach		B	14.8	C	25.0	C	18.0	E	39.4
Avenue 17 at Road 23	D	B	18.1	C	26.4	B	18.5	C	27.7
Avenue 17 at Golden State Boulevard	D	C	24.1	F	125.9	C	26.2	F	241.8
Ellis Street at Road 26	D	C	22.2	C	24.4	C	22.4	C	25.0
Avenue 15½ at Road 23									
• NB left-Through-Right	D	A	8.2	A	9.1	A	8.2	A	9.2
• SB left-Through-Right		A	8.2	A	8.8	A	8.3	A	8.9
• WB Approach		C	15.8	D	25.8	C	16.5	D	28.8
• EB Approach		B	14.6	D	25.3	C	15.1	D	27.8
Avenue 14 at Road 23	D	B	15.9	C	22.8	B	18.7	C	23.0
Avenue 16/Ellis Street at Golden State Boulevard	C	C	22.8	E	72.4	C	22.6	E	78.5
Avenue 16/Ellis Street at SR 99 SB ramps	C	B	13.7	E	69.9	B	14.1	E	79.0
Avenue 16/Ellis Street at SR 99 NB ramps	C	C	27.5	F	153.0	C	29.5	F	163.6
Cleveland Avenue/Avenue 15½ at SR-99 NB ramps	C	C	24.5	F	177.3	C	25.4	F	178.2
Cleveland Avenue/Avenue 15½ at SR-99 SB ramps	C	C	27.1	F	202.0	B	15.5	F	113.4
SR-145/Madera Avenue at SR-99 NB ramps	C	C	20.3	D	53.2	C	21.0	E	59.6
Olive Avenue/Avenue 14 at SR-99 SB off-ramp	C	F	101.7	F	273.1	F	103.5	F	280.1
Olive Avenue/Avenue 14/SR-99 SB on-ramp at SR-145	C	F	102.5	F	357.7	F	104.1	F	368.9
Avenue 18½ at Pistachio Drive	C								
• EB Approach		A	9.9	B	11.1	A	9.9	B	11.1

Intersection	LOS Threshold	2030		With Project					
		AM		PM		AM		PM	
		LOS	Delay (secs) ¹	LOS	Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)
• SB Right		C	19.8	D	33.4	C	19.8	D	33.4
Avenue 18½ at Golden State Boulevard/Road 23									
• NB left-Through-Right	C	A	7.7	A	7.8	A	7.7	A	7.8
• SB left-Through-Right		B	10.0	B	12.7	B	10.0	B	12.7
• WB Approach		F	974.3	F	---	F	974.3	F	---
• EB Approach		F	---	F	---	F	---	F	---

NOTES: ¹ delay in seconds

Bold text denotes unacceptable LOS.

OF = overflow

--- = beyond software limitations

SOURCE: TPG Consulting, Inc., 2006; AES 2006.

- Cleveland Avenue/Avenue 15½ at SR-99 SB ramps
- SR-145/Madera Avenue at SR-99 NB ramps
- Olive Avenue/Avenue 14 at SR-99 SB off-ramp
- Olive Avenue/Avenue 14/SR-99 SB on-ramp at SR-145
- Avenue 18½ at Pistachio Drive SB right
- Avenue 18½ at Golden State Boulevard/Road 23 WB approach
- Avenue 18½ at Golden State Boulevard/Road 23 EB approach

Figures 4.11-14 and **4.11-15** present the 2030 With Alternative A intersection volumes at each of the Madera site study intersections.

Impact Analysis

With the addition of project traffic under Alternative A, 6 freeway segments, 1 roadway segment, and 18 intersections are shown to operate at an unacceptable LOS, resulting in a significant impact.

Mitigation measures for the 2030 With Project (Alternative A) conditions are discussed in **Section 5.2.7** of this document. With the incorporation of project mitigation measures, each of the intersections and roadway segments that are shown to have an unacceptable LOS would be improved to an acceptable LOS. This would result in a less than significant impact.

Land Use

Cumulative land use effects that may occur in Madera County include:

- Conflicts with existing land uses.
- Preclusion of planned land uses.
- Disruption of access to existing or planned land uses.
- Disruption of orderly development.
- Creation of impediments to local planning documents.
- Unexpected/unplanned growth.

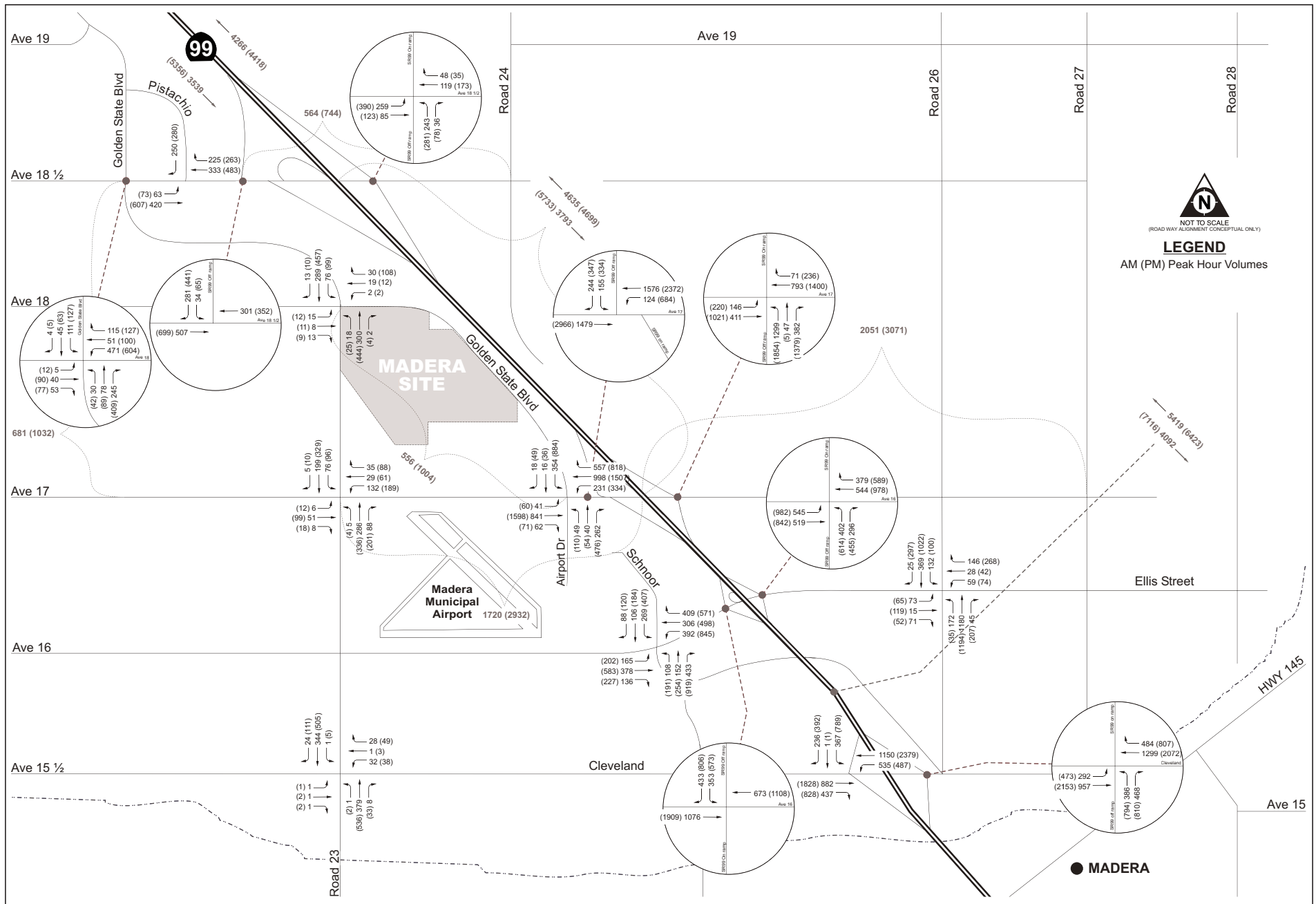


Figure 4.11-14
Madera Site – 2030 Intersection Volumes With Alternative A

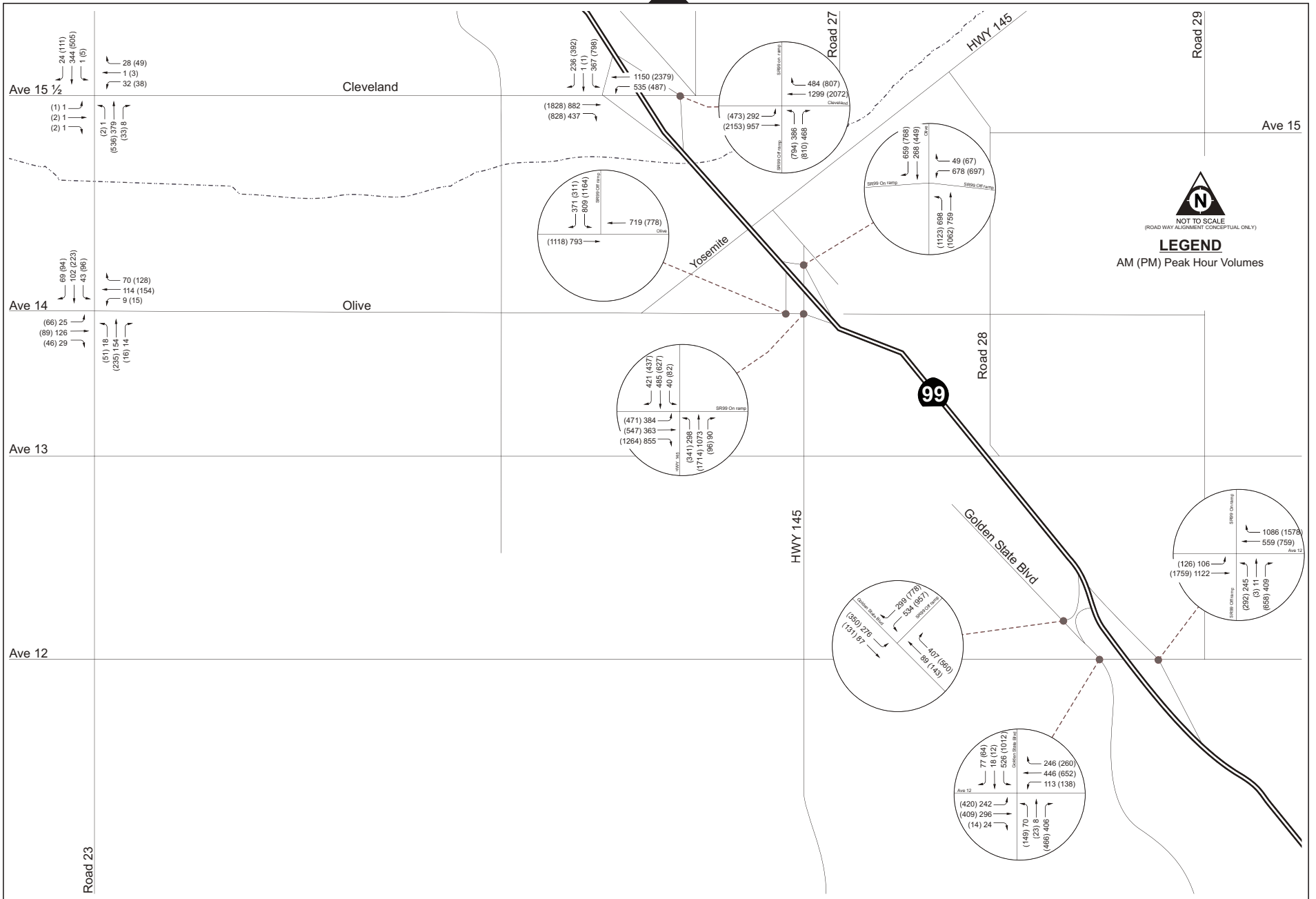


Figure 4.11-15
Madera Site – 2030 Intersection Volumes With Alternative A

Although Alternative A would not be entirely consistent with all of the goals and policies of the Madera County General Plan, as noted in **Section 4.8.1**, no significant effects, such as precluding existing or planned land uses or disruption of access or conflicts with existing land uses, have been identified. Since no other tribal projects are planned on the Madera site and all other development occurring around the Madera site would be required to comply fully with local planning guidelines, no significant cumulative land use effects would occur.

Agriculture

The development projects in the area would lead to a loss of agricultural land. From 2000 to 2002 Madera County has seen a loss of 4,134 acres of agricultural lands. Conversion to urban uses accounted for 28 percent of the lost farmland during this period. Conversion to other land uses, primarily the creation of ranchettes and small water bodies accounted for the remaining 72 percent of the lost farmland. Assuming this trend continues due to the future population increase expected in Madera County, tens of thousands of acres of farmland would be lost during the next several decades. Development of a portion of the Madera site would contribute to the future regional loss of farmland.

Development would not otherwise affect agriculture in the region. Water allocations, for instance, would not be affected by Alternative A. Given that Alternative A would not induce further development in the region (**Section 4.12.1**) and would develop less than half of the Madera site, the loss of farmland is not considered a significant contribution to the cumulative loss of agricultural land. Nonetheless, mitigation measures have been included in **Section 5.2.7** that would further reduce Alternative A's cumulative impacts to agriculture.

PUBLIC SERVICES

Public Water Utilities

As described in **Section 4.3**, Alternative A would not cause a loss of capacity with any public water utility. Thus, the cumulative effects of cumulative development on public water systems would not affect or be affected by Alternative A. A significant cumulative impact would not result. Cumulative effects to the groundwater basin are discussed above under *Water Resources*.

Off-Site Wastewater Service

Cumulative effects related to off-site wastewater treatment and disposal could occur in the project area as the result of inadequate treatment capacity of local and regional wastewater service providers.

Table 4.11-16 lists the estimated flows at the City of Madera wastewater treatment plant (WWTP) along with the WWTP's capacity before and after expansion. The table also lists the average daily flows for Alternative A as well as the total combined flows.

As can be seen in **Table 4.11-16**, the WWTP expansion would provide the City with sufficient capacity until 2023. Alternative A would require approximately 0.27 MGD of treatment capacity.

Since the Madera site is outside of the City's service area, the Tribe would be required to develop an agreement with the City for connection to wastewater treatment services. The agreement would ensure that the City has the desire and capacity to accept wastewater for Alternative A and will require that the Tribe pay all costs to develop wastewater service lines to the property and the continuing costs of service. Nonetheless, treatment of wastewater from the Alternative A would result in the capacity of the wastewater treatment plant being exceeded earlier than anticipated. This impact is considered significant. Mitigation is listed in **Section 5.2.8** to reduce this impact to less than significant.

TABLE 4.11-16
PROJECTED FLOWS FOR THE CITY OF MADERA WWTP

Year	WWTP Capacity	City of Madera Projected Average Daily Flow	Alternative A Average Daily Flow	Total Combined Flow
2005	7	5.70	0.27	5.97
2010	10.1 ¹	6.67	0.27	6.94
2015	10.1	7.81	0.27	8.08
2020	10.1	9.15	0.27	9.42
2023	10.1	10.1	0.27	10.37

NOTES: ¹ Expansion is scheduled for completion in early 2007.

SOURCE: City of Madera WWTP Predesign Report, 2004.

On-Site Wastewater Service

Cumulative effects related to on-site wastewater treatment and disposal could occur in the project area as the result of inadequate treatment and disposal of wastewater. Adverse effects could include the degradation of surface water so that the wastewater discharges of other public wastewater service agencies are constrained.

As noted in **Sections 4.3.1** and **4.9.1**, given the high quality of effluent that would be discharged from an on-site WWTP, no significant water quality degradation would occur (see **Section 4.3.1**) and thus indirect cumulative effects to downstream public water users and dischargers would be less than significant, even considering the future development and expansion of public wastewater treatment facilities.

Solid Waste

Cumulative effects to solid waste facilities may occur if service providers are unable to provide adequate services to existing and planned development. There are three active transfer stations in Madera County, including the North Fork Transfer Station, Emadco Transfer Station, and Mammoth Recycling Center and Transfer Station. Within the County the only permitted and active landfill is the Fairmead Landfill. The Fairmead Landfill currently receives approximately 600 tons per day and

has a permitted limit of 1,100 tons per day (Jones, pers. comm., 2005). The Alternative A development's solid waste generation would represent 0.69% of the landfill's daily intake. The remaining 500 tons is ample daily capacity for Alternative A and housing and business development expected in Madera County and the City of Madera. The expected closure date of the landfill is 2032. California counties are required to plan for future solid waste needs and submit reports to the California Integrated Waste Management Board. Due to County planning and landfill capacity, the cumulative impacts to solid waste services would be less than significant.

Electricity, Natural Gas, and Telecommunications

For Alternative A and the list of cumulative projects the electric and natural gas supplier is PG&E. SBC is the main telecommunications provider in Madera County and has connections near Alternative A and the cumulative projects. PG&E provides electric and natural gas distribution service to approximately 14 million people throughout a 70,000-square-mile service area in northern and central California, including an extensive network in Madera County. PG&E has confirmed that it can provide service for Alternative A (Rivero, pers. comm., 2005; Harris, pers. comm., 2005). The electrical demands of the anticipated cumulative projects are unknown. PG&E planning departments work with city and county planners to ensure that adequate capacity is available for future development. Individual projects would be responsible for paying development or user fees to receive electrical, natural gas, cable, and telephone services. Thus, the cumulative effects would be less than significant.

Law Enforcement

Cumulative effects related to law enforcement could occur in the region as the result of inadequate police service to serve expanded commercial and residential development. Cumulative developments in unincorporated Madera County may generate a need for additional law enforcement services. Both commercial and housing projects generate calls for service and patrol needs. Adverse effects could include an insufficient number of patrolling officers and inadequate facilities. The local governments in the region address increased service demand from new developments, such as law enforcement services, by requiring various development fees and assessments, and through increased property tax increments related to increases in assessed values. Alternative A would generate a need for additional officers, and through the MOUs with Madera County and the City of Madera, the Tribe is funding additional officers and law enforcement costs (**Appendix C**). Additionally, the positions and funding that the Tribe is funding would be beneficial in providing additional officers for expected growth. Thus, the cumulative effect would be less than significant.

Fire Protection and Emergency Medical Services

Cumulative effects related to fire protection and emergency medical services could occur in the region as the result of inadequate response time to existing and planned development. Adverse effects could include an insufficient number of staff, equipment, and stations to provide for the safety of persons and property. Fire protection for Alternative A and the cumulative projects identified previously, would be provided by the Madera County Fire Department and City of Madera Fire Department. Alternative A would be primarily served by the Madera County Fire Department; thus no significant cumulative effects would occur to the City of Madera Fire Department. Through the MOU the Tribe would provide funding for County fire protection services to serve Alternative A (**Appendix C**). Cumulative developments in unincorporated Madera County may generate a need for additional fire protection and emergency medical services. Services typically provided to housing developments and commercial developments are for medical emergencies and structural fires. Additional positions needed would be funded through the County budget, as the County funds the County Fire Department and is ultimately responsible for providing local fire suppression service. The local governments in the region address increased service demand from new developments, such as fire protection services, by requiring various development fees and assessments, and through increased property tax increments related to increases in assessed values. Additionally, the positions that the Tribe is funding would be beneficial in providing additional firefighters and equipment for expected growth, in cases where they are not needed to serve Alternative A. Thus, the cumulative effect to fire protection services would be less than significant.

Emergency medical services would be provided through a private service provider. These services are primarily funded by the individuals requiring service, through that individual's health insurance provider. The ambulance company's fee structure would account for any additional equipment or staff needed to serve the needs of Alternative A in combination with cumulative population growth. Thus, significant cumulative effects to emergency medical services would not occur.

School Services

As analyzed in **Section 4.7.1**, Alternative A, in combination with other planned development, would result in an increase in students that would need to be accommodated by local school districts. However, this increase in students can be accommodated by existing capacity and planned development of school facilities, which is ongoing due to population growth in Madera County. Thus, a significant cumulative effect to school services would not occur.

OTHER VALUES

Noise

Alternative A would result in changes in traffic noise levels as identified in **Table 4.11-17** for the cumulative year (2030) conditions. According to this table, cumulative project-related traffic noise level increases are only predicted to increase by 1.4 dBA at the nearest receptor. The predicted

cumulative increase in noise is below the FICON significance criteria as illustrated in **Table 3.10-4**. Therefore, there are no significant cumulative noise effects issues associated with this alternative.

TABLE 4.11-17
ALTERNATIVE A PREDICTED NOISE LEVELS FOR YEAR 2030 CONDITIONS

Receptor	2030 No Project L_{eq}	2030 Plus Project L_{eq}	2030 No Project vs. Future Plus Project (Difference)
Alternative A	58.7	58.7	0.0
Residential Receptor	67.8	69.3	1.5

SOURCE: VRPA Technologies, 2005.

Hazardous Materials

Cumulative hazardous materials involvement has the potential to occur as a result of continuing development occurring in the region. This involvement could result from the use of hazardous materials in the construction process or the disturbance of existing hazardous materials present on a construction site. As noted in **Section 3.10**, there are no existing known hazardous materials on the Madera site. The amount and types of hazardous materials that would be stored, used, and generated during the construction and operation of Alternative A could have a potentially significant impact to the environment and public (see **Section 4.10.1**). Mitigation is included in **Section 5.2.9** to reduce potential impacts to less than significant from the construction and operation of Alternative A.

Visual Resources

As growth occurs within Madera County, cumulative effects to visual resources may take place as the result of increased development. However, cumulative development that takes place would be consistent with local land use regulations, including associated design guidelines. Development of Alternative A would not be consistent with all local land use regulations and would contribute to cumulative visual impacts. However, the Madera site is not located in a scenic corridor or an area of high aesthetic value. Substantial development is present in all directions from the Madera site, except to the west. This development includes an adjacent auto recycle yard, an abandoned commercial greenhouse, and substantial light industrial development to the south. The proposed project would be attractively designed as a resort facility and would not constitute a significant cumulative visual effect to an already semi-developed environment.

4.11.3 ALTERNATIVE B – REDUCED INTENSITY

LAND RESOURCES

As with Alternative A, local permitting requirements for construction would address regional stormwater, geotechnical, seismic and mining hazards; therefore, no significant cumulative impacts related to land resources would occur as a result of Alternative B.

WATER RESOURCES

Cumulative effects to water resources would be similar to those of Alternative A, but slightly lessened due to the smaller scale of the facilities proposed by Alternative B. Also the terms of the MID MOU would not apply to Alternative B, resulting in a potentially significant contribution to regional groundwater overdraft conditions. Mitigation measures are contained in **Section 5.2.2** that would reduce this impact to a less than significant level.

AIR QUALITY

Ozone and PM Emissions

In **Table 4.11-6** long-term 2020 operational emissions associated with Alternative B are compared to Countywide emissions forecasts for 2020. In 2020, unmitigated operation of Alternative B is estimated to result in:

- 8.06 tons per year (tpy) of ROG,
- 11.40 tpy of NO_x, and
- 30.07 tpy of PM₁₀ emissions.

Table 4.11-7 presents a comparison of unmitigated operational and area source emissions for Alternative B to SJVAPCD emissions criteria. In 2020, ROG unmitigated emissions generated by Alternative B would still exceed the 10-tpy significance thresholds.

As shown in **Table 4.11-6**, Alternative B generated only 0.143% of the Countywide total NO_x in 2020 and only generated 0.040% of ROG. The PM₁₀ contribution for Alternative B is a little more with 0.34% in 2020. The incremental effect of Alternative B is a relatively minor portion of the Countywide total for one project for ROG, NO_x, and PM₁₀. Alternative B, along with other cumulative development, would exacerbate the regional trend towards higher PM₁₀ emissions but to a less than significant level, because of dust control measures being successfully implemented throughout the air basin.

Reductions in ROG would occur through the implementation of mitigation measures detailed in **Section 5.2.3** and the effects of mitigations as calculated by the URBEMIS model appear in **Table 4.11-8**. However, the full extent of the emission reductions that could be attributed to these mitigations cannot be fully represented by the URBEMIS program. The current, District recommended, version of URBEMIS (version 8.70) allows the user to take advantage of environmental factors such as local serving retail and pedestrian and transit amenities in the area, but it does not allow the user to apply mitigations that are changes in the project that can mitigate the pollution. Therefore, mitigations described in **Section 5.2.3** could potentially reduce the ROG cumulative effects of Alternative B to less than significant but without empirical data to generate a repeatable reduction rate, it is conservatively assumed that no reductions occur and that Alternative B remains a significant cumulative effect on ROG air quality.

Carbon Monoxide Concentrations

As described in the traffic study of the project alternatives, traffic operations at signalized study intersections would be LOS D or better with Alternative B under 2030 long-term future cumulative background conditions and traffic mitigation measures. Based on criteria presented in the University of California Davis Institute of Transportation Studies document *Transportation Project-Level Carbon Monoxide Protocol* (Garza, et al., 1997), intersections operating at LOS D or better typically do not result in CO concentrations that exceed State or Federal standards. Therefore, Alternative B with traffic mitigation measures, in combination with increased traffic from cumulative development, would have a less-than-significant impact on CO air quality.

Odor Effects

Several commercial centers are planned in the area around the intersection of Avenue 17 and State Route 99. The SJVAPCD's list of common types of facilities that have been known to produce odors in the SJV occur mostly in manufacturing/industrial zones and no industrial areas are projected for the area, therefore Alternative B (which would not result in significant odors after the implementation of mitigation measures contained in **Section 5.2.3**), in combination with cumulative development, would have a less than significant odor effect.

Toxic Air Contaminants

Alternative B and other projects, when considered cumulatively, could result in potentially significant impacts from toxic air contaminants. Several commercial centers are planned in the area around the intersection of Avenue 17 and State Route 99. Potential toxic air contaminant sources such as gasoline dispensing facilities and dry cleaners could site in these commercial areas. SJVAPCD permit process, City permitting processes, and future environmental review processes (applied to future development) will combine to ensure that Alternative B in combination with cumulative development would have a less than significant effect from toxic air contaminants

Climate Change

The EPA and CARB approved URBEMIS 2007 emissions modeling software estimates that Alternative B would result in the emission of approximately 1,463 tons per year of CO₂ during construction, which is expected to last 12 months (**Appendix S**). As shown in **Table 4.11-18**, during operation Alternative B would result in the emission of CH₄ and N₂O equivalent to 724 tpy of CO₂e. Indirect emissions of CO₂, CH₄, and N₂O are estimated at 5 tpy of CO₂e. Total annual emissions during operation of Alternative B would be equivalent to 19,529 tpy of CO₂e. Annual Alternative B GHG emissions would be approximately 0.0036 percent of California's predicted contribution to global GHG emissions in 2020 (see **Table 3.4-7**). Alternative B contributions to the annual global GHG emissions in 2020 would be approximately 0.0000023 percent.

The same state GHG reduction strategies would apply to Alternative B as Alternative A, given that Alternative B proposes commercial development similar to Alternative A. For the same reasons as Alternative A (see **Table 4.11-11**), Alternative B would not comply with one of the three applicable

strategies, resulting in a potentially significant cumulative impact. A less than significant cumulative impact would result after the implementation of mitigation measures in **Section 5.2.3**.

TABLE 4.11-18
ESTIMATED ALTERNATIVE B OPERATIONAL GHG EMISSIONS

CO ₂ Emissions ¹					
Mobile Sources		Area Sources			Total CO ₂ e
tons per year		tons per year			tons per year
18,567		233			18,800
CH ₄ and N ₂ O Emission from Mobile Sources ²					
Emission Factor (CO ₂ /CH ₄ /N ₂ O)	Miles Traveled	CH ₄	N ₂ O	Total CO ₂ e	
g/mile	miles/day	tons per year		tons per year	
552.08/0.05/0.05	108,773	46	678	724	
Indirect GHG emissions ²					
Emission Factor (Kg of CO ₂ /CH ₄ /N ₂ O)	Estimated kW-h Usage ³	CO ₂	CH ₄	N ₂ O	Indirect CO ₂ e
lb/MW-h	MW-h/year	tons per year			
804.54/0.006/0.0037	29	5	0	0	5
Total Operation CO₂e tons per year					19,529

¹ Estimated from EPA and CARB approved URBEMIS air quality program (**Appendix S**)

² Emission factors from Climate Change Action Registry

³ Estimated using 4,500 kilowatts-hours/month of power used.

Source: URBEMIS, 2007; Climate Change Action Registry, 2007.

BIOLOGICAL RESOURCES

The impacts of Alternative B to biological resources are similar, but lessened due to the smaller scope of Alternative B facilities, when compared with those of Alternative A. As described under Alternative A, impacts to wildlife and habitats, federally listed species, and waters of the U.S. would be less than significant. Potential impacts to migratory birds would remain significant. Mitigation is discussed in **Section 5.2.4**, which would reduce impacts to a less than significant level.

CULTURAL RESOURCES

Significant cumulative impacts to cultural resources could occur if sites were lost, damaged, or destroyed without appropriate recordation or data recovery. Potential cumulative impacts for cultural resources issues would be similar to those of Alternative A. This would be a significant impact. Mitigation for potential cumulative impacts to unknown cultural resources has been specified in **Section 5.2.5**. Implementation of these mitigation measures would reduce impacts to less than significant.

SOCIOECONOMIC CONDITIONS

Cumulative socioeconomic effects of Alternative B would be similar to those of Alternative A, except that population growth would be reduced to 534 (resulting in a reduction to population related impacts – see **Section 4.7.1**), potential economic benefits would be lessened, and the MOU with the County would not apply. Thus, costs would potentially be incurred by the County that would not be compensated by the Tribe, forcing the County to degrade its services for other planned cumulative developments or obtain funds elsewhere, resulting in a potentially significant cumulative effect. This effect would be mitigated to a less than significant level through mitigation measures in **Section 5.2.6**.

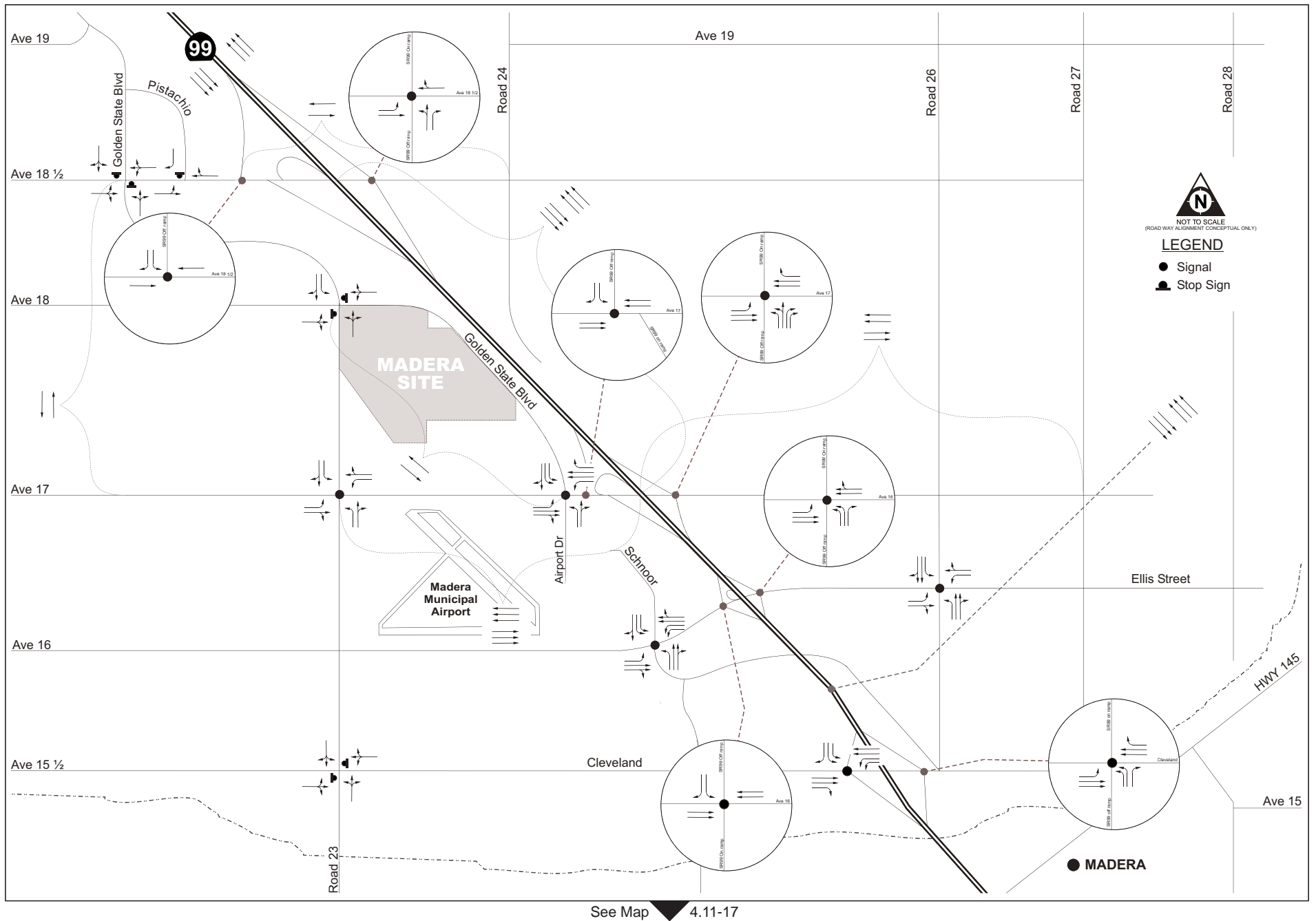
RESOURCE USE PATTERNS**Transportation/Circulation***2030 Traffic Condition With Project*

This section discusses the 2030 traffic conditions with Alternative B project trips added. The 2030 Without Project conditions are reported as a baseline. The methodology for obtaining the baseline data is the same as Alternative A. **Figures 4.11-16** and **4.11-17** present the 2030 lane configuration and intersection control considered to be in place at that time. This 2030 lane configuration and intersection control represents the existing configuration and controls plus improvements needed to mitigate impacts from the addition of project traffic generated under Alternative B in the Build-Out (2008) condition.

Freeway and Roadway Segment Performance. The 2030 without Project traffic volumes were combined with vehicle trips expected to be generated by Alternative B. **Table 4.11-19** summarizes the 2030 With Alternative B peak hour freeway and roadway segment conditions. The 2030 Without Project conditions are provided as a baseline. With the addition of project traffic under Alternative B, the following six freeways and one roadway segment are shown to operate at an unacceptable LOS:

- SR-99 NB – North of Avenue 18½
- SR-99 SB – North of Avenue 18½
- SR-99 NB – Avenue 18½ to Avenue 17
- SR-99 SB – Avenue 18½ to Avenue 17
- SR-99 NB – South of Avenue 17
- SR-99 SB – South of Avenue 17
- Avenue 17 – Road 23 to SR-99

Intersection Operations. The 2030 Without Project traffic volumes were combined with vehicle trips expected to be generated by Alternative B. **Table 4.11-20** summarizes the 2030 With Alternative B peak hour intersection conditions. The 2030 Without Project intersection conditions



are provided as a baseline. With the addition of project traffic under Alternative B, the following 18 study intersections are forecast to operate at an unacceptable LOS:

- Avenue 17 at SR-99 SB ramps
- Avenue 17 at SR-99 NB ramps
- Avenue 12/Golden State Boulevard at SR-99 SB ramps
- Avenue 12 at Golden State Boulevard
- Avenue 12 at SR-99 NB ramps
- Avenue 17 at Golden State Boulevard
- Avenue 16/Ellis Street at Golden State Boulevard
- Avenue 16/Ellis Street at SR 99 SB ramps
- Avenue 16/Ellis Street at SR 99 NB ramps
- Cleveland Avenue/Avenue 15½ at SR 99 NB ramps
- Cleveland Avenue/Avenue 15½ at SR 99 SB ramps
- SR 145/Madera Avenue at SR 99 NB ramps
- Olive Avenue/Avenue 14 at SR 99 SB off-ramp
- Olive Avenue/Avenue 14/SR 99 SB on-ramp at SR 145
- Avenue 18½ at Pistachio Drive
- Avenue 18½ at Golden State Boulevard/Road 23- WB approach
- Avenue 18½ at Golden State Boulevard/Road 23- EB approach

TABLE 4.11-19
FREEWAY AND ROADWAY SEGMENT PERFORMANCE –
2030 WITH ALTERNATIVE B

Segment	LOS Threshold	2030				With Alternative B			
		LOS		Density (pc/mi/ln) ¹		LOS		Density (pc/mi/ln)	
		AM	PM	AM	PM	AM	PM	AM	PM
Freeway Segment									
<i>SR-99 NB – North of Avenue 18½</i>	C	C	D	25.2	26.1	C	D	25.3	26.4
<i>SR-99 SB – North of Avenue 18½</i>	C	C	E	20.3	35.2	C	E	20.5	35.7
<i>SR-99 NB – Avenue 18½ to Avenue 17</i>	C	D	D	28.3	28.9	D	D	28.3	28.9
<i>SR-99 SB – Avenue 18½ to Avenue 17</i>	C	C	E	22.2	41.9	C	E	22.2	41.9
<i>SR-99 NB – South of Avenue 17</i>	C	D	F	33.1	---	E	F	35.6	---
<i>SR-99 SB – South of Avenue 17</i>	C	C	F	23.3	---	B	D	17.7	34.8
Roadway Segment									
<i>Avenue 18½ - Road 24 to Road 23</i>	D	C	D	NA	NA	C	D	NA	NA
<i>Road 23 – Avenue 18½ to Avenue 17</i>	D	D	D	NA	NA	D	D	NA	NA
<i>Avenue 17 – Road 23 to SR-99</i>	D	A	D	NA	NA	A	E	NA	NA
<i>Avenue 17 – SR-99 to Road 27</i>	D	B	E	NA	NA	A	B	NA	NA
<i>Golden State Boulevard – Avenue 17 to Road 23</i>	D	A	A	NA	NA	A	A	NA	NA

NOTES: **Bold** text denotes unacceptable LOS.
 NA = not applicable
 OF = overflow
¹ density = passenger car per mile per lane
 --- = beyond software limitations

SOURCE: TPG Consulting, Inc., 2006; AES 2006.

TABLE 4.11-20
PEAK HOUR INTERSECTION CONDITIONS – 2030 WITH ALTERNATIVE B

Intersection	LOS Threshold	2030				With Project			
		LOS	AM Delay (secs) ¹	LOS	PM Delay (secs)	LOS	AM Delay (secs)	LOS	PM Delay (secs)
Avenue 18½ at SR-99 SB ramps/Road 23	C	A	9.4	B	14.8	A	8.3	B	16.6
Avenue 18½ at SR-99 NB ramps	C	C	27.9	C	30.2	C	27.9	C	31.1
Avenue 17 at SR-99 SB ramps	C	A	7.9	F	87.5	A	8.1	F	150.0
Avenue 17 at SR-99 NB ramps	C	C	26.5	F	113.6	C	32.3	F	135.6
Avenue 12/Golden State Boulevard at SR-99 SB ramps	C	D	41.8	F	245.9	D	50.6	F	251.5
Avenue 12 at Golden State Boulevard	D	F	126.8	F	418.3	F	124.9	F	419.5
Avenue 12 at SR-99 NB ramps	C	D	41.7	F	243.3	D	43.8	F	249.3
Avenue 18 at Road 23									
• NB left-Through-Right	D	A	8.1	A	8.7	A	8.1	A	8.7
• SB left-Through-Right		A	8.2	A	8.6	A	8.3	A	8.9
• WB Approach		B	14.3	C	15.6	B	14.2	C	16.2
• EB Approach		B	14.8	C	25.0	C	26.9	D	33.5
Avenue 17 at Road 23	D	B	18.1	C	26.4	B	18.3	C	27.7
Avenue 17 at Golden State Boulevard	D	C	24.1	F	125.9	C	25.4	F	201.9
Ellis Street at Road 26	D	C	22.2	C	24.4	C	22.9	C	24.8
Avenue 15½ at Road 23									
• NB left-Through-Right	D	A	8.2	A	9.1	A	8.2	A	9.2
• SB left-Through-Right		A	8.2	A	8.8	A	8.3	A	8.8
• WB Approach		C	15.8	D	25.8	C	16.3	D	27.8
• EB Approach		B	14.6	D	25.3	B	14.9	D	26.8
Avenue 14 at Road 23	D	B	15.9	C	22.8	B	16.0	C	22.9
Avenue 16/Ellis Street at Golden State Boulevard	C	C	22.8	E	72.4	C	22.6	E	76.7
Avenue 16/Ellis Street at SR 99 SB ramps	C	B	13.7	E	69.9	B	13.8	E	76.3
Avenue 16/Ellis Street at SR 99 NB ramps	C	C	27.5	F	153.0	C	28.9	F	160.5
Cleveland Avenue/Avenue 15½ at SR-99 NB ramps	C	C	24.5	F	177.3	C	25.3	F	176.6
Cleveland Avenue/Avenue 15½ at SR-99 SB ramps	C	C	27.1	F	202.0	B	15.4	F	109.6
SR-145/Madera Avenue at SR-99 NB ramps	C	C	20.3	D	53.2	B	19.9	E	57.3
Olive Avenue/Avenue 14 at SR-99 SB off-ramp	C	F	101.7	F	273.1	F	102.8	F	272.6

Intersection	LOS Threshold	2030				With Project			
		LOS	AM Delay (secs) ¹	LOS	PM Delay (secs)	LOS	AM Delay (secs)	LOS	PM Delay (secs)
Olive Avenue/Avenue 14/SR-99 SB on-ramp at SR-145	C	F	102.5	F	357.7	F	103.3	F	361.6
Avenue 18½ at Pistachio Drive									
• EB Approach	C	A	9.9	B	11.1	A	9.8	B	11.0
• SB Right		C	19.8	D	33.4	C	19.0	D	30.9
Avenue 18½ at Golden State Boulevard/Road 23									
• NB left-Through-Right	C	A	7.7	A	7.8	A	7.7	A	7.8
• SB left-Through-Right		B	10.0	B	12.7	A	9.8	B	12.3
• WB Approach		F	974.3	F	---	F	687.0	F	---
• EB Approach		F	---	F	---	F	---	F	---

NOTES: ¹ delay in seconds

² Per Caltrans request to analyze Avenue 16/Avenue 16 connector at SR-99 NB ramps and Avenue 16 at SR-99 NB ramp connector instead of Avenue 16 at SR-99 NB ramps.

Bold text denotes unacceptable LOS.

OF = overflow

--- = beyond software limitations

SOURCE: TPG Consulting, Inc., 2006; AES 2006.

Figures 4.11-18 and 4.11-19 present the 2030 With Alternative B intersection volumes at each of the Madera site study intersections.

Impact Analysis

With the addition of project traffic under Alternative B, 6 freeway segments, 1 roadway segment, and 18 intersections are shown to operate at an unacceptable LOS, resulting in a significant impact. Mitigation measures for the 2030 With Project (Alternative B) conditions are discussed in **Section 5.2.7** of this document. With the incorporation of project mitigation measures, each of the intersections and roadway segments that are shown to have an unacceptable LOS would be improved to an acceptable LOS. This would result in a less than significant impact.

Land Use

Cumulative land use effects would be similar to those of Alternative A, given the similar, although reduced intensity, land use. Thus, a less than significant cumulative land use effect would result.

Agriculture

Cumulative effects to agriculture would be similar to those of Alternative A, but reduced due to the reduced intensity development. As with Alternative A, a less than significant cumulative effect to agriculture would result. Nonetheless, mitigation measures have been included in **Section 5.2.7** that would further reduce Alternative B's cumulative impacts to agriculture.

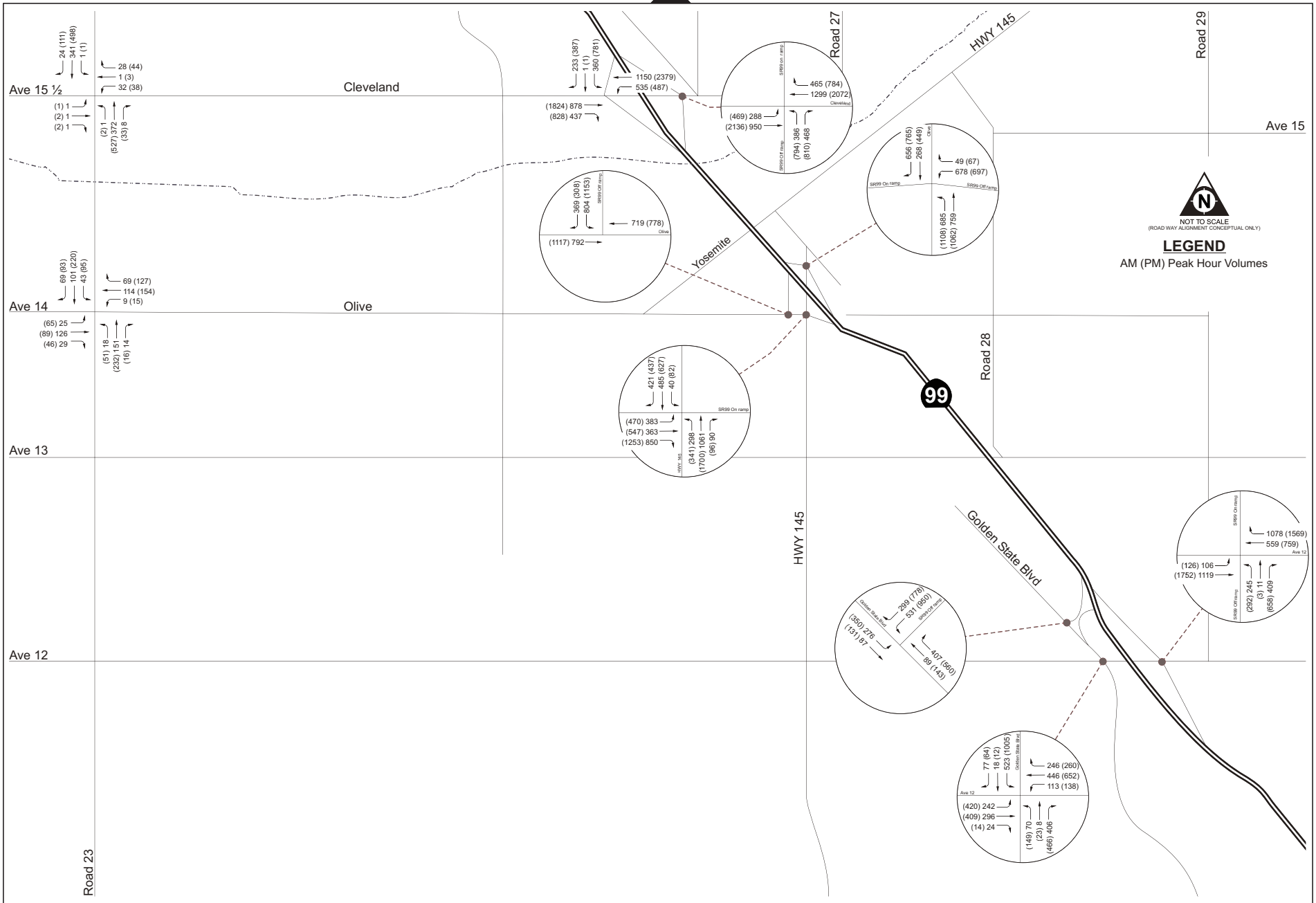


Figure 4.11-19
Madera Site – 2030 Intersection Volumes With Alternative B

PUBLIC SERVICES

Effects to public services would be similar to those of Alternative A, except that the MOU with the County would not apply, resulting in potentially significant impacts to public services. Mitigation measures in **Section 5.2.8** would ensure cumulative effects to public services are less than significant.

OTHER VALUES**Noise**

Alternative B would result in changes in traffic noise levels as identified in **Table 4.11-21** for the cumulative year (2030) conditions. According to this table, cumulative project-related traffic noise level increases are only predicted to increase by 0.1 dBA at the site and 1.5 dBA at the nearest receptor. The predicted cumulative increase in noise is below the FICON significance criteria as illustrated in **Table 3.10-4**. Therefore, there are no significant cumulative noise effects issues associated with this alternative.

TABLE 4.11-21
ALTERNATIVE B PREDICTED NOISE LEVELS FOR YEAR 2030 CONDITIONS

Receptor	2030 No Project L _{eq}	2030 Plus Project L _{eq}	2030 No Project vs. Future Plus Project (Difference)
Alternative B	58.0	58.1	0.1
Residential Receptor	67.8	69.3	1.5

SOURCE: VRPA Technologies, 2005.

Hazardous Materials

Cumulative hazardous materials impacts would be similar to Alternative A, given the similar scope of construction that would occur on the Madera site and the identical cumulative development that would occur in the County. The amount and types of hazardous materials that would be stored, used, and generated during the construction and operation of Alternative B could have a potentially significant impact to the environment and public (see **Section 4.10.2**). Mitigation is included in **Section 5.2.9** to reduce potential impacts to less than significant from the construction and operation of Alternative B.

Visual Resources

Cumulative visual resources effects would be similar to those of Alternative A, except reduced in intensity given that Alternative B would not include the development of a hotel. As with Alternative A, a less than significant cumulative visual resources effect would result.

4.11.4 ALTERNATIVE C – NON-GAMING

LAND RESOURCES

As with Alternative A, local permitting requirements for construction would address regional stormwater, geotechnical, seismic and mining hazards; therefore, no cumulative impacts related to land resources would occur as a result of Alternative C.

WATER RESOURCES

Cumulative effects to water resources would be similar to those of Alternative A, but slightly lessened due to the smaller scale of the facilities proposed by Alternative C. Also the terms of the MID MOU would not apply to Alternative C, resulting in a potentially significant contribution to regional groundwater overdraft conditions. Mitigation measures are contained in **Section 5.2.2** that would reduce this impact to a less than significant level.

AIR QUALITY

Ozone and PM Emissions

In **Table 4.11-6** long-term 2020 operational emissions associated with Alternative C are compared to Countywide emissions forecasts for 2020. In 2020, unmitigated operation of Alternative C is estimated to result in:

- 11.35 tpy of ROG,
- 16.20 tpy of NO_x, and
- 42.93 tpy of PM₁₀ emissions.

As shown in **Table 4.11-6**, Alternative C generated only 0.204% of the Countywide total NO_x in 2020 and only generated 0.057% of ROG. The PM₁₀ contribution for Alternative C is a little more with 0.48% in 2020. The incremental effect of Alternative C is a relatively minor portion of the Countywide total for one project for ROG, NO_x, and PM₁₀. Alternative C, along with other cumulative developments, would exacerbate the regional trend towards higher PM₁₀ emissions but to a less than significant level, because of dust control measures being successfully implemented throughout the air basin.

Table 4.11-7 presents a comparison of unmitigated operational and area source emissions for Alternative C to SJVAPCD emissions criteria. In 2020, both ROG and NO_x unmitigated emissions generated by Alternative C would still exceed the 10-tpy significance thresholds. Reductions in ROG and NO_x would occur through the implementation of mitigation measures detailed in **Section 5.2.3** and the effects of mitigations as calculated by the URBEMIS model appear in **Table 4.11-8**. However, the full extent of the emission reductions that could be attributed to these mitigations cannot be fully represented by the URBEMIS program. The current, District recommended, version of URBEMIS (version 8.70) allows the user to take advantage of environmental factors such as local serving retail and pedestrian and transit amenities in the area, but it does not allow the user to apply mitigations that are changes in the project that can mitigate the pollution. Therefore, mitigations described in **Section**

5.2.3 could potentially reduce the cumulative effects of Alternative C to less than significant but without empirical data to generate a repeatable reduction rate, it is conservatively assumed that no reductions occur and that Alternative C remains a significant cumulative effect on air quality.

Carbon Monoxide Concentrations

As described in the traffic study of the project alternatives, traffic operations at signalized study intersections would be LOS D or better with Alternative C under 2030 long-term future cumulative background conditions and traffic mitigation measures. Based on criteria presented in the University of California Davis Institute of Transportation Studies document *Transportation Project-Level Carbon Monoxide Protocol* (Garza, et al., 1997), intersections operating at LOS D or better typically do not result in CO concentrations that exceed State or Federal standards.

Therefore, Alternative C with traffic mitigation measures, in combination with increased traffic from cumulative development, would have a less-than-significant impact on CO air quality.

Odor Effects

Several commercial centers are planned in the area around the intersection of Avenue 17 and State Route 99. The SJVAPCD's list of common types of facilities that have been known to produce odors in the SJV occur mostly in manufacturing/industrial zones and no industrial areas are projected for the area, therefore Alternative C (which would not result in significant odors after the implementation of mitigation measures contained in **Section 5.2.3**), in combination with cumulative development, would have a less than significant odor effect.

Toxic Air Contaminants

Alternative C and other commercial projects, when considered cumulatively, could result in potentially significant impacts from toxic air contaminants. Several other commercial centers are planned in the area around the intersection of Avenue 17 and State Route 99. Potential toxic air contaminant sources such as gasoline dispensing facilities and dry cleaners could site in these commercial areas. SJVAPCD permit process, City permitting processes, and future environmental review processes (applied to future development) will combine to ensure that Alternative C in combination with cumulative development would have a less than significant effect from toxic air contaminants.

Climate Change

The EPA and CARB approved URBEMIS 2007 emissions modeling software estimates that Alternative C would result in the emission of approximately 1,610 tons per year of CO₂ during construction, which is expected to last 12 months (**Appendix S**). As shown in **Table 4.11-22**, during operation Alternative C would result in the emission of CH₄ and N₂O equivalent to 1,034 tpy of CO₂e. Indirect emissions of CO₂, CH₄, and N₂O are estimated at 6 tpy of CO₂e. Total annual emissions during operation of Alternative C would be equivalent to 20,676 tpy of CO₂e. Annual

Alternative C GHG emissions would be approximately 0.0038 percent of California's predicted contribution to global GHG emissions in 2020 (see **Table 3.4-7**). Alternative C contributions to the annual global GHG emissions in 2020 would be approximately 0.0000024 percent.

The same state GHG reduction strategies would apply to Alternative C as Alternative A, given that Alternative C proposes commercial development similar to Alternative A. For the same reasons as Alternative A (see **Table 4.11-11**), Alternative C would not comply with one of the three applicable strategies, resulting in a potentially significant cumulative impact. A less than significant cumulative impact would result after the implementation of mitigation measures in **Section 5.2.3**.

TABLE 4.11-22
ESTIMATED PROJECT OPERATION GHG EMISSIONS

CO₂ Emissions¹					
Mobile Sources		Area Sources		Total CO₂e	
tons per year		tons per year		tons per year	
19,234		402		19,636	
CH₄ and N₂O Emission from Mobile Sources²					
Emission Factor (CO₂/CH₄/N₂O)	Miles Traveled	CH₄	N₂O	Total CO₂e	
g/mile	miles/day	tons per year		tons per year	
552.08/0.05/0.05	155,316	66	969	1,034	
Indirect GHG emissions²					
Emission Factor (Kg of CO₂/CH₄/N₂O) lb/MW-h	Estimated kW-h Usage³ MW-h/year	CO₂	CH₄	N₂O	Indirect CO₂e
			tons per year		
804.54/0.006/0.0037	33	6	0.00	0.00	6
Total Operation CO₂e tons per year					20,676

¹ Estimated from EPA and CARB approved URBEMIS air quality program (**Appendix W**)

² Emission factors from Climate Change Action Registry

³ Estimated using 4,500 kilowatts-hours/month of power used.

Source: URBEMIS, 2007; Climate Change Action Registry, 2007.

BIOLOGICAL RESOURCES

The impacts of Alternative C to biological resources are similar, but lessened due to the smaller scope of Alternative C facilities, when compared with those of Alternative A. As described under Alternative A, impacts to wildlife and habitats, federally listed species, and waters of the U.S. would be less than significant. Potential impacts to migratory birds would remain significant. Mitigation is discussed in **Section 5.2.4**, which would reduce impacts to a less than significant level.

CULTURAL RESOURCES

Significant cumulative impacts to cultural resources could occur if sites were lost, damaged, or destroyed without appropriate recordation or data recovery. Potential cumulative impacts for cultural resources issues would be similar to those of Alternative A. This would be a significant effect. Mitigation for potential cumulative impacts to unknown cultural resources has been specified in **Section 5.2.5**. Implementation of these mitigation measures would reduce impacts to less than significant.

SOCIOECONOMIC CONDITIONS

Cumulative socioeconomic effects of Alternative C would be similar to those of Alternative A, except that potential economic beneficial effects would be lessened, population growth would be reduced to 194 (resulting in a reduction to population related impacts – see **Section 4.7.1**), the concerns with gaming on the site would not apply, and the MOU with the County would not apply. As noted above, a number of cumulative retail projects are currently planned in the vicinity of the Madera site. It is likely that the later of these projects to be developed would not be developed at the same scale as previously planned after the implementation of Alternative C, which would provide a new source of retail competition to the area. As with Alternative B, costs would potentially be incurred by the County which would not be compensated by the Tribe, forcing the County to degrade their services generally in order to provide services to the growing local population or obtain funds elsewhere, resulting in a potentially significant cumulative effect. This effect would be mitigated to a less than significant level through mitigation measures in **Section 5.2.6**.

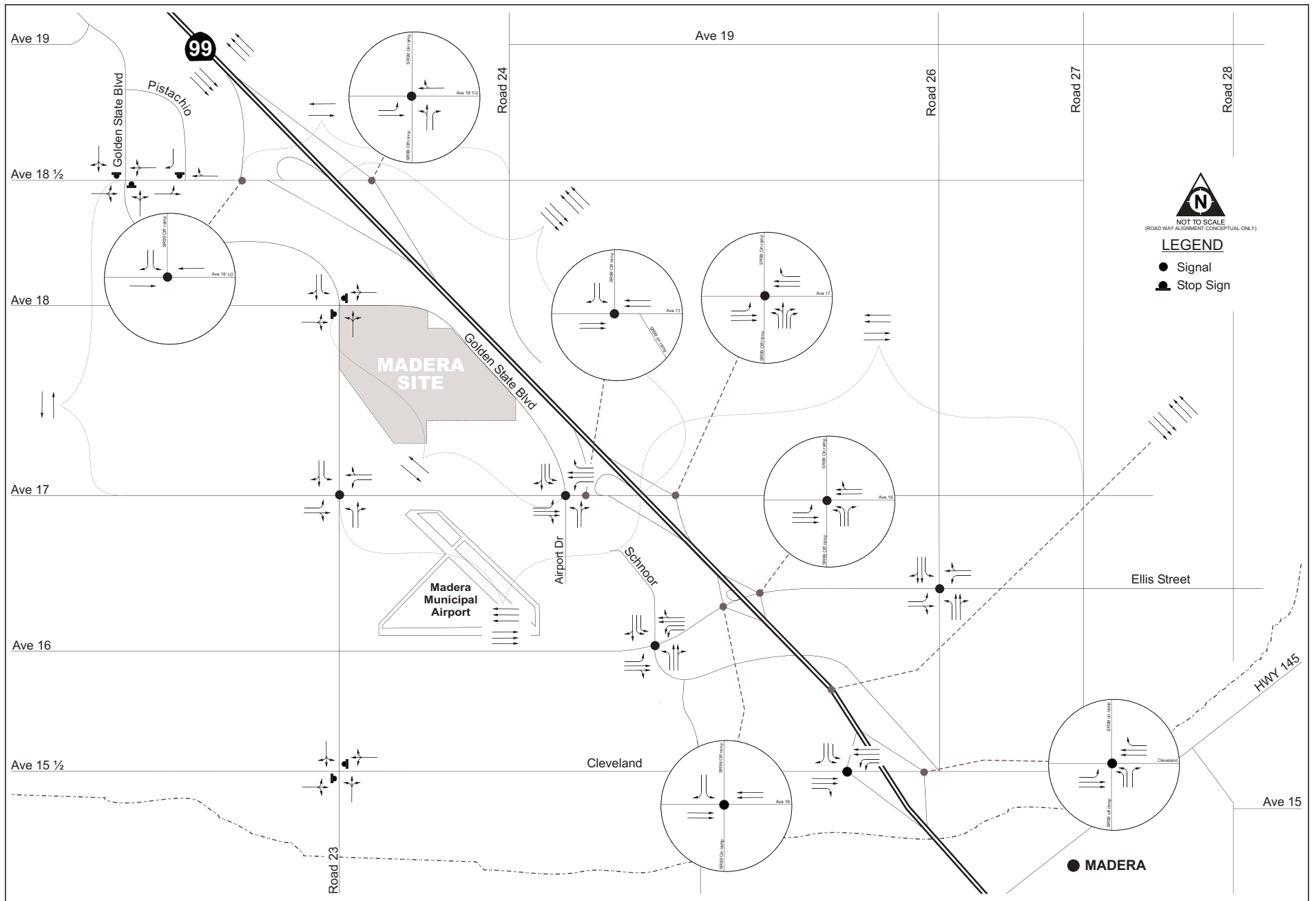
RESOURCE USE PATTERNS

Transportation/Circulation

2030 Traffic Condition with Project

This section discusses the 2030 traffic conditions with Alternative C project trips added. The 2030 Without Project conditions are reported as a baseline. **Figures 4.11-20** and **4.11-21** present the 2030 lane configuration and intersection control considered to be in place at that time. This 2030 lane configuration and intersection control represents the existing configuration and controls plus improvements needed to mitigate impacts from the addition of project traffic generated under Alternative C in the Build-Out (2008) condition.

Freeway and Roadway Segment Performance. The 2030 Without Project traffic volumes were combined with vehicle trips expected to be generated by Alternative C. **Table 4.11-18** summarizes the 2030 With Alternative C peak hour freeway and roadway segment conditions. The 2030 Without Project conditions are provided as a baseline. With the addition of project traffic under Alternative C, the following six freeway segments and one roadway segment are shown to operate at an unacceptable LOS:



See Map 4.11-21

Figure 4.11-20
Madera Site – 2030 Lane Configuration and Intersection Control With Alternative C

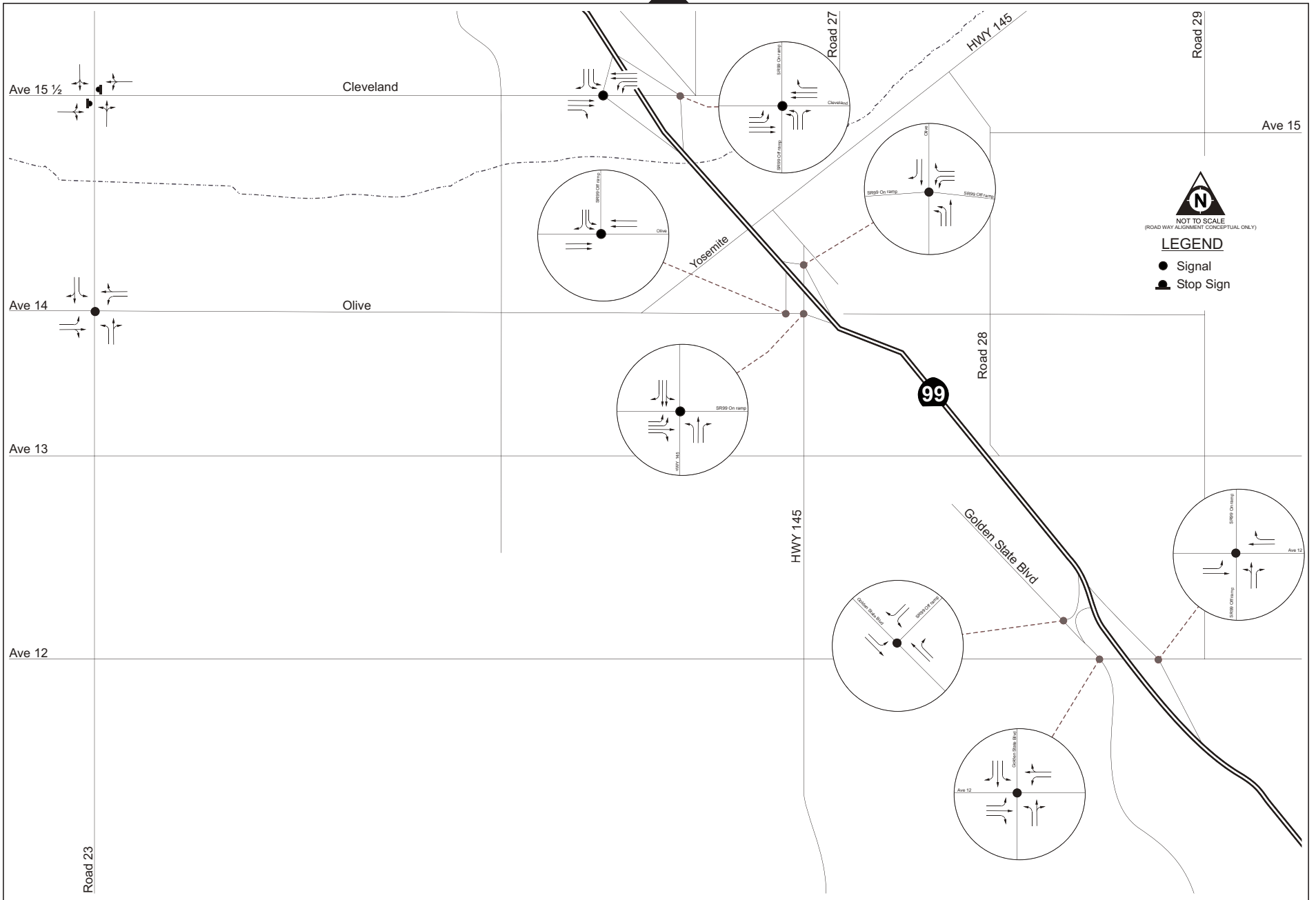


Figure 4.11-21
Madera Site – 2030 Lane Configuration and Intersection Control With Alternative C

- SR-99 NB – North of Avenue 18½
- SR-99 SB – North of Avenue 18½
- SR-99 NB – Avenue 18½ to Avenue 17
- SR-99 SB – Avenue 18½ to Avenue 17
- SR-99 NB – South of Avenue 17
- SR-99 SB – South of Avenue 17
- Avenue 17 – Road 23 to SR 99

TABLE 4.11-23
FREEWAY AND ROADWAY SEGMENT PERFORMANCE –
2030 WITH ALTERNATIVE C

Segment	LOS		2030		With Alternative C				
	Threshold	LOS		Density (pc/mi/ln) ¹		LOS		Density (pc/mi/ln)	
		AM	PM	AM	PM	AM	PM	AM	PM
Freeway Segment									
SR-99 NB – North of Avenue 18½	C	C	D	25.2	26.1	C	D	25.4	26.5
SR-99 SB – North of Avenue 18½	C	C	E	20.3	35.2	C	E	20.5	35.9
SR-99 NB – Avenue 18½ to Avenue 17	C	D	D	28.3	28.9	D	D	28.3	28.9
SR-99 SB – Avenue 18½ to Avenue 17	C	C	E	22.2	41.9	C	E	22.2	41.9
SR-99 NB – South of Avenue 17	C	D	F	33.1	---	E	F	35.4	---
SR-99 SB – South of Avenue 17	C	C	F	23.3	---	B	E	18.0	35.9
Roadway Segment									
Avenue 18½ - Road 24 to Road 23	D	C	D	NA	NA	C	D	NA	NA
Road 23 – Avenue 18½ to Avenue 17	D	D	D	NA	NA	D	D	NA	NA
Avenue 17 – Road 23 to SR 99	D	A	D	NA	NA	A	F	NA	NA
Avenue 17 – SR 99 to Road 27	D	B	E	NA	NA	A	B	NA	NA
Golden State Boulevard – Avenue 17 to Road 23	D	A	A	NA	NA	A	B	NA	NA

NOTES: **Bold** text denotes unacceptable LOS.
 NA = not applicable
 OF = overflow
¹ density = passenger car per mile per lane
 --- = beyond software limitations

SOURCE: TPG Consulting, Inc., 2006; AES 2006.

Intersection Operations. The 2030 Without Project traffic volumes were combined with vehicle trips expected to be generated by Alternative C. **Table 4.11-24** summarizes the 2030 With Alternative C peak hour intersection conditions. The 2030 Without Project intersection conditions are provided as a baseline. With the addition of project traffic under Alternative C, the following 18 study intersections are forecast to operate at an unacceptable LOS:

- Avenue 17 at SR-99 SB ramps
- Avenue 17 at SR-99 NB ramps
- Avenue 12/Golden State Boulevard at SR-99 SB ramps
- Avenue 12 at Golden State Boulevard
- Avenue 12 at SR-99 NB ramps
- Avenue 18 at Road 23
- Avenue 17 at Golden State Boulevard

- Avenue 16/Ellis Street at Golden State Boulevard
- Avenue 16/Ellis Street at SR 99 SB ramps
- Avenue 16/Ellis Street at SR 99 NB ramps
- Cleveland Avenue/Avenue 15½ at SR-99 NB ramps
- Cleveland Avenue/Avenue 15½ at SR-99 SB ramps
- SR-145/Madera Avenue at SR-99 NB ramps
- Olive Avenue/Avenue 14 at SR-99 SB off-ramp
- Avenue 18½ at Golden State Boulevard/Road 23- WB approach
- Avenue 18½ at Golden State Boulevard/Road 23- EB approach
- Olive Avenue/Avenue 14/SR-99 SB on-ramp at SR-145
- Avenue 18½ at Pistachio Drive

TABLE 4.11-24
PEAK HOUR INTERSECTION CONDITIONS -
2030 WITH ALTERNATIVE C

Intersection	LOS Threshold	2030				With Project			
		LOS	AM Delay (secs) ¹	LOS	PM Delay (secs)	LOS	AM Delay (secs)	LOS	PM Delay (secs)
Avenue 18½ at SR-99 SB ramps/Road 23	C	A	9.4	B	14.8	B	10.1	C	20.7
Avenue 18½ at SR-99 NB ramps	C	C	27.9	C	30.2	C	28.6	C	28.4
Avenue 17 at SR-99 SB ramps	C	A	7.9	F	87.5	A	8.0	F	174.4
Avenue 17 at SR-99 NB ramps	C	C	26.5	F	113.6	C	31.4	F	155.0
Avenue 12/Golden State Boulevard at SR-99 SB ramps	C	D	41.8	F	245.9	D	43.3	F	252.1
Avenue 12 at Golden State Boulevard	D	F	126.8	F	418.3	F	134.6	F	420.5
Avenue 12 at SR-99 NB ramps	C	D	41.7	F	243.3	D	43.3	F	251.7
Avenue 18 at Road 23									
• NB left-Through-Right	D	A	8.1	A	8.7	A	8.1	A	8.7
• SB left-Through-Right		A	8.2	A	8.6	A	8.3	A	9.0
• WB Approach		B	14.3	C	15.6	B	13.5	C	17.2
• EB Approach		B	14.8	C	25.0	C	17.0	E	38.8
Avenue 17 at Road 23	D	B	18.1	C	26.4	B	18.4	C	27.7
Avenue 17 at Golden State Boulevard	D	C	24.1	F	125.9	C	28.5	F	259.6
Ellis Street at Road 26	D	C	22.2	C	24.4	C	22.9	C	24.9
Avenue 15½ at Road 23	D								
• NB left-Through-Right		A	8.2	A	9.1	A	8.2	A	9.2
• SB left-Through-Right		A	8.2	A	8.8	A	8.3	A	8.9
• WB Approach		C	15.8	D	25.8	C	16.4	D	28.6

Intersection	LOS Threshold	2030				With Project			
		LOS	AM Delay (secs) ¹	LOS	PM Delay (secs)	LOS	AM Delay (secs)	LOS	PM Delay (secs)
• EB Approach Avenue 14 at Road 23	D	B	14.6	D	25.3	B	15.0	D	27.4
		B	15.9	C	22.8	B	16.0	C	23.0
Avenue 16/Ellis Street at Golden State Boulevard	C	C	22.8	E	72.4	C	22.6	E	78.7
Avenue 16/Ellis Street at SR 99 SB ramps	C	B	13.7	E	69.9	B	14.1	E	79.3
Avenue 16/Ellis Street at SR 99 NB ramps	C	C	27.5	F	153.0	C	28.7	F	163.2
Cleveland Avenue/Avenue 15½ at SR-99 NB ramps	C	C	24.5	F	177.3	C	25.4	F	178.4
Cleveland Avenue/Avenue 15½ at SR-99 SB ramps	C	C	27.1	F	202.0	B	15.6	F	113.9
SR-145/Madera Avenue at SR-99 NB ramps	C	C	20.3	D	53.2	C	20.7	E	59.4
Olive Avenue/Avenue 14 at SR-99 SB off-ramp	C	F	101.7	F	273.1	F	110.5	F	280.4
Olive Avenue/Avenue 14/SR-99 SB on-ramp at SR-145	C	F	102.5	F	357.7	F	103.9	F	369.1
Avenue 18½ at Pistachio Drive	C	A	9.9	B	11.1	A	9.8	B	11.1
• EB Approach		C	19.8	D	33.4	C	18.8	D	33.0
Avenue 18½ at Golden State Boulevard/Road 23	C	A	7.7	A	7.8	A	7.7	A	7.8
• NB left-Through-Right		B	10.0	B	12.7	A	9.8	B	12.6
• SB left-Through-Right		F	974.3	F	---	F	684.1	F	---
• WB Approach		F	---	F	---	F	---	F	---
• EB Approach									

NOTES: ¹ delay in seconds.
² Per Caltrans request to analyze Avenue 16/Avenue 16 connector at SR-99 NB ramps and Avenue 16 at SR-99 NB ramp connector instead of Avenue 16 at SR-99 NB ramps.
Bold text denotes unacceptable LOS.
OF = overflow
--- = beyond software limitations

SOURCE: TPG Consulting, Inc., 2006; AES 2006.

Figures 4.11-22 and 4.11-23 present the 2030 With Alternative C intersection volumes at each of the Madera site study intersections.

Impact Analysis

With the addition of project traffic under Alternative C, 6 freeway segments, 1 roadway segment, and 18 intersections are shown to operate at an unacceptable LOS, resulting in a significant impact. Mitigation measures for the 2030 With Project (Alternative C) conditions are discussed in Section 5.2.7 of this document. With the incorporation of project mitigation measures, each of the intersections and roadway segments that are shown to have an unacceptable LOS would be improved to an acceptable LOS. This would result in a less than significant impact.

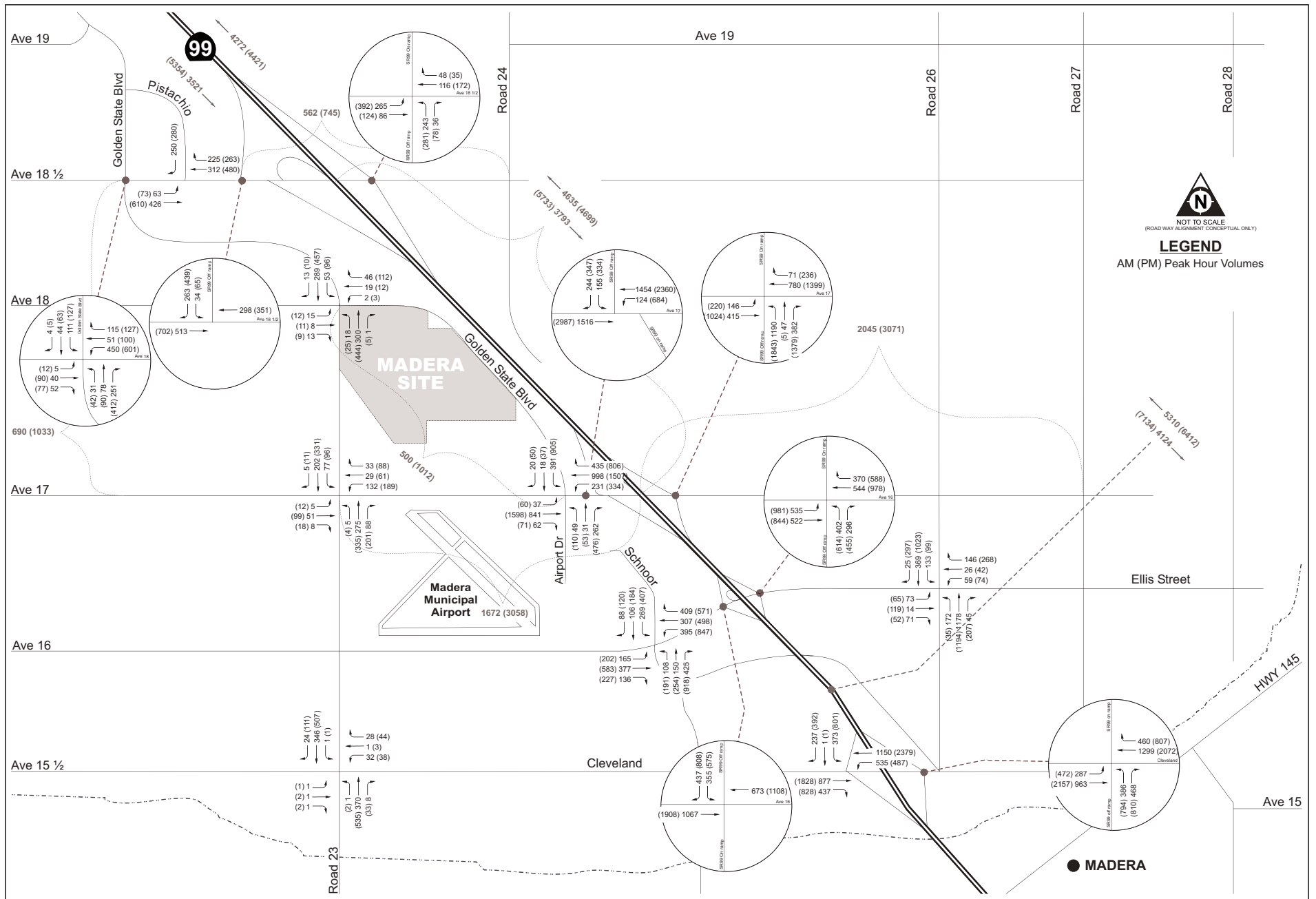


Figure 4.11-22
Madera Site – 2030 Intersection Volumes With Alternative C

Land Use

Cumulative land use effects would be lessened when compared to those of Alternative A. Although Alternative C would also not be entirely consistent with many local land use plans, it would represent a more typical type of development than a casino. As with Alternative A, a less than significant cumulative land use effect would result.

Agriculture

Cumulative effects to agriculture would be similar to those of Alternative A, but reduced due to the reduced intensity of development. As with Alternative A, a less than significant cumulative effect to agriculture would result. Nonetheless, mitigation measures have been included in **Section 5.2.7** that would further reduce Alternative C's cumulative impacts to agriculture.

PUBLIC SERVICES

Effects to public services would be similar to those of Alternative A, except that the MOU with the County would not apply, resulting in potentially significant impacts to public services. Mitigation measures in **Section 5.2.8** would ensure cumulative effects to public services are less than significant.

OTHER VALUES**Noise**

Alternative C would result in changes in traffic noise levels as identified in **Table 4.11-25** for the cumulative year (2030) conditions. According to this table, cumulative project-related traffic noise level increases are only predicted to increase by 0.1 dBA at the site and 1.5 dBA at the nearest receptor. The predicted cumulative increase in noise is below the FICON significance criteria as illustrated in **Table 3.10-4**. Therefore, there are no significant cumulative noise effects issues associated with this alternative.

TABLE 4.11-25
ALTERNATIVE C PREDICTED NOISE LEVELS FOR YEAR 2030 CONDITIONS

Receptor	2030 No Project L _{eq}	2030 Plus Project L _{eq}	2030 No Project vs. Future Plus Project (Difference)
Alternative C	61.0	61.1	0.1
Residential Receptor	67.8	69.3	1.5

SOURCE: VRPA Technologies, 2005.

Hazardous Materials

Cumulative hazardous materials impacts would be similar to Alternative A, given the similar scope of construction that would occur on the Madera site and the identical cumulative development that would occur in the County. The amount and types of hazardous materials that would be stored, used, and generated during the construction and operation of Alternative C could have a potentially significant impact to the environment and public (see **Section 4.10.3**). Mitigation is included in **Section 5.2.9** to reduce potential impacts to less than significant from the construction and operation of Alternative C.

Visual Resources

Cumulative visual resources effects would be similar to those of Alternative A. Although the Alternative C development would be a more typical kind of development and smaller in height, it may not be considered as aesthetically attractive as the Alternative A development, although such assessments are subjective. As with Alternative A, a less than significant cumulative visual resources effect would result.

4.11.5 ALTERNATIVE D – NORTH FORK LOCATION

LAND RESOURCES

The geographic area for the analysis of cumulative impacts to land resources is the Sierra Nevada foothill region near the North Fork site. Development planned in this area during the cumulative time period is primarily limited to a moderate growth of rural residential units (see TAZs above). As with Alternative A, local permitting requirements for construction would address regional stormwater, geotechnical, seismic and mining hazards; therefore, no significant cumulative impacts related to land resources would occur as a result of Alternative D.

WATER RESOURCES

A cumulative overdraft situation is not known to exist in the vicinity of the North Fork site, unlike the region containing the Madera site. In addition, intensive cumulative development is not expected in the vicinity of the North Fork site. Finally, the proposed pumping rate for Alternative D is relatively small and is not expected to result in noticeable regional impacts. Thus, a less than significant cumulative impact to groundwater resources would result. Nonetheless, mitigation measures are contained in **Section 5.2.2** to further reduce cumulative groundwater impacts.

Affected water bodies within the North Fork site include Whiskey Creek and Willow Creek. Neither of these waters is listed as impaired on the 303(d) list. Alternative D, in addition to future development in the area, could contribute to changes in runoff characteristics (volume, velocity, and hydrograph) and water quality located near the North Fork site as a result of project development. However, the Tribe has made appropriate design allowances which would reduce the project's

contribution to cumulative effects to a less than significant level, identical to those noted above under Alternative A. Cumulative rural residential developments, which typically result in only minor impacts to water resources, may incorporate many, but not all, of these measures, as required by local regulations. With the incorporation of these features, Alternative D would not result in or contribute to a significant cumulative water resources effect.

AIR QUALITY

Ozone and PM Emissions

In **Table 4.11-6** long-term 2020 operational emissions associated with Alternative D are compared to Countywide emissions forecasts for 2020. In 2020, unmitigated operation of Alternative D is estimated to result in:

- 1.32 tons per year (tpy) of ROG,
- 1.91 tpy of NO_x, and
- 5.18 tpy of PM₁₀ emissions.

As shown in **Table 4.11-6**, Alternative D generated only 0.024% of the Countywide total NO_x in 2020 and only generated 0.007% of ROG. The PM₁₀ contribution for Alternative D is a little more with 0.06% in 2020. The incremental effect of Alternative D is a relatively minor portion of the Countywide total for one project for ROG, NO_x, and PM₁₀. Alternative D, along with other cumulative development, would exacerbate the regional trend towards higher PM₁₀ emissions but to a less than significant level, because of dust control measures being successfully implemented throughout the air basin.

Carbon Monoxide Concentrations

As described in the traffic study of the project alternatives, traffic operations at signalized study intersections would be LOS D or better with Alternative D under 2030 long-term future cumulative background conditions and traffic mitigation measures. Based on criteria presented in the University of California Davis Institute of Transportation Studies document *Transportation Project-Level Carbon Monoxide Protocol* (Garza, *et al.*, 1997), intersections operating at LOS D or better typically do not result in CO concentrations that exceed State or Federal standards. Therefore, Alternative D with traffic mitigation measures, in combination with increased traffic from cumulative development, would have a less-than-significant impact on CO air quality.

Odor Effects

The SJVAPCD's list of common types of facilities that have been known to produce odors in the SJV occur mostly in manufacturing/industrial zones and no industrial areas are projected for the area, therefore Alternative D (which would not result in significant odors after the implementation of mitigation measures contained in **Section 5.2.3**), in combination with cumulative development, would have a less than significant odor effect.

Toxic Air Contaminants

Alternative D and other projects, when considered cumulatively, could result in potentially significant impacts from toxic air contaminants. No industrial or commercial areas are projected for the area; therefore Alternative D in combination with cumulative development would have a less than significant effect from toxic air contaminants.

Climate Change

The EPA and CARB approved URBEMIS 2007 emissions modeling software estimates that Alternative D would result in the emission of approximately 263 tons per year of CO₂ during construction, which is expected to last 12 months (**Appendix S**). As shown in **Table 4.11-26**, during operation Alternative C would result in the emission of CH₄ and N₂O equivalent to 125 tpy of CO₂e. Indirect emissions of CO₂, CH₄, and N₂O are estimated at 4 tpy of CO₂e. Total annual emissions during operation of Alternative D would be equivalent to 20,676 tpy of CO₂e. Annual Alternative D GHG emissions would be approximately 0.00048 percent of California's predicted contribution to global GHG emissions in 2020 (see **Table 3.4-7**). Alternative D contributions to the annual global GHG emissions in 2020 would be approximately 0.00000031 percent.

TABLE 4.11-26
ESTIMATED PROJECT OPERATION GHG EMISSIONS

CO₂ Emissions¹					
Mobile Sources		Area Sources		Total CO₂e	
tons per year		tons per year		tons per year	
2,430		31		2,461	
CH₄ and N₂O Emission from Mobile Sources²					
Emission Factor (CO₂/CH₄/N₂O) g/mile	Miles Traveled miles/day	CH₄ tons per year	N₂O	Total CO₂e tons per year	
552.08/0.05/0.05	18,757	8	117	125	
Indirect GHG emissions²					
Emission Factor (Kg of CO₂/CH₄/N₂O) lb/MW-h	Estimated kW-h Usage³ MW-h/year	CO₂	CH₄	N₂O	Indirect CO₂e
804.54/0.006/0.0037	22	4	0.00	0.00	4
Total Operation CO₂e tons per year					2,590

¹ Estimated from EPA and CARB approved URBEMIS air quality program (**Appendix W**)

² Emission factors from Climate Change Action Registry

³ Estimated using 4,500 kilowatts-hours/month of power used.

Source: URBEMIS, 2007; Climate Change Action Registry, 2007.

The same state GHG reduction strategies would apply to Alternative D as Alternative A, given that Alternative D proposes commercial development similar to Alternative A. For the same reasons as Alternative A (see **Table 4.11-11**), Alternative D would not comply with one of the three applicable strategies, resulting in a potentially significant cumulative impact. A less than significant cumulative impact would result after the implementation of mitigation measures in **Section 5.2.3**.

BIOLOGICAL RESOURCES

This section analyzes the potential effects of Alternative D in conjunction with other projects on biological resources including wildlife and habitats, Federally listed species, migratory birds, and jurisdictional waters of the U.S.

Wildlife and Habitats

Alternative D would not result in significant direct or indirect effects to wildlife and habitats, including state-listed species. However, disturbance to habitats and increases in human activity within the vicinity from other proposed projects, including individual rural residential projects expected in the area, could incrementally contribute to past, present and future effects to wildlife and habitats. The habitat on the Madera site that would be disturbed by Alternative A is presently used for rural residential purposes and open space. However, over 50 percent of the North Fork site would remain in its present state. In addition, most of the sensitive wetland habitat on the North Fork site would be avoided. Thus, Alternative D's contribution to the cumulative effects to wildlife and habitats in the region would be less than significant.

Federally Listed Species

An increase in human activity within the vicinity of the North Fork site from Alternative D and other proposed projects in the area could cumulatively and adversely affect Federally listed species. It is assumed, that other projects in the area will comply with Federal laws regulating threatened and/or endangered species to avoid impacts to such species and unavoidable impacts will be adequately mitigated through the USFWS. Therefore, a less than significant cumulative effect to threatened and/or endangered species would result. Mitigation is discussed in **Section 5.0** and includes mitigation measures for identified plant and animal species found in the region.

Migratory Birds

Alternative D and other projects, when considered cumulatively, could result in significant impacts to nesting migratory birds. This is potentially a significant impact. Other projects in the area will avoid and/or adequately mitigate for migratory birds by following the regulations set forth in the Migratory Bird Treaty Act. Potential adverse direct effects to migratory birds and other special status species will be avoided or minimized (to a less than significant level) by implementation of the mitigation measures identified in **Section 5.2.4**.

Waters of the U.S.

Alternative D would directly affect approximately 0.1 acres of “waters of the U.S.” Mitigation measures are identified in **Section 5.2.4** and include site plan relocation measures to avoid on-site stream impacts. Other projects in the area will follow the provisions set forth in the Clean Water Act to reduce project impacts to a less than significant level of impact. Alternative D would result in less than significant cumulative effects to waters of the U.S after mitigation.

CULTURAL RESOURCES

Significant cumulative impacts to cultural resources could occur if sites were lost, damaged, or destroyed without appropriate recordation or data recovery. Potential cumulative impacts for cultural resources issues would be similar to those of Alternatives A, B and C, except that the North Fork site is located in a more culturally sensitive location than the Madera site. However, less development is also planned during the cumulative time period in the vicinity of the North Fork site. Since no known cultural resources would be affected by Alternative D, and limited cumulative development is planned in the area, a less than significant cumulative effect to known resources would occur. Impacts to unknown cultural resources would be a significant impact. Mitigation for potential cumulative impacts to unknown cultural resources has been specified in **Section 5.2.5**. Implementation of these mitigation measures would reduce impacts to less than significant.

SOCIOECONOMIC CONDITIONS

Cumulative socioeconomic effects of Alternative D would be similar to those of Alternative A, except that beneficial effects to the regional economy would be substantially lessened, population growth would be reduced to 32 (resulting in a reduction to population related impacts – see **Section 4.7.1**), and the MOU with the County would not apply. Thus, costs would potentially be incurred by the County which would not be compensated by the Tribe, forcing the County to degrade their services for other planned cumulative developments or obtain funds elsewhere, resulting in a potentially significant cumulative effect. This effect would be mitigated to a less than significant level through mitigation measures in **Section 5.2.6**.

RESOURCE USE PATTERNS

Transportation/Circulation

2030 Traffic Condition Without Project

This section discusses the 2030 traffic conditions without project trips added. The 2030 Without Project Lane Configuration and Traffic Controls for the North Fork site study intersections are the same as shown in **Section 3.8-2**. No changes in roadway geometry are planned in the North Fork site area between the existing conditions and 2030.

Peak Hour Intersection Operations. **Table 4.11-27** summarizes the 2030 baseline intersection conditions. The following four study intersections are forecast to operate at an unacceptable LOS:

- SR-145 at SR-41
- SR-41 at Road 200- WB approach
- SR-41 at Thornberry Road- WB approach
- SR-41 at SR-49

TABLE 4.11-27
INTERSECTION PERFORMANCE IN THE VICINITY OF THE NORTH FORK SITE - 2030

Intersection	LOS Threshold	2030			
		AM LOS	AM Delay (secs) ¹	PM LOS	PM Delay (secs)
SR-145 at SR-41	C	F	102.3	F	146.6
SR-41 at Road 200					
• SB Left	D	B	10.7	C	15.3
• WB Approach		F	1494	F	1976
SR-41 at Thornberry Road					
• SB Left	C	B	12.7	B	12.5
• WB Approach		F	391.7	F	116.5
SR-41 at SR-49	C	E	75.0	F	104.2
Malum Ridge Road at Road 225 (Mammoth Pool Road)	D	B	10.04	B	10.31
Road 225 (Mammoth Pool Road) at Cascadel Road					
• SB Left	D	A	7.5	A	7.5
• WB Approach		A	9.4	A	9.2
Cascadel Road at Mission Drive (Federal Road 209)					
• <i>WB Left-Through</i>	D	A	7.3	A	7.4
• <i>NB Approach</i>		A	9.1	A	9.1
North Fork Road at Auberry Road					
• NB Left-Through-Right		A	7.6	A	7.7
• SB Left-Through-Right	D	A	7.8	A	7.8
• WB Approach		B	11.0	B	12.2
• EB Approach		B	11.7	B	11.0
North Fork Road at Crane Valley Road	D				
• EB left-Through		A	7.7	A	7.7
• SB Approach		B	10.6	B	12.1

NOTES: ¹ delay in seconds

Bold text denotes unacceptable LOS.

SOURCE: TPG Consulting, 2006; AES, 2006.

2030 Traffic Conditions With Project

This section discusses the 2030 traffic conditions with Alternative D project trips added. The 2030 Without Project conditions are reported as a baseline. **Figure 4.11-24** presents the 2030 lane configuration and intersection control considered to be in place at that time. **Figure 4.11-25** presents the 2030 intersection volumes at each of the North Fork site study intersections. This 2030 lane configuration and intersection control represents the existing configuration and controls plus improvements needed to mitigate impacts from the addition of project traffic generated under Alternative D in the Build-Out (2008) condition.

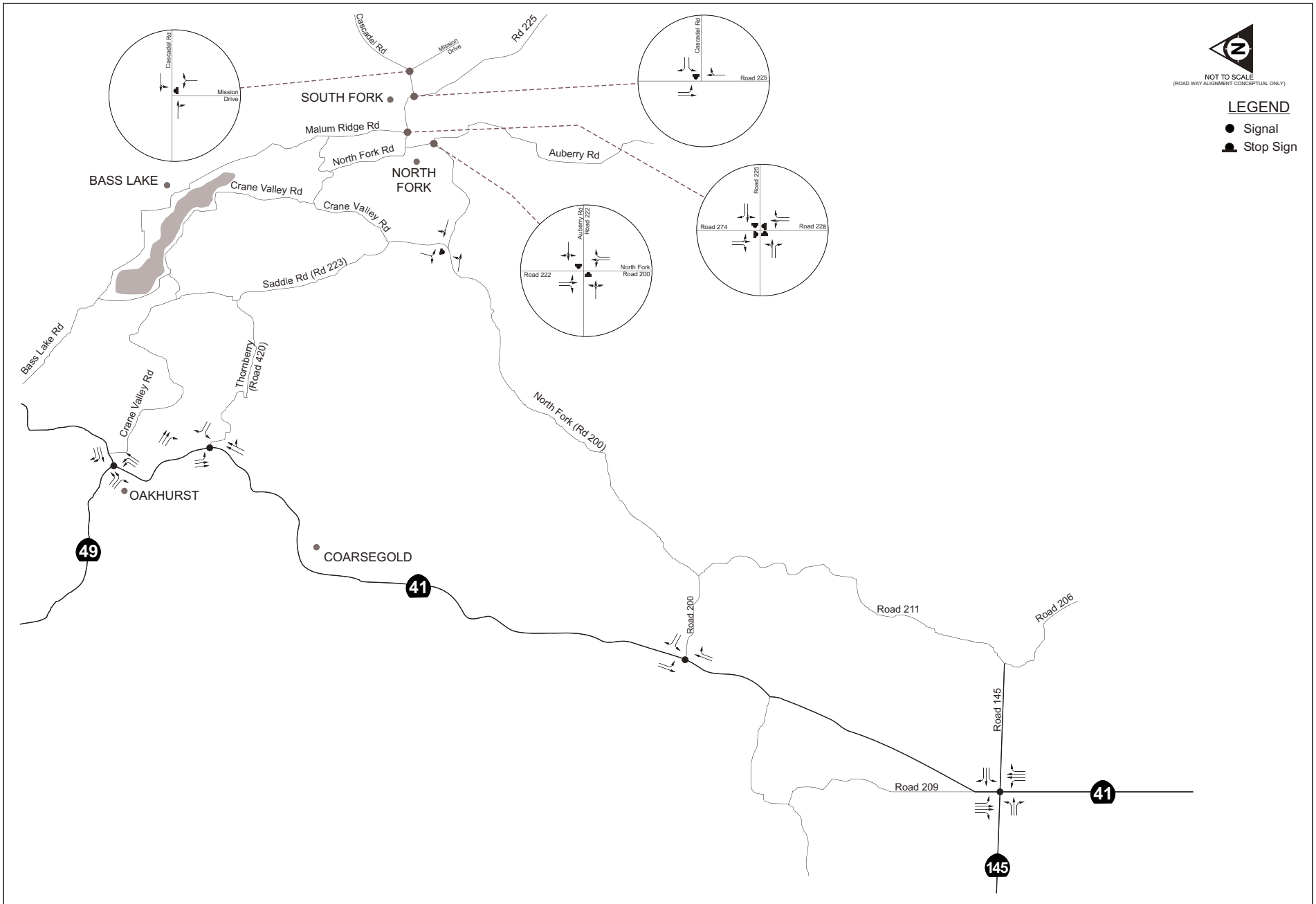


Figure 4.11-24
 North Fork Site – 2030 Lane Configuration and Intersection Control With Alternative D



NOT TO SCALE
(ROAD WAY ALIGNMENT CONCEPTUAL ONLY)

LEGEND

AM (PM) Peak Hour Volumes

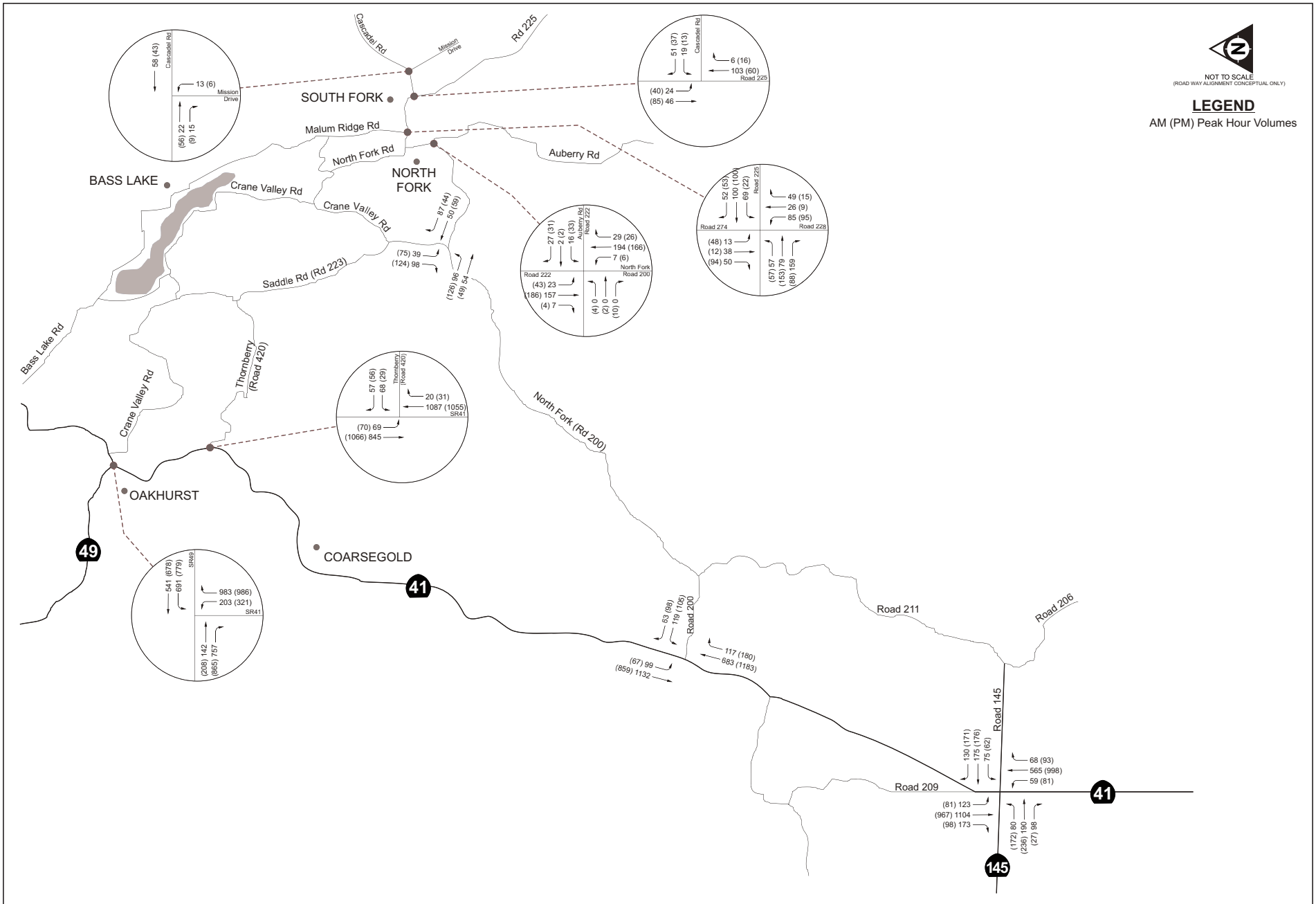


Figure 4.11-25
North Fork Site – 2030 Intersection Volumes

Peak Hour Intersection Operations. The 2030 Without Project traffic volumes were combined with vehicle trips expected to be generated by Alternative D. **Table 4.11-28** summarizes the 2030 With Alternative D peak hour intersection conditions. The 2030 Without Project intersection conditions are provided as a baseline. With the addition of project traffic under Alternative D, the following four study intersections are forecast to operate at an unacceptable LOS:

- SR-145 at SR-41
- SR-41 at Road 200
- SR-41 at Thornberry Road
- SR-41 at SR-49

TABLE 4.11-28
PEAK HOUR INTERSECTION CONDITIONS - 2030 WITH ALTERNATIVE D

Intersection	LOS Threshold	2030				With Alternative D			
		AM		PM		AM		PM	
		LOS	Delay (secs) ¹	LOS	Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)
SR-145 at SR-41	C	F	102.3	F	146.6	F	101.5	F	150.9
SR-41 at Road 200						B	18.1	C	23.7
SB Left	D	B	10.7	C	15.3				
WB Approach		F	1494	F	1976				
SR-41 at Thornberry Road						A	9.5	A	8.1
SB Left	C	B	12.7	B	12.5				
WB Approach		F	391.7	F	116.5				
SR-41 at SR-49	C	E	75.0	F	104.2	E	75.0	F	104.7
Malum Ridge Road at Road 225 (Mammoth Pool Road)	D	B	10.04	B	10.31	B	10.37	B	10.99
Road 225 (Mammoth Pool Road) at Cascadel Road	D								
SB Left		A	7.5	A	7.5	A	7.6	A	7.6
WB Approach		A	9.4	A	9.2	A	9.6	A	9.4
Cascadel Road at Mission Drive (Federal Road 209)	D								
WB Left-Through		A	7.3	A	7.4	A	7.4	A	7.5
NB Approach		A	9.1	A	9.1	A	9.3	A	9.4
North Fork Road at Auberry Road	D								
NB Left-Through-Right		A	7.6	A	7.7	A	7.6	A	7.7
SB Left-Through-Right		A	7.8	A	7.8	A	8.6	A	7.8
WB Approach		B	11.0	B	12.2	C	16.9	B	12.5
EB Approach		B	11.7	B	11.0	C	20.0	B	11.2
North Fork Road at Crane Valley Road	D								
EB left-Through		A	7.7	A	7.7	A	7.7	A	7.7
SB Approach		B	10.6	B	12.1	B	10.6	B	12.3

NOTES: ¹ delay in seconds
Bold text denotes unacceptable LOS.

SOURCE: TPG Consulting, 2006; AES, 2006.

Figure 4.11-26 presents the 2030 With Alternative D intersection volumes at each of the North Fork site study intersections.

Impact Analysis

With the addition of project traffic under Alternative D, four study intersections are forecast to operate at an unacceptable LOS, resulting in a significant impact. Mitigation measures for the Build-Out With Project (Alternative D) conditions are discussed in **Section 5.2.7** of this document.

With the incorporation of project mitigation measures, the intersections shown to have an unacceptable LOS would be improved to an acceptable LOS. This would result in a less than significant impact.

Land Use

Although Alternative D would not be entirely consistent with all of the goals and policies of the Madera County General Plan, the General Plan would not apply to the North Fork site, as it is currently trust property. In addition, as noted in **Section 4.8.4**, no significant effects, such as precluding existing or planned land uses or disruption of access or conflicts with existing land uses, have been identified. Since no other tribal projects are planned and all other development occurring around the North Fork site would be required to comply fully with local planning guidelines, no significant cumulative land use effects would occur.

Agriculture

Under Alternative D, a casino would be developed on 5.3 acres of the North Fork site. Soils within the site have not been mapped by the NRCS, and thus have not been designated according to their farming potential. Based on the location and topography of the North Fork site, it is unlikely that the North Fork site contains important farmland. No Storie Index rating is available for the North Fork site because it not considered farmland. Due to the inferior quality of land available for farming purposes on the North Fork site and in the area of cumulative rural residential development in the vicinity of the North Fork site, cumulative impacts to agriculture from the development of Alternative D are considered less than significant.

PUBLIC SERVICES

Cumulative development includes limited rural residential in the vicinity of the North Fork Site. This type of development does not present a significant burden on public services and individual residences would be responsible for obtaining connection to County utilities or paying a fair share of improvement costs in the area. Property taxes on new residences would fund County services such as law enforcement, fire protection, and schools. Cumulative solid waste impacts would be similar to

Alternative A, except substantially reduced (due to the smaller scope of development) and services would be provided by the County. Alternative D would be required to independently contract for public services to the North Fork site and would not add to the incremental effects of surrounding development on public services. Thus, cumulative impacts would be less than significant. Nonetheless, with the mitigation listed in **Section 5.2.8**, cumulative impacts to public services from Alternative D would be further reduced.

OTHER VALUES

Noise

Alternative D would result in changes to traffic noise levels as identified in **Table 4.11-29** for the cumulative year (2030) conditions. According to this table, cumulative project-related traffic noise level increases are only predicted to increase on average by 3.1 dBA. The predicted cumulative increase in noise is below the FICON significance criteria as illustrated in **Table 3.10-4**. Therefore, there are no significant cumulative noise effects issues associated with this alternative.

TABLE 4.11-29
ALTERNATIVE D PREDICTED NOISE LEVELS FOR YEAR 2030 CONDITIONS

Receptor	2030 No Project L _{eq}	2030 Plus Project L _{eq}	2030 No Project vs. Future Plus Project (Difference)
Alternative D	42.2	45.3	3.1

SOURCE: VRPA Technologies, 2005.

Hazardous Materials

Cumulative hazardous materials involvement has the potential to occur as a result of continuing development occurring in the region. This involvement could result from the use of hazardous materials in the construction process or the disturbance of existing hazardous materials present on a construction site. However, the primarily rural residential development occurring in the vicinity of the North Fork site does not typically result in significant use or storage of hazardous materials. As noted in **Section 3.10**, there are no existing known hazardous materials on the North Fork site. The amount and types of hazardous materials that would be stored, used, and generated during the construction and operation of Alternative D could have a potentially significant impact to the environment and public (see **Section 4.10.4**). Mitigation is included in **Section 5.2.9** to reduce potential impacts to less than significant from the construction and operation of Alternative D.

Visual Resources

Cumulative development is limited in the area of the North Fork site. In addition, the North Fork site is not easily visible from public vantage points. Thus, the development proposed by Alternative D would not represent a significant cumulative effect to visual resources.

4.11.7 ALTERNATIVE E – NO ACTION ALTERNATIVE

Under Alternative E, no new development would occur on either the Madera or North Fork sites. Therefore, cumulative trends would continue, but the No Action Alternative would not result in significant contributions to cumulative effects.

4.12 INDIRECT AND GROWTH-INDUCING EFFECTS

This section includes an analysis of growth-inducing effects and an analysis of indirect effects related to off-site traffic mitigation and off-site pipeline development. Other indirect effects are analyzed in previous sections by issue area (air quality, noise, etc.).

4.12.1 GROWTH-INDUCING EFFECTS

NEPA requires that an EIS analyze “growth-inducing effects” (40 CFR § 1502.16 (b), 40 CFR § 1508.8 (b)). A growth-inducing effect is defined as an effect that fosters economic or population growth, or the construction of additional housing, either directly or indirectly. Direct growth inducement could result, for example, if a project involved the construction of new housing. Indirect growth inducement could result if a project established substantial new permanent employment opportunities (e.g., new commercial, industrial, or governmental enterprises) or if it would remove obstacles to population growth (e.g., expansion of a wastewater treatment plant that could allow more construction in the service area).

POTENTIAL RESIDENTIAL GROWTH

Alternatives A through D would create new jobs and induce some employees to move to Madera County, resulting in a County population increase ranging from 32 to 836. More detailed population increase calculations and potential socioeconomic effects resulting from population increase can be found in **Section 4.7.1**. The potential for this population increase to lead to an increase in residential development in the County is analyzed below.

There are three major areas where residential development is occurring and planned in Madera County: the City of Madera, the City of Chowchilla and the Sierra Nevada foothills (primarily the communities of Oakhurst and Coarsegold) (**Section 4.11.1**). At present, the number of housing units in the County is increasing. There were 1,921 housing unit permits issued in 2004 in Madera County. Through August 2005, 1,654 permits had been issued (**Table 4.12-1**).

The County also has a number of housing projects that are seeking to be permitted. The two largest projects provide for over 32,000 housing units to be developed (**Section 4.11.1**). Both projects are located near the City of Madera, one to the east along State Route 41 and one to the south along SR-99. In addition to planned new housing developments, Madera County currently contains 4,678 existing vacant housing units. Most of these units are located in the unincorporated County, with 621 and 166 units located in the Cities of Madera and Chowchilla, respectively (California Department of Finance, 2005).

Given the flurry of residential development currently occurring and planned for the future and vacant housing units present in the County, the proposed development would not have a significant impact or create demand for new housing developments. Alternatives A through D

are estimated to draw from 10 to 263 new households to the County, depending on the alternative (Section 4.7.1). Alternative A would draw the most new households to the County at 263. Yet, this number of new households would only occupy 0.8% of the proposed 32,500 units planned in the two large housing developments noted above. With each of the remaining alternatives, the impact on the housing market diminishes. Thus, the housing demand generated by the EIS alternatives would be absorbed by available and planned housing developments and no housing growth would occur.

TABLE 4.12-1
DWELLING UNIT PERMITS ISSUED – MADERA COUNTY

Date	2004			2005		
	Single Family Permits	Multi-Family Permits	Total Permits	Single Family Permits	Multi-Family Permits	Total Permits
January	132	6	138	66	9	75
February	80	32	112	102	93	195
March	89	30	119	196	4	200
April	144	0	144	170	19	189
May	155	0	155	198	0	198
June	153	2	155	280	0	280
July	120	0	120	200	2	202
August	122	2	124	234	81	315
September	101	0	101	N/A	N/A	N/A
October	283	119	402	N/A	N/A	N/A
November	209	10	219	N/A	N/A	N/A
December	126	6	132	N/A	N/A	N/A
<i>Total</i>	<i>1,714</i>	<i>207</i>	<i>1,921</i>	<i>1,446</i>	<i>208</i>	<i>1,654</i>

SOURCE: Innovation Group, 2005.

POTENTIAL COMMERCIAL/INDUSTRIAL GROWTH

This section examines potential commercial development, which includes hotel, retail (including restaurant), office, and industrial spaces. The two main areas of commercial development in the County are the incorporated areas of Madera and Chowchilla. Despite the strong residential development underway, commercial development has been lagging in Madera County. This might explain the numerous commercial developments planned in the vicinity of the Madera site (Section 4.11.1)

Hotel Development

It is not expected that visitors to the Alternative A developments would create demand for additional restaurants and hotels, as the casino/hotel resort development itself would be able to serve these needs. Alternative B would not contain a hotel component, but any demands for hotel stays would be accommodated by nearby hotels, including a hotel at the Avenue 18½/SR-99 interchange. Alternative C is a retail development that would not generate demand for hotel stays

and would also include restaurants. Alternative D includes restaurants and would generate a relatively small number of visitors that would utilize existing area lodging facilities.

Retail Development

In all of the alternatives, the proposed development would increase the demand for retail space. For Alternative A, 88 new direct, indirect, and induced jobs would require retail space (**Section 4.7.1, Table 4.7-2**). Fewer jobs would be required for each of the remaining alternatives. These 88 jobs would be created throughout Madera County, including a small number at the Alternative A casino/hotel resort, serving visitors to the Madera site and new residents. A large number of accommodation and food services jobs would be created, but most of these would be directly created at the proposed developments for each EIS alternative.

Alternatives A through C are specifically expected to generate the demand for a combination gas station, fast food restaurant, and a convenience store near the Avenue 17/SR-99 interchange. This demand would be generated by the large number of Madera site visitors utilizing this interchange. This demand would not be absorbed by any of the EIS alternatives, because no gas station development is proposed under any of the alternatives. Finally, while a gas station and fast food restaurants are situated at Avenue 18½, the other main SR-99 access to the Madera site, no such development is currently located in the vicinity of Avenue 17/SR-99.

The City of Chowchilla has very little in terms of existing retail, but there is some development that is in the planning stages. Currently, the City has one shopping center with a grocery store and a pharmacy. To add to this, a local car dealership is moving its operations to a 31-acre parcel in Chowchilla. The development will include not only the dealership but also a village-style shopping center which will feature small stores and pedestrian transportation. The development is in the engineering phase with the dealership to be operational in 18 to 24 months and the retail center to follow.

The City of Madera is experiencing a tremendous amount of pressure to develop retail space due to the increasing amount of residential development in the area. Many of the sites available for retail development, however, do not have the infrastructure to support it. This lack of infrastructure has slowed retail development in the City. Despite these issues, most existing retail development in the County is located in or around the City of Madera.

Currently, one of the targeted areas for development is the Avenue 17 exit off of State Route 99 (SR-99). There are developments planned for three of the four corners at this exit (**Section 4.11.1**). These plans are tentative and have not been officially acted upon, with the exception of one large retail development planned across SR-99 from the Madera site (the “Madera Town Center” development - see **Section 4.11** for a more detailed discussion of cumulative development planned in the vicinity of the Madera site). The demand for a combination gas

station, fast food restaurant, and convenience store is expected to be absorbed by large retail developments at the Avenue 17/SR-99 interchange (and possibly also other planned retail developments in this area, should they be developed), which are expected contain numerous restaurants and at least two gas station/convenience stores.

Visitors to the North Fork site would be served by existing businesses in the nearby community of North Fork. It is not expected that other new businesses would be needed in the market to serve these visitors.

Retail and food and beverage facilities may also be needed in the market to accommodate casino and non-casino employees that become new residents of the area, although these new employees would be expected to reside in residential developments that are being planned independently of the alternatives, and such retail developments would be planned for the communities as a whole. Therefore, with extensive residential housing in the process of being developed in Madera County, the demand for new retail space will continue to increase independent of any of the proposed EIS alternatives. Therefore, no commercial growth would occur due to any of the EIS alternatives, either from visitors to the sites or from new residents.

Office Development

Only a slight increase in the demand for office space as a result of any of the EIS alternatives is expected. Very little of the employment that would be generated would require office space. About 105 jobs (information; finance and insurance; real estate, rental, and leasing; professional, scientific, and technical services; management of companies and enterprises; and other services sectors – see **Table 4.7.2**) would result from Alternative A, and fewer from the other alternatives (**Section 4.7.1**).

The City of Madera has a very low office vacancy rate. The only spaces available are on the lower end of the quality spectrum. There is a new office development under construction that will have six buildings when it is completed. Of the six buildings, four have been occupied.

The City of Chowchilla has little to no office space, filled or available. The City has a few medical offices and other offices. There are no plans for any substantial office development.

What little office spaces is needed by the alternatives would be developed primarily in the incorporated areas of the County, mainly resulting from the service needs of the residential development. For instance, accountants and attorneys that would serve the growing residential population would utilize office space within the County. Again, office developments to serve the needs of currently planned residential development would not be induced by any of the EIS alternatives, because residential development has already occurred or is planned independent of the project alternatives.

Industrial Development

There would be very little demand for additional industrial space in the County as a result of the EIS alternatives. Specifically, 64 new jobs (agriculture, forestry, fishing, and hunting; mining; utilities; construction; manufacturing; wholesale trade; and transportation and warehousing sectors – see **Table 4.7-2**) would be associated with Alternative A (again, fewer from the other alternatives) (**Section 4.7.1**).

Most of the industrial development in Madera County is in and around the City of Madera. **Table 4.12-2** provides a listing of the currently available properties in and around the City of Madera and their sizes. The City of Chowchilla has very little built industrial space.

TABLE 4.12-2
VACANT INDUSTRIAL DEVELOPMENT – CITY OF MADERA

Development	Square Feet
Upright Building	290,000
Regency Building	175,000
County Building	28,000
Airport Industrial Park ¹	120,000
Berry Construction ²	100,000
<i>Total</i>	<i>713,000</i>

NOTES: ¹This building is in the engineering phase.

²Berry Construction is a developer that builds buildings and then sells them. The size of this building is an approximate value representing a typical building they construct.

SOURCE: Innovation Group, 2005.

The additional industrial jobs created can be absorbed by the vacant units in existing industrial spaces in the County or in existing industrial operations. The most likely scenario would be that the developments would generate new jobs at existing industrial locations as opposed to generating new industrial operations. These jobs would be dispersed among all of the current industrial operations in Madera County. Thus, no growth in industrial facilities would occur.

POTENTIAL GROWTH FROM INFRASTRUCTURE/UTILITIES IMPROVEMENTS

Improvements to area roadways and intersections would serve to mitigate the impacts of the project alternatives on area roadway networks, not to increase capacity of roadways to accommodate future unplanned growth. Should the Tribe construct on-site water/wastewater facilities, they would be sized solely to serve the project alternative and off-site connection would not be permitted. Should the Tribe decide to connect to local water and wastewater services, any water/wastewater pipeline extensions would be sized solely to serve the development proposed by the Tribe and no other connections would be permitted. Any other utilities improvements, such

as improvements to electrical facilities, would be minor and tailored specifically for the project alternative. Thus, no growth would be induced by the extension of infrastructure or the expansion of utilities resulting from the project alternatives.

4.12.2 INDIRECT EFFECTS FROM OFF-SITE TRAFFIC MITIGATION

The CEQ Regulations for Implementing NEPA (Section 1508.8) define indirect effects as impacts that are caused by an action that is later in time or farther removed in distance, but is a reasonably foreseeable result of the proposed project. Off-site traffic mitigation will potentially result in indirect effects to a variety of environmental areas, and are addressed below. Specifically, this section analyzes the effects resulting from the construction of traffic mitigation measures, as described in **Section 5.2.7**. These improvements have been identified in response to impacts analyzed in **Sections 4.8** and **4.11**.

IMPROVEMENTS

Intersection improvements recommended under each alternative are listed in **Section 5.2.7**. Mitigation measures for each intersection are identified in their year of need for each alternative. The location of mitigation measures needed in 2008 for each alternative is presented in **Figures 5-1** through **5-7**. The location of mitigation measures needed in 2030 for each alternative is presented in **Figures 5-8** through **5-14**. These figures provide a close-up view of the roadway improvements at each intersection presented **Section 5.2.7**. **Figures 4.12-1** and **4.12-2** show the intersections proposed for improvement in the vicinity of the Madera site, including aerial photographs. **Figures 4.12-3** and **4.12-4** show the intersections proposed for improvement in the vicinity of the North Fork site, including aerial photographs.

ENVIRONMENTAL CONSEQUENCES

The following section identifies the potential indirect environmental effects of construction of the intersection improvements. Because most of the identified improvements are common to all the alternatives and because the nature and scope of effects are similar, the following analysis is provided for all the alternatives.

Land Resources

The construction of roadway improvements would require grading and the introduction of fill material to extend the existing shoulders and road bed. The roadway improvements would not significantly affect the ability to extract minerals. The increase of impervious surfaces and additional earthwork could result in erosion of soils. Local jurisdictions (Caltrans, Madera County, or City of Madera, depending on the location of the improvement) would require the use of stable fill material, engineered embankments, and erosion control features to reduce the potential for slope instability, subsidence and erosion. In accordance with the Federal Clean

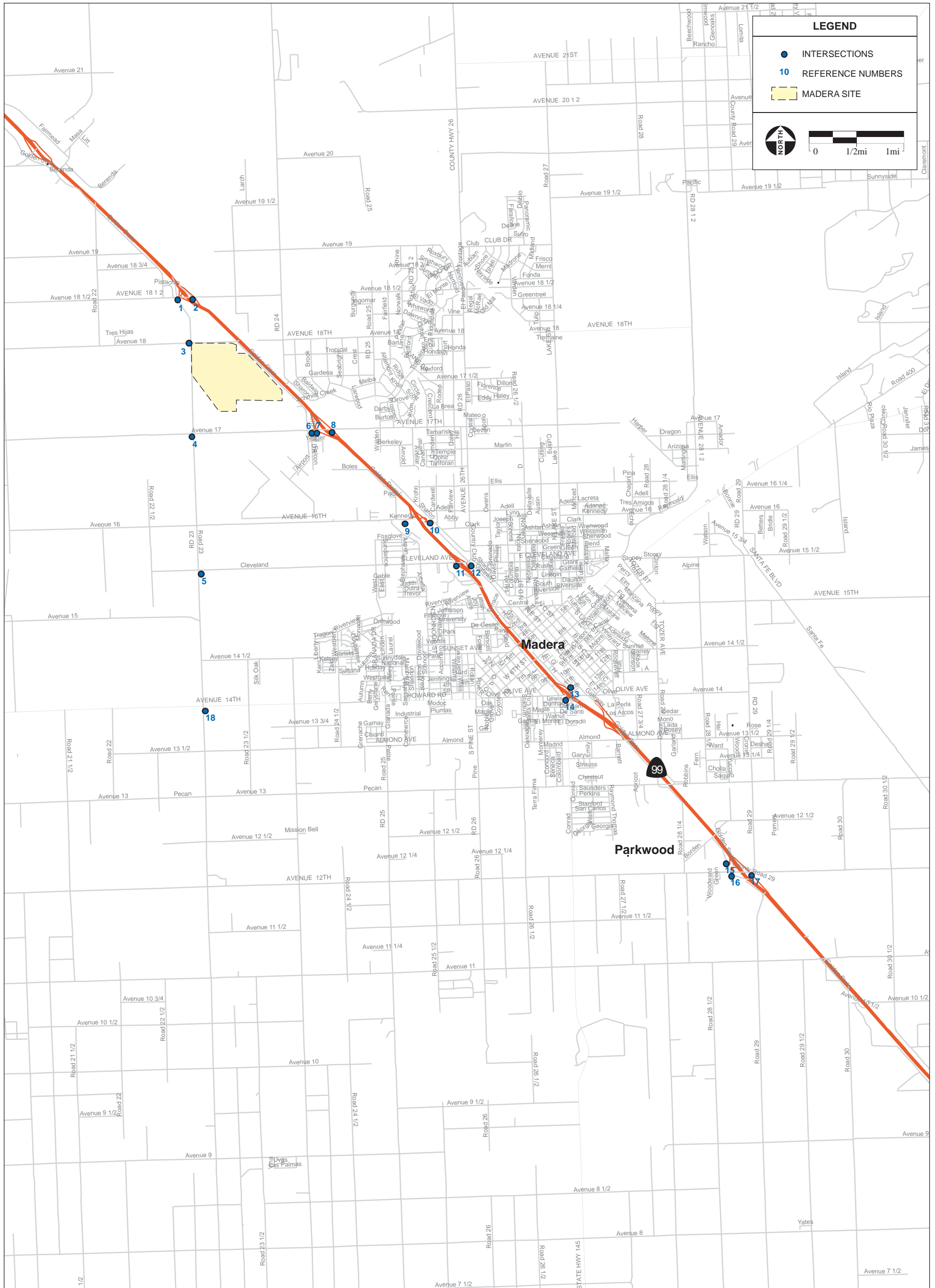


Figure 4.12-1
Intersections in the Vicinity of the Madera Site



Intersection #1



Intersection #2



Intersection #3



Intersection #4



Intersection #5



Intersection #6



Intersection #7



Intersection #8



Intersection #9



Intersection #10



Intersection #11



Intersection #12



Intersection #13



Intersection #14



Intersection #15



Intersection #16



Intersection #17



Intersection #18

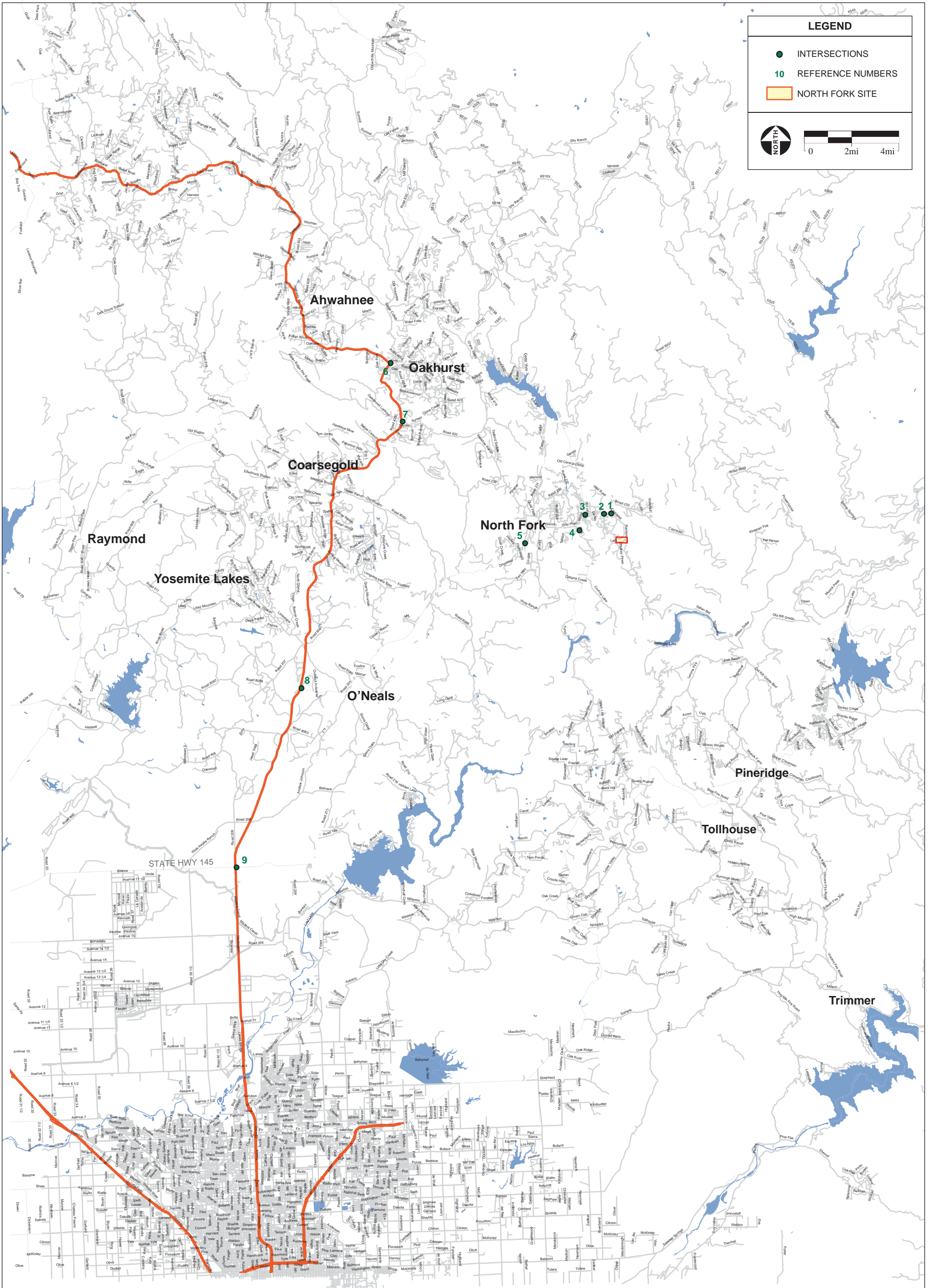


Figure 4.12-3
Intersections in the Vicinity of the North Fork Site



Intersection #1



Intersection #2



Intersection #3



Intersection #4



Intersection #5



Intersection #6



Intersection #7



Intersection #8



Intersection #9

Water Act, construction of roadway improvements over one acre in area would be required to comply with the NPDES General Construction Permit Program. To comply with the program, a Stormwater Pollution Prevention Plan (SWPPP) would be developed that would include soil erosion and sediment control practices to reduce the amount of exposed soil, prevent runoff from flowing across disturbed areas, slow runoff from the site, and remove sediment from the runoff. With standard construction practices and specifications required by the NPDES permit program, the roadway improvements identified under the project alternatives are expected to result in less than significant indirect effects to land resources.

Water Resources

The development of roadway improvements at the locations identified could affect water resources due to grading and construction activities and an increase in impervious surfaces. Potential effects include an increase of surface runoff and increased erosion that could adversely affect surface water quality due to increases in sediment and roadway pollutants such as grease and oil.

As discussed above, a SWPPP would be developed to comply with the NPDES General Construction Permit Program, which includes soil erosion and sediment control practices. The effects to runoff volumes resulting from the increase in impervious roadways are expected to be minimal due to the limited extent of the improvements in comparison to the existing roadways. Some existing curb and gutters and stormwater drain inlets would be removed and relocated along portions of the roadways to provide space for improvements. Curb and gutters, inlets, and other drainage facilities would be reconstructed to provide adequate facilities to direct stormwater runoff. With incorporation of these drainage features and compliance with the soil erosion and sediment control practices identified in the SWPPP, for construction projects resulting in over one acre of disturbance, effects to water resources would be less than significant.

Air Quality

Development of the roadway improvements would result in short-term construction-related air pollution emissions. The construction phase would produce two types of air contaminants: exhaust emissions from construction equipment and fugitive dust generated as a result of demolition and soil movement. Exhaust emissions from construction activities include those associated with the transport of workers and machinery to the site, as well as those produced on site as the equipment is used. Construction of improvements would be limited in scope and duration. Thus a less than significant indirect effect would result. In addition, mitigation measures are typically required by local jurisdictions to reduce construction emissions, often in conjunction with required California Environmental Quality Act (CEQA) review. These include watering the exposed soil to reduce dust, reducing speeds on all unpaved roads to 15 miles per hour, and maintaining equipment properly.

Long-term effects from roadway improvements could result if the roadway improvements resulted in localized increases in carbon monoxide (CO) concentrations and/or if the improvements contributed to traffic congestion at large intersections. The construction of improvements would not result in adverse changes or redistribution in traffic volumes and vehicle trips. Conversely, it is expected that the improvements would reduce congestion and improve traffic flow. This would reduce emissions from idling vehicles at these intersections and roadway segments. Long-term effects would therefore be less than significant.

Biological Resources

Madera Site

Twenty-five road intersections were analyzed from the National Wetlands Inventory (NWI) Map. Though all intersections are not proposed to be improved for each alternative, the sum total of improvements was analyzed to encompass all alternatives. The Fish and Wildlife Service has no mapped wetlands in the areas of improvement. Construction of the roadway improvements would result in the loss of some existing vegetation and modification of drainage channels. Most of the habitat that exists in the areas of roadway improvements is highly disturbed and currently in commercial and agricultural areas. Due to the degraded condition of the roadside areas, habitat quality is generally low and it is unlikely that expansion of the existing facilities would result in a significant effect to sensitive species.

North Fork Site

Nine intersection improvements would result from mitigation for Alternative D. For this reason, the NWI was reviewed to assess the indirect effects on wetlands mapped by the Fish and Wildlife Service. No wetlands are reported within the areas identified for improvement. Similar to the Madera site, habitat within the areas of improvement is typically ruderal/disturbed and the expansion of existing roadways would result in a less than significant impact to special status species habitat.

General

To address effects to sensitive habitat and species, biological surveys would be required to comply with CEQA for roadway improvement projects. The lead agency under CEQA would be required to mitigate potential impacts to a less than significant level or to issue a finding of fact and statement of overriding considerations if significant impacts could not be mitigated. Thus, less than significant indirect effects to biological resources would result.

Cultural Resources

The construction of the roadway improvements has the potential to disturb or destroy historical features and archaeological resources. Grading roadsides to add traffic lanes or expanding intersections may disturb previously unknown sites. Due to prior grading of the existing

roadways and occasional traffic on roadsides it is likely that resources remaining in these areas are highly disturbed and lack integrity, thus diminishing the significance of the remaining resources.

To address potential impacts to cultural resources, cultural surveys may be required to comply with CEQA. The lead agency under CEQA would be required to mitigate potential impacts to a less than significant level or to issue a finding of fact and statement of overriding considerations if significant impacts could not be mitigated. Mitigation may include the avoidance of resources, the preservation of key historical features, or the removal, documentation, and curation of cultural resources. Therefore, a less than significant indirect effect to cultural resources would result.

Socioeconomic Conditions

Construction of roadway improvements would result in short-term inconveniences and minor delays due to constricted traffic movements and possible temporary detouring of traffic. The intersection improvements are not expected to result in long-term disruption of access to surrounding land uses or to minority or low-income populations.

The realignment and expansion of roadways would result in impacts to surrounding properties. In order to implement some improvements, land acquisition may be required. In most cases no additional property will be required (e.g. intersection signalization) or the amount of additional property required will be minimal. Should land acquisition be required, the owner of the property acquired is entitled to be compensated for the fair market value of the property, as required by the Fifth Amendment of the U.S. Constitution; Article I, Section 19 of the California Constitution; and Sections 1263.010 to 1263.330 of the California Code of Civil Procedure. A potentially significant impact would result should local jurisdictions be left to pay the full cost of such land acquisition. According to mitigation described in **Section 5.2.7**, the Tribe would pay the fair-share cost of traffic mitigation, including the cost of any required land acquisition. Therefore, a less than significant indirect socioeconomic effect would result.

Transportation

Traffic mitigation measures are meant to improve transportation facilities. Impacts to traffic operations would be temporary and necessary consequences of construction in order to facilitate long-term improvements. A less than significant effect would therefore result.

Land Use

As noted, construction of roadway improvements with no or minimal additional property requirements is not expected to cause a long-term disruption of surrounding land uses. Improvements that require land acquisition, such as realignment and expansion of roadways, could convert land from its current use. However, the amount of land required would be a narrow

strip on the end of the property and should not affect the land use for the remaining property. Therefore, a less than significant indirect effect would result.

Agriculture

Construction of roadway improvements that require additional property, such as realignment and expansion of roadways, could permanently convert land from agricultural use. However, the amount of land converted would be small compared with the amount of arable land in Madera County. Therefore, a less than significant indirect effect to agriculture would result.

Public Services

Traffic improvements may require relocation of utilities near existing roadways. These utilities include overhead electricity lines and telecommunication lines. Relocation of these lines could result in a temporary break in service to some homes and businesses in the area. However, because these effects are common when upgrading and maintaining utility services, and because potential service breaks would be temporary, these effects are considered to be less than significant. No significant effects to police, fire, or emergency medical services are expected as access to homes and businesses would be maintained during the construction period.

Other Values

Construction of the proposed improvements could potentially result in noise, hazardous materials, and visual effects. Construction activities would result in short-term increases in the local ambient noise environments. However, because construction activities would be temporary in nature and are expected to occur during normal daytime hours, a less than significant effect would occur.

The accidental release of hazardous materials used during grading and construction activities could pose a hazard to construction employees and the environment. Additionally, equipment used during grading and construction activities could ignite dry grasses and weeds in construction areas. However, these hazards, which are common to construction activities, would be minimized with adherence to standard operating procedures, such as refueling in designated areas, storing hazardous materials in approved containers, and clearing dried vegetation. Such procedures are commonly required by local agencies as part of the CEQA review for roadway improvements. These potential hazards are therefore considered to be less than significant.

Visual effects would occur as the result of modification and expansion of existing roadways. However, because the intersections would conform to modern design standards and are expected to be landscaped to suit the settings, a less than significant effect would occur.

4.12.3 INDIRECT EFFECTS FROM OFF-SITE PIPELINE CONSTRUCTION

This section analyzes the effects resulting from the construction of off-site water and wastewater pipelines, as described in **Section 2.0**, and summarized below.

IMPROVEMENTS

Pipelines for water and wastewater may be constructed to connect either the Madera or North Fork Sites to local water/wastewater facilities. As noted in **Section 2.0**, local water/wastewater hookup is one of the options for water/wastewater service available for the alternatives. Local water hookup would require a looped pipeline system be created to connect to the City's water supply system (**Figure 2-9**). Three possible pipeline alignments could occur for local wastewater hookup, as described in **Section 2.0** and **Appendix I**. A graphic representation of the three pipeline alignment options is contained in **Figure 2-7**. In addition, treated effluent from an on-site wastewater treatment plant (WWTP) could be used to irrigate the City of Madera's golf course located south of Avenue 17, between Road 23 and the municipal airport. Should the Tribe and City of Madera choose to implement this option, approximately one mile of recycled water pipeline would be located along Road 23 (**Figure 2-9**).

Like the Madera site, the North Fork site may need to connect to the County pipelines, which terminate approximately two and a half miles northeast of the North Fork site along Road 228 (Mono Drive), south of Minarets Road (**Figure 2-24**).

ENVIRONMENTAL CONSEQUENCES

The following section identifies the potential indirect environmental effects of the pipelines for the Madera site and North Fork site. Where appropriate, effects to resources are discussed based on the project site location. Where effects to resources would be the same if either project site were developed, the discussion pertains to both project sites.

Land Resources

The construction of off-site pipelines would occur primarily along existing roadways and would require trenching and backfilling/re-paving in order to install the pipelines within the roadway. Therefore, effects to land resources would be similar to those discussed above under off-site roadway improvements, except the effects would be somewhat lessened because the roadways/intersections would not be extended. Instead, disturbances would occur largely within currently disturbed roadways. A less than significant indirect effect to land resources would result.

Water Resources

Effects to water resources would be similar to those discussed above under off-site roadway improvements, except the effects would be lessened because the roadways/intersections would

not be extended. Instead, disturbances would occur largely within currently disturbed roadways. New impervious surfaces and therefore additional pollutant runoff would not occur. Thus, a less than significant indirect effect to water resources would result.

Air Quality

Installation of water and wastewater pipelines would result in short-term construction-related air pollution emissions. The construction phase would produce two types of air contaminants: exhaust emissions from construction equipment and fugitive dust generated as a result of demolition and soil movement. Exhaust emissions from construction activities include those associated with the transport of workers and machinery to the site, as well as those produced on site as the equipment is used. Construction of improvements would be limited in scope and duration. Thus a less than significant indirect effect would result. In addition, mitigation measures are typically required by local jurisdictions to reduce construction emissions, often in conjunction with required California Environmental Quality Act (CEQA) review. These include watering the exposed soil to reduce dust, reducing speeds on all unpaved roads to 15 miles per hour, and maintaining equipment properly.

Biological Resources

Construction of the water and wastewater pipelines has the potential to impact vegetation communities and unidentified waters of the U.S. Therefore, the NWI Map was analyzed to assess potential indirect effects from the construction of the water and wastewater pipeline routes from the Madera and North Fork sites.

Madera Site

The proposed water source connection loop for the Madera site would travel along existing roads (Golden State Blvd.) to a 12-inch main located on Airport Drive, at the Madera Municipal Airport. The NWI maps show no existing wetlands along the route and vegetation communities are rural residential and agriculture.

The wastewater pipeline has three potential routes to the Madera site. All three originate from the City of Madera WWTP, located on Avenue 13 southwest of the site. The Road 23 Option pipeline would travel east along Avenue 13 to head north along Road 23 to terminate at the site. Vegetation communities along the route are all agriculture, rural residential, and disturbed roadside vegetation. Road 23 bisects the Fresno River at Avenue 15, according to the NWI map. Crossing the Fresno River could require a California Department of Fish & Game 1600 permit and USACE Section 404 Permit, however the pipeline is expected to follow the roadway over the River, causing no impacts to biological resources in or on the banks of the River. Note that the potential recycled water pipeline would also follow Road 23 to the golf course approximately one mile south of the Madera site and would not cross the Fresno River. The Airport Drive Option pipeline would head east of the site and travel along the same route as the water source route,

mentioned above, with no impacts to wetlands. Similar to the Airport Drive Option, the SR-99 Option would travel on the west side of SR-99 and bisect Avenue 16 diagonally from Golden State Drive. There are no NWI wetlands mapped along the SR 99 route.

Most of the habitat that exists in the areas of the Madera pipeline alignments is highly disturbed roadsides. Due to the degraded condition of the roadway/roadside areas, habitat quality is generally low and it is unlikely that extending the existing pipeline facilities would result in a significant effect to sensitive species. Due to the temporary disturbance of the pipeline alignment along existing roadways, the degraded condition of existing habitat, and the requirements of CEQA to address impacts to biological resources, the indirect effects of extending existing pipelines would be less than significant.

North Fork Site

The water/wastewater route for the North Fork Site would follow existing roads from the North Fork Rancheria to the WWTP site in the town of North Fork. There are no occurrences of wetlands mapped by the NWI for the proposed route. However, the route has the potential to impact the South Fork of Willow Creek (i.e. stream crossing). Depending on the method, (e.g., directional drill or above-ground installation) the crossing could require a CDFG 1600 Permit and USACE Nationwide Permit. Potential habitat impacts would be less than significant due to the limited resources associated with roadside vegetation communities.

General

To address effects to sensitive habitat and species, biological surveys would be required to comply with CEQA. The lead agency under CEQA would be required to mitigate potential impacts to a less than significant level or to issue a finding of fact and statement of overriding considerations if significant impacts could not be mitigated.

Cultural Resources

The construction pipelines have the potential to disturb or destroy historical features and archaeological resources. Grading roadways/roadsides and trenching to add pipeline may disturb previously unknown sites. Due to prior grading of the existing roadways and occasional traffic on roadsides, it is likely that resources remaining in these areas are highly disturbed and lack integrity, thus diminishing the significance of the remaining resources.

To address potential impacts to cultural resources, cultural surveys may be required to comply with CEQA. The lead agency under CEQA would be required to mitigate potential impacts to a less than significant level or to issue a finding of fact and statement of overriding considerations if significant impacts could not be mitigated. Mitigation may include the avoidance of resources, the preservation of key historical features, or the removal, documentation, and curation of cultural resources. Therefore, a less than significant indirect effect to cultural resources would result.

Socioeconomic Conditions

Effects to socioeconomic conditions from construction of pipelines would be very similar to the effects noted above to construction of roadway improvements. These effects are primarily limited to temporary inconvenience due to construction and would not result in a significant indirect effect to socioeconomic conditions.

Transportation

Construction of the pipelines could occur along roadways, impacting traffic flow. However, since the construction and resulting traffic effects would be temporary, a less than significant effect to transportation would result.

Land Use

Construction of the pipelines would require utility easements which would limit future construction. An easement is a right, privilege or interest limited to a specific purpose which one party has in the land of another. Underground utility easements are typically laid out as corridors of sufficient width to give some latitude in locating the actual utility line, and to permit sufficient room for periodic inspection, repair and maintenance. Underground utility easements typically prohibit the construction of building improvements, but may permit the construction of non-structural improvements, such as paved surface parking or landscaping. The pipelines would be constructed to follow public roads and would not be in an area where a building would normally be built or where an agricultural field would be plowed. Therefore, less than significant indirect impacts to land uses would occur.

Agriculture

As discussed under Land Use, the pipelines would be placed within or in close proximity to public roads. Agricultural fields usually include a buffer between the crops and public thoroughways. The pipelines are not expected to extend past this buffer area, and would therefore not affect agricultural practices. Therefore, no significant indirect impact to agriculture would occur.

Public Services

As with traffic improvements, the extension of water and wastewater lines could result in a temporary break in public services to some homes and businesses in the area. However, because these effects are common when upgrading and maintaining utility services, and because potential service breaks would be temporary, these effects are considered to be less than significant. No significant effects to police, fire, or emergency medical services are expected as access to homes and businesses would be maintained during the construction period.

Other Values

As with off-site traffic improvements, construction of the proposed water and wastewater lines could potentially result in noise and hazardous materials effects. Construction activities would result in short-term increases in the local ambient noise environments. However, because construction activities would be temporary in nature and are expected to occur during normal daytime hours, a less than significant effect would occur.

The accidental release of hazardous materials used during construction activities could pose a hazard to construction employees and the environment. Additionally, equipment used during construction activities could ignite dry grasses and weeds in construction areas. However, these hazards, which are common to construction activities, would be minimized with adherence to standard operating procedures, such as refueling in designated areas, storing hazardous materials in approved containers, and clearing dried vegetation. These potential hazards are therefore considered to be less than significant.

Because the proposed water and wastewater lines would be constructed below ground, visual indirect effects would be less than significant.