Table 3C-2. Air Quality Monitoring Data

Pollutant Standards	2003	2004	2005
Ozone (O_3)			
Maximum 1-hour concentration (ppm)	0.111	0.11	0.116
Maximum 8-hour concentration (ppm)	0.085	0.088	0.097
Number of Days Standard Exceeded			
NAAQS 1-hour (>0.12 ppm)	0	0	0
CAAQS 1-hour (>0.09 ppm)	12	3	8
NAAQS 8-hour (>0.08 ppm)	2	2	4
Carbon Monoxide (CO)			
Maximum 1-hour concentration (ppm)	2.2	5.7	2.4
Maximum 8-hour concentration (ppm)	1.2	4.3	1.01
Number of Days Standard Exceeded			
NAAQS 8-hour ($\geq$9.0 ppm)	0	0	0
CAAQS 8-hour ($\geq$9.0 ppm)	0	0	0
Particulate Matter (PM10)			
Maximum 24-hour concentration (µg/m3)	40	33	34
Annual average concentration (µg/m3)	18.2	17.3	14.2
Number of Days Standard Exceeded			
NAAQS 24-hour (>150 $\mu g/m^3$)	0	0	0
CAAQS 24-hour (>50 $\mu g/m^3$)	0	0	0

Notes:

1. Ozone and CO are monitored at the Jackson Station, and PM_{10} is monitored at the San Andreas Station.
2. Nitrogen dioxide, sulfur dioxide, and lead are not monitored in the project area.

Sources: California Air Resources Board Internet site: http://www.arb.ca.gov/adam/cgi-bin/db2www/adamtop4b.d2w/start;
EPA Internet site: http://www.epa.gov/air/data/geosel.html.

Attainment Status

If monitored pollutant concentrations meet state or federal standards over a designated period of time, the area is classified as being in attainment for that pollutant. If monitored pollutant concentrations violate the standards, the area is considered a nonattainment area for that pollutant. If data are insufficient to determine whether a pollutant is violating the standard, the area is designated unclassified.

EPA has classified Amador County as a nonattainment area for the 8-hour ozone standard. EPA has designated Amador County as an unclassified area for the CO, PM10, and PM 2.5 standards.

ARB has classified Amador County as a nonattainment area for the 1-hour ozone standard and as an unclassified area for the CO, PM10, and PM2.5 standards. Amador County's attainment status for each of these pollutants relative to the NAAQS and CAAQS is summarized in Table 3C-3.

Table 3C-3. 2006 Amador County Attainment Status for Federal and State Standards

Pollutant	Federal Status	State Status
1-hour O_3	NA[1]	Nonattainment
8-hour O_3	Nonattainment	NA[2]
CO	Unclassified	Unclassified
PM10	Unclassified/attainment	Unclassified
PM2.5	Unclassified/attainment	Unclassified

[1] EPA revoked the 1-hour ozone standard as of June 15, 2005.

[2] ARB approved the 8-hour ozone standard on April 28, 2005, and it became effective on May 17, 2006.

Sensitive Land Uses

Sensitive receptors are locations where human populations, especially children, seniors, and sick persons, are located and where there is reasonable expectation of continuous human exposure according to the averaging time for an air quality standard (e.g., 24-hour, 8-hour, 1-hour). These receptors typically include residences, hospitals, and schools.

Land uses in the project area are primarily agricultural with scattered rural residences. The nearby city of Ione is a developed area comprising residential and commercial land uses. An inactive cogeneration facility is located on the opposite side of Coal Mine Road. A single dwelling is located on that parcel.

Regulatory Setting

The proposed project is within the jurisdiction of the ACAPCD, which is located in the Mountain Counties Air Basin (MCAB). The ACAPCD is one of seven air districts that make up the MCAB. The MCAB consists of Amador County, Calaveras County, El Dorado County, Mariposa County, Northern Sierra (Nevada, Plumas, and Sierra Counties), Placer County (eastern portion), and Tuolomne County air pollution control districts. These seven districts work together to employ a regional approach to air pollution control.

The ACAPCD adopts and enforces controls on stationary sources of air pollutants through its permit and inspection programs and regulated agricultural burning. Other ACAPCD responsibilities include monitoring air quality, preparation of clean air plans, and responding to citizen air quality complaints.

Federal Regulations

The federal Clean Air Act (CAA), enacted in 1963 and amended several times thereafter (including the 1990 amendments), establishes the framework for modern air pollution control. EPA has established national ambient air quality standards (NAAQS) for seven criteria pollutants (Table 3C-1): CO, NO_2, SO_2, ozone, PM10, PM2.5, and lead. Most standards have been set to protect public health. For some pollutants, standards have been based on other values (such as protection of crops, protection of materials, or avoidance of nuisance conditions).

The primary legislation that governs federal air quality regulations is the Clean Air Act Amendments of 1990 (CAAA). The CAAA delegates primary responsibility for clean air to EPA. EPA develops rules and regulations to preserve and improve air quality, as well as delegating specific responsibilities to state and local agencies.

Areas that do not meet the federal ambient air quality standards shown in Table 3C-1 are called *nonattainment* areas. For these nonattainment areas, the CAA requires states to develop and adopt State Implementation Plans (SIPs), which are air quality plans showing how air quality standards will be attained. The SIP, which EPA reviews and approves, must demonstrate how the federal standards will be achieved. Failing to submit a plan or secure approval could lead to denial of federal funding and permits for such improvements as highway construction and sewage treatment plants. In California, EPA has delegated authority to prepare SIPs to ARB, which, in turn, has delegated that authority to individual air districts. In cases where the SIP is submitted by the state but fails to demonstrate achievement of the standards, the EPA is directed to prepare a federal implementation plan.

State Regulations

Responsibility for achieving California's ambient air quality standards (CAAQS), which are more stringent than federal standards, is placed on ARB and local air pollution control districts. State standards are to be achieved through district-level air quality management plans, called clean air plans. These clean air plans are to be updated every 3 years, and they are the state's strategy for attaining the CAAQS.

The California CAA requires local and regional air pollution control districts that are not attaining one or more of the state ambient air quality standards for ozone, CO, SO_2, or NO_2 to expeditiously adopt plans specifically designed to attain these standards. Each plan must be designed to achieve an annual 5% reduction

in district-wide emissions of each nonattainment pollutant or its precursors. ARB is responsible for developing plans and projects that achieve compliance with the state PM10 standards.

Although there are state ambient standards for lead, sulfates, vinyl chloride, and hydrogen sulfide, the California CAA does not require that a plan be developed for them.

ARB oversees the activities of the local air districts but does not permit stationary sources of air pollutants, which are the responsibility of the districts. ARB has the authority for setting vehicle emissions standards for on-road vehicles and for some off-road vehicles. In addition, ARB identifies and sets control measures for toxic air contaminants.

Local Regulations

The ACAPCD adopts and enforces controls on stationary sources of air pollutants through its permit and inspection programs and regulated agricultural burning. Other ACAPCD responsibilities include monitoring air quality, preparation of clean air plans, and responding to citizen air quality complaints. The current regional plan addresses ozone and identifies strategies for progressive reduction in emissions of ozone precursors. In addition to planning responsibilities, the ACAPCD has permitting authority over stationary sources of pollutants. The APAPCD does not have specific guidelines or rules pertaining to the operation of wastewater treatment plants.

The ACAPCD does not have established operation or construction thresholds of significance. However, conversation with AQAPCD staff indicates that the use District Rule 523.3 (Limit Potential to Emit) as a threshold for the determination of significance is appropriate (Harris pers. comm.).

Applicable ACAPCD Rules

The ACAPCD rules discussed below have been adopted by the ACAPCD to reduce emissions throughout Amador County, and are presented here as guidelines that inform this analysis.

Rule 205 (Nuisance Regulation)

The purpose of Rule 205 is to limit emissions of any substance that would cause a nuisance to the public.

Rule 218 (Fugitive Dust Emissions)

The purpose of this rule is to limit fugitive dust emissions from various activities, including construction.

Amador County has included one air quality goal and three implementing policies in its General Plan as part of its transportation and circulation element. The goal is to “improve the air quality in Amador County through improvements

to the transportation system and incentives to reduce single-occupant automobile travel." The three implementing policies are listed below.

- Because the San Joaquin Valley directly impacts the air quality in Amador County, the Amador County Transportation Commission (ACTC) will work cooperatively with the California Department of Transportation (Caltrans), the Amador County Air Pollution Control District, the San Joaquin Valley Air Pollution Control District and the regional planning agencies from the adjacent counties toward the improvement of air quality through regional transportation improvements.
- Amador County will assist the Amador County Air Pollution Control District with the development of transportation control measures that will be needed to meet the required emission reductions of the California Clean Air Act. Measures may include trip reduction measures such as bus turnouts, incentives to rideshare, vanpool, park-and-ride lots and alternative fuels.
- Amador County will support the Amador County Air Pollution Control District in their efforts to establish a monitoring program to more accurately determine the status of air quality in Amador County.

Rule 523 (Limit Potential to Emit)
The purpose of Rule 523 is to limit the emissions of any regulated air pollutant.

Regulatory Agency and Individual Concerns

The Amador County Administrative Agency has commented that the increase in traffic associated with the proposed project will have direct impacts on air quality. The Tribe acknowledges the County's concerns.

The City of Ione has commented that the air quality of Ione would be substantially degraded by facility traffic and by cumulative future traffic. The City has requested that impacts that would result from increased air emissions be assessed.

Impact Analysis

This section describes the proposed project's impacts on air quality. First, it describes the methods used to determine the proposed project's impacts. Second, it discusses impacts from construction (temporary). Third, it discusses operational (permanent) impacts associated with each component of the proposed project, and the project as a whole. Mitigation measures to reduce the severity of significant impacts, as necessary, immediately follow each impact discussion.

Approach and Methodology

Construction-Related Emissions

Construction emissions were estimated using the URBEMIS2002 model, based on the total square footage of the proposed project, which is anticipated to be 328,521 square feet. Construction-related emissions were calculated under the assumption that full buildout would occur as a single project in 2008.

The amount of pollutants emitted during construction activities varies greatly depending on the level of activity, the specific operations taking place, the equipment being operated, soil characteristics, and weather conditions. Despite this variability in emissions, experience has shown that several feasible control measures can be reasonably implemented to reduce PM10 emissions from fugitive dust and equipment exhaust emissions during construction. The ACAPCD recommends compliance with Rule 218 to limit construction-related emissions.

It was assumed that construction of the proposed project would occur over an 18-month period, commencing in June 2007. A detailed list of construction equipment and operation information for sub-grade work was provided by the Tribe. Detailed information of construction equipment and operation for the building phase was not available; accordingly, this analysis is based on the best possible expectations of equipment that would be used during building activities. The analysis assumes that construction activities for the majority of the project components would take place 10 hours per day. It also assumes that four daily haul truck trips would be required for 80 days, with an average haul distance of 20 miles.

Information provided by the project engineer and URBEMIS2002 model default settings (including equipment horsepower and load factor) for construction activities, based on the designated land use, were used to identify the type and number of equipment that would be operating on a typical 10-hour workday during the construction period for site grading, building construction, and paving activities. Table 3C-4 summarizes the anticipated construction equipment and construction vehicle activity data used in the estimation of construction emissions. It was assumed that approximately 2 acres would be disturbed per day and that sidewalks and paved areas would total approximately 4 acres.

Non-mitigated ROG emissions from architectural coatings were estimated assuming that facility-wide average coatings exhibit a ROG content of 0.0185 pound per square foot. This ROG content reflects the use of solvent-based coatings.

Estimated emissions associated with worker travel to the construction site and construction truck deliveries were based on default values in the URBEMIS2002 model. The model output for the URBEMIS2002 analysis is provided in Appendix E.

Table 3C-4. Anticipated Construction Equipment

Equipment Type	Number of Units	Construction Period
Site grading		June 2007—3.6 months
Excavators	2	
Scrapers	5	
Graders	2	
Off-highway trucks	3	
Rubber-tired dozers	1	
Surface equipment	2	
Building construction		September 2007—14.4 months
Cranes	3	
Rough terrain forklifts	4	
Tractor/loaders/backhoes	2	
Architectural coating		November 2008—0.5 month

Operational Emissions

Area Source and Vehicular Emissions from Project Operation

Emissions associated with land use developments are typically divided into two categories: area sources and vehicular emissions. Area source pollutants would be emitted from natural gas combustion for heating requirements (e.g., water heater and furnace); landscaping activities; consumer products (e.g., automotive products, household cleaners, personal care products); and periodic paint emissions from facility upkeep. Because these sources were assumed to be correlated with the levels of use driven by the numbers of employees and visitors, the URBEMIS2002 model was used to estimate area source emissions based on the traffic data provided by Linscott, Law & Greenspan (Appendix F).

The project's increase in vehicle trips would generate vehicle emissions. The URBEMIS2002 model was used to estimate vehicular emissions. Weekday and weekend vehicular emissions were calculated using 6,040 and 9,104 vehicle trips per day, respectively. Detailed results of the operational emissions analysis are provided in Appendix E.

Carbon Monoxide Hot Spot Emissions

An evaluation to determine whether CO hot spots would occur at roadway segments in the vicinity of the proposed project was conducted using CO dispersion modeling. The ambient air quality effects of operations-related CO emissions were evaluated using the CALINE4 dispersion model developed by Caltrans (Benson 1989). CALINE4 treats each segment of a roadway as a separate emission source producing a plume of pollutants that disperses downwind. Pollutant concentrations at any specific location are calculated using

the total contribution from overlapping pollution plumes originating from the sequence of roadway segments. CO modeling was conducted for the following conditions: existing year (2006), buildout year (2008), and future year (2025) with and without project conditions. Detailed methodology of the CO analysis is provided in Appendix E.

Diesel Risk

The proposed project would attract regular trips to the facility by tour buses and could entail deliveries by heavy-duty diesel trucks. In 1998, ARB identified particulate matter from diesel-fueled engines as a TAC (California Air Resources Board 1998). The number of diesel trucks associated with deliveries to the warehouse and the number of tour buses, have not been estimated. However, given the size of the facility, the number of anticipated patrons, the design of parking circulation (i.e., provision of bus parking spaces), it is not expected that health risks associated with exposure to diesel exhaust would be substantial.

Thresholds of Significance

As defined in Exhibit A, *Off-Reservation Environmental Impact Analysis Checklist*, of the Compact, an impact would be considered significant if it would result in any of the conditions listed below.

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).
- Expose off-reservation sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people off-reservation.

The significance criteria established by the applicable air quality management or air pollution control district were used to make these determinations. Accordingly, impacts on air quality were assessed on the basis of the following thresholds, developed in part from guidance provided by ACAPCD staff (Harris pers. comm.).

- Project emissions in excess of 25 tons per year for NO_x and ROG and 50 tons per year for CO and PM10, based on Rule 523.3 (Limit Potential to Emit).
- CO hot spot concentrations from vehicle trips that would violate federal or state ambient air quality standards for CO (Table 3C-1).

- Objectionable odors created by the project that would affect a substantial number of people.
- Construction activities that would not comply with ACAPCD Rule 218 (Fugitive Dust Emissions).

Impacts and Mitigation Measures

Proposed Project

Impact AIR-1: Temporary increase in construction-related emissions during grading and construction activities (less than significant with mitigation)
Construction activities would generate PM10 from fugitive dust and exhaust pollutants from heavy construction equipment. These emissions were estimated using the URBEMIS model and based on the square footage of development for the gaming and entertainment facility. Table 3C-5 summarizes annual emissions (tons per year) associated with construction of the proposed project.

Table 3C-5. Construction Emissions—328,521 Square Feet

	ROG (tons/year)	NO_X (tons/year)	CO (tons/year)	PM10 (tons/year)
2007	3	17	23	**83**
2008	7	7	11	0
ACAPCD threshold	25	25	50	50

Note: Bold text indicates threshold exceedance.

As indicated in Table 3C-5, construction emissions are anticipated to exceed the ACAPCD's PM10 threshold of 50 tons per year for construction activities. Consequently, this impact is considered significant. Implementation of Mitigation Measure AIR-1 would this impact to a less-than-significant level. Although Table 3C-5 indicates that construction-related emissions of ROG, NO_X, and CO are below ACAPCD threshold levels and are less than significant, Mitigation Measure Air-2 is recommended to further reduce emissions of criteria pollutants during construction activities.

Mitigation Measure AIR-1: Implement PM10 reducing measures required under ACAPCD Rule 218 (fugitive dust emissions)
The Tribe will implement PM10 reducing measures required by the ACAPCD. Such measures include but are not limited to those listed below.

- Application of water and/or approved chemicals to control emissions in the demolition of existing buildings or structures, construction

operations, solid waste disposal operations, the grading of roads, and/or the clearing of land.

- Application of asphalt, water, and/or approved chemicals to road surfaces.
- Application of water and/or suitable chemicals to material stockpiles and other surfaces that may generate fugitive dust emissions.
- Paving and/or repaving roads.
- Maintenance of roadways in a clean condition by washing with water or sweeping promptly.
- Covering or wetting material stockpiles and open-bodied trucks, trailers, or other vehicles transporting materials that may generate fugitive dust emissions when in motion.
- Installation and use of paved entry aprons or other effective cleaning techniques to remove dirt accumulating on vehicle wheels on haul or access roads to prevent tracking onto paved roadways.
- For process equipment, the installation and use of hoods, fans, and filters to enclose, collect, and clean the emissions prior to venting.
- Ceasing operations until fugitive emissions can be reduced and controlled.
- Using vegetation and other barriers to contain and reduce fugitive emissions.
- Using vegetation for windbreaks.
- Instituting good housekeeping practices by regularly removing piles of material that have accumulated in work areas and/or are generated from equipment overflow.
- Maintaining reasonable vehicle speeds while driving on unpaved roads in order to minimize fugitive dust emissions.
- Other precautions not specifically listed in this rule but that have been approved in writing by the APCO prior to implementation.

Mitigation Measure AIR-2: Implement construction emissions control technology

The Tribe will prepare a plan demonstrating that the heavy-duty (>50 horsepower) off-road vehicles to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project-wide fleet average 20% NO_X reduction and 45% particulate reduction compared to the most recent ARB fleet average at time of construction. Control measures available to achieve emissions reductions include but are not limited to use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology (e.g., diesel particulate matter filters and lean-NO_X or diesel oxidation catalysts), after-treatment products, and/or other options as they become available.

Impact AIR-2: Elevated health risk from exposure to construction-related diesel particulate matter (less than significant with mitigation)
Construction activities are anticipated to involve the operation of diesel-powered equipment for various activities. In 1998, ARB identified diesel exhaust as a TAC (California Air Resources Board 1998). As described above, construction activities are anticipated to occur over an 18-month period starting in June 2007. The assessment of cancer health risks associated with exposure to diesel exhaust is typically associated with chronic exposure, in which a 70-year exposure period is often assumed. However, while excess cancer can result from exposure periods of less than 70 years, acute exposure periods (i.e., exposure periods of 2–3 years) to diesel exhaust are not anticipated to result in an increased health risk, because health risks associated with exposure to diesel exhaust are typically seen in chronic exposure periods. Because construction activities will occur over an 18-month period and will not result in long-term emissions of diesel exhaust at the project site, this impact is considered less than significant. In addition, implementation of Mitigation Measure Air-2 will further reduce emissions from project activities.

Impact AIR-3: Generation of significant levels of ROG, NO_X, CO, and PM10 emissions from project operations (significant and unavoidable).
Operation of the proposed project would generate ROG, NO_X, CO, and PM10 emissions associated with area sources and vehicular trips generated by the project. Area source emissions include those from natural gas combustion for water and space heating, landscaping equipment, and personal household product use. Calculations of vehicular emissions for the proposed project were based on patron and employee vehicle trips of 6,040 per day on weekdays and 9,104 on weekends, respectively. Estimated emissions of area and mobile source emissions from project operations were evaluated using the URBEMIS2002 computer model. The results of these calculations are summarized in Table 3C-6.

Table 3C-6. Proposed Project 2008 Increase in Operational Emissions (tons per year)

	Pollutant			
Source Category	CO	VOC	NO_X	PM10
Weekdays				
Traffic Emissions	111.21	8.52	13.13	11.72
Area Source Emissions	0.17	0.15	0.13	0.00
Total Weekday Emissions	**111.38**	8.67	13.26	11.72
ACAPCD Significance Thresholds	50.00	25.00	25.00	50.00
Significant?	**Yes**	No	No	No

	Pollutant			
Source Category	CO	VOC	NO_X	PM10
Weekends				
Traffic Emissions	167.61	12.79	19.79	17.66
Area Source Emissions	.17	0.15	0.13	0.00
Total Weekend Emissions	**167.78**	12.94	19.92	17.66
ACAPCD Significance Thresholds	50.00	25.00	25.00	50.00
Significant?	**Yes**	No	No	No

Note: Bold text indicates threshold exceedance.

The CO emissions on both the weekday and weekend are anticipated to exceed the ACAPCD threshold. Implementation of Mitigation Measure AIR-3 would reduce vehicular emissions, but the impact would remain significant and unavoidable.

Mitigation Measure AIR-3: Reduce emissions by implementation of alternative transportation programs
Vehicle emissions from employee trips could be reduced by use of carpooling and bus service; however, such programs would not reduce emissions to a less-than-significant level.

Impact AIR-4: Exposure of sensitive receptors to substantial concentrations of CO (less than significant)

Carbon monoxide modeling following Caltrans' CO protocol was conducted to evaluate whether the super cumulative scenario would cause or contribute to localized CO hot spots or violations of the state or federal ambient standard in the project vicinity (Garza et al. 1997). CO concentrations at sensitive receptors near congested roadways and intersections were estimated using CALINE4 dispersion modeling. Table 3C-7 summarizes CO modeling results for weekday and weekend existing year (2006) without project conditions and buildout year (2008) with project conditions.

Table 3C-7. 1- and 8-Hour Highest CO Concentrations[1] at Roadways Affected by the Proposed Project

		Existing (2006)				Project (2008)			
		Weekday		Weekend		Weekday		Weekend	
	Receptor[2]	1-hr[3]	8-hr[4]	1-hr[3]	8-hr[4]	1-hr[3]	8-hr[4]	1-hr[3]	8-hr[4]
SR 88 – SR 104 to SR 49	1	8.0	5.0	8.3	5.1	7.6	4.7	7.7	4.8
SR 88 – SR 12 to Jack Tone	2	7.8	4.8	9.5	5.9	9.1	5.6	11.6	7.1
SR 88 – Jack Tone to SR 12	3	5.8	3.6	6.0	3.8	7.0	4.4	8.1	5.0
BV – Jackson Vly to Coal Mine	4	3.8	2.4	3.8	2.4	4.3	2.7	6.7	4.2
Coal Mine – BV to Project	5	3.5	2.3	3.5	2.3	5.2	3.3	6.5	4.1

[1] Background concentrations of 3.4 ppm and 2.2 ppm were added to the 1-hour and 8-hour modeling results, respectively.

[2] Receptors located 22 feet away from the centerline of each roadway, and 2,000 feet from each other.

[3] The federal and state 1-hour standards are 35 and 20 ppm, respectively.

[4] The federal and state 8-hour standards are 9 and 9.0 ppm, respectively.

As indicated in Table 3C-7, no violations of the state or federal 1- or 8-hour CO standards are anticipated in the project area under design-year (2008) with-project conditions. Therefore, the impact of proposed project traffic conditions on ambient CO levels in the project area is considered less than significant. No mitigation is required.

Impact AIR-5: Generation of objectionable odors from operation of the wastewater treatment plant (less than significant)

The wastewater treatment plant could be a potential source of objectionable odors. However, because this plant would accommodate a maximum daily throughput of 180,000 gallons per day, it is considered a relatively small treatment plant. Additionally, the project site is located in a sparsely developed rural area. Near the proposed gaming facility, there are single-family residences located on multiple-acre parcels of land. The nearest sensitive receptor is approximately 300 feet from the proposed facility. Most of the surrounding homes are more than 500 feet from the proposed facility's boundary.

The distance from the wastewater treatment facility and the sensitive receptors acts as a buffer zone, allowing the dissipation of objectionable odors. The treatment plant would be located a sufficient distance from existing residential and commercial development such that no objectionable odors would be detected. No mitigation is required.

Alternative 1—No Project

Under the No-Project Alternative, a Class III gaming facility would not be constructed. A range of projects could be constructed without the comprehensive environmental review process that is required under the Compact. Under this alternative, potential off-reservation environmental impacts would not be

evaluated, and mitigation measures would not be required for any such impacts. Depending on the project constructed, there is the potential for either substantially greater or slightly reduced impacts on air quality.

Alternative 2—Phased Project

Impacts AIR-1 and AIR-2 would be the same under Alternative 2 as under the proposed project. These impacts would be similarly reduced to a less-than-significant level by implementation of Mitigation Measures AIR-1 and AIR-2.

Impact AIR-4: Exposure of sensitive receptors to substantial concentrations of CO (less than significant)

While the modeling results differ, Impact AIR-4 would be the same under Alternative 2 as under the proposed project. Table 3C-8 summarizes CO modeling results for weekday and weekend existing year (2006), Phase 1 (2008), Phase 2 (2010), and buildout year (2012) with and without project conditions. No mitigation would be required.

Impact AIR-6: Generation of Significant Levels of ROG, NO_X, CO, and PM10 Emissions from Project Operations (Significant and Unavoidable).

Area source emissions include those from natural gas combustion for water and space heating, landscaping equipment, and personal household product use. Calculations of Phase I (2008) vehicle emissions were based on patron and employee vehicle trips of 2,871 per day on weekdays and 4,323 on weekends, respectively. The results of these calculations are summarized in Table 3C-9

Table 3C-9. Phase I Net Increase in Operational Emissions (tons per year)

	Pollutant			
Source Category	CO	VOC	NO_X	PM10
Weekdays				
Traffic Emissions	53	4	6	6
Area Source Emissions	0	0	0	0
Total Weekday Emissions	**53**	4	6	6
ACAPCD Significance Thresholds	50	25	25	50
Significant?	**Yes**	No	No	No

Source Category	Pollutant			
	CO	VOC	NO_X	PM10
Weekdays				
Traffic Emissions	80	6	9	8
Area Source Emissions	0	0	0	0
Total Weekday Emissions	**80**	6	9	8
ACAPCD Significance Thresholds	50	25	25	50
Significant?	**Yes**	No	No	No

Note: Bold text indicates threshold exceedance.

Calculations of Phase II (2010) vehicle emissions were based on patron and employee vehicle trips of 4,586 per day on weekdays and 6,904 on weekends, respectively.

Table 3C-10. Phase II Net Increase in Operational Emissions (tons per year)

Source Category	Pollutant			
	CO	VOC	NO_X	PM10
Weekdays				
Traffic Emissions	71.52	5.47	8.35	8.89
Area Source Emissions	0.14	0.12	0.10	0.00
Total Weekday Emissions	**71.66**	5.59	8.45	8.89
ACAPCD Significance Thresholds	50.00	25.00	25.00	50.00
Significant?	**Yes**	No	No	No
Weekdays				
Traffic Emissions	107.68	8.20	12.57	13.38
Area Source Emissions	0.14	0.12	0.10	0.00
Total Weekday Emissions	**107.82**	8.32	12.67	13.38
ACAPCD Significance Thresholds	50.00	25.00	25.00	50.00
Significant?	**Yes**	No	No	No

Note: Bold text indicates threshold exceedance.

Calculations of proposed project (2012) vehicle emissions were based on 6,040 patron and employee vehicle trips per day on weekdays and 9,104 on weekends.

Table 3C-8. 1- and 8-Hour Highest CO Concentrations[1] at Roadways Affected by Alternative 2

		Existing 2006				2008 Phase 1 Project				2010 Phase 2 Project				2012 Full Project			
		Weekday		Weekend		Weekday		Weekend		Weekday		Weekend		Weekday		Weekend	
	Receptor[2]	1-hr[3]	8-hr[4]	1-hr[3]	8-hr[4]	1-hr[3]	8-hr[4]	1-hr[3]	8-hr[4]	1-hr[3]	8-hr[4]	1-hr[3]	8-hr[4]	1-hr[3]	8-hr[4]	1-hr[3]	8-hr[4]
SR 88 – SR 104 to SR 49	1	8.0	5.0	8.3	5.1	7.4	4.6	7.5	4.7	6.6	4.1	6.7	4.2	6.0	3.8	5.9	3.7
SR 88 – SR 12 to Jack Tone	2	7.8	4.8	9.5	5.9	7.8	4.8	9.7	6.0	7.4	4.6	9.0	5.6	6.9	4.3	8.3	5.1
SR 88 – Jack Tone to SR 12	3	5.8	3.6	6.0	3.8	6.3	3.9	6.7	4.2	6.0	3.8	6.7	4.2	5.7	3.6	6.7	4.2
BV – Jackson Vly to Coal Mine	4	3.8	2.4	3.8	2.4	4.0	2.6	4.2	2.7	4.1	2.6	4.6	2.9	4.0	2.6	5.5	3.5
Coal Mine – BV to Project	5	3.5	2.3	3.5	2.3	3.8	2.4	4.1	2.6	4.1	2.6	5.2	3.3	4.5	2.9	5.4	3.4

[1] Background concentrations of 3.4 ppm and 2.2 ppm were added to the 1-hour and 8-hour modeling results, respectively.

[2] Receptors located 22 feet away from the centerline of each roadway, and 2000 feet from each other.

[3] The federal and state 1-hour standards are 35 and 20 ppm, respectively.

[4] The federal and state 8-hour standards are 9 and 9.0 ppm, respectively.

Table 3C-11. Phase III Net Increase in Operational Emissions (tons per year)

	Pollutant			
Source Category	CO	VOC	NO_X	PM10
Weekdays				
Weekdays				
Traffic Emissions	94.20	7.21	11.00	11.71
Area Source Emissions	0.16	0.15	0.13	0.00
Total Weekday Emissions	**94.36**	7.36	11.13	11.71
ACAPCD Significance Thresholds	50.00	25.00	25.00	50.00
Significant?	**Yes**	No	No	No
Weekdays				
Traffic Emissions	141.98	10.82	16.58	17.64
Area Source Emissions	0.16	0.15	0.13	0.00
Total Weekday Emissions	**142.14**	10.97	16.71	17.64
ACAPCD Significance Thresholds	50.00	25.00	25.00	50.00
Significant?	**Yes**	No	No	No

Note: Bold text indicates threshold exceedance.

Both weekday and weekend CO emissions are anticipated to exceed the ACAPCD threshold.

Mitigation Measure AIR-3: Reduce emissions by implementation of alternative transportation programs
Vehicle emissions from employee trips could be reduced by use of carpooling and bus service; however, such programs would not reduce emissions to a less-than-significant level.

Alternative 3—Reduced Project (Reduced Gaming Floor Area: 75% of Proposed Project)

Impacts Air-1 and Air-2 would be the same under Alternative 3 as the proposed project. These impacts would be similarly reduced to a less-than-significant level by implementation of Mitigation Measures Air-1 and Air-2.

Impact Air-5 would be the same under Alternative 3 as the proposed project; impacts would remain less than significant.

Impact AIR-7: Generation of Significant Levels of ROG, NO_X, CO, and PM10 Emissions from Project Operations (Significant and Unavoidable).

Area source emissions include those from natural gas combustion for water and space heating, landscaping equipment, and personal household product use.

Alternative 3 vehicle emissions were calculated based on patron and employee vehicle trips of 4,586 per day on a weekday, and 6,904 on a weekend; the same as that described under Alternative 2, Phase II.

The results of these calculations are summarized above in Table 3C-10.

Both weekday and weekend CO emissions are anticipated to exceed the ACAPCD threshold.

Implementation of Mitigation Measure AIR-3 would reduce vehicular emissions, but the impact would remain significant and unavoidable.

Alternative 4—Reconfigured Access Driveway with Additional Site Access and Parking

Impact Air-8: Temporary Increase in Construction-Related Emissions during Grading and Construction Activities (Less than Significant with Mitigation Incorporated):

Construction activities would generate PM10 from fugitive dust and exhaust pollutants from heavy construction equipment. These emissions were estimated using the URBEMIS model and based on the 251,000 square footage of the proposed facility to be constructed over a 24 month period. The following annual emissions were estimated from construction:

Table 3C-12. Construction Emissions; 251,000 square feet

	ROG (tons/year)	NO_X (tons/year)	CO (tons/year)	PM10 (tons/year)
2007	3	17	23	**83**
2008	2	9	13	0
2009	5	3	4	0
ACAPCD Threshold	25	25	50	50

Note: Bold text indicates threshold exceedance.

Implementation of Mitigation Measure Air-1 would reduce the construction related emissions to a level less than significant.

Impacts Air-1 and Air-2 would be the same under Alternative 4 as the proposed project. These impacts would be similarly reduced to a less-than-significant level by implementation of Mitigation Measures Air-1 and Air-2.

Impacts AIR-3, AIR-4 and AIR-5 would be the same under Alternative 4 as the proposed project; impacts would remain less than significant.

3D Biological Resources

This section addresses potential off-reservation impacts on biological resources (e.g., plants, wildlife, fish, wetlands) associated with implementation of the proposed project. Impacts on biological resources that may result from the proposed project are identified, and mitigation measures to avoid, minimize, and compensate for potentially significant impacts on biological resources are described.

Existing Conditions

Environmental Setting

For the purpose of this environmental document, the study area constitutes the footprint of the road improvement areas. In analyzing impacts on wildlife, habitat areas immediately adjacent to the footprint were also considered.

The methods used to identify biological resources within the study area consisted of reviewing the best available scientific information, conducting field surveys, and coordinating with resource agencies.

Methods

The following resources were reviewed to identify biological surveys, permits, and mitigation measures associated with previous projects in the study area.

- *Special-Status Plant Survey Report for the Buena Vista Rancheria "Off-Site Locations"* (North Fork Associates 2006)
- *Wetlands Assessment of Proposed Off-Site Road Improvement Area, Buena Vista Rancheria Casino Project, Amador and San Joaquin Counties, California* (Monk & Associates 2006)
- A search of the California Natural Diversity Database (CNDDB) (2006) for the Ione 7.5-minute U.S. Geological Survey (USGS) quadrangle and eight adjacent quadrangles (Carbondale, Irish Hill, Amador City, Goose Creek, Jackson, Clements, Wallace, and Valley Springs).
- *California Tiger Salamander Site Assessment and Spring Larval Survey Results Buena Vista Rancheria and Road Project* (Monk & Associates 2006)

A reconnaissance survey was conducted of the off-reservation improvement areas by a Jones & Stokes botanist on February 22 and 23, 2006. Wildlife surveys were conducted by a Jones & Stokes wildlife biologist on February 14 and March 3, 2006.

Habitats

The proposed project is located in the Sierra Nevada Foothills within the Lower Foothills Metamorphic Belt (Miles and Goudey 1997). The substrates in this ecoregion are derived mostly from marine sedimentary and metavolcanic rocks. The climate is Mediterranean, with hot, dry summers and mild winters. The characteristic plant communities are annual grassland, oak woodland, and chaparral. Several habitat types are present within the study area. Wetlands are present within and adjacent to the road rights-of-way.

Annual Grassland

Annual grassland is an upland plant community dominated by nonnative annual grasses but containing a diverse assemblage of native and nonnative forbs (Holland 1986). The dominant grasses include brome (*Bromus* spp.), barley (*Hordeum* spp.), and wild oat (*Avena* spp.) species. Annual grassland is one of the main habitats adjacent to the road right-of-way along Jackson Valley Road and at the junction of SR 88 and Liberty Road.

This habitat type provides potential habitat for common insects, amphibians, reptiles, and small birds and mammals. Common small birds and mammals are preyed on by species such as red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), great horned owl (*Bubo virginianus*), and coyote (*Canis latrans*). Typical mammalian prey species include California meadow vole (*Microtus californicus*), deer mouse (*Peromyscus maniculatus*), western harvest mouse (*Reithrodontomys megalotis*), and California ground squirrel (*Spermophilus beecheyi*).

Irrigated Pasture

Irrigated pasture is dominated by perennial grasses and forbs that thrive on summer irrigation. Dallis grass (*Paspalum dilatatum*) is common and abundant in irrigated pasture in the study area. Other typical species include Italian ryegrass (*Lolium multiflorum*), barnyard grass (*Echinochloa crus-galli*), and common velvet grass (*Holcus lanatus*). Wetland species, such as soft rush (*Juncus effusus*) and tall flatsedge (*Cyperus eragrostis*) are also present. Irrigated pasture is one of the main habitats along Jackson Valley Road and Coal Mine Road.

Irrigated pasture provides potential feeding and resting sites for many migratory birds, including shorebirds, wading birds, waterfowl, gulls, and raptors. Common species found in irrigated pasture include long-billed curlew (*Numenius americanus*), whimbrel (*Numenius phaeopus*), white-faced ibis (*Plegadis chihi*), and northern harrier (*Circus cyaneus*). Mule deer (*Odocoileus hemionus*) graze these areas when adjacent escape cover exists, while the presence of small mammals is dependent on the amount of standing water in a given field.

Ruderal Habitat

Ruderal habitat occurs in areas of the right-of-way subject to repeated disturbance (e.g., roadside maintenance, vegetation removal) that are colonized by weedy annual species. It supports native species such as turkey mullein

(*Croton setigerus*) as well as nonnative species such as white pigweed (*Chenopodium album*), puncture vine (*Tribulus terrestris*), hairy bittercress (*Cardamine hirsuta*), common groundsel (*Senecio vulgaris*), dead nettle (*Lamium amplexicaule*), and shepherd's-purse (*Capsella bursa-pastoris*). Ruderal habitat is the primary habitat within the road right-of way. Some of the species present are invasive weeds (see *Noxious Weeds* below).

This habitat type provides low-quality nesting and foraging opportunities for wildlife. Species commonly found in these highly disturbed areas include Brewer's blackbird (*Euphagus cyanocephalus*), American goldfinch (*Carduelis tristis*), black-tailed hare (*Lepus californicus*), and California ground squirrel (*Spermophilus beecheyi*).

Urban Habitat

Urban habitat occurs in areas where the native vegetation has been replaced with grass lawn and ornamental landscaping. This habitat occurs primarily along Buena Vista Road and Jackson Valley Road within the community of Buena Vista.

Urban areas of the study area provide low habitat value for wildlife species. Typical wildlife species that occur in these areas are those that have adapted to an urban landscape, including house sparrow (*Passer domesticus*), European starling (*Sturnus vulgarus*), Brewer's blackbird, Virginia opossum (*Didelphis virginiana*) and raccoon (*Procyon lotor*).

Vineyard

Grape vineyards are present outside the road right-of-way along Jackson Valley Road and at the intersection of SR 88 and SR 12.

Many of the species associated with vineyards are considered agricultural pests because they directly affect grape production. Mammals such as mule deer and desert cottontail (*Sylvilagus audubonii*) are common browsers on vines, while other wildlife such as western gray squirrel (*Sciurus griseus*), American robin (*Turdus migratorius*), and house finch (*Carpodacus mexicanus*) are known to consume fruits. Species including California quail (*Callipepla californica*) and mourning dove (*Zenaida macroura*) sometimes use the vineyard edges for cover and nesting sites.

Oak Woodland

Oak woodland is present along portions of Jackson Valley Road. It is an open woodland dominated by blue oak (*Quercus douglasii*) and interior live oak (*Q. wislizenii*) associated with foothill pine (*Pinus sabiniana*) and scattered understory shrubs, primarily white-leaf manzanita (*Arctostaphylos viscida*) and buckbrush (*Ceanothus cuneatus*).

Many of the same wildlife species that occur in annual grassland are also found in oak woodlands. Additionally, this habitat provides potential nesting and foraging habitat for many bird species, such as Cooper's hawk (*Accipter*

cooperii), oak titmouse (*Baeolophus inornatus*), yellow-billed magpie (*Pica* nuttalli), and acorn woodpecker (*Melanerpes formicivorus*)

Riparian Woodland

Riparian woodland is present along Jackson Creek where it is spanned by Buena Vista Road, along Jackson Valley Road, and on the banks of the drainage ditch along Coal Mine Road. The dominant species include Fremont cottonwood (*Populus fremontii*), willows (*Salix* spp.), and white alder (*Alnus rhombifolia*), with patches of Himalayan blackberry (*Rubus discolor*) in the understory.

The vegetation is diverse and well developed in riparian woodland communities, which therefore provides high-value habitat for many wildlife species. Invertebrates, amphibians, and aquatic reptiles (including western pond turtle [*Emys marmorata*]) live in riparian and adjacent upland habitats. A variety of bird species, such as Nuttall's woodpecker (*Picoides nuttallii*), Pacific-slope flycatcher (*Empidonax difficilis*), and spotted towhee (*Pipilo maculatus*), depend on riparian woodlands for nesting and foraging sites. Raccoons and striped skunks (*Mephitis mephitis*) are common in riparian communities, as are many other species of small mammals.

Wetlands

Vernal Pools

Vernal pools are present in and adjacent to the road right-of-way at the intersection of SR 88 and Liberty Road. The vernal pools occur in swales or in isolated depressions. Wetland species observed in the vernal pools include coyote thistle (*Eryngium castrense*), Indian chickweed (*Mollugo verticillata*), stipitate popcornflower (Pla*giobothrys stipitatus* var. *micranthus*), and curly dock (*Rumex crispus*).

The vernal pools provides habitat for many aquatic invertebrates and crustaceans, including ostracods, copedods, mosquito larvae (Family Culicidae), dragonfly larvae (Order Odonata), water boatmen (Family Corixidae) and diving beetles (Family Dytiscidae). Several species of amphibians, including Pacific tree frog (*Pseudacris regilla*) and western toad (*Bufo boreas*), utilize seasonal wetlands for breeding habitat. The roots and leaves of vernal pool plants and invertebrates living within the wetlands provide an important seasonal food source for migratory waterfowl as well as non-migratory bird species.

Seasonal Wetlands

In the study area, seasonal wetlands occur in irrigated pastures and adjacent to freshwater marshes and creeks along Jackson Valley Road and Coal Mine Road. The vegetation is dominated by Himalayan blackberry, cocklebur (*Xanthium strumarium*), soft rush, Mexican rush (*Juncus mexicanus*), pennyroyal (*Mentha pulegium*), hyssop loosestrife (*Lythrum hyssopifolium*), penciled willowherb (*Epilobium brachycarpum*), hairy willowherb (*Epilobium ciliatum*), curly dock, Bermuda grass (*Cynodon dactylon*), Dallis grass, and annual beard grass (*Polypogon monspeliensis*).

Seasonal wetlands support many of the same amphibian and bird species that are found in vernal pool habitats.

Roadside Ditches

Roadside ditches are scattered along Jackson Valley Road between SR 88 and Buena Vista. The vegetation consists of a mix of native and nonnative perennial wetland species, including broad-leaved cattail (*Typha latifolia*), Dallis grass, and umbrella sedge.

Ditches provide habitat for aquatic insects, fishes, and amphibians, depending on the duration of water flow. They are used for foraging by species such as great egret (*Ardea alba*), belted kingfisher (*Ceryle alcyon*), common garter snake (*Thamnophis sirtalis*), and raccoon.

Special-Status Species

Special-Status Plants

Thirteen special-status plant species have been recorded within the study area (Table 3D-1). Seven of the species have been determined by surveys not to be present in the study area (North Fork Associates 2006). Oak woodland along Jackson Valley Road contains potential habitat for one species, Hoover's calycadenia (*Calycadenia hooveri*); however, no habitat for this species is present within the road right-of-way. Vernal pools at the junction of SR 88 and Liberty Road are potential habitat for five special-status plant species: Henderson's bentgrass (*Agrostis hendersonii*), Tuolumne button-celery (*Eryngium pinnatisectum*), Bogg's Lake hedge-hyssop (*Gratiola heterosepala*), legenere (*Legenere limosa*), and pincushion navarretia (*Navarretia myersii* ssp. *myersii*). However, the portion of the vernal pool within the road right-of-way is highly degraded and is consequently unlikely to support any of these species.

Special-Status Wildlife

Fifteen special-status wildlife species were documented or have the potential to occur within the study area (Table 3D-2). One species, western pond turtle, was observed during field surveys in 2006 within the study area along Jackson Creek near Buena Vista Road. Additionally, the CNDDB lists records for western pond turtle 4 miles west of the segment of SR 88 between Liberty Road and SR 12 (California Natural Diversity Database 2006). Vernal pools near the junction of SR 88 and Liberty Road provide potential habitat for five species: California tiger salamander (*Ambystoma californiense*), midvalley fairy shrimp (*Branchinecta mesovallensis*), vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardi*), and western spadefoot (*Spea hammondi*). Occurrence of three of these species—California tiger salamander, vernal pool fairy shrimp, and western spadefoot—has been documented within a 5-mile radius of this location (California Natural Diversity Database 2006; Monk 2006).

Suitable habitat for two species is lacking in the roadway improvement areas. Suitable breeding habitat for California red-legged frog is absent, and the

occurrence of this species along the right-of-way of the well-traveled roadways considered unlikely. Elderberry shrubs, the host plant for valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (federally listed as threatened), do not occur in the study area. The absence of elderberry shrubs in the study area precludes the presence of this species.

Special-Status Fish

One special-status fish species could occur in the project area: Central Valley steelhead (*Oncorhynchus mykiss*). Historically, steelhead may have spawned in Jackson Creek; currently, they are not blocked from migrating into Jackson Creek. It is unknown if Central Valley steelhead presently occur in Jackson Creek.

Noxious Weeds

The special-status species report (North Fork Associates 2006) provides a list of plant species observed in the study area. Four of the species are rated by the California Invasive Plant Council (Cal-IPC) (2006) as having severe ecological impacts on physical processes, plant and animal communities, and vegetation structure: sweet fennel (*Foeniculum vulgare*), yellow star-thistle (*Centaurea solstitialis*), Himalayan blackberry (*Rubus discolor*), and Medusa-head (*Taeniatherum caput-medusae*). Fifteen other species are rated as having moderate impacts. None of these species are on the federal noxious weed lists, and seven species are California "C" rated weeds.

Regulatory Setting

This section provides an overview of the laws and regulations that influence the management of biological resources in the study area. Although many of these regulations will not apply to the project if the resources in question are avoided, they are discussed here to provide context in determining which biological resources are considered *sensitive* for the purposes of this report and to discuss the effects the project may have on them.

Federal Regulations

Federal Endangered Species Act

The U.S. Fish and Wildlife Service (USFWS) has jurisdiction over plants, wildlife, and non-anadromous fish species listed as threatened or endangered under the federal Endangered Species Act (ESA). Section 9 of the Act protects listed species from *take*, which is broadly defined as actions to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." For any action involving a federal agency in which a listed species could be affected, the federal agency must consult with USFWS in accordance with Section 7 of the ESA. USFWS

Name	Status* Federal/State/ CNPS	Distribution	Habitat	Occurrence in Project Area
Henderson's bentgrass *Agrostis hendersonii*	–/–/3.2	Scattered locations in Central Valley and adjacent foothills	Moist places in grasslands, vernal pool	Habitat present
Ione manzanita *Arctostaphylos myrtifolia*	T/–/1B.2	Central Sierra Nevada foothills, Amador and Calaveras Counties	Chaparral, cismontane woodland, acidic Ione clay or sandy soils, 200-1,900'	Not present
Hoover's calycadenia *Calycadenia hooveri*	–/–/1B.3	Northern and central Sierra Nevada foothills	Cismontane woodland, valley and foothill grassland, on barren, rocky, exposed soil, 200-1,000'	Habitat present
Ione wild buckwheat *Eriogonum apricum* var. *apricum*	E/E/1B.1	Amador County	Openings in chaparral on Ione soil	Not present
Irish Hill wild buckwheat *Eriogonum apricum var. prostratum*	E/E/1B.1	Amador County	Openings in chaparral on Ione soil	Not present
Tuolumne button-celery *Eryngium pinnatisectum*	–/–/1B.2	Amador, Calaveras, Sacramento, and Tuolumne Counties	Vernal pools and moist areas in cismontane woodland and lower montane coniferous forest, 800-1,500'	Habitat present
Bogg's Lake hedge-hyssop *Gratiola heterosepala*	–/E/1B.2	From Oregon south to northern Sacramento County	Vernal pools and swales	Habitat present
Bisbee Creek rush rose *Helianthemum suffrutescens*	–/–/3.2	Amador, Calaveras, El Dorado, Sacramento, and Tuolumne Counties	Chaparral, often on serpentine, gabbro, or Ione soils	Not present
Parry's horkelia *Horkelia parryi*	–/–/1B.2	Amador, Calaveras, El Dorado, and Mariposa Counties	Chaparral, or cismontane woodland openings, especially Ione formation, dry slopes, below 3,500'	Not present
Legenere *Legenere limosa*	–/–/1B.1	Central Valley	Vernal pools	Habitat present
Pincushion navarretia *Navarretia myersii var. myersii*	–/–/1B.1	Central valley, Amador, Lake, Merced, and Sacramento Counties	Edges of vernal pools, 60-300'	Habitat present
Sacramento Orcutt grass *Orcuttia viscida*	E/E/1B.1	Sacramento County	Deep vernal pools	No habitat present

Name	Status* Federal/State/ CNPS	Distribution	Habitat	Occurrence in Project Area
Prairie wedge grass *Sphenopholis obtusata*	–/–/2.2	Amador, Fresno, Inyo, Mono, Riverside, San Bernardino, and Tulare Counties	Meadows and open moist areas, along rivers and springs, in cismontane woodland	Potential habitat present along Jackson Creek

*Status explanations:

Federal

– = No status
E = Listed as "endangered" under the federal Endangered Species Act.
T = Listed as "threatened" under the federal Endangered Species Act.

State

– = No status
E = Listed as "endangered" under the California Endangered Species Act.

California Native Plant Society

1A = List 1A species: plants presumed extinct in California.
1B = List 1B species: rare, threatened, or endangered in California and elsewhere.
2 = List 2: rare, threatened, or endangered in California, more common elsewhere
3 = List 3 species: plants about which we need more information.

Threat Code:

.1 - Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 – Fairly endangered in California (20-80% occurrences threatened)
.3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

Table 3D-2. Special-Status Wildlife Species with the Potential to Occur in the Buena Vista Study Area

Common and Scientific Name	Status Federal/State	Geographic Distribution	Habitat Requirements	Potential Occurrence in Study Area
Midvalley fairy shrimp *Branchinecta mesovallensis*	PE/--	Only within the Central Valley, including Sacramento, Solano, Merced, Madera, San Joaquin, Fresno, and Contra Costa counties	Shallow vernal pools, vernal swales and various artificial ephemeral wetland habitats	Moderate. Potential habitat along Jackson Road. No CNDDB records within 5-miles of project
Vernal pool fairy shrimp *Branchinecta lynchi*	T/--	Central Valley, central and south Coast Ranges from Tehama County to Santa Barbara County. Isolated populations also in Riverside County	Common in vernal pools; also found in sandstone rock outcrop pools	High. CNDDB records within 2.5 miles of SR 88.
Vernal pool tadpole shrimp *Lepidurus packardi*	E/--	Shasta County south to Merced County	Vernal pools and ephemeral stock ponds	Moderate. Potential habitat along Jackson Road. No CNDDB records within 5-miles of project
California tiger salamander *Ambystoma californiense (=A. tigrinum c.)*	C/SSC	Central Valley, including Sierra Nevada foothills, up to approximately 1,000 feet, and coastal region from Butte County south to northeastern San Luis Obispo County.	Small ponds, lakes, or vernal pools in grass-lands and oak woodlands for larvae; rodent burrows, rock crevices, or fallen logs for cover for adults and for summer dormancy	Moderate to High. CNDDB record within 1 mile of intersection of SR 12 & SR 88. Several seasonal wetlands within 500 feet of these roads
Western pond turtle *Clemmys marmorata*	SC/SSC	Occurs from the Oregon border of Del Norte and Siskiyou Counties south along the coast to San Francisco Bay, inland through the Sacramento Valley, and on the western slope of Sierra Nevada	Occupies ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and with watercress, cattails, water lilies, or other aquatic vegetation in woodlands, grasslands, and open forests	High. Single turtle observed basking on a log near Buena Vista Road, bridge crossing over Jackson Creek
Western spadefoot *Scaphiopus hammondii*	SC/SSC, P	Sierra Nevada foothills, Central Valley, Coast Ranges, coastal counties in southern California	Shallow streams with riffles and seasonal wetlands, such as vernal pools in annual grasslands and oak woodlands.	Moderate to High. CNDDB record within 0.25 mile of SR 88 between Liberty Road and SR 12.
Cooper's hawk *Accipiter cooperii*	--/SSC	Throughout California except high altitudes in the Sierra Nevada. Winters in the Central Valley, southeastern desert regions, and plains east of the Cascade Range	Nests in a wide variety of habitat types, from riparian woodlands and digger pine-oak woodlands through mixed conifer forests	Low. Suitable nesting habitat in oak woodlands along Jackson Valley. Regular vehicle traffic along the project route reduces the quality of the habitat for nesting.
Golden eagle *Aquila chrysaetos*	PR/SSC, FP	Foothills and mountains throughout California. Uncommon nonbreeding visitor to lowlands such as the Central Valley	Nest on cliffs and escarpments or in tall trees overlooking open country. Forages in annual grasslands, chaparral, and oak woodlands with plentiful medium and large-sized mammals	Low. Potential foraging habitat along the project.

Common and Scientific Name	Status Federal/State	Geographic Distribution	Habitat Requirements	Potential Occurrence in Study Area
Prairie falcon *Falco mexicanus*	--/SSC	Permanent resident in the south Coast, Transverse, Peninsular, and northern Cascade Ranges, the southeastern deserts, Inyo-White Mountains, foothills surrounding the Central Valley, and in the Sierra Nevada in Modoc, Lassen, and Plumas Counties. Winters in the Central Valley, along the coast from Santa Barbara County to San Diego County, and in Marin, Sonoma, Humboldt, Del Norte, and Inyo Counties	Nests on cliffs or escarpments, usually overlooking dry, open terrain or uplands	Low. Low. Potential foraging habitat along the project.
Sharp-shinned hawk *Accipiter striatus*	--/SSC	Permanent resident in the Sierra Nevada, Cascade, Klamath, and north Coast Ranges at mid elevations and along the coast in Marin, San Francisco, San Mateo, Santa Cruz, and Monterey Counties. Winters over the rest of the state except at very high elevations	Dense canopy ponderosa pine or mixed-conifer forest and riparian habitats	Low. Suitable nesting habitat in oak woodlands along Jackson Valley. Regular vehicle traffic along the project route reduces the quality of the habitat for nesing.
Swainson's hawk *Buteo swainsoni*	--/T	Lower Sacramento and San Joaquin Valleys, the Klamath Basin, and Butte Valley. Highest nesting densities occur near Davis and Woodland, Yolo County	Nests in oaks or cottonwoods in or near riparian habitats. Forages in grasslands, irrigated pastures, and grain fields	High: CNDDB record within 0.25 mile of intersection of SR 88 and Liberty Road.
Northern harrier (*Circus cyaneus*)	-- /SSC	Found throughout lowland California; has been recorded in fall at high elevations	Grasslands, meadows, marshes, and seasonal and agricultural wetlands provid-ing tall cover	Low. Potential foraging habitat along the project.
Tricolored blackbird *Agelaius tricolor*	SC/SSC	Permanent resident in the Central Valley from Butte County to Kern County. Breeds at scattered coastal locations from Marin County south to San Diego County; and at scattered locations in Lake, Sonoma, and Solano Counties. Rare nester in Siskiyou, Modoc, and Lassen Counties	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grainfields. Habitat must be large enough to support 50 pairs. Probably requires water at or near the nesting colony	Low to Moderate: CNDDB record within 0.25 mile of intersection of SRs 12 & 88. Regular vehicle traffic along the project route reduces the quality of the habitat for nesting.

Common and Scientific Name	Status Federal/State	Geographic Distribution	Habitat Requirements	Potential Occurrence in Study Area
Western burrowing owl *Athene cunicularia hypugea*	SC/SSC	Lowlands throughout California, including the Central Valley, northeastern plateau, southeastern deserts, and coastal areas. Rare along south coast	Level, open, dry, heavily grazed or low stature grassland or desert vegetation with available burrows	Moderate. Suitable nesting habitat in grasslands along SR 88 and oak woodlands along Jackson Valley.
White-tailed kite *Elanus leucurus*	--/FP	Lowland areas west of Sierra Nevada from the head of the Sacramento Valley south, including coastal valleys and foothills to western San Diego County at the Mexico border	Low foothills or valley areas with valley or live oaks, riparian areas, and marshes near open grasslands for foraging	Moderate. Suitable nesting habitat in oak savannah along project.

Status explanations:

Federal

E = listed as endangered under the federal Endangered Species Act.
T = listed as threatened under the federal Endangered Species Act.
PT = proposed for federal listing as threatened under the federal Endangered Species Act.
C = species for which USFWS has on file sufficient information on biological vulnerability and threat(s) to support issuance of a proposed rule to list, but issuance of the proposed rule is precluded.
SC = species of concern; species for which existing information indicates it may warrant listing but for which substantial biological information to support a proposed rule is lacking.
– = no listing.

State

E = listed as endangered under the California Endangered Species Act.
T = listed as threatened under the California Endangered Species Act.
FP = fully protected under the California Fish and Game Code.
SSC = species of special concern in California.
– = no listing.

Potential Occurrence in the Study Area

High: Known occurrences of the species within the study area or California Natural Diversity Database, or other documents, records the occurrence of the species within a 10-mile radius of the study area. Suitable habitat is present within the study area.

Moderate: California Natural Diversity Database, or other documents, records the known occurrence of the species within a 10-mile radius of the study area. Poor quality suitable habitat is present within the study area.

Low: California Natural Diversity Database, or other documents, does not record the occurrence of the species within a 10-mile radius of the study area. Suitable habitat is present within the study area.

issues a biological opinion (BO) and, if the project does not jeopardize the continued existence of the listed species, issues an incidental take permit. When no federal context is present, proponents of a project affecting a listed species must consult with USFWS and apply for an incidental take permit under Section 10 of the ESA. Section 10 requires an applicant to submit a habitat conservation plan (HCP) that specifies the project impacts and mitigation measures. No federally listed threatened or endangered species were identified in the study area; however, potential habitat for such species occurs in the study area.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 USC 703) enacts the provisions of treaties between the United States, Great Britain, Mexico, Japan, and the Soviet Union, and authorizes the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. The MBTA, administered by USFWS, sets seasons and bag limits for hunted species and protects migratory birds, their occupied nests, and their eggs (16 USC 703, 50 CFR 21, 50 CFR 10). Most actions that result in taking or in permanent or temporary possession of a protected species constitute violations of the MBTA. Examples of permitted actions that do not violate the MBTA include the possession of a hunting license to pursue specific gamebirds; legitimate research activities; display in zoological gardens; bird banding; and other similar activities. Migratory birds are present in the study area.

Clean Water Act (Sections 401 and 404)

The U.S. Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency (EPA) regulate the discharge of dredged or fill material into waters of the United States under Section 404 of the CWA. Project proponents must obtain a permit from USACE for all discharges of fill material into waters of the United States, including wetlands, before proceeding with a proposed action. Implementation of the proposed project would require the placement of fill material into wetlands.

A relatively recent federal ruling (January 9, 2001: Solid Waste Agency of Northern Cook County [SWANCC] vs. United States Army Corps of Engineers [121 S.CT. 675, 2001]) may affect whether isolated wetlands are considered jurisdictional under Section 404 of the CWA. In response to the ruling, guidance on nonnavigable, isolated, and intrastate waters was published on January 19, 2001, by counsel for EPA and USACE. The guidance essentially determined that USACE may not regulate nonnavigable isolated waters.

Invasive Species

Executive Order 13112 (February 3, 1999) charges that each federal agency whose actions may affect the status of invasive species shall, to the extent practicable and permitted by law: (1) identify such actions and (2) subject to the availability of appropriations, and within Administration budgetary limits, use relevant programs and authorities to: (i) prevent the introduction of invasive species, (ii) detect and respond rapidly to and control populations of such species

in a cost-effective and environmentally sound manner, (iii) monitor invasive species populations accurately and reliably, (iv) provide for restoration of native species and habitat conditions in ecosystems that have been invaded, (v) conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species, and (vi) promote public education on invasive species and the means to address them. An *invasive species* is defined as a species that is (1) nonnative (or alien) to the ecosystem under consideration and (2) whose introduction causes or is likely to cause economic or environmental harm to human health.

State Regulations

California Endangered Species Act

The California Endangered Species Act (CESA) prohibits taking of species listed as threatened and endangered under Section 2080 of the California Fish and Game Code. The Code defines *take* as "hunt, pursue, catch, capture, or kill, or attempt of hunt, pursue, catch, capture, or kill," and differs from the Federal act in that it does not include habitat destruction in its definition of take. The California Department of Fish and Game (DFG) has jurisdiction over species listed as threatened or endangered under CESA. Proponents of any project affecting a state-listed species are required to consult with DFG, which issues a management authorization and incidental take permit under Section 2081 of the California Fish and Game Code. No state-listed threatened or endangered species were identified in the study area; however, potential habitat for such species occurs in the study area.

California Fish and Game Code

Fully Protected Species

The California Fish and Game Code provides protection from take for a variety of species, referred to as *fully protected species.* Section 5050 lists fully protected amphibians and reptiles; Section 3515 lists fully protected fish; Section 3511 lists fully protected birds; and Section 4700 lists fully protected mammals. The California Fish and Game Code defines *take* as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Except for take related to scientific research, all take of fully protected species is prohibited, and DFG cannot issue take permits for fully protected species. No fully protected species were identified in the study area; however, potential habitat for fully protected species occurs in the study area.

Sections 1600–1616 (Streambed Alteration)

DFG regulates activities that would interfere with the natural flow of, or substantially alter the channel, bed, or bank of, a lake, river, or stream. Such activities are regulated under California Fish and Game Code Sections 1600–1616 and require a streambed alteration agreement permit. Requirements to protect the integrity of biological resources and water quality are often conditions of streambed alteration agreements. Conditions that DFG may require include avoidance or minimization of vegetation removal, use of

standard erosion control measures, limitations on the use of heavy equipment, limitations on work periods to avoid impacts on fisheries and wildlife resources, and requirements to restore degraded sites or compensate for permanent habitat losses.

Sections 3550 and 3503.5 (Protection of Raptors)
Section 3503 of the California Fish and Game Code prohibits the killing of birds and/or the destruction of bird nests. Section 3503.5 prohibits the killing of raptor species and/or the destruction of raptor nests. Typical violations include destruction of active raptor nests as a result of tree removal and failure of nesting attempts (loss of eggs and/or young) as a result of disturbance of nesting pairs caused by nearby human activity. Consultation with DFG would be required if nesting birds would be affected by construction activities. Potential nesting habitat for raptors occurs in the study area.

Porter-Cologne Water Quality Act

Water Code Section 13260 requires "any person discharging waste, or proposing to discharge waste, within any region that could affect the waters of the state to file a report of discharge (an application for waste discharge requirements)." Under the Porter-Cologne Act definition, the term *waters of the state* is defined as "any surface water or groundwater, including saline waters, within the boundaries of the state." The SWANCC ruling described above has no bearing on the Porter-Cologne definition. While all waters of the United States that are within the borders of California are also waters of the state, the converse is not true; in other words, waters of the United States is a subset of waters of the state. Thus, California retains authority to regulate discharges of waste into any waters of the state, regardless of whether USACE has concurrent jurisdiction under Section 404 of the CWA.

Noxious Weeds

The California Food and Agriculture Code includes sections defining noxious weeds, providing for quarantine or eradication of noxious weed infestations, and regulating the movement of noxious weeds and their propagules into and within the state. Noxious weeds are defined as "any species of plant which is, or is liable to be detrimental or destructive and difficult to control or eradicate." The California Department of Food and Agriculture (CDFA) maintains lists of noxious weeds and advises the County Agricultural Commissioners as to the action to take regarding each noxious weed species. A-rated weeds are subject to eradication, containment, rejection, or other holding action at the state-county level. B-rated weeds are subject to eradication, containment, control, or other holding action at the discretion of the County Agricultural Commissioner. C-rated weeds are subject to action to retard their spread outside of nurseries at the discretion of the County Agricultural Commissioner.

Impact Analysis

Biological resources could be directly or indirectly affected during construction activities associated with the off-reservation roadway improvements. Impacts on biological resources fall into the three categories: temporary, short-term, and long-term. These categories are defined below.

- A *temporary* impact is one that would occur only during construction and/or subsequent restoration.
- A *short-term* impact is one that would last from the time construction ceases to 3 years after construction and/or subsequent restoration.
- A *long-term* impact would last longer than 3 years after construction and/or subsequent restoration and typically would be associated with road construction and future road maintenance activities. In some cases, a long-term impact could be considered a permanent impact.

The types of activities listed below could cause impacts on biological resources.

- Grading and paving activities during construction.
- Soil compaction, dust, and water runoff from the construction area.
- Creation and use of equipment access routes.
- Construction-related noise from equipment.
- Degradation of water quality in creeks, resulting from construction and development runoff containing petroleum products.

Thresholds of Significance

As defined in Exhibit A, *Off-Reservation Environmental Impact Analysis Checklist*, of the Compact, an impact would be considered significant if it would result in any of the conditions listed below.

- Substantial adverse impact, either directly or through habitat modifications, on any species identified in local or regional plans, policies, or regulations, or by DFG or USFWS.
- Substantial adverse effect on any off-reservation riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by DFG or USFWS.
- Substantial adverse effect on federally protected off-reservation wetlands as defined by Section 404 of the CWA.
- Substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impediment to the use of native wildlife nursery sites.

- A conflict with the provisions of an adopted HCP; natural community conservation plan; or other approved local, regional, or state habitat conservation plan.

Assumptions and Impact Mechanisms

Where road improvements would be limited to road widening to 22–24 feet with 4-foot shoulders, it was assumed that all work would be performed within the existing road right-of-way and that no direct impacts would occur outside the road right-of-way. It was assumed that all wetland impacts within the road right-of-way would be permanent.

Where road improvements would include adding additional through lanes, turning and receiving lanes, or improving roads to four lanes, it was assumed that direct impacts would occur up to 25 feet outside the existing road right-of-way. It was assumed that all wetland impacts within 25 feet of the road right-of-way would be permanent.

Direct impacts would include, but not be limited to, dredging, filling, draining, grubbing, grading, or other construction activities that remove vegetation, fill wetlands, or otherwise disrupt wetland functions. The majority of the direct impacts would be permanent, resulting from the placement of fill material to widen the existing roadbed. Most of the direct, temporary impacts on wetlands would be associated with construction access and would be relatively minor and localized. These impacts include the temporary loss of wetland functions as a result of removing wetland vegetation, compacting wetland soil, or diverting flow or dewatering by grading or other earthwork.

Indirect impacts are those that occur later in time or that could affect the function of habitats and wetlands located outside the footprint of the road impact mitigation area. Any wetlands occurring in the vicinity of the roadway improvement areas would be subject to some level of disturbance. The severity of each indirect impact would vary according to the type of effect and the distance from the road (Forman et al. 2003). Examples of indirect impacts include, but are not limited to, the modification of habitat functions resulting from wind-blown dust, erosion of sediments, spills of construction materials, noxious weed invasion, or hydrologic modifications, as well as the creation of barriers to the movement of wildlife.

Activities involving roadside ditches could result in impacts on fish in Jackson Creek. The mechanisms of such impacts would be increased sedimentation and turbidity, possible release of contaminants into water bodies associated with construction or effluent discharge, and additional runoff from new impervious surfaces. These impacts and the associated mitigation measures are addressed in Section 3O, *Water Resources*.

Impacts and Mitigation Measures

Impact BIO-1: Loss or disturbance of common habitat types (less than significant)
Road widening at the SR 12 and SR 88 intersection, the SR 88 and Liberty Road intersection, and along Jackson Valley Road would result in the loss and disturbance of annual grassland and ruderal habitat. Road widening along Buena Vista Road would result in the loss and disturbance of urban habitat. Because these are common habitats, the project's impacts would be less than significant. No mitigation is required.

Impact BIO-2: Loss or disturbance of wetlands (less than significant with mitigation)
Approximately 2 acres of wetlands would be filled as a result of traffic impact mitigation, primarily by widening Jackson Valley Road, but also by improvements of Coal Mine Road. Direct temporary disturbance of wetlands was not quantified but would be expected to be of a magnitude similar to that of the direct permanent impact. Indirect impacts were also not quantified. Most of the indirect impacts would occur adjacent to the road and would be expected to be of similar magnitude to the direct permanent impact. Water quality effects on wetlands would be expected to extend farther from the road than other impacts. The proposed project's impacts on wetlands would be significant because they would result in a net loss of wetland area and functions. Implementation of Mitigation Measure BIO-1 would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-1: Avoid, minimize, and compensate for impacts on wetlands
Avoidance and Minimization
The measures listed below would minimize direct and indirect impacts on wetlands and other sensitive aquatic habitats during project construction.

- Where wetlands occur adjacent to the study area, install protective fencing at the limits of the construction area. All construction activities would be excluded from these protected areas to prevent incidental adverse effects on adjacent wetlands.
- In areas with shallow groundwater or areas that frequently carry surface water flows, install culverts or other water conveyance structures to maintain existing hydrologic connectivity to avoid impacts on wetland hydrology.
- Implement best management practices (BMPs) during all phases of construction, including permanent BMPs following construction (e.g., berms, brush barriers, check dams, erosion control blankets, filter strips, sandbag barriers, sediment basins, sheet mulching, silt fences, straw-bale barriers, surface roughening, and diversion channels) to reduce impacts from sedimentation and erosion.

Compensation
The goal of compensatory mitigation would be to replace the major wetland functions, vegetation communities, and area lost as a result of project implementation. Enhancing, restoring, or constructing wetlands of the same type as the wetlands filled by project construction would compensate for the loss of wetland functions. Compensating for wetland impacts at a ratio of 3:1 (or at an alternative ratio negotiated with the regulating agency) would compensate for the temporal lag between project implementation and achievement of successful mitigation.

A wetlands mitigation and monitoring plan will be prepared and implemented. The plan will identify the location and size of the mitigation site. No specific wetland mitigation sites have been identified within the study area. The plan will describe all phases of mitigation: site layout, construction details, and success monitoring. The site layout will include a detailed base map outlining the exact location of the mitigation site(s), the specific planting zones, details on the sources of wetland hydrology, and techniques to be used to create a viable and functioning site. Enhancing, restoring, or creating wetlands at a mitigation site typically entails grading, excavating, seeding herbaceous vegetation, planting woody vegetation (willows), and other landscaping techniques (including creation of vegetated buffers) to encourage the development of wetland and riparian vegetation. The construction details will include a detailed seed and plant mix (including the sources and quantities of seed and plants to be used); details on construction methods, timing, and sequence; and all other pertinent details regarding construction and planting. The plan will include success criteria by which to assess achievement of the mitigation goals.

Mitigation monitoring will be performed annually to determine if compensatory mitigation has been or is likely to be successful. Monitoring will document progress toward achieving the success criteria, identify problems requiring remedial action, and inform development of measures for short- and long-term management and maintenance of the mitigation site.

Impact BIO-3: Loss or disturbance of special-status plants (less than significant)
The proposed project is not likely to affect any special-status plant species. No special-status plant species are present within the roadway improvement areas. Potential habitat for special-status vernal pool species is present at the intersection of SR 88 and Liberty Road. However, the portion of the vernal pool within the road right-of-way is highly degraded and is unlikely to support special-status plant species. Special-status plant species may be present in vernal pools adjacent to the study area that may be indirectly affected. These indirect effects are potentially significant. Implementation of Mitigation Measure BIO-1 would reduce this impact to a less-than-significant level.

Impact BIO-4: Introduction or spread of noxious plant species (less than significant with mitigation)
Because the study area is primarily ruderal and agricultural, the proposed project would not substantially add to the level of disturbance extant in the area. Project-related construction activities could introduce and facilitate the spread of new noxious weed species. This is a potentially significant impact. However, implementation of Mitigation Measure BIO-2 would reduce this impact to a less-than-significant level.

> **Mitigation Measure BIO-2: Avoid the introduction of new noxious weeds**
> *Avoidance and Minimization*
> The project proponent will be responsible for avoiding the introduction of new noxious weeds into the study area during project construction. Accordingly, the measures listed below will be implemented during construction.
>
> - Construction supervisors and managers will be educated regarding weed identification and the importance of controlling and preventing the spread of noxious weed infestations.
> - Construction equipment will be cleaned at designated wash stations before entering the construction area.
> - All disturbed areas will be seeded with certified weed-free native and nonnative mixes. Only certified weed-free mulch or rice mulch will be used in upland areas.
> - A follow-up inventory of the construction area will be conducted to verify that construction activities have not resulted in the introduction of new noxious weed infestations. If new noxious weed infestations are located during the follow-up inventory, the County Agricultural Commissioner will be contacted to determine the appropriate species-specific treatment methods. The new noxious weed infestations will be eradicated as directed by the County Agricultural Commissioner.

Impact BIO-5: Nest disturbance of Swainson's hawk, Cooper's hawk, sharp-shinned hawk, white-tailed kite, northern harrier, and non-special-status nesting raptors and other migratory birds (less than significant with mitigation)
If construction occurs during the breeding season (generally between March 1 and August 15), the proposed project could result in the disturbance of nesting special-status raptors and non special-status raptors and other migratory birds. Nest disturbance could lead to nest abandonment and associated mortality of young and loss of reproductive potential due to noise; construction activities could also result in the removal of occupied nests. No active raptor nests were observed during the field surveys in February and March 2006. No focused raptor nest surveys were conducted, and the field visits were conducted outside the peak nesting season for most raptors. The oak woodland supports potential nesting habitat for special-status raptors (Swainson's hawk, Cooper's hawk,

sharp-shinned hawk, and white-tailed kite) and non-special-status raptors (red-tailed hawk, red-shouldered hawk, and great horned owl). Annual grasslands within and adjacent to the study area provide suitable nesting habitat for northern harrier as well as various ground-nesting migratory birds. The riparian woodland within the study area provides nesting habitat for many non-special-status migratory birds.

Disturbance or removal of active special-status raptor nests would be considered significant if the subsequent population declines were large and affected the viability of the local populations. Based on the relatively small amount of nesting habitat affected by project activities and the presence of a busy roadway, there is low potential for special-status species nests in or directly adjacent to the study area. Impacts on non-special-status nesting raptors and other migratory birds would not be considered significant based on considerations listed below.

- The amount of suitable nesting habitat that would be affected by project activities is minimal.
- The proposed project is located along high-use roads.
- Because a relatively small amount of nesting habitat would be affected by project activities, it is expected that few non-special-status raptor species or other migratory bird nests would be disturbed.
- The disturbance of non-special-status raptor or other migratory bird nests would not result in a significant impact because such disturbance would not result in large population declines or affect the viability of local populations, in view of the local and/or regional abundance of these species.

However, all active raptor and other migratory birds nests are protected under the MBTA. Additionally, Section 3503 and 3503.5 of the California Fish and Game Code protects all active raptor nests. Construction activities associated with the proposed project could be in violation of these regulations if active nests are disturbed or removed. Moreover, because white-tailed kite is a fully protected species under the California Fish and Game code, there is no permit that allows for the take of an active nest. Implementation of Mitigation Measure BIO-3 would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-3: Conduct preconstruction surveys and notify DFG of active nests if construction activities are conducted during the breeding season
Avoidance and Minimization

- If feasible, conduct all tree and shrub removal and grading in annual grasslands and oak and riparian woodland habitats during the nonbreeding season (generally between August 16 and February 28) for special-status raptors, non-special-status raptors, and other migratory birds.
- If construction activities are scheduled to occur during the breeding season for special-status raptors, non-special-status raptors, and other

migratory birds, a qualified wildlife biologist (with knowledge of the species to be surveyed) will be retained to conduct the following focused nesting surveys 1 week prior to the start of construction and within the appropriate habitat.

- **Cooper's hawk, sharp-shinned hawk, and white-tailed kite.** Tree-nesting surveys for Swainson's hawk, Cooper's hawk, sharp-shinned hawk, and white-tailed kite will be conducted before any construction disturbances occurring in or near suitable nesting habitat within 500 feet of the construction work area between March 1 and August 15.
- **Swainson's hawk.** Tree-nesting surveys for Swainson's hawk will be conducted before any construction disturbances occurring in or near suitable nesting habitat within 0.25 mile of the construction work area between March 1 and August 15.
- **Northern harrier and other migratory birds.** Ground-nesting surveys for northern harrier and other ground-nesting non-special-status migratory birds will be conducted before any construction disturbances occurring in annual grasslands and agricultural areas within and immediately adjacent to the construction work area between March 1 and August 15.
- **Active raptor nest.** If an active Swainson's hawk nest is located on or within 0.25 mile of the study area, or if other raptors are identified nesting within 500 feet of the study area, a no-disturbance buffer will be established for the duration that the nest remains active. No construction will be allowed within this exclusion area without consultation with DFG. A wildlife biologist will monitor the nest site at least once a week to ensure that the nest site is not disturbed and the buffer is maintained.

Impact BIO-6: Loss of special-status raptor foraging habitat for Swainson's hawk, Cooper's hawk, sharp-shinned hawk, white-tailed kite, northern harrier, western burrowing owl, prairie falcon, and golden eagle (less than significant)

Implementation of the proposed project would result in the temporary disturbance of annual grasslands that are considered potential foraging habitat for special-status raptors; however, there is a low potential for any of these species to forage in the study area due to the regular traffic along the roadways. Based on the regional abundance of these habitat types in the project vicinity, the disturbance or loss would not adversely affect the local populations of special-status raptor species. No mitigation required.

Impact BIO-7: Disturbance of nesting western burrowing owls (less than significant with mitigation)

Western burrowing owl is a state species of special concern and is protected during its nesting season under the MBTA and Section 3503.5 of the California Fish and Game Code. Burrowing owl is a ground-nesting raptor that typically uses the burrows of other species, such as ground squirrels, for nesting and

thermal and escape cover. Burrowing owl is a species of special concern in California because suitable habitat and both local and statewide populations have declined. There is concern that continued declines could result in listing under CESA or ESA (California Department of Fish and Game 1995).

Western burrowing owls were not observed in the study area. Potential nesting and foraging habitat occurs in the oak woodland and annual grasslands habitats in the study area. Disturbance of an active nest could be considered a significant impact. However, implementation of Mitigation Measure BIO-4 would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-4: Preconstruction Survey and Adherence to DFG Guidelines

Avoidance and Minimization

DFG (1995) recommends that preconstruction surveys be conducted to locate active burrowing owl burrows in the construction work area and within a 250-foot-wide buffer zone around the construction area. The project proponent or its contractor will retain a qualified biologist to conduct preconstruction surveys for active burrows according to DFG's Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game 1995). The preconstruction surveys will include a breeding season survey and wintering season survey. If no burrowing owls are detected, no further mitigation is required. If active burrowing owls are detected, the project proponent will implement the following measures.

- Occupied burrows will not be disturbed during the breeding season (February 1–August 31).
- When destruction of occupied burrows is unavoidable during the nonbreeding season (September 1–January 31), unsuitable burrows will be enhanced (enlarged or cleared of debris) or new burrows created (by installing artificial burrows) at a ratio of 2:1 on protected lands approved by DFG. Newly created burrows will follow guidelines established by DFG.
- If owls must be moved away from the project site during the nonbreeding season, passive relocation techniques (e.g., installing one-way doors at burrow entrances) will be used instead of trapping, as described in DFG guidelines. At least 1 week will be necessary to complete passive relocation and allow owls to acclimate to alternate burrows.
- If active burrowing owl burrows are found and the owls must be relocated, the project proponent will offset the loss of foraging and burrow habitat on the project site by acquiring and permanently protecting a minimum of 6.5 acres of foraging habitat per occupied burrow identified on the project site. The protected lands should be located adjacent to the occupied burrowing owl habitat on the project site or in other occupied habitat near the project site. The location of the protected lands will be determined in coordination with DFG.

Impact BIO-8: Disturbance of tricolored blackbird nesting colonies (less than significant with mitigation)

Tricolored blackbird is a state species of special concern. This species is a colonial nesting species typically found nesting in freshwater marshes dominated by tules (*Scirpus* spp.) and cattails (*Typha* spp.), willows, and blackberries (*Rubus* spp.). CNDDB lists records for this species within 0.25 mile of the study area. Suitable habitat for tricolored blackbird does not occur in the study area but does occur outside the road right-of-way adjacent to the study area. Nest disturbance could lead to nest abandonment and associated mortality of young and loss of reproductive potential due to noise.

Mitigation Measure BIO-5: Conduct preconstruction surveys and environmental awareness training

Avoidance and Minimization

If construction activities will occur close to suitable nesting habitat for tricolored blackbird, a preconstruction survey will be conducted for nesting colonies. The preconstruction survey will include only those habitats visually accessible from the study area. If colonies are observed, environmental awareness training will be conducted for this species and a no-disturbance buffer around the nesting colony may be established. The project wildlife biologist will consult with DFG to determine the size of the buffer.

Impact BIO-9: Direct impacts on listed branchiopods (less than significant with mitigation)

Construction of the proposed project would result in the direct loss of seasonal wetlands in the study area. These seasonal wetlands provide potential habitat for special-status branchiopods. There is a moderate potential for vernal pool tadpole shrimp (federally listed as endangered) to occur in the study area; the CNDDB does not list records for this species within 5 miles of the study area. There is a high potential for vernal pool fairy shrimp (federally listed as endangered) to occur in the study area; the CNDDB lists records for this species within 2.5 miles of the study area. Loss of habitat for listed branchiopods would constitute direct impacts (loss of individuals and their habitat). Implementation of Mitigation Measure BIO-6 would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-6: Assume presence and consult with USFWS

Avoidance and Minimization

Due to the presence of suitable habitat for listed branchiopods in the study area and the close proximity of CNDDB records for vernal pool fairy shrimp, presence of listed branchiopods will be assumed and consultation with USFWS will be initiated. As part of the Section 7 consultation process for listed branchiopods, mitigation credits would likely be required from an approved mitigation bank.

Impact BIO-10: Direct impacts on California tiger salamander (less than significant with mitigation)
California tiger salamander is federally listed as threatened. Construction of the proposed project would result in the direct loss of seasonal wetlands in the study area. Seasonal wetlands provide potential breeding habitat for this species. There is a moderate to high potential for California tiger salamander to occur in the study area due to the presence of suitable habitat and the close proximity of CNDDB records (within 1 mile). Due to the relatively small amount of suitable habitat being filled as part of the proposed project, the loss of potential habitat would not be a significant impact. However, the loss of individuals as a result of project construction activities would be considered a significant impact. Implementation of Mitigation Measure BIO-7 would reduce this impact to a less-than-significant level.

> **Mitigation Measure BIO-7: Assume presence and consult with USFWS**
> *Avoidance and Minimization*
> Due to the presence of suitable habitat for California tiger salamander in the study area and the close proximity of CNDDB records, California tiger salamander presence will be assumed and consultation with USFWS will be initiated.

Impact BIO-11: Direct impacts on western spadefoot (less than significant)
Western spadefoot is a state species of special concern. The seasonal wetlands in the study area provide potential habitat for this species. There is a moderate potential for this species to occur in the study area. The CNDDB lists records for this species within 0.25 mile of the study area. Construction of the proposed project could result in the loss (filling or degradation) of aquatic breeding habitat (seasonal wetlands) and upland habitat (annual grassland) for western spadefoot. Due to the relatively small amount of suitable habitat present, this impact is not considered significant. Project activities, including the movement of construction equipment within the construction corridor, could result in the potential loss of a small number of adult western spadefoot. Adult western spadefoot could be crushed by construction equipment during the excavation and grading of upland habitat where adult western spadefoot toads are aestivating.

Due to the small quantity of habitat affected by the proposed project and the proximity to the busy roadway, the loss of a few individuals would be unlikely to affect the regional population and is considered less than significant. As part of the project commitments, a wildlife biologist would remove any western spadefoot encountered at the project site and place them near a seasonal wetland outside the construction area. The potential for the mortality of a few individuals is considered very low. No mitigation is required.

Impact BIO-12: Direct impacts on northwestern pond turtle (less than significant)
Northwestern pond turtle is designated as a state species of special concern. One turtle was observed basking on a log near the Buena Vista Road bridge crossing over Jackson Creek. Habitat for this species would not be removed by project

activities, but if construction occurs near Jackson Creek the project could cause the mortality of a few individuals. This impact is considered less than significant because, as part of the project commitments, a wildlife biologist will remove any western pond turtles encountered on the project site and place them in Jackson Creek. Accordingly, the probability for mortality of a few individuals is considered very low. No mitigation is required.

Impact BIO-13: Direct mortality and short-term disturbance of common slow-moving and ground-dwelling animals (less than significant)
Grading, fill, soil compaction, and other construction activities associated with the proposed project could result in the direct mortality or short-term disturbance of slow-moving and ground-dwelling animals. This possible impact is not considered significant because those animals that could be affected by construction activities are common species that are locally and regionally abundant. No mitigation is required.

Impact BIO-14: Short-term disturbance and removal of habitat occupied by common wildlife species (less than significant)
The proposed project would result in short-term disturbance and removal of habitat occupied by common wildlife species in the study area. This is not considered a significant impact because the project-related activities would only temporarily disturb or remove a small quantity of annual grassland and ruderal habitat. Moreover, the short-term disturbance and removal of habitats occupied by common wildlife species is not considered significant because the species occurring in them are locally and regionally abundant and populations of these species would not be substantially reduced. No mitigation is required.

Alternatives

Alternative 1—No Project

Under the No-Project Alternative, a Class III gaming facility would not be constructed. A range of projects could be constructed without the comprehensive environmental review process that is required under the Compact. Under this alternative, potential off-reservation environmental impacts would not be evaluated, and mitigation measures would not be required for any such impacts. Because the road improvements would not be constructed, impacts associated with those activities would not occur. There would be no off-reservation impacts on biological resources.

Alternative 2—Phased Project Implementation

Phased development of the project would result in a slower rate of impacts on biological resources. However, because the completed project would be the same as the proposed project, the overall impacts on biological resources would be the same as under the proposed project.

Alternative 3—Reduced Project (Reduced Gaming Floor Area: 75% of Proposed Project)

A reduced gaming floor would necessitate fewer road improvement projects than would be necessary under the proposed project. However, the road improvements that would occur under this alternative are located in areas identified as potential habitat for all the sensitive species identified above (see *Impacts and Mitigation Measures*) except western pond turtle.

Alternative 4—Reconfigured Access Driveway with Additional Site Access and Parking

In addition to the impacts addressed above that would result from the proposed project, the 7-acre parking lot associated with Alternative 4 would result in impacts on suitable habitat for listed branchiopods, special-status amphibians, and nesting birds. Specifically, Alternative 4 would result in impacts on 0.3 acre of stock pond and 0.88 acre of seasonal wetlands. Implementation of Mitigation Measure BIO-1 would reduce this impact to a less-than-significant level.

3E Cultural Resources

This section analyzes the proposed project's effects on cultural resources. The analysis is based on research, consultation with Native Americans knowledgeable about cultural resources in the project vicinity, and archaeological and historic architectural surveys of the off-reservation road improvement areas.

Methods

Determination of the Study Area

For the purposes of this analysis, the study area consists of all property that could reasonably be altered by construction of the proposed off-reservation traffic improvements. These alterations comprise ground disturbance as well as the introduction of project elements that visually, audibly, or otherwise compromise the setting of cultural resources in the vicinity of the proposed project. Three documents addressing off-reservation improvement plans and mitigation thresholds were consulted to determine the extent of the study area.

- *Buena Vista Rancheria Offsite Improvement Plans* (Kimley-Horn and Associates 2005)
- *Buena Vista Rancheria Offsite Mitigation Measures: Intersection Improvements* (Kimley-Horn and Associates 2006).
- *Traffic Impact Analysis, Buena Vista Rancheria of Me-Wuk Indians Gaming and Entertainment Facility* (Linscott, Law & Greenspan 2006).

The extent of the study area is described below.

- SR 88 at Jackson Valley Road. The study area consists of the public right-of-way.
- Jackson Valley Road from SR 88 to Buena Vista Road; Buena Vista Corners. The study area consists of the public right-of-way plus approximately 8 feet of right-of-way take north and south of the existing right-of-way (total corridor is 62 feet wide, centered on the existing road centerline).
- Buena Vista Road to Buena Vista Rancheria. The study area is confined to the existing right-of-way, a corridor approximately 80 feet wide centered on the existing road centerline.
- SR 12 at SR 88; SR 88 at Liberty Road. The project area is confined to the public right-of-way, an area approximately 100 feet wide.

Research Methods

Research entailed a records search, a literature review, and primary and secondary research at state and local repositories. The records search was conducted at the North Central Information Center (NCIC) of the California Historical Resources Information System (Pacific Legacy 2005, 2006:19). The NCIC maintains the state's database of previous cultural resource studies and known cultural resources for a six-county area that includes Amador County. In addition to the database of previous studies and recorded cultural resources, the records search included reviews of historic topographic maps, local historical surveys and overviews, primary and secondary historical writings, and the California Department of Transportation's Historical Bridges Inventory (California Department of Parks and Recreation 1976, 1996; W. Clark 1970; General Land Office 1855, 1859, 1865a, 1865b, 1870). Literature reviews regarding local prehistory, ethnography, and history were conducted at Jones & Stokes and Pacific Legacy's respective cultural resources libraries and the Bureau of Land Management. Primary and secondary research was conducted at the California State Library, the Amador County Library, the Amador County Archives, and the Amador County Assessor's Office. The literature review and primary and secondary research provided material for the discussions that follow, and also served as a guide for fieldwork and consultation. The primary and secondary research also provided background information for the evaluation of historical resources in the study area.

The records search and literature review indicate that 15 previous cultural resource studies have been conducted in or adjacent to the proposed off-reservation traffic improvement areas (M. Clark 2001a, 2001b; Derr 1981; Gross and Heipel 2000; Jackson 2001; Jackson et al. 2005; Jones & Stokes 2006; Jones & Stokes Associates 1997; Levy 1996; Maniery 1989; Napton 1993; Page 1992; Smith 1981; Stewart and Marvin 1992; Werner 1989).

Jones & Stokes conducted additional research at the California State Library, Sacramento; the Amador County Archives; and the Amador County Assessor and Recorder's Office in Jackson.

Consultation

Theodoratus et al. (2006) consulted intensively with the local Me-Wuk communities regarding the impacts that the proposed gaming facility and attendant facilities may have on cultural resources of interest to the Me-Wuk. Consultation began on September 2, 2005, with a request to the Native American Heritage Commission (NAHC) to search its Sacred Lands file for the presence of Native American cultural resources in the project vicinity. A list of Native American contacts for the project vicinity was also requested. The NAHC indicated by letter on September 21, 2006, that a sacred site is located in the proposed project vicinity (Theodoratus et al. 2006:3).

On March 8, 2006, Pacific Legacy mailed letters to 10 individuals, Tribes, and Tribal organizations whose contact information was provided by the NAHC. The letters requested information regarding the existence of sites that may be affected by the proposed project. The letters were followed by telephone calls 2 weeks later. All respondents deferred to the Ione Band of Miwok Indians' knowledge and interests because the proposed project is located at the Ione Band's place of origin. Pacific Legacy subsequently met with the Tribal chairpersons of the Buena Vista Rancheria of Me-Wuk Indians and the Ione Band, as well as other members of both Tribes (Theodoratus et al. 2006:3).

Cultural Resource Surveys

Pacific Legacy (2006) conducted an archaeological survey of the proposed road improvement areas by walking parallel transects spaced 45–60 feet apart within the limits of public rights-of-way. Where ground surface visibility was severely limited (more than 50% of the ground surface obscured by vegetation), the surveyors used hoes to scrape back vegetation at 90- to 150-foot intervals to increase the likelihood of identifying small archaeological materials such as arrow or dart points and other tools.

On April 18, 2006, Jones & Stokes architectural historians conducted a field survey of the entire study area. As part of the field process, buildings and structures 50 years old or older were inspected, photographed, and documented.

Existing Conditions

Environmental Setting

Prehistoric Setting

The information in this section is adapted from Pacific Legacy (2006:9–14) with the authors' kind permission.

Buena Vista Rancheria is located in the Sierra Nevada foothills between the San Joaquin/Sacramento River Delta to the west and the Sierra Nevada to the east. Sites in this foothill zone exhibit similarities to the archaeology of both of these areas (Moratto 1984). Researchers have traditionally used taxonomic frameworks developed for the adjacent northern Sierra and Central Valley regions for archaeological interpretations in the project vicinity. The following discussion is largely excerpted from a nearby study authored by Shapiro et al. (2003) in which comparative overviews of Central Valley and Sierran archaeological patterns are presented.

Central Valley and Delta Region

The Central Valley cultural chronology developed from a long history of archaeological investigation in the Sacramento and San Joaquin Delta region.

The first cultural chronology for Central Valley prehistory is the Central California Taxonomic System (CCTS), pioneered by Lillard et al. (1939), later modified by Beardsley (1948), and recently refined by others (e.g., Bennyhoff 1994). The CCTS recognizes three major periods in central California prehistory, each defined by distinct material assemblages reflecting particular cultural adaptations.

- Early Period (ca. 4500–2500 Before Present [B.P.]), often correlated with the Windmiller Pattern.
- Middle Period (ca. 2500–1300 B.P.), equated with the Berkeley Pattern in the San Francisco/Delta region.
- Late Period (ca. 1300–100 B.P.), corresponding to the Augustine Pattern in the San Francisco Bay area. The Late Period is typically divided into Phase I (ca. 1300–450 B.P.) and Phase II (ca. 450–100 B.P.).

The transition from the Middle to Late Periods marks a dramatic change in central California; new bead and ornament types emerge, and milling stones and simple cobble mortars and unshaped pestles give way to well-made bowl mortars and elaborately shaped pestles. These artifacts and an abundance of bedrock milling stations likely reflect intensive acorn use as the focus of subsistence activities in the Late Period. The adoption of the bow and arrow is another change in technology, although dart-sized points persist at some sites. Settlements appear to become more sedentary and populations increase. Stockton Serrated points were common during Phase 1 and 2 in the Central Valley and Delta, although these distinctive points are not found much north of the Sacramento area. Phase I of the Late Period is typically characterized by small side-notched or corner-notched points resembling the Rose Spring type. Phase I artifacts also include D- and M-series *Olivella* beads that are often found as isolates in sites dating to other cultural phases. New bead types emerge during Phase II (including clam shell disk beads and lipped Olivella beads), and Desert side-notched and Cottonwood points become the dominant arrow point types.

The utility of the CCTS in the Sierra foothills is limited because all three periods are essentially Late Holocene phenomena. In the Central Valley and Delta this is not a major concern as sites generally do not predate 4500 B.P., probably reflecting the burial or erosion of older sites. The foothills and higher elevations of the Sierra have older landscape surfaces that retain archaeological evidence of Middle Holocene and Terminal Pleistocene/Early Holocene human occupations.

Sierra Nevada Foothills

Central Valley assemblage traits occur throughout the foothills, and some formulation that incorporates the Early-Middle-Late Period sequence may be ultimately prove to be appropriate to the study area. For the time being, local culture historical sequences developed for the Sierra foothills may provide a more inclusive framework for the Buena Vista Rancheria project area. These include the cultural sequence initially defined by Moratto et al. (1988) from the New Melones Reservoir Project about 45 miles from the proposed project site, and a cultural chronology by Milliken et al. (1997) from the Taylor's Bar Site

(CA-Cal-1180/H), which is used in regional investigations specific to the Amador/Calaveras County foothills (e.g., Wohlgemuth and Meyer 2002).

Terminal Pleistocene/Early Holocene (ca. 12,000–6500 B.P.)
Land surfaces of this age have not been found in the Central Valley (where they are deeply buried if present), but they do occur in the lower foothills of the Sierra Nevada, including the general of the study area. Fluted points representing Paleoindian occupation during the terminal Pleistocene and Early Holocene have been found in the Sierra Nevada region (Stewart et al. 2002). Early Holocene components assigned to the Clarks Flat Phase (ca. 10,000–6500 B.P.) have been identified at several foothill localities and are best represented by the Clarks Flat Site, CA-Cal-342 on the Stanislaus River (Peak and Crew 1990), and the Skyrocket sites (CA-Cal-629/630) in Salt Springs Valley near the town of Copperopolis (La Jeunesse and Pryor 1996).

Artifacts diagnostic of this period include stemmed points of the Western Stemmed series, also known as Great Basin Stemmed points, where these are typically affiliated with the Early Holocene Western Pluvial Lakes tradition. The Taylors Bar Site (CA-Cal-1180/H) contains point forms similar to the Western Stemmed series (Milliken et al. 1997). A single radiocarbon date, possibly from the earliest cultural stratum, suggests occupation at 9,610+/-120 B.P. Presently, little is known about the lifeways and adaptations characteristic of the Clarks Flat Phase due to the sparse data available. Western Stemmed points may persist in the foothills into Middle Holocene contexts. At some sites, stemmed points appear reduced in size during the latter portion of the Clarks Flat Phase; this phase is marked by the addition of large side scrapers and denticulates, items that are used in the following period. These and other early Holocene flaked stone artifacts are often made from a distinctive silica-rich volcanic greenstone.

Middle Holocene (ca. 7000–4000 B.P.)
Middle Holocene components corresponding to the Stanislaus Phase (6500–4500 B.P.) are represented at three sites not far from the project area: Clarks Flat (CA-Cal-342), Texas Charley (CA-Cal-286 at New Melones Reservoir), and the Redbud site (CA-Cal-347 on the Stanislaus River). The Stanislaus Phase is best represented at Clarks Flat where it stratigraphically overlies the earlier Clarks Flat Phase. It is characterized by a continuation of wide-stemmed points as well as the addition of Broad Stemmed Stanislaus series points, reminiscent of Pinto Shouldered points. Atlatl weights are documented for the first time in the Stanislaus Phase at Clarks Flat, and the variety of flaked stone tools and groundstone implements (mostly abraders) increases. The basal component at the Texas Charley Gulch Site (CA-CAL-S-286) located on the northwest shore of New Melones Reservoir was assigned to the time period 6000–5500 B.P. (Moratto et al. 1988). The assemblage is dominated by large lanceolate bifacial points of chert, a variety of side scrapers, end scrapers, and handstones. A single radiocarbon date places the occupation at 5120+/-170 B.P. Similar point forms (e.g., Pinto points) persist elsewhere until perhaps 4000 B.P. (Moratto 1984). These two Middle Holocene phases are thought to correspond to the hot/dry Altithermal climatic episode. In the New Melones project area the period was apparently characterized by sparse human occupation and an occupational hiatus

during the hottest and driest portion of this period. Hunting is the most archaeologically visible subsistence activity throughout the Early and Middle Holocene.

Late Holocene (ca. 4000–150 B.P.)

The first human occupation in the Sacramento Valley during the Holocene is termed the Early Period (Lillard et al. 1939). This occupation is referred to as the Windmiller Culture (Ragir 1972) or Windmiller Pattern (Bennyhoff 1994; Moratto 1984). In the Sierra foothills, the Early Period spans from approximately 4500 to 2500 B.P., and although it is represented by few sites, it generally corresponds to the Windmiller Pattern in the Central Valley. In Amador and Calaveras Counties, sites with Late Holocene/Early Period assemblages include the Old Bridge Site (CA-Cal-267) at Camanche Reservoir, a component that includes a cemetery dated to 3630+/-300 B.P. The Applegate Site (CA-Ama-56) also contains an Early Period component as reported by Johnson (1970). This assemblage was characterized by 29 burials, mostly flexed, and included one extended burial and one cremation. Obsidian hydration values on five Napa Valley points ranged from 3.4 to 5.7 microns, suggesting that the site was used from the Early Period through the first part of the Middle Period. Other Early Period components that correspond to Calaveras Phase occupations are sparsely represented at the Texas Charley (CA-Cal-286) and Redbud (CA-Cal-347) sites near New Melones Reservoir. The Early Period in this area is marked by Pinto Square Shoulder points, Humboldt Concave points, and possibly early examples of Elko Series or other corner notched points (Milliken et al. 1997; Moratto et al. 1988).

Moratto et al. (1988) defined the Middle Period and constituent Sierra Phase (2500–1300 B.P.) during the New Melones project. The Sierra Phase is characterized by some of the largest sites and most well-developed middens in the project region. Occupations during this phase were large, with populations settled in villages and evidence of intensive acorn exploitation. As in sites to the west, bowl mortars appear for the first time, and Elko Earred and Corner-notched points, Sierra Concave Base points, and distinctive *Olivella* beads are the most common diagnostic types.

Windmiller type mortuary patterns persist in some areas of the central valley and lower foothills. For example, the Fredenberg Site (CA-Cal-1218), at the northern end of New Hogan Reservoir, contained Middle Period burials with Olivella ring beads and Elko Series points. Well-developed occupational middens reflect large habitation sites occurring throughout the bordering valley and lower foothill zone. Middle Period and Middle/Late transition phases are well represented at CA-Sac-133, a Plains Miwok site on Deer Creek near Sloughhouse (Bouey and Waechter 1992). Radiocarbon dates from burials at the site indicate a narrow temporal range, while artifact forms reflect generalized and longer site use, peaking around 2,500–150 years ago.

Phase I of the Late Period corresponds to the Redbud Phase (1300–500 B.P.). A major change in the archaeological record occurs at this point and is reflected by changes in technology, subsistence, settlement patterns, sociopolitical

organization, and supra-regional interaction, ultimately culminating in the ethnographic period (Delacorte 2001). More elaborate mortars and pestles suggest intensification of acorn processing. The development of bow and arrow technology is marked by the appearance of new projectile point types. In the project area, these primarily involve small corner-notched or side-notched points morphologically similar to Rosegate Series forms, although distinctive Stockton Serrated points appear as well. Despite this evidence of substantial change, sites in the study area (both foothill and valley sites) dating to this period are rare, especially when compared to the preceding Sierra Phase and the succeeding Horseshoe Bend phases. This paucity has been attributed to extremely hot and dry conditions, which may have stressed local populations and prompted population movements, changes in adaptations, abandonment of resources-poor areas, and other social responses. At New Melones, the Redbud Phase is marked by new artifact types as discussed above, but also by a paucity of sites (Moratto et al. 1988). Many of the large midden sites of the Sierra Phase cease to be occupied, and most sites appear to reflect ephemeral habitations. The paucity of sites dating to this period, if accurate, stands in stark contrast to the early centuries of this period (ca. 800–1200 BP) in the South Fork American River watershed north of the study region, where sites dating to this period are ubiquitous.

The Applegate Site (CA-Ama-56) in Jackson Valley is a substantial site approximately 4 miles from the Rancheria. CA-Ama-56 is a major Middle Period prehistoric occupation site with a Redbud Period component and cemetery that was mostly abandoned during the Late Period. Recent investigations reported by Wohlgemuth and Meyer (2002) involved backhoe trenches and the hand-excavation of 10 cubic meters of cultural deposits. Their investigations revealed a cultural deposit rich in prehistoric residues. These included flaked and ground stone artifacts, small numbers of shell beads and bone artifacts, baked clay, faunal and floral remains, isolated human bone fragments, and three compacted surfaces possibly representing house floors and radiocarbon dated to 690–1390 B.P. Data from the investigation, when combined with Johnson's (1970) and others', support larger regional shifts noted further south in the foothills, in which flourishing Middle Period occupations were followed by a decrease during the Late Period, Phase I, and a subsequent rebound during the Late Period, Phase II.

In the project vicinity, Phase II of the Late Period corresponds to the Horseshoe Bend Phase (ca. 650/450–100 B.P.), commonly marked by the replacement of earlier arrow point types with Desert Side-notch and Cottonwood points (Moratto et al. 1988). Other new artifact types include various disk beads (lipped *Olivella*, clam shell, and magnesite). New ornaments and an elaborate baked clay industry appear in valley sites. Evidence of long-distance trade in beads, decorative items, and obsidian becomes prominent, compared to the apparent loss of trade during the earlier Phase I. The period also reflects larger populations, as evidenced by many large midden sites and more sites attributed to this time-period than ever before, particularly in the New Melones study area. Large numbers of bedrock mortar features at most of the late prehistoric sites in the New Melones project area led Moratto et al. (1988:342) to posit that bedrock

mortars were introduced to the study area during the Late Period, after ca. A.D. 1300 (650 B.P.). Many of the comparable sites in the study area have Late Period, Phase II components including CA-Cal-1180/H (Milliken et al. 1997), the Texas Charley and Redbud sites at New Melones Reservoir (Moratto et al. 1988), Bamert Cave (CA-Ama-3) at Camanche Reservoir (Johnson 1967), and CA-SJo-265 (Delacorte 2001). These and other regional sites show a pattern of intensive reoccupation during the Late Period, following an earlier site use during the Middle Holocene. This suggests that a population decrease preceded the terminal Late Period.

Local Investigations

Several site excavations in the project region provide comparative data for the Buena Vista Rancheria research. Among these is the already-mentioned Applegate Site (CA-Ama-56) on Jackson Creek, a tributary of Dry Creek (Johnson 1970; Wohlgemuth and Meyer 2002). Also comparable is the previously discussed Taylors Bar Site (CA-Cal-1180/H) near New Hogan Reservoir (Milliken et al. 1997). Phase II investigations at CA-Ama-469 near Plymouth, where recent excavations have identified a substantial midden deposit containing flaked stone tools and debitage (obsidian, quartz, metavolcanic materials); groundstone; bone tools; vertebrate faunal remains; and diagnostic artifacts (Holmes et al. 2003), are also informative.

Ethnographic Setting

The information in this section is adapted from Pacific Legacy (2006:14–17).

Jackson Valley, including the project area, is within the ethnographic territory of the Northern Sierra Me-Wuk (variously spelled Miwok, Miwuk, etc.; the term Me-Wuk is used here for the project area because this is the name used by members of the Buena Vista Tribe to identify themselves) (Kroeber 1925; Levy 1978). The Sierra Me-Wuk are a linguistic subgroup of the Utian language family, which is further subdivided into five languages and three distinct language groups: Plains, Bay, and Sierra Me-Wuk. The western Amador County line roughly defines the boundary between the Plains Miwok and the Sierra Me-Wuk as recorded at the time of Spanish contact (Bennyhoff 1977; Kroeber 1925; Levy 1978; Merriam 1907). The Northern Sierra Me-Wuk inhabited primarily the upper and middle reaches of the Mokelumne and Cosumnes rivers east of Stockton (Kroeber 1925:Plate 37; Levy 1978:398).

The tribelet was the central political unit of the Me-Wuk. Each tribelet was independent, controlling its own territory and internal natural resources. Permanent settlements, as well as seasonal campsites used for resource procurement, were established within the territory of each triblet. The lineage was also politically important and defined specific geographic localities that usually corresponded to permanent settlements. The Ione and Jackson groups of Amador County referred to themselves as *Koni*, a name originally applied to them by their Maidu neighbors to the north (Barrett 1908:342).

Me-Wuk subsistence was based on an annual round of gathering and hunting. Elsasser (1960:8) argued that, "The universal practice of all Sierran ethnographic groups of moving with the seasons, usually east and west, but in specific territory, must indicate an optimum method of survival in the given environment, and one of long standing." It is worth noting that this ethnographically recorded pattern may reflect accommodations to the encroachment of Euroamerican immigrants on Native American Indian territory during latter half of the nineteenth century. This Gold Rush period was one of intense conflict between the two groups and resulted in dramatic social change for the Sierra Me-Wuk. It is likely that this time marked significant social and economic changes for the Me-Wuk, resulting from the loss of access to large areas of land that were previously used for hunting and gathering.

The Sierra Me-Wuk diet included acorns (various species) as a staple that was gathered from May to August and stored. Hard seeds and roots were collected and consumed, supplemented by game meat such as tule elk, deer, and pronghorn antelope. Small animals and birds such as rabbits, coyotes, beavers, gophers, quail, and geese were also important (Johnson 1967). While hunting occurred year-round, game meat was the main source of food in winter when plant resources were scarce. Archaeological assemblages of animal bone from Amador County suggest that generalized hunting, where many different types of animals were obtained, was practiced (Johnson 1967, 1970; Moratto 1984).

The ethnographic Sierra Me-Wuk tool kit included the bow and stone-tipped arrows, flaked stone knives and scrapers of local chert and imported obsidian, mortars and pestles for processing acorns and other resources, and twined and coiled basketry for seed processing, cooking, and storage. The Sierra Me-Wuk also participated in widespread east-west trade networks that provided both social and economic opportunities (Davis 1961).

Merriam (1907) identifies several ethnohistoric Me-Wuk villages in the study region: *Yule*, 1 mile west of Plymouth; *Chik-ke'-me-ze*, in the Omo Ranch area; *Yuloni*, at the modern-day city of Sutter Creek; *Chakanesu* at Ione; and *Upusuni* at the Buena Vista Rancheria (Heizer 1967:355; Levy 1978:Figure 2; Powers 1877:349). These village locations were recorded during the late nineteenth and early twentieth centuries and may not reflect pre-Euroamerican contact. Spanish exploration in the San Joaquin and Sacramento Valleys first introduced indigenous Sierra Me-Wuk groups to Euroamericans in the late eighteenth century, and subsequent expansions of the Spanish mission system greatly affected the Me-Wuk. Coastal populations were affected first, but the mission system spread east to Sierra Me-Wuk territory. The California Gold Rush during the 1840s brought more waves of disruption on native Me-Wuk culture. Some Me-Wuk initially participated in gold mining operations. Others, especially the Plains Me-Wuk, became involved in agricultural work. By the early 1900s, most Me-Wuk peoples were scattered about their territory on rancherias, resisting displacement to reservations established by the federal government.

Historic Context

The project area is in Amador County. The state legislature created Amador County in 1854 through a subdivision of Calaveras County and a portion of El Dorado County. In 1864, the easternmost part of the county became part of Alpine County. Jackson is the county seat (Hoover and Kyle 1990).

Exploration and Early Settlement

Spanish explorer Gabriel Moraga led an expedition through the Sierra Foothills as early as 1806 and most likely traveled through a portion of Amador County. Little other activity by Europeans, with the exception perhaps of some trappers, occurred in the region until the mid-nineteenth century (Hoover and Kyle 1990:27).

In 1840, Teodosio Yorba received the Buena Vista Valley as part of a Mexican Land Grant under the authority of California's Mexican Governor Juan B. Alvarado. It is not known if Yorba ever actually settled in the valley, but he grazed cattle and/or cultivated hay in the area as late as 1848 (Thompson and West 1881:189). Between 1849 and 1850, miners arrived by the thousands into the Sierra foothills, including some who settled in the vicinity of the project area and turned to agricultural pursuits.

Due to its rich black soil and temperate climate, the project vicinity was predominantly used for agriculture and cattle grazing rather than mining during much of the late nineteenth and early twentieth centuries. Following the Gold Rush, settlers established large ranches on thousands of acres where cattle raising and hay farming were prevalent. Over time, smaller-scale farming led to the subdivision of many of the large ranches. Crops commonly grown during this period included wheat, barley, oats, and corn, as well as alfalfa and grain hay. In addition, orchards produced apples, apricots, pears, grapes, citrus, olives, and nuts.

Although agriculture was the primary activity in the Buena Vista area, mineral, gold, silver, and copper mining were widely pursued in the mountainous region nearby. Numerous streams throughout the region provided ample water for the irrigation of crops as well as mining operations and electric power development. In 1876, the Central Pacific Railroad (CPRR) established a branch of its line connecting the town of Ione to Galt. The line provided transportation to agricultural centers and major mining facilities in the area, thereby encouraging growth in the valley. (Phillips and Miller 1915:34–35.)

Ione

As early as 1848, William Hicks and Moses Childers settled near the present-day city of Ione, where they established a lucrative cattle business. The Gold Rush attracted additional settlers to the area, and within a few years the town supported a post office, blacksmith shop, churches, and schools. In the mid-1850s, the settlement saw the addition of a large sawmill and flourmill. By 1876, when CPRR laid tracks near town, the population stood at roughly 600. The discovery nearby of lignite (a substitute for coal) encouraged a push to improve

transportation in the region, prompting the construction of better roads and extended rail service. Ione City served as the county's first agricultural fair in 1862. Steady growth continued over the next few decades. The city incorporated in 1953 and is currently the largest city in the county (Thompson and West 1870:190).

Buena Vista

Located south of Ione, this region was favored for its vistas and agriculture. By 1849 a settler named Diggs claimed a portion of Teodosio Yorba's land, previously used for cattle grazing, where he established a trading post. Within a year, east coast entrepreneurs Charles Stone, Warren Nimms, and Fletcher Baker purchased part of the Yorba property. The trio improved the land and used the property successfully for many years to raise cattle and barley crops. In the latter part of the nineteenth century, settler John Fitzsimmons constructed the first dry goods store (Buena Vista Store and Saloon) and residence at the corner of present-day Buena Vista Road and Jackson Valley Road (Buena Vista Corners). Other prominent settlers in the valley during this period included Jesse D. Mason, Alexander Thompson, and William Ringer (Costa 1994:16; Thompson & West 1881:190).

By the early twentieth century, settlers in the area subdivided and sold off portions of their large landholdings to create smaller farms and acreage used for cattle ranching. The area remained primarily agricultural for much of the twentieth century, experiencing little growth and settlement, although limited commercial construction occurred at Buena Vista Corners. Currently, the project vicinity retains most of its agricultural roots and consists mostly of small farming complexes with some new development of single-family homes.

Regulatory Setting

Section 10.8.8(i) and Exhibit A, *Off-Reservation Environmental Impact Checklist*, of the Compact specifically identify cultural resources as a resource topic to be addressed in a TEIR. Exhibit A refers to five classes of cultural resource: historical resources, archaeological resources, unique paleontological resources, unique geologic features, and human remains. These terms are defined in the *Impact Analysis* below.

Federal Regulations

Although the Compact does not require compliance with federal cultural resource regulations during the course of TEIR preparation, federal cultural resource regulations are worth brief mention here. The Tribe is currently pursuing a Section 404 permit under the Clean Water Act, which requires the Tribe and USACE to comply with the implementing regulations of Section 106 of the National Historic Preservation Act (NHPA). Much of the information contained in this section of the TEIR is derived from the early stages of Section 106

consultation regarding the proposed project (i.e., Pacific Legacy 2006; Theodoratus et al. 2006).

Section 106 of the NHPA requires that federal agencies consider the effects of their actions, including activities they fund or permit, on properties that may be eligible for listing or are listed in the NRHP. Specific regulations (36 CFR 800) regarding compliance with Section 106 of the NHPA state that, although the tasks necessary to comply with Section 106 may be delegated to others, the federal agency is ultimately responsible for ensuring that the Section 106 process is completed according to statute. The Section 106 process is a consultation process that involves the State Historic Preservation Officer (SHPO) throughout; the process also calls for including Native American Tribes and interested members of the public, as appropriate, throughout the process. Implementing regulations for Section 106 has the five basic steps listed below.

1. Initiate the Section 106 process.
2. Identify and evaluate historic properties.
3. Assess the effects of the undertaking on historic properties within the area of potential effects (APE).
4. If historic properties are subject to adverse effects, federal agencies, the SHPO, and any other consulting parties (including Native American Tribes) continue consultation to seek ways to avoid, minimize, or mitigate the adverse effect. A memorandum of agreement (MOA) is usually developed to document the measures agreed upon to resolve the adverse effects.
5. Proceed in accordance with the terms of the MOA.

To qualify for listing in the NRHP, a property must be at least 50 years old or, if fewer than 50 years old, be of exceptional historic significance. It must represent a significant theme or pattern in history, architecture, archaeology, engineering, or culture at the local, state, or national level. A property must meet one or more of the four criteria listed below. The criteria for evaluation of the eligibility of cultural resources for listing in the NRHP are defined in 36 CFR 60.4.

> The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and
>
> (A) that are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> (B) that are associated with the lives of persons significant in our past; or
>
> (C) that embody the distinctive characteristics of a type, period or method of construction, or that represent the work of a master, or that possess high artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> (D) that have yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting the significance criteria, potentially historic properties must possess integrity to be considered eligible for listing in the NRHP. Integrity refers to a property's ability to convey its historic significance (National Park Service 1991). Integrity is a quality that applies to historic resources in seven specific ways: location, design, setting, materials, workmanship, feeling, and association. A resource must possess two, and usually more, of these kinds of integrity, depending on the context and the reasons the property is significant.

State Regulations

Although the Compact does not require that the Tribe comply with the California Environmental Quality Act (CEQA) during the course of TEIR preparation, CEQA can provide guidance for framing and analyzing environmental impacts in the TEIR; accordingly, its cultural resource provisions are summarized here.

CEQA requires that public agencies that finance or approve public or private projects must assess the effects of the project on cultural resources. Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, or scientific importance. CEQA requires that if a project would result in significant effects on important cultural resources, then alternative plans or mitigation measures must be considered; only significant cultural resources, however, need to be addressed. Therefore, prior to the development of mitigation measures, the importance of cultural resources must first be determined. The steps that are normally taken in a cultural resources investigation for CEQA compliance are listed below.

- Identify cultural resources.
- Evaluate the significance of resources.
- Determine whether the proposed project would affect cultural resources.
- Develop and implement measures to mitigate the impacts of the project only on *significant* resources, namely historical resources and unique archaeological resources.

The State CEQA Guidelines define three ways that a cultural resource may qualify as a historical resource for the purposes of CEQA review.

- If the resource is listed in or determined eligible for listing in the California Register of Historic Resources (CRHR).
- If the resource is included in a local register of historical resources, as defined in Public Resources Code (PRC) 5020.1(k), or is identified as significant in a historical resource survey meeting the requirements of PRC 5024.1(g) unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- The lead agency determines the resource to be significant as supported by substantial evidence in light of the whole record (14 CCR 15064.5[a]).

A cultural resource may be eligible for inclusion in the CRHR if exhibits any of the following characteristics.

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

2. Is associated with the lives of persons important in our past.

3. Embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of an important creative individual, or possesses high artistic values.

4. Has yielded, or may be likely to yield, information important in prehistory or history.

In addition, CEQA distinguishes between two classes of archaeological resources: archaeological resources that meet the definition of a historical resource as above, and *unique archaeological resources*. An archaeological resource is considered "unique" if it meets any of the following characterizations.

- Is associated with an event or person of recognized significance in California or American history or of recognized scientific importance in prehistory.
- Can provide information that is of demonstrable public interest and is useful in addressing scientifically consequential and reasonable research question.
- Has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind. (PRC 21083.2.)

Local Regulations

Although the Compact does not require that the Tribe comply with local cultural resource regulations during the course of TEIR preparation, such regulations can provide valuable guidance for framing and analyzing environmental impacts in the TEIR and so are summarized here.

The *Amador County General Plan* (currently under revision) identifies historic preservation policies and goals:

> Every effort will be made by the County to encourage recreational development, preserve and restore historical areas, and promote, protect and give access to scenic areas of special importance…
>
> And
>
> Special consideration and care should be devoted to the aesthetics, architecture and visual appearance of proposed development in the following areas: …Other

> areas having outstanding scenic or historic interest[1]—upon request of the residents or owners. (Amador County 1973:44–46.)

The Amador County Code (19.24.046[A]) contains provisions to preserve historic and cultural values through design review.

> 1. It is the purpose of this district to provide controls and safeguards to preserve and enhance areas of historical, civic or cultural value to the county. Recognizing that Amador County is endowed with such areas and that the protection and preservation of such sites will maintain the quality of life, the regulations of this district will be of benefit to the economy and enrichment of the county.
>
> 2. …The following criteria shall be used in establishing -DR districts and the territory within a district shall be one or more of the following:
>
> a. Areas of special or unique natural beauty and aesthetic interest forming a basic resource in the economy of the county;
>
> b. Places, sites, structures or uses which have special historical interest[2] where at least twenty-five percent of the buildings were constructed prior to the year 1900.

Findings

Based on the records search, literature review, and the cultural resource surveys conducted by Jones & Stokes and Pacific Legacy in 2006, 13 cultural resources are located in the project vicinity. The basic findings are summarized in this section and are listed in Table 3E-1. The locations of archaeological sites are not disclosed pursuant to cultural resource protection legislation.

[1] The General Plan of 1973 does not define the term *historic interest*.
[2] The County Code does not define the term *special historical interest*.

Table 3E-1. Summary of Cultural Resources in the Project Area

Reference Number	Description	Location	Sheet	Comment
BV-04	Concrete footing	SR 12 near SR 88	4	Does not appear eligible for NRHP/CRHR
BV-05	Historic residence and shop building	5750 Jackson Valley Rd	12	Does not appear eligible for NRHP/CRHR
BV-06	Buena Vista Saloon and Store	5864 Buena Vista Road	12	Local historic landmark/appears eligible for CRHR
BV-07	Corrugated barn	NE corner Buena Vista and Jackson Valley Rds	12	Does not appear eligible for NRHP/CRHR
BV-08	Historic residence	5895 Buena Vista Rd	12	Does not appear eligible for NRHP/CRHR
BV-09	Historic residence	5500 Buena Vista Rd	11	Does not appear eligible for NRHP/CRHR
BV-11	Historic barn	5351 Jackson Valley Rd	25	Does not appear eligible for NRHP/CRHR
BV-12	Historic brick house	4949 Jackson Valley Rd	23	Does not appear eligible for NRHP/CRHR
BV-13	Historic barn, stone house, wall	5050 Jackson Valley Rd	23	Barn and wall do not appear eligible for NRHP/CRHR
				Stone house appears eligible for NRHP/CRHR
BV-15	Dry laid rock wall	3900 Jackson Valley Rd	19–21	Does not appear eligible for NRHP/CRHR
BV-18	Historic barn	3720 Jackson Valley Rd	19	Does not appear eligible for NRHP/CRHR
BV-19	Historic structure	2938 Highway 88	7	Does not appear eligible for NRHP/CRHR
	Buena Vista Peaks	Buena Vista Peaks		Appears eligible for NRHP/CRHR

Archaeological Resources

Concrete Footing (BV-04)

Jackson et al. (2005) identified a concrete footing within the SR 12 right-of-way west of its intersection with SR 88, between the existing edge of pavement and a fenceline north of SR 12. The foundation measures 6 feet by 6 feet and is 1 foot thick. The size and configuration of the footing suggest that it supported a shed or pump house. The footing has no associated features and is not known to have an association with important historic events or persons. The footing also possesses no information potentially of consequence to the study of local history. For these reasons, this isolated feature does not appear to meet the eligibility or significance criteria of the NRHP or CEQA.

Buena Vista Peaks and Buena Vista Rancheria

The Me-Wuk communities of Jackson Valley consider the Buena Vista Peaks and Buena Vista Rancheria to be a single, sacred place. The Buena Vista Peaks

are directly associated with Northern Sierra Me-Wuk creation traditions, being one of the only features in the Central Valley that was above water at the time that human beings were created. Natural features of the peaks convey information about the origin of the world to the Me-Wuk today, such as the bird footprints evident on the peaks from ancient times, when the vicinity of the peaks had just begun to dry. Me-Wuk spiritual leaders and healers also used the peaks to seek power and wisdom with which to advise the Me-Wuk of the proper way of living. The peaks have an acoustical quality that permits sounds from a certain portion of the peaks to be heard clearly below and vice-versa; accordingly, they served as a forum from which a particular Me-Wuk leader gave speeches to the Me-Wuk (Theodoratus et al. 2006:6–8).

The Me-Wuk of Jackson Valley consider Buena Vista Rancheria no less important than the Peaks. Buena Vista Rancheria was originally known by the Northern Sierra Me-Wuk name "Upűsűni" (Kroeber 1925:Figure 40). Local Me-Wuk maintain that their ancestors inhabited Upűsűni from time immemorial; the village was the tribelet center or primary settlement of the Jackson Valley Me-Wuk through the historic period. Remnants of the long-term occupation of Upűsűni are evident from the archaeological features present at Buena Vista Rancheria (three roundhouse depressions and anthropogenically darkened soil, or midden). The roundhouse depressions indicate the importance of this settlement, as only major Me-Wuk villages contained roundhouses. The roundhouses are aligned with the northern peak of the Buena Vista Peaks. Buena Vista Rancheria also contains Upűsűni's cemetery, in which many local Me-Wuks' ancestors are buried. In recent times (minimally through the 1960s), Buena Vista Rancheria continued to be the regular site of traditional and family gatherings. Buena Vista Rancheria commands a wide view of Jackson Valley and is physically connected to the peaks via an earthen staircase carved into the hillside, used by spiritual leaders to access the peaks (Theodoratus et al. 2006:9–10).

Theodoratus et al. (2006:11) recommend that the Buena Vista Peaks and the archaeological resources present at Buena Vista Rancheria be considered eligible for listing in the NRHP and the CRHR as a traditional cultural property associated with central aspects of Northern Sierra Me-Wuk religion, cosmology, social identity, and history. The connection of the Buena Vista Rancheria to the peaks, in terms of viewshed and access, is one of the character-defining features of the property as a whole. The auditory setting of the peaks is also important to the property's ability to convey and retain its significance, due to the peaks' acoustic qualities and use for spiritual purposes. The peaks and the archaeological resources on Buena Vista Rancheria are therefore considered a significant cultural resource for the purposes of this analysis.

Historical Resources

Eleven historical properties (comprising 15 individual resources) 50 or more years old are located in the project area. The 11 properties were evaluated for eligibility for inclusion in the NRHP and the CRHR as part of this analysis. The

results of the survey and evaluation of the 11 historical properties are summarized below.

BV-05 (5750 Jackson Valley Road/APN 012-070-044)

A historic residence and shop/garage are located at 5750 Jackson Valley Road. The residence is a rectangular wood-frame building with a pyramidal roof form. Walls are clad with clapboard siding. The garage/shop building is located north of the residence at the corner of Jackson Valley Road and Buena Vista Road. The building is of wood frame construction and features a front gabled roof with a false front.

Based on building construction methods and style, the residence was likely built circa 1890 and the shop/garage circa 1930 (Amador County Assessor 2006). The property is not known to be associated with events or people important to Amador County or California. The residence lost some integrity when some of its windows were replaced and an addition was constructed. Because the property does not appear to be historically or architecturally significant and because it has lost integrity, it does not appear to meet the criteria for CRHR eligibility. It also does not qualify as a historical resource for the purposes of CEQA.

BV-06 (5864 Buena Vista Road/APN 012-070-046)

The Buena Vista Store and Saloon is located at this address. The building comprises a main original element and a large addition on the south elevation. An enclosed patio is on the north elevation. The main element is rectangular in form and features a front gabled roof. Walls are of white sandstone construction with weatherboard siding under the eave. New windows and doors are located on the front elevation.

The Buena Vista Store and Saloon was constructed circa 1855. The building appears eligible for the CRHR under Criterion 1 for its association with the early settlement of Buena Vista. Due to a loss of integrity, however, the building does not appear to meet the criteria for NRHP eligibility.

BV-07 (APN 012-270-013)

A wood-frame barn covered with corrugated metal is located on this parcel. The rectangular building features board and batten siding, a front gabled roof with exposed rafters, and a shed-roofed addition on the west elevation.

The barn dates to the early twentieth century. It does not appear to meet the criteria for listing in the CRHR. This property has not made a significant contribution to the history of the Amador area, and it has no known associations with persons significant to the history of the region. The building is a modest utilitarian structure and does not represent architectural significance. Lacking historical and architectural significance, the barn does not appear to meet the criteria for listing in the CRHR. It also does not qualify as a historical resource for the purposes of CEQA.

BV-08 (5895 Buena Vista Road/APN 012-270-010)

A one-story single-family residence is located on this parcel. The residence on the property is a T-shaped, wood-frame building with a cross-gabled roof. Siding is stucco and the roof is covered with corrugated metal.

The residence was built in 1945 (Amador County Assessor 2006). This property does not appear to meet the criteria for listing in the CRHR. The property did not make a significant contribution to the history of the region, and is not known to be associated with significant persons in the area. The residence, as a modest building, does not appear to qualify as significant or unique in the distinctive characteristics of a type, period, or method of construction. Under consideration of all criteria, the property at 5895 Buena Vista Road does not appear to meet the criteria for listing in the CRHR. It also does not qualify as a historical resource for the purposes of CEQA.

BV-09 [P-3-819-H] (5500 Buena Vista Road/APN 012-270-080)

A one-story Neo-classical Folk style single-family residence and barn are located at on this parcel. The property was recommended as ineligible for the NRHP in 1989 (Maniery 1999). Because more than 5 years have passed since the initial evaluation, Jones & Stokes revisited the property to assess its current condition and evaluate it for the purposes of CEQA. The previous NRHP evaluation remains valid. Furthermore, due to a lack of historical significance and integrity, the residence and barn do not appear to meet NRHP or CRHR eligibility and also do not qualify as a historical resource for the purposes of CEQA.

BV-11 (5351 Jackson Valley Road/APN 005-240-009)

A historic residence and barn and a modern ramada are located on this parcel. The residence is a gabled building with horizontal flush-board siding and aluminum-framed windows. The residence includes an addition. The barn is a large, gable-roofed structure with board and batten and corrugated metal siding. It features three separate additions.

The residence was constructed in 1949; the barn also appears to date to that period (Amador County Assessor 2006). The residence and barn are not known to be associated with events or individuals significant to the region and therefore lack historical significance. Neither building displays a distinctive style or building method; therefore, both lack architectural significance. Furthermore, the additions compromise the integrity of the buildings. Due to a lack of significance and integrity, the residence and barn located at 5351 Jackson Valley Road do not appear to meet the criteria for listing in the NRHP or the CRHR. They also do not qualify as historical resources for the purposes of CEQA.

BV-12 (4949 Jackson Valley Road/APN 005-240-008)

Two residences, a historic brick building and a modern wood-frame building, are located on this parcel. The two-story historic residence features a side-gabled roof covered with composition shingles and walls comprised of brick. The building features two large additions.

Property records indicate the historic residence was constructed circa 1860 (Sargent 1927). The historic residence is not known to be associated with events or individuals who have made a significant contribution to Buena Vista valley or California overall. Architecturally, the residence is a fine example of Folk Colonial style building. However, the building lost integrity through the construction of the two additions. Due to a lack of historical significance and integrity, the historic residence does not appear to meet the criteria for listing in the NRHP or the CRHR. It also does not qualify as a historical resource for the purposes of CEQA.

BV-13 (5050 Jackson Valley Road/APN 005-250-005)

A historic barn, a stone house, a mortar rock wall, and a modern residence are located on this parcel. The modern residence features a gabled roof and board and batten siding. The barn is a tall gabled structure with vertical flush board siding. Signage on the barn reads *Jackson Valley Nursery*. The stone house is a one-story rectangular residence with stone walls and a side-gabled roof. The rock wall is mortar and stone, although some mortar is missing. The wall is approximately 2 feet high, spans several yards, and is approximately 1.5 feet wide.

The barn was constructed in 1950, the stone house circa 1865, and the rock wall circa 1910. The barn and rock wall are not known to be associated with events or people significant to the region, nor do they display architectural styling or unique construction methods. Rock walls were common in the area during the late nineteenth and early twentieth centuries. For these reasons, the barn and rock wall do not appear to meet eligibility requirements for the NRHP or the CRHR. Furthermore, neither property qualifies as a historical resource for the purposes of CEQA.

The stone house appears to meet NRHP eligibility requirements at a local level of significance under Criterion C and CRHR requirements under Criterion 3 as a rare example of a stone house in the area. It embodies a distinctive characteristic of a type and method of construction and overall retains a high degree of integrity. The stone house also qualifies as a historical resource for the purposes of CEQA.

BV-15 (3900 Jackson Valley Road (005-250-003)

A dry-laid rock wall is located on this parcel on the south side of the road. The resource is approximately 2 feet high, roughly 100 feet long, and approximately 1.5 feet wide. Grasses are growing in the vicinity.

The construction date of the wall is unknown, although it likely was built in the late nineteenth century when rock walls were often used for boundary delineation. The wall does not appear to meet NRHP or CRHR eligibility criteria because it is a common wall type built of materials found throughout the area. The resource also lacks historical significance. The resource does not qualify as a historical resource for the purposes of CEQA.

BV-18 (3720 Jackson Valley Road (005-230-009)

A historic barn and a modern residence and garage are located on this parcel. The barn is severely deteriorated and features a gabled roof and board and batten siding. Some siding is missing and has been replaced with corrugated metal.

The barn likely dates to the early twentieth century. It is not known to be associated with events or individuals important to the region or California. As a utilitarian structure it does not display distinctive construction characteristics or architectural styling. Furthermore, it has lost a significant amount of integrity through neglect and deterioration. For these reasons, the barn does not appear to meet CRHR eligibility, nor does it qualify as a historical resource for the purposes of CEQA.

BV-19 [P-3-437H] (2930 Highway 88/005-230-004)

A one-story Craftsman structure is located on this parcel. The structure was recommended as ineligible for the NRHP in 1999 (Marvin et al. 1999). Because the evaluation was conducted more than 5 years ago, Jones & Stokes revisited the property to assess its current condition and evaluate the property for the purposes of CEQA. The previous NRHP evaluation remains valid. Furthermore, due to a lack of integrity, the structure does not appear to meet CRHR eligibility and does not qualify as a historical resource for the purposes of CEQA.

Impact Analysis

This section addresses impacts on *cultural resources*, an umbrella term for districts, sites, buildings, structures, or objects, as defined by the National Park Service (1991:4–5). Exhibit A, *Off-Reservation Environmental Impact Checklist*, of the Compact makes reference to historical resources, archaeological resources, and human remains, which are subsumed under the rubric of cultural resource. Each term identified in the checklist, however, represents a type of cultural resource; these are defined below.

- *Historical resources* are historic-period districts, sites, buildings, structures, or objects that do not include archaeological materials and that are 50 years or more in age unless of transcendent importance.
- *Archaeological resources* are districts, sites, buildings, structures, or objects composed of archaeological materials that are 50 years or more in age unless of transcendent importance, whether left by the Me-Wuk or later residents of the project vicinity.
- *Human remains* consist of burials and cremations, as well as any grave accompaniments, both within and outside of marked cemeteries.

Approach and Methodology

Like other cultural resource analyses, the TEIR cultural resource analysis must differentiate between impacts that are potentially significant and those that are less than significant, and must identify whether cultural resources affected by the proposed project are significant. Because the NRHP significance criteria for historic properties—or significant cultural resources—are rigorous and flexible, and because they form the basis for the criteria employed by many state and local register (e.g., the CRHR), this TEIR uses the NRHP criteria to identify significant cultural resources (see *Federal Regulations* above).

Thresholds of Significance

The Exhibit A, *Environmental Impact Analysis Checklist*, of the Compact identifies significant impacts on cultural resources as a substantial adverse change in the significance of an off-reservation historical or archeological resource, direct or indirect destruction of a unique off-reservation paleontological resource or site or unique off-reservation geologic feature, or the disturbance of any off-reservation human remains. In accordance with 36 CFR 800.5, a substantial adverse change is defined in this TEIR as any of the results listed below.

1. Physical destruction of or damage to all or part of a significant cultural resource.
2. Alteration of a significant cultural resource, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties (36 CFR 68) and applicable guidelines.
3. Removal of a significant cultural resource from its historic location.
4. Change in the character of a significant cultural resource's use or of physical features within a significant cultural resource's setting that contribute to its historic significance.
5. Introduction of visual, atmospheric, or audible elements that diminish the integrity of a significant cultural resource's character-defining or significant features.
6. Neglect of a significant cultural resource that causes its deterioration, except where such neglect and deterioration are recognized qualities of a cultural resource of religious and cultural significance.

Impacts and Mitigation Measures

Impact CUL-1: Visual and audible disruption of the Buena Vista Rancheria–Buena Vista Peaks complex resulting from construction of the gaming facility and associated features (significant and unavoidable)
The proposed project entails the construction of a gaming facility, a nine-level parking structure, a wastewater treatment facility, signs and lighting, and other features. These facilities, especially the parking structure, would impose prominently on the viewshed from the Rancheria to the Buena Vista Peaks. Because the view from the Rancheria to the peaks is one of the character- or significance-defining characteristics of the Buena Vista Rancheria–Buena Vista Peaks complex, the visual intrusions described above would incur a significant adverse change to a character-defining trait of a significant cultural resource. This impact is significant and unavoidable. Implementation of Mitigation Measures AES-2 and AES-5, which require construction with low-sheen and low-reflectivity materials compatible with the character of the project vicinity, would reduce the severity of this impact, but not to a less-than-significant level.

Other potential impacts of the proposed project include the introduction of noise levels (during construction) that are incompatible with and disruptive to the use of the peaks by traditional Me-Wuk spiritual practitioners and the inhibition of direct access to the peaks from the northern portion of the Rancheria. Implementation of Mitigation Measure N-1 would reduce the noise impact to a less-than-significant level.

Consultation under Section 106 of the NHPA is ongoing and will be completed prior to approval of the proposed project.

Impact CUL-2: Inadvertent damage to or destruction of buried or otherwise obscured archaeological resources and human remains resulting from ground-disturbing construction activities (significant; significance after incorporation of mitigation variable)
Construction and staging activities associated with the road improvements have the potential to disturb buried or otherwise obscured, as-yet-undiscovered archaeological resources and human remains. Damage to or destruction of significant or potentially significant buried archaeological remains during construction would be a significant impact. This impact would be reduced to a less-than-significant level through implementation of Mitigation Measure CUL-1.

Similarly, damage to or destruction of human remains during construction would be a significant impact under CEQA and NEPA. Implementation of Mitigation Measure CUL-2 would reduce this impact to a less-than-significant level.

Mitigation Measure CUL-1: Stop work if archaeological materials are discovered during construction
If archaeological materials (such as chipped or ground stone, historic debris, building foundations, or non-human bone) are inadvertently discovered during ground-disturbing activities, the construction

contractor will stop work in that area and within 100 feet of the find until a qualified archaeologist can assess the significance of the find and develop appropriate treatment measures. Treatment measures will be made in consultation with the Tribe and other parties as appropriate. Treatment measures typically include development of avoidance strategies or mitigation of impacts through data recovery programs such as excavation or detailed documentation.

If cultural resources are discovered during construction activities, the construction contractor and lead contractor compliance inspector will verify that work is halted until appropriate treatment measures are implemented. Implementation of this mitigation measure may be sufficient to reduce impacts on archaeological sites to a less-than-significant level.

Mitigation Measure CUL-2: Stop work if human remains are discovered during construction
If human remains of Native American origin are discovered during ground-disturbing activities, it is necessary for Buena Vista Rancheria to comply with state laws relating to the disposition of Native American burials, which fall within the jurisdiction of the NAHC (PRC 5097). If human remains are discovered or recognized in any location other than a dedicated cemetery, the Tribe will not allow further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

- the Amador or San Joaquin County coroner has been informed and has determined that no investigation of the cause of death is required; and
- if the remains are of Native American origin,
  - the descendants from the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC 5097.98, or
  - the NAHC was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the NAHC.

Impact CUL-3: Potential impact on a significant architectural resource: stone house (no impact)
Mitigation associated with the proposed project would entail widening Jackson Valley Road to 22–24 feet with 4-foot-wide shoulders. The stone house (BV 13) is situated on a large parcel approximately 200 feet from the roadway and the proposed construction. The proposed construction is not expected to materially impair (i.e., demolish or substantially alter the physical characteristics of) the building. The stone house would continue to convey its historical significance. Consequently, no impact on this resource is anticipated.

Impact CUL-4: Potential impact on a significant historical resource: Buena Vista Store and Saloon (significant and unavoidable)
Mitigation associated with the proposed project would entail widening Buena Vista Road to 22–24 feet with 4-foot-wide shoulders. The proposed widening would encroach on the parcel containing the Buena Vista Store and Saloon (BV-06) located at the corner of Buena Vista Road and Jackson Valley Road. Because the Saloon is situated within approximately 15 feet of the main roadway, the road improvements would physically change the setting of the Saloon, thereby altering it to such a degree that the ability of the building to convey its significance as a saloon would be materially impaired. This would constitute a significant impact. Implementation of Mitigation Measure CUL-3 would reduce this impact, but not to a less-than-significant level.

Mitigation Measure CUL-3: Document the Buena Vista Store and Saloon
The Tribe will hire a qualified cultural resources management specialist to document the Buena Vista Saloon with a historical narrative and large-format photographs in a manner consistent with the Historic American Buildings Survey (HABS). Copies of the narrative and photographs will be distributed to branches of the Amador County Library system and the Amador County Historical Society. The preparation of the HABS-like documentation will follow standard National Park Service procedures. There will be three main tasks: gather data, prepare photographic documentation, and prepare written historic and descriptive reports. The photographic documentation will include 4- by 5-inch negatives in labeled sleeves, 8- by 10-inch prints mounted on labeled photo cards, and an index to the photographs. In addition to the Saloon and its setting, the research will include possible photographic reproduction of any available building blueprints.

Alternatives

Alternative 1—No Project

Under the No-Project Alternative, a Class III gaming facility would not be constructed. A range of projects could be constructed without the comprehensive environmental review process that is required under the Compact. Under this alternative, potential off-reservation environmental impacts would not be evaluated, and mitigation measures would not be required for any such impacts. Similarly, construction of buildings or structures large enough to impose upon the view of the Buena Vista Peaks from the Rancheria—particularly from the cemetery area on the northern side of the Rancheria—could introduce a substantial adverse change in the qualities that make the Buena Vista Rancheria–Buena Vista Peaks complex significant cultural resources. This impact would be considered significant and unavoidable. Depending on the project constructed, there is the potential for either substantially greater or substantially reduced impacts on cultural resources

Alternative 1 would result in fewer off-reservation impacts on cultural resources because the traffic mitigation measures analyzed under the proposed project would not be implemented, and the associated impacts would not occur.

Alternative 2—Phased Project

The cultural resource impacts and related mitigation measure would be the same as those under the proposed project.

Alternative 3—Reduced Project (Reduced Gaming Floor Area: 75% of Proposed Project)

The cultural resource impacts and related mitigation measures would be the same as those under the proposed project.

Alternative 4—Reconfigured Access Driveway with Additional Site Access and Parking

The cultural resource impacts and related mitigation measure would be the same as those under the proposed project.

3F Geology, Soils, and Seismicity

Environmental Setting

Geology and Soils

The project site is situated on the rolling foothills that overlook the Jackson Valley just northeast of Buena Vista Peaks (Figure 2-2). Elevations in the project vicinity range from 844 feet above mean sea level (msl) at the top of Buena Vista Peaks to roughly 270 feet on the southern side of Jackson Valley. Slope gradients in the project vicinity generally range from 2 to 45%.

Geologic maps compiled by the U.S. Geological Survey (USGS) (Bartow 1992) and subsurface data gathered in support of the proposed project (ENGEO 2005) indicate that the project vicinity is underlain by two sedimentary rock formations: the Ione Formation and the Valley Springs Formation (Figure 3F-1). The Ione Formation is an early Tertiary sedimentary rock formation with an upper member that typically consists of white, non-volcanic sandstone underlain by alternating lenses of clay and sand. The Valley Springs Formation is slightly younger but is also early Tertiary in age, and typically consists of siltsone or sandstone capped by dense rhyolitic tuff or tuffaceous breccia. The project site is underlain entirely by the Ione Formation.

Soils in the project vicinity were mapped by the U.S. Department of Agriculture Soil Conservation Service during its survey of soils in central Amador County (Sketchley 1965). Soils at the project site and in the general project vicinity are mapped primarily as Laniger sandy loam and Inks loam, which typically consist of shallow to moderately deep sandy loams, well drained loams, and clay loams underlain by bedrock at depths of 13–40 inches below the ground surface.

Geologic and Soil-Related Hazards

The hazard of soil erosion at the project site varies with slope gradient, but is generally slight to moderate. Potentially expansive clays and clayey sands, which can damage structures and foundations, were encountered at depths near proposed finished floor elevations during recent geotechnical investigations at the project site (ENGEO 2005). No other regional or site-specific geologic hazards or unstable geologic units have been identified in the project vicinity by the U.S. Geological Survey, the California Geological Survey, or ENGEO Incorporated (2005). A discussion of seismic conditions and hazards in the project vicinity is provided below.

Seismicity

The project is located in a region of California characterized by relatively little seismic activity and few seismic hazards. A description of primary and secondary seismic hazards in the project vicinity is provided below.

Fault Rupture Hazard

There are no active faults, potentially active faults, or Alquist-Priolo Earthquake Fault Zones located within a 1.5-mile radius of the project area. The closest active and potentially active faults include two unnamed segments (potentially active) of the Foothills Fault System located 1.8 miles and 5 miles east of the project site, the Dunnigan Hills fault (active) located approximately 40 miles northeast of the project site, and the Green Valley fault (active) located approximately 50 miles west of the project site (Jennings 1994; ENGEO 2005). Accordingly, the potential for surface fault rupture to occur in the project vicinity is very low.

Ground-Shaking Hazard

In 1996, the California Division of Mines and Geology released a probabilistic seismic hazard assessment to aid in the assessment of seismic ground-shaking hazards in California (Peterson et al. 1996). The report contains a probabilistic seismic hazard map that depicts the peak horizontal ground acceleration values exceeded in a given region of California at a 10% probability in 50 years (i.e., 0.2% probability in 1 year). The peak horizontal ground acceleration values depicted on the map represent probabilistic estimates of the ground-shaking intensity likely to occur in a given area as a result of characteristic earthquake events on active faults, and can be used to assess the relative seismic ground-shaking hazard for a given region. The probabilistic ground-shaking hazard maps for California were recently updated to incorporate new seismic information (Cao et al. 2003).

The probabilistic peak horizontal ground acceleration value assigned to the project vicinity is less than 0.10g (g = acceleration due to gravity), indicating that the ground-shaking hazard is extremely low, ranking among the lowest in the state. This low value is largely the result of the substantial distance between the project site and any known active faults.

Liquefaction Hazard

Liquefaction is a process by which soils and sediments lose shear strength and fail during episodes of intense seismic ground shaking. The susceptibility of a given soil or sediment to liquefaction is primarily a function of local groundwater conditions and inherent soil properties such as texture and bulk density. Poorly

consolidated, water-saturated fine sands and silts located within 30 feet of the surface are typically considered to be the most susceptible to liquefaction. Soils and sediments that are not water saturated and that consist of coarser or finer materials are generally less susceptible to liquefaction. The potential for liquefaction to occur in a given area is a function of both ground-shaking potential and the susceptibility of a given soil or sediment to liquefaction.

Although shallow groundwater does occur within 30 feet of the ground surface in the project vicinity, the project site is underlain by bedrock and is located in a region with extremely low ground-shaking hazard. Accordingly, the potential for liquefaction to occur at the project site is extremely low.

Regulatory Setting

The following sections describe relevant environmental regulations that pertain to geology, soils, and seismicity.

Federal Regulations

Clean Water Act Section 402/National Pollutant Discharge Elimination System

Amendments to the federal Clean Water Act (CWA) in 1987 added Section 402(p), which established a framework for regulating municipal and industrial stormwater discharges under the National Pollutant Discharge Elimination System (NPDES) program. The U.S. Environmental Protection Agency (EPA) has delegated to the State Water Resources Control Board the authority for the NPDES program in California, which is implemented by the state's nine Regional Water Quality Control Boards. According to the most recent NPDES stormwater regulations, construction projects that would disturb 0.4 hectare (1 acre) or more must obtain coverage under the state's General Permit for Storm Water Discharges Associated with Construction Activity (General Permit) (Water Quality Order 99-08-DWQ). To obtain coverage under the General Permit, applicants are required to prepare a notice of intent and a storm water pollution prevention plan (SWPPP) listing the best management practices (BMPs) that will be implemented during project construction and describing site stabilization measures to avoid or minimize the discharge of sediment and other potential pollutants into waters of the U.S. Because construction of the proposed project would result in the disturbance of more than 1 acre of land, the Tribe would need to apply for coverage under and comply with the requirements of the General Permit.

State Regulations

California Building Standards Code

The State of California's minimum standards for structural design and construction are set forth in the California Building Standards Code (CBSC) (24 California Code of Regulations). The CBSC is based on the Uniform Building Code (UBC) (International Code Council 1997). The UBC is used widely throughout the United States, generally adopted on a state-by-state or district-by-district basis, and has been modified for California conditions with numerous more detailed or more stringent regulations. The CBSC provides standards for various aspects of construction, including excavation, grading, and earthwork construction; fills and embankments; expansive soils; foundation investigations; and liquefaction potential and soil strength loss. In accordance with Section 6.4.2(b) of the Tribal-State Compact, the proposed project would be required to implement appropriate building standards from the CBSC.

Impact Analysis

Approach and Methodology

Potential impacts related to geology and soils were analyzed qualitatively, based on a review of available data and information and on the professional judgment of Jones & Stokes earth scientists. Analysis focused on the proposed project's potential to expose people or structures outside the boundaries of the Buena Vista Rancheria to substantial adverse effects resulting from existing or reasonably foreseeable geologic and seismic hazards in the project vicinity.

Thresholds of Significance

As defined in the Exhibit A, *Off-Reservation Environmental Impact Analysis Checklist*, in the Compact, an impact on geology and soils and seismicity would be considered significant if it would result in either of the following conditions.

- Expose off-reservation people or structures to substantial adverse effects, including the risk of loss, injury, or death involving:
  - rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;
  - strong seismic ground shaking;
  - seismic-related ground failure, including liquefaction;
  - landslides.

- Result in substantial soil erosion and thereby adversely affect the quality of waters of the United States or other off-reservation receiving waters.
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the proposed project, and thereby expose off-reservation people or structures to substantial adverse effects.
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to off-reservation people or property.

Impacts and Mitigation Measures

The project site is located in a seismically inactive region of California, and there are no known active or potentially active faults located within a 1.5-mile radius of the project site. Accordingly, it is extremely unlikely that any of the proposed project facilities would be damaged by fault rupture and cause substantial adverse effects on off-reservation people or structures.

The project site is unlikely to experience strong seismic ground shaking in any given year, due largely to the substantial distance between the project site and any known active faults. Moreover, all project facilities would be designed and constructed in accordance with current seismic building standards listed in the CBSC, as required by Section 6.4.2(b) of the Tribal-State Compact. Accordingly, it is extremely unlikely that any of the proposed project facilities would be damaged by earthquake-induced ground shaking and cause substantial adverse effects on off-reservation people or structures.

Although shallow groundwater occurs within 30 feet of the ground surface in the project vicinity, the project site is underlain by bedrock and is located in a region with an extremely low ground-shaking hazard. Accordingly, it is extremely unlikely that any of the proposed project facilities would be damaged by liquefaction and cause substantial adverse effects on off-reservation people or structures.

No unstable geologic units or landslide hazards were identified by ENGEO Incorporated during its recent geotechnical investigations at the project site (ENGEO 2005). Furthermore, the grading and other earthwork necessary to construct the proposed project would be conducted in accordance with CBSC standards and the site-specific geotechnical recommendations provided by ENGEO Incorporated (2005), which would reduce the potential for the project to induce a landslide or other type of slope failure to an acceptable level.

Potentially expansive clays and clayey sands, which can damage structures and foundations, were encountered at depths near proposed finished floor elevations during recent geotechnical investigations at the project site (ENGEO 2005). To address these conditions, the project would be constructed in accordance with CBSC standards and the site-specific geotechnical recommendations provided by ENGEO Incorporated (2005), reducing the potential for structural damage from

expansive soils to an acceptable level. Accordingly, it is extremely unlikely that any of the proposed project facilities would be damaged by expansive soils and cause substantial adverse effects on off-reservation people or structures.

Impact GEO-1: Substantial Adverse Effects on Water Quality Resulting from Construction-Related Soil Erosion and Sedimentation (less than significant)

The grading and other earthwork that would be conducted during construction of the proposed project would entail substantial ground disturbance. This disturbance would increase the hazard of erosion and could temporarily increase erosion and sedimentation rates above preconstruction levels. Accelerated erosion and sedimentation resulting from construction-related ground disturbance could adversely affect water quality in nearby receiving waters. This impact is considered potentially significant, but would be reduced to a less-than-significant level by implementing Mitigation Measure Geo-1.

> **Mitigation Measure GEO-1: Prepare and Implement a Storm Water Pollution Prevention Plan**
>
> The Tribe will prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) to gain coverage under and comply with the requirements of the General Permit. The SWPPP will specify BMPs that will be implemented to control runoff, accelerated erosion, and sedimentation during construction. The BMPs will be maintained until all project structures and facilities have been constructed and until all areas graded or otherwise disturbed during construction have been stabilized.

Alternatives

Alternative 1—No Project

Under the No-Project Alternative, a Class III gaming facility would not be constructed. A range of projects could be constructed without the comprehensive environmental review process that is required under the Compact. Under this alternative, potential off-reservation environmental impacts would not be evaluated, and mitigation measures would not be required for any such impacts. Depending on the project constructed, there is the potential for either greater or lesser impacts on geological resources.

Alternative 2—Phased Project

The impacts under Alternative 2 would be the same as those under the proposed project.

Alternative 3—Reduced Project (Reduced Gaming Floor Area: 75% of Proposed Project)

The impacts under Alternative 2 would be the same as those under the selected alternative.

Alternative 4—Reconfigured Access Driveway with Additional Site Access and Parking

The impacts under Alternative 2 would be the same as those under the selected alternative.

3G Hazards and Hazardous Materials

This section analyzes the potential off-reservation impacts relating to hazards and hazardous materials that would result from construction and operation of the proposed project, and presents mitigation measures that would reduce those impacts.

Three primary sources were used to obtain information for this analysis.

- Amador County website.
- Amador County General Plan (1974).
- U.S. Environmental Protection Agency (EPA) website.

Existing Conditions

This section discusses the existing off-reservation conditions relating to hazards and hazardous conditions.

Environmental Setting

Current Land Uses

The project area and surrounding off-reservation land uses are currently zoned as agricultural, manufacturing, and special use districts. Due to the project area's current use as agricultural land and mechanical equipment storage, the hazards issues listed below may be associated with the proposed project site and surrounding lands.

- Pesticide and fertilizer residues.
- Leaking fuel containers or residue.
- Underground storage tanks may be present near the project area.

Power Plant

Directly across Coal Mine Road from the Rancheria is a currently non-operational cogeneration facility. The facility has recently been purchased with the goal of reactivation in some capacity that combines recycling and electric power generation. Cogeneration, or CHP (combined heat and power), is the simultaneous production of electricity and heat using a single fuel such as natural gas, although a variety of fuels (e.g., coal, recycled waste materials) can be used. The heat produced from the electricity-generating process (e.g., from the exhaust systems of a gas turbine) is captured and utilized to produce high- and low-level steam. These processes often result in high noise levels and an undetermined

amount of steam and smoke released into the surrounding environment. Air quality and noise impacts are discussed in Sections 3C and 3I, respectively.

Airport

The nearest existing airport is Westover Field, a County-owned and -operated facility located in Martell, an unincorporated area of Amador County between the cities of Jackson and Sutter Creek. The airport site is approximately 2 miles northwest of Jackson (AirNav.com 2006) and approximately 10 miles from the project area.

Sensitive Receptors

Sensitive receptors are off-Reservation individuals with the potential to come into contact with a released substance associated with implementation of the proposed project. The nearest sensitive receptors would be employees at the cogeneration facility adjacent to the proposed gaming facility if it were to reopen; however, the prospects for the cogeneration facility are unknown at this time.

The nearest residences, which are described in Section 3B, *Land Use and Agriculture*, are less than 1 mile north of the proposed gaming facility. The nearest schools, Ione Elementary School and Ione Junior High, are more than 5 miles north of the project site in the town of Ione.

Regulatory Setting

A hazardous material is defined by the California Department of Toxic Substances Control (DTSC) as a material that poses a significant present or potential hazard to human health and safety or the environment, if released, because of its quantity, concentration, or physical or chemical characteristics (26 CCR 25501). Hazardous materials that would be used during construction activities for the proposed project include diesel fuel and other liquids in construction equipment. Applicable hazardous material regulations and policies are summarized below.

Federal and state regulations and acts require that hazardous materials sites be identified and listed in public records. Such sites have been identified through the following regulatory processes.

- Resource Conservation and Recovery Act.
- Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLA)
- National Priorities List for Uncontrolled Hazardous Waste Sites.
- California Superfund List of Active Annual Workplan Sites.
- Lists of state-registered underground and leaking underground storage tanks.

Federal Regulations

The Environmental Protection Agency (EPA) is the principal federal regulatory agency responsible for the safe use and handling of hazardous materials. Two key federal regulations pertaining to hazardous wastes are described below. Other applicable federal regulations are contained primarily in Titles 29, 40, and 49 of the Code of Federal Regulations (CFR).

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) enables EPA to administer a regulatory program that extends from the manufacture of hazardous materials to their disposal, thereby regulating the generation, transport, treatment, storage, and disposal of hazardous waste at all facilities and sites in the nation.

Comprehensive Environmental Response, Compensation, and Liability Act, and Superfund Amendment and Reauthorization Act Title III

The Comprehensive Environmental Response, Compensation, and Liability Act, also known as Superfund, was passed to facilitate the cleanup of the nation's toxic waste sites. In 1986, Superfund was amended by the Superfund Amendment and Reauthorization Act Title III (community right-to-know laws), also called the Emergency Planning and Community Right-to-Know Act, which states that past and present owners of land contaminated with hazardous substances can be held liable for the entire cost of the cleanup even if the material was dumped illegally when the property was under different ownership. These regulations also establish reporting requirements that provide the public with important information on hazardous chemicals in their communities to enhance community awareness of chemical hazards and facilitate development of state and local emergency response plans.

State Regulations

The construction and operation of the project would occur on Tribal land, exempting the project from state and local regulations. The following discussion of these regulations is to provide context for the reader regarding the regulatory framework for off-reservation impacts. These regulations do not necessarily pertain directly to the proposed project or project components; however, they may be pertinent for off-reservation transport of hazardous materials.

California regulations are equal to or more stringent than federal regulations. EPA has granted the state primary oversight responsibility to administer and enforce hazardous waste management programs. State regulations require planning and management to ensure that hazardous wastes are handled, stored, and disposed of properly to reduce risks to human health and the environment. Several key state laws pertaining to hazardous wastes are discussed below.

Hazardous Materials Release Response Plans and Inventory Act of 1985

The Hazardous Materials Release Response Plans and Inventory Act, also known as the Business Plan Act, requires businesses using hazardous materials to prepare a hazardous materials business plan that describes their facilities, inventories, emergency response plans, and training programs. Hazardous materials are defined as raw or unused materials that are part of a process or manufacturing step. They are not considered hazardous waste. Health concerns pertaining to the release of hazardous materials, however, are similar to those relating to hazardous waste.

Hazardous Waste Control Act

The Hazardous Waste Control Act created the State Hazardous Waste Management Program, which is similar to, but more stringent than, the federal RCRA program. The act is implemented by regulations set forth in 26 Code of California Regulations (CCR), which describes the following required parameters for the proper management of hazardous waste: identification and classification; generation and transport; design and permitting of recycling, treatment, storage, and disposal facilities; treatment standards; operation of facilities and staff training; and closure of facilities and liability requirements.

These regulations list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of them. Under this act and 26 CCR, a generator of hazardous waste must complete a manifest that accompanies the waste from the generator to the transporter to the ultimate disposal location. Copies of the manifest must be filed with DTSC.

Emergency Services Act

Under the Emergency Services Act, the state developed an emergency response plan to coordinate emergency services provided by federal, state, and local agencies. Rapid response to incidents involving hazardous materials or hazardous waste is an important part of the plan, which is administered by the Governor's Office of Emergency Services (OES). The office coordinates the responses of other agencies, including EPA, California Highway Patrol, regional water quality control boards (RWQCBs), air quality management districts, and county disaster response offices.

California Occupational Safety and Health Administration Standards

Worker exposure to contaminated soils, vapors that could be inhaled, or groundwater containing hazardous constituents would be subject to monitoring and personal safety equipment requirements established in Title 8 of the California Occupational Safety and Health Administration (Cal-OSHA) regulations. The primary intent of the Title 8 requirements is to protect workers, but compliance with some of these regulations would also reduce potential hazards to nonconstruction workers and project vicinity occupants because required controls related to site monitoring, reporting, and other activities would be in place.

California Food and Agricultural Code

Sections 12980–12988 of the CCR directs counties to restrict worker reentry into areas treated with pesticides determined to be hazardous to worker safety by using either time limits or pesticide residue levels on treated plant parts determined by scientific analysis not to be a significant factor in cholinesterase depression or other health effects. These regulations ensure safe working conditions for farmworkers, pest control applicators, and other persons handling, storing, or applying pesticides, or working in and about pesticide-treated areas. These regulations may pertain to the proposed project because there may be been past pesticide use.

Other Laws, Regulations, and Programs

Various other state regulations have been enacted that affect hazardous waste management, including those listed below.

- Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65), which requires labeling of substances known or suspected by the state to cause cancer.
- California Government Code Section 65962.5, which requires the Office of Permit Assistance to compile a list of possible contaminated sites in the state.

California Environmental Protection Agency

The California Environmental Protection Agency implements and enforces a statewide hazardous materials program established by Senate Bill 1082 (1993) to consolidate, coordinate, and make consistent the administrative requirements, permits, inspections, and enforcement activities for the following environmental and emergency management programs for hazardous materials.

- Hazardous Materials Release Response Plans and Inventories (Business Plans).
- California Accidental Release Prevention (CalARP) Program.
- Underground Storage Tank Program.
- Aboveground Petroleum Storage Act Requirements for Spill Prevention, Control, and Countermeasure (SPCC) Plans.
- Hazardous Waste Generator and Onsite Hazardous Waste Treatment Programs.
- California Uniform Fire Code: Hazardous Materials Management Plans and Hazardous Material Inventory Statements.

Local Regulations

The Unified Program is the consolidation of state environmental programs into one program under the authority of a Certified Unified Program Agency (CUPA). A CUPA can be a county, city, or Joint Powers Authority (JPA). This program

was established by amendments to the California Health and Safety Code made under SB 1082 in 1994.

The Amador County Department of Environmental Health serves as the CUPA for Amador County, and administers this consolidated hazardous materials program. Agencies participating with the County in the program are listed below.

- California Environmental Protection Agency (CalEPA).
- DTSC.
- OES.
- Office of the State Fire Marshall (OSFM).
- State Water Resources Control Board (State Water Board).

Amador County Environmental Health Department Hazardous Materials Business Plan

Owners and operators of businesses that handle hazardous materials in specific quantities are required to develop and submit a Business Plan to the local CUPA.

These Business Plans protect the public by mandating the safeguards listed below.

- Provision of hazardous materials storage information to emergency responders.
- Prevention of spills and releases through cooperation among businesses and local, state, and federal government authorities. Businesses are required to disclose all hazardous materials and wastes above certain designated quantities that are used, stored, or handled at their facility.

Underground Storage Tank Program

The Underground Storage Tank (UST) program is mandated by the state. The Amador County Environmental Health Department is the Local Implementing Agency for the UST program in Amador County. Compliance with state and federal law is achieved through inspections, permits, monitoring, and oversight of the installation and removal of USTs as required by the California Health and Safety Code (www.leginfo.ca.gov/calaw.html) and CCR (www.ccr.oal.ca.gov/). Fuels contained in underground tanks have the potential to contaminate soil and groundwater if spilled or leaked into the environment. The Amador County Environmental Health Department oversees the initial investigation of unauthorized releases from underground tanks.

General Plan Regulations

The *Safety, Seismic Safety* elements of the 1974 Amador County General Plan (Amador County 1974) contain the following policy statements pertaining to hazards and hazardous materials.

II. B. Plan Policy Statements

1. Recognition of Hazards

   It is recognized the safety hazards exist within the Planning area, and that the nature and degree of such hazards varies greatly with respect to particular geographical locations within the area, and as shown in the exhibits section hereof.

   Hazards given consideration in this plan, and recognized as requiring protective attention, include:

   a. Seismic (earth shaking, surface rupture, seiches, etc.).

   b. Unstable slopes and soils, mudslides, landslides, subsidence.

   c. Wildfires, range fires, urban fires, explosions, etc.

   d. Floods and overflow from inundation.

   e. Indirect hazards or losses resulting from erosion, failure to protect economic minerals, etc.

Impact Analysis

Approach and Methodology

Impacts relating to hazards and hazardous materials associated with construction and operation of the proposed project are defined as off-reservation impacts that could occur as a result of project implementation. This analysis encompasses off-reservation impacts but does not attempt to identify specific existing hazardous materials in the surrounding off-reservation areas. Project components that could result in impacts related to hazards or hazardous materials were analyzed and are briefly described below.

Proposed Utilities

The proposed project would be powered both by electric and gas services provided by Pacific Gas and Electric Company (PG&E). There would be no natural gas tanks or propane tanks constructed at the site. PG&E would pipe natural gas to the project site. If adequate natural gas supply for operation of the proposed facilities is available, facility design should provide for natural gas–fueled generators to provide backup power. There would be a necessary amount of gasoline and diesel fuel stored on site for the intended use of maintenance and other equipment. No fuel would be sold to or made available to the general public. More detail about utilities can be found in Section 3N, *Utilities and Service Systems*.

Proposed Wastewater Treatment Plant

There is currently no water treatment facility on site or in the vicinity of the proposed project. The proposed wastewater treatment plant (WWTP) that would serve the project (described in Chapter 2, *Project Description*) would entail the delivery, storage, and use of hazardous materials, including sodium hypochlorite and citric acid. Chlorine would be stored on site for water treatment at the water treatment plant but would be contained and handled in accordance with federal, state, and local guidelines. Chemicals used in association with the wastewater treatment system would be contained within the operations buildings and would not be released into the surrounding air. There would be minimal potential for exposure to sensitive receptors in the area. More information on airborne conditions can found in Section 3C, *Air Quality*.

Thresholds of Significance

As defined in Exhibit A, *Off-Reservation Environmental Impact Analysis Checklist*, in the Compact, a hazards and hazardous materials impact would be considered significant if it would result in any of the following conditions.

- Create a significant hazard to the off-reservation public or the off-reservation environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the off-reservation public or the off-reservation environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed off-reservation school.
- Expose off-reservation people or structures to a significant risk of loss, injury, or death involving wildland fires.

Impacts and Mitigation Measures

Impact HAZ-1: Potential to create a significant hazard to the off-reservation public or the off-reservation environment through the routine transport, use, or disposal of hazardous materials (less than significant with mitigation implemented)

Operation of the WWTP would involve the routine use and transport of hazardous materials. These materials would be transported to the treatment plant, used for wastewater treatment, and disposed of following treatment. Use of sodium hypochlorite in the operation of the treatment plant could result in toxicity hazards, the risk of a chlorine residual violation, and the generation of trihalomethanes, which could result in hazardous conditions on site. The use of citric acid, dry or liquid polymers, diesel fuel, and natural gas could result in

additional hazardous conditions on site due to the potential to spill during transport or operation.

In the event of a rupture or breach of containment of WWTP facilities, surrounding areas could be contaminated by the release of hazardous substances. As stated above, no sensitive receptors are located within 0.25 mile of the project site. This impact is considered potentially significant. Implementation of Mitigation Measure HAZ-1 would reduce this impact to a less-than-significant level.

> **Mitigation Measure HAZ-1: Containment of hazardous materials used during operation of the WWTF (less than significant)**
> The Amador Environmental Health Department has jurisdiction over containment requirements for hazardous chemicals within Amador County. Under the proposed treatment process, double containment will be required for ferric chloride, sodium hypochlorite, sodium bisulfite, alum, and any acids or bases that are required for facility operation. In addition, if chlorine or sulfur dioxide gases are used, double containment will be used and storage facilities will include a scrubbing system for any gas released from storage vessels. The Amador Environmental Health Department will recommend implementation of these measures as described in CalEPA's Hazard Monitoring and Mitigation Plan. Implementation would entail notifying CalEPA of any and all hazardous substances used on site and their potential to cause offsite impacts, as well as developing a Hazardous Materials Business Plan to ensure proper guidelines for handling, storage, and transport of all hazardous materials (California Health and Safety Code Chapter 6.11). Compliance with the Federal Hazardous Materials Release Response Plans and Inventory Act and development of a hazardous materials business plan as described above in *Federal Regulations* will ensure that hazardous materials are handled appropriately to minimize impacts.
>
> The facility staff would also follow the administrative and engineering requirements of the California Accidental Release Prevention Program. Any accidental release of hazardous substances would be contained on site with no offsite runoff, and handlers would be trained in spill reaction. Adherence to these regulatory plans will reduce impacts to a less-than-significant level.

Impact HAZ-2: Potential to create a significant hazard to the off-reservation public or the off-reservation environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment (less than significant with mitigation)
Construction of the proposed project could expose construction workers, the public, or the environment to hazardous materials through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Small quantities of potentially toxic substances (e.g., petroleum and other chemicals used to operate and maintain construction equipment) would be used and transported to and from the site during construction. Accidental

releases of small quantities of these substances could contaminate soils and degrade the quality of surface water and groundwater, resulting in a public safety hazard.

In addition, construction of the proposed project requires excavation and movement of soils. Unknown hazardous sites have the potential to create a significant hazard to construction workers, the public, and the off-reservation environment by releasing contaminated soils into the off-reservation environment if they are encountered during construction activities.

Because the project area includes agricultural lands, the potential exists that hazardous levels of construction materials or agricultural chemicals are present on sites that may be chosen for individual project activities. As stated above, no sensitive receptors are located within 0.25 mile of the project area; however, those workers directly exposed to contaminated soils or applied chemicals could be affected. This impact is potentially significant. Mitigation measures HAZ-2 and HAZ-3 will reduce this impact to a less-than-significant level.

Mitigation Measure HAZ-2: Immediately contain spills, excavate spill-contaminated soil, and dispose of it at an approved facility. In the event of an off-reservation spill of hazardous materials during construction or operation of the proposed project in an amount reportable to the Amador Fire Protection District or the Jackson Valley Fire Protection District (as established by fire department guidelines), the contractor will immediately control the source of the leak and contain the spill. If required by the fire department or other regulatory agencies (e.g., Amador County Department of Environmental Health), contaminated soils will be excavated and disposed of at a facility (such as landfills described in Section 3N, *Utilities and Service Systems*) approved to accept such soils.

Mitigation Measure HAZ-3: Screen surface soils in road improvement area for residuals from agricultural chemicals To reduce the potential for human exposure during construction to potentially harmful pesticide and fertilizer residues in areas that could contain harmful pesticide and fertilizer residues, surface soils in the area will be sampled or field screened during construction by a qualified hazardous materials consultant for residuals from agricultural chemicals (fertilizers and pesticides). The Amador County Environmental Health Department will review the results of soils sampling or screening and will identify appropriate handling in accordance with the department's guidelines.

In the event that soil sampling or field screening indicates the presence of hazardous concentrations of agricultural chemicals, then the use of appropriate personal protective gear will be required when working within or adjacent to agricultural lands during the 30 days following the application of agricultural chemicals.

Impact HAZ-3: Potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed off-reservation school (less than significant)
As stated above in *Environmental Setting*, the nearest off-reservation schools are Ione Elementary School and Ione Junior High, more than 5 miles north of the project area in the town of Ione. All hazardous substances would be handled in accordance with applicable federal, state, and local guidelines, and transport routes would not be likely to come within 0.25 mile of these sensitive receptors. Potential to expose off-reservation schools and persons to hazardous waste or acutely hazardous materials is low during construction or operation of the project. This impact is less than significant.

Impact HAZ-4: Potential to expose people to wildland fires (less than significant with mitigation)
The facility site and adjacent parcels to the south are located within an oak/pine/grassland habitat. The dense vegetation on the hillsides on and surrounding the project site place the area at a risk for wildland fires. The increased number of people working on construction of the proposed project and, subsequently, using the facility, will further increase the risk of wildland fire in the surrounding area. This is a potentially significant impact. Implementation of mitigation measure HAZ-4 will reduce this to a less-than-significant level.

Mitigation Measure HAZ-4: Funding of emergency wildland fire services.
The construction and operation of the proposed gaming facility has the potential to increase the risk of wildland fires caused by a facility guests. Increased traffic increases the potential for sparks from vehicles and other igniters to cause a fire or wildland fire. To the extent allowed by applicable law, the Tribe will implement an aggressive program of weed abatement, grass trimming, and removal of combustible vegetation from the margins of Tribal lands fronting on Coal Mine Road. The Tribe will provide annual funding (to be negotiated with Amador County) to Amador County or the appropriate agency for the purposes of similar weed abatement and removal of combustible vegetation from the margins of County roads serving the facility, such as Jackson Valley Road (west) and Buena Vista Road. This would reduce this impact to a less-than-significant level.

Alternatives

Alternative 1—No Project

Under the No-Project Alternative, a Class III gaming facility would not be constructed. A range of projects could be constructed without the comprehensive environmental review process that is required under the Compact. Under this alternative, potential off-reservation environmental impacts would not be evaluated, and mitigation measures would not be required for any such impacts. Depending on the project constructed, there is the potential for either

substantially greater or substantially reduced impacts relating to hazards and hazardous materials. Because road improvements would not be implemented, the potential exposure of construction workers to agricultural substances (e.g., chemical pesticides and fertilizers) and the potential for accidental release of undetected toxic substances through ground-disturbing activities associated with road improvements would not occur.

Alternative 2—Phased Project

Phased development of the proposed project would result in a slower increase in hazards associated with the project. However, because the completed project would be the same as the proposed project, hazards under Alternative 2 are expected to be the same as those under the proposed project.

Alternative 3—Reduced Project (Reduced Gaming Floor Area: 75% of Proposed Project)

A reduced gaming floor alternative would decrease the magnitude of impacts related to hazards proportionately to the associated decrease in the extent of road improvements. However, mitigation still be necessary to reduce these impacts to less-than-significant levels.

Alternative 4—Reconfigured Access Driveway with Additional Site Access and Parking

The reconfigured access driveway would have impacts similar to those associated with the proposed project. However, because the size of the project would be the same as with the proposed project, the impacts relating to hazards and the necessary mitigation for those impacts would be the same as under the proposed project.

3H Mineral Resources

This section describes the environmental setting (existing conditions and regulatory setting) for mineral resources relating to the proposed project, the potential off-reservation impacts on mineral resources that would result from the proposed project, and mitigation measures that would reduce those impacts.

Existing Conditions

This section discusses the existing conditions relating to mineral resources in the project vicinity.

Environmental Setting

According to the California Department of Conservation, Division of Mines and Geology's mineral land classification (Loyd 1983), the proposed project area is located on the Ione Formation. Mineral resources within the Ione Formation include kaolin clay, silica sand, soft lignite coal, and the associated montan wax. Other mineral resources in the project region are gold, iron, copper, zinc, lead, silver, limestone, asbestos, manganese, sand, and gravel.

Although there is not an active mine or mineral plant on the reservation, the general project vicinity has been quite active. Directly east of the reservation is Pacific Coast Building Products' active clay mining operation. West of the reservation is the closed and reclaimed Jackson Valley Energy Partners' lignite/montan wax mining and production facility. Kaolin mines are located in the vicinity of the proposed Buena Vista landfill. Small placer gold deposits also occur in the area. The existing Jackson Valley Quarry excavates crushed rock. Goose Hill Rock quarries sand and gravel.

In the past, Jackson Valley Energy Partners L.P. on Coal Mine Road surface-mined a small amount of lignite as a source of montan wax. This operation was unique in that it was the only U.S. coal deposit mined for montan wax, a fossil plant wax (found in only a few American lignites) used for industrial purposes. Jackson Valley Energy Partner's facility has subsequently closed, and the mining operation has been reclaimed pursuant to the Surface Mining and Reclamation Act (SMARA). The cogeneration facility remains in place, but is not currently operational. The facility has recently been purchased with the goal of reactivation in some capacity that combines recycling and electric power generation.

Regulatory Setting

The following regulations pertain to the areas surrounding the project site in Amador County. Because the proposed project occurs on Tribal land, these regulations do not apply directly to the project or its components. The purpose of the following discussion is to provide context for the reader; the provisions of these regulations were used to inform the analysis of off-reservation impacts.

California Surface Mining and Reclamation Act

The loss of regionally significant mineral resource deposits to land uses that preclude mining activities is one of the main emphases of SMARA. The law specifically mandates a two-phased process, commonly referred to as classification designation, for mineral resources. The California Geological Survey (CGS) is responsible under SMARA for carrying out the classification phase of the process. The California Mining and Geology Board is responsible for the second phase, which allows the board to designate areas within a production-consumption region that contain significant deposits of Portland concrete cement (PCC)-grade aggregate (valued for its versatility and importance in construction) that may be needed to meet the region's future demand.

SMARA requires the State Geologist to classify lands into Mineral Resource Zones (MRZs) on the basis of the known or inferred mineral resource potential of that land. The classification process is based solely on geology, without regard to land use or ownership. The primary goal of mineral land classification is to help ensure that the mineral resource potential of lands is recognized and considered in the land use planning process. The MRZ categories are described below.

- **MRZ-1:** Areas where adequate information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for their presence.
- **MRZ-2:** Areas where adequate information indicates significant mineral deposits are present or where it is judged that a high likelihood exists for their presence.
- **MRZ-3:** Areas containing mineral deposits, the significance of which cannot be evaluated from available data.
- **MRZ-4:** Areas where available information is inadequate for assignment to any other MRZ.

In Amador County, MRZ classifications have been designated for mineral resources and mining operations on the Camino, Mokelumne Hill, Folsom, Placerville, and Sutter Creek 15-Minute USGS Topographic Quadrangle Maps. Tribal lands and the off-reservation road improvement areas are located in the Sutter Creek 15-Minute USGS Quadrangle.

Amador County General Plan

As noted in the Amador County General Plan: Land Use Open Space, Conservation, Scenic Highways Elements (1973), the County has developed objectives, plans, and implementation measures to govern extractive resource operations. The relevant measures are excerpted below.

Policies

1. Mineral deposits identified as being of regional or statewide significance will be protected using compatibility criteria developed by the State Mining and Geology Board and the regulatory authority of general plans contained in the State Planning and Zoning Act.

2. Where feasible, Amador County will utilize guide lines prepared by the State Mining and Geology Board for compatibility of land uses near areas designated as mineral resource zones (MRZ) in the Amador County General Plan.

3. Amador County shall allow the extraction of mineral resources as long as environmental impacts are minimized by the utilization of current technological and management practices.

Implementation

1. As required by the State Surface Mining and Reclamation Act of 1975, Amador County, will within twelve months of receiving the mineral information described in Section 2761 of the Act incorporate the data developed by the State Geologist into the Amador County General Plan, Land Use and Conservation Elements.

2. The following MRZ shall become land use classifications of the Amador County General Plan:

    a. MRZ-2—Areas where adequate information indicates significant mineral deposits are present, or where it is judged there is a high likelihood that their presence exists.

    b. MRZ-3—Areas containing mineral deposits, the significance of which cannot be evaluated from available data.

3. Practices include:

    a. Application of the State Mining and Reclamation Ordinance of the Amador County Code to all mining operations.

    b. Review of mining applications pursuant to the California Environmental Quality Act.

    c. Utilization of the MRZ District.

d. Monitoring and enforcement of adopted reclamation plans and use permit conditions.

Impact Analysis

Approach and Methodology

The analysis of mineral resources is based on the evaluation of the probable effects of development of the project on known mineral resources in the off-reservation road improvement areas. To determine potential impacts of the project, the Amador County General Plan, Amador County online GIS data, the USGS Mineral Resources Online Spatial Data web site, and relevant publications and maps (Carlson and Clark 1954; Loyd 1983) were reviewed.

Thresholds of Significance

As defined in Exhibit A, *Off-Reservation Environmental Impact Analysis Checklist,* of the Compact (Appendix A), an impact on mineral resources would be considered significant if it would result in either of the following conditions.

- Loss of availability of a known off-reservation mineral resource that would be of value to the region and the residents of the state.
- Loss of availability of an off-reservation locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

Impacts and Mitigation Measures

Impact MIN-1: Loss of availability of a known off-reservation mineral resource (less than significant)
Based on an evaluation of Amador County online GIS data and the USGS Mineral Resources On-Line Spatial Data web site, there are no known mineral resources on the project site or in the off-reservation road improvement areas. These locales are not classified on Amador County General Plan maps as an MRZ land use classification. Although there are several active mines and claypits in the general project vicinity, it is unlikely that the off-reservation road improvements would result in the loss of availability of a known mineral resource. This impact is less than significant.

Impact MIN-2: Loss of availability of a locally important off-reservation mineral resource recovery site (less than significant)
Directly across Coal Mine Road from the reservation is a non-operational cogeneration facility. The facility has recently been purchased with the goal of reactivation in some capacity that combines recycling and electric power

generation. The proposed project and associated road improvements would not inhibit any future mining activities at the cogeneration plant.

There are no identified mineral deposits or locally important mineral resource recovery sites located in the off-reservation road improvement areas. Road-widening activities would not result in the substantial loss of any mineral resources or inhibit any potential future mines. This impact is less than significant.

Alternatives

Alternative 1—No Project

Under the No-Project Alternative, a Class III gaming facility would not be constructed. A range of projects could be constructed without the comprehensive environmental review process that is required under the Compact. Under this alternative, potential off-reservation environmental impacts would not be evaluated, and mitigation measures would not be required for any such impacts. Depending on the project constructed, there is the potential for either greater or lesser impacts on mineral resources.

Alternative 2—Phased Project

Phased development of the proposed project would result in a slower increase in impacts on mineral resources. However, because the completed project would be the same as the proposed project, all impacts would be the same as those under the proposed project.

Alternative 3—Reduced Project (Reduced Gaming Floor Area: 75% of Proposed Project)

A reduced gaming floor would have no different effect on mineral resources; impacts would remain less than significant.

Alternative 4—Reconfigured Access Driveway with Additional Site Access and Parking

The reconfigured access driveway would have impacts on mineral resources similar to those of the proposed project. There are no identified mineral deposits or locally important mineral resource recovery sites located in the access driveway or parking areas. Construction activities associated with this alternative would not result in the substantial loss of any mineral resources or inhibit any potential future mines.

Because the size of the project would be the same as under the proposed project, the impact would be the same as under the proposed project.

3I Noise

This chapter identifies and discusses off-reservation noise impacts associated with implementation of the proposed project and project alternatives. Because the proposed project is located within Amador County, Amador County noise standards are used as the basis for assessing noise impacts.

Noise Terminology

Brief definitions of acoustic and vibration terminology used in this chapter are provided below.

- **Sound.** A vibratory disturbance created by a vibrating object that, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.
- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Decibel (dB).** A unitless measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micro-pascals.
- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
- **Maximum Sound Level (L_{max}).** The maximum sound level measured during the measurement period.
- **Minimum Sound Level (L_{min}).** The minimum sound level measured during the measurement period.
- **Equivalent Sound Level (L_{eq}).** The equivalent steady state sound level that in a stated period of time would contain the same acoustical energy.
- **Percentile-Exceeded Sound Level (L_{xx}).** The sound level exceeded "x" percent of a specific time period. L_{10} is the sound level exceeded 10% of the time.
- **Day-Night Level (L_{dn}).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
- **Community Noise Equivalent Level (CNEL).** The energy average of the A-weighted sound levels occurring during a 24-hour period with 5 dB added to the A-weighted sound levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
- **Peak Particle Velocity (PPV).** The maximum velocity of a particle in vibrating medium such as soil. PPV is usually expressed in inches/sec.

L_{dn} and CNEL values rarely differ by more than 1 dB. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent and are treated as such in this assessment. In general, human sound perception is such that a change in sound level of 3 dB is just noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving the sound level.

Existing Conditions

Environmental Setting

Sensitive Land Uses

Noise-sensitive land uses are generally defined as locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Noise-sensitive land uses typically include residences, hospitals, schools, guest lodging, libraries, and certain types of recreational uses. A noise-sensitive land use can also be defined as an area of frequent human use that would benefit from a lowered noise level.

Land uses in the project area are primarily agricultural with scattered rural residences. The nearby city of Ione is a developed area that includes residential and commercial land uses. An inactive cogeneration facility is located across Coal Mine Road from the project site. A single residential dwelling is located on that parcel.

Existing Noise Environment

The existing noise environment in the project area is governed primarily by traffic traveling on surrounding rural roadways. Other sources of noise in the area include those commonly associated with residential areas (e.g., landscape maintenance activities, barking dogs) and agricultural activity (e.g., tractors, harvesting equipment).

Sound Level Measurements

The ambient noise measurements were conducted by Brown-Buntin Associates Inc. in 2005 (Brown-Buntin 2005). The ambient noise measurement site was located about 100 feet east of Coal Mine Road. Table 3I-1 summarizes the measured minimum and maximum hourly L_{eq} noise levels and day-night levels (L_{dn}) values measured at this site over the period from January 21 through January 27, 2005.

Table 3I-1. Measured Ambient Noise Levels

Date	Day of Week	Minimum Hourly L_{eq} (dBA)	Maximum Hourly L_{eq} (dBA)	L_{dn}, dB
January 21, 2005	Thursday	26	51	49.0
January 22, 2005	Friday	23	50	48.5
January 23, 2005	Saturday	24	50	47.2
January 24, 2005	Sunday	22	50	47.8
January 25, 2005	Monday	24	49	48.2
January 26, 2005	Tuesday	35	54	49.8
January 27, 2005	Wednesday	33	50	52.1
			Average	49.2

Ambient noise levels in the project area are typical of a rural setting with low ambient noise levels, particularly at night. A cogeneration facility located opposite the project site may have been a significant source of noise at one time. However, because the facility is currently nonoperational, it is not possible to determine noise that was generated by the facility or that would be generated if the facility resumes operation at some time in the future.

Traffic Noise Modeling

Traffic noise modeling is used to characterize existing traffic noise conditions in the project vicinity. Traffic noise levels at a reference distance of 100 feet from roadway centerlines have been calculated using the Federal Highway Administration (FHWA) Traffic Noise Model (TNM) Version 2.5 and traffic data provided by the project traffic engineer (Linscott, Law & Greenspan, Engineers 2006). TNM calculates traffic noise level based on the hourly volume of traffic, vehicle types, vehicle speed, and ground type. Table 3I-2 summarizes calculated traffic noise levels for existing weekday and weekend conditions along primary approach roadways in the project area.

Regulatory Setting

California Environmental Quality Act

Although CEQA is not directly applicable to the proposed project, it provides guidance that can be helpful in assessing the significance of noise impacts in the context of a Tribal EIR. Guidance in the State CEQA Guidelines is therefore discussed here.

The State CEQA Guidelines, Appendix G, state that a project would normally have a significant effect on the environment if it would result in any of the following conditions.

- Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies.
- Expose persons to or generate excessive groundborne vibration or groundborne noise levels.
- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- Be located within an airport land use plan area or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels.
- Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels.

Amador County General Plan Noise Element

The Noise Element of the Amador County General Plan states that new development of residential or other noise-sensitive uses will not be permitted in areas affected by traffic noise unless effective noise mitigation measures are incorporated into the project design to reduce exterior noise levels to 55 dB L_{dn} or less and interior noise levels to 45 dB L_{dn} or less.

In addition, the Amador County Noise Element includes the statements listed below.

- It is the policy of the County to protect existing and potential industrial plant sites or other ground stationary noise sources from the encroachment of incompatible noise sensitive land uses which could hinder their continued operation, expansion or new construction.
- It is the policy of the County to prevent the encroachment of noise sensitive land uses into areas designated for use by existing or future noise generators.
- It is the policy of the County that (residential) land uses will not be exposed to an exterior noise level at their property lines which exceeds an L_{dn} of 65 dB and will have an interior noise level not to exceed an L_{dn} of 45 dBA.
- The noise level contributed by a proposed noise generating project to adjoining properties identified by the County as being noise sensitive will not raise the existing ambient noise level at the property line beyond the following levels unless a statement of overriding considerations has been adopted pursuant to

Table 3I-2. Traffic Noise Modeling Results for Existing Conditions–Weekday and Weekend

Roadway	Segment Location	Weekday L_{dn}[1]	Weekend L_{dn}[1]
SR 88	SR 99 to Wicox Rd	67.9	68.1
	Wicox Rd to Fairchild Ln	66.0	65.9
	Fairchild Ln to Waterloo	62.1	64.3
	Waterloo to Harney Ln	63.7	64.1
	Harney Ln to SR 12 (west)	66.0	66.3
	SR 12 (west) to Jack Tone Rd	66.4	66.9
	Jack Tone Rd to SR 12 (east)	65.6	65.7
	SR 12 to Liberty Rd	64.1	64.2
	Liberty Rd to Amador Co Line	63.5	63.6
	Amador Co Line to Jackson Val Rd	63.5	63.6
	Jackson Valley Rd to SR 124	63.6	63.7
	SR 124 to Buena Vista Rd	62.2	62.5
	Buena Vista Rd to SR 104	63.9	63.9
	East of SR 104 to SR 104 (east)	65.6	65.6
	SR 104 (east) to SR 49	65.8	65.8
SR 49	North of SR 16	61.9	61.9
Buena Vista Rd	SR 124 to SR 88	56.8	56.4
	SR 88 to Jackson Valley Rd	58.4	58.3
	Jackson Valley Rd to Coal Mine Rd	57.4	57.2
	Coal Mine Rd to Stoney Creek Rd	56.6	56.4
Jackson Valley Rd	SR 88 (west) to Buena Vista Rd	55.3	55.0
	Buena Vista Rd to SR 88 (east)	56.8	56.4
Coal Mine Road	Buena Vista Rd to Project Access	51.2	51.2
	Project Access to Comanche Pkwy	50.3	50.3
SR 12	SR 99 to Bruella Rd	63.6	63.8
	Bruella Rd to SR 88	63.1	63.4
SR 16	Latrobe Rd to Murietta Pkwy	65.5	65.6
	Murietta Pkwy to Ione Rd	63.9	64.1
	Ione Rd to Amador County line	62.2	62.2
	Amador County line to Latrobe Rd	62.3	62.3
	Latrobe Rd to Jct. SR 124 South	63.4	63.4
	Jct. SR 124 South to Central House, Jct. SR 49	62.7	62.7
SR 104	Sacramento Co line to Michigan Bar Rd	57.0	57.5
	Michigan Bar Rd to SR 124	61.0	61.3
	SR 124 to Main St	58.7	59.0
	Preston Ave to Church St	58.8	59.1
	Church St to SR 88	55.1	55.1
SR 124	SR 16 to Willow Creek Rd	57.0	57.0
	Willow Creek Rd to SR 104	59.9	60.1
	Church Street to Buena Vista Rd	55.5	56.2
	Buena Vista Rd to SR 88	53.3	53.3

Roadway	Segment Location	Weekday L_{dn}[1]	Weekend L_{dn}[1]
Latrobe Road	El Dorado Co line to SR 16	56.6	56.8
Willow Creek Road	SR 16 to SR 124	47.2	48.1
Comanche Parkway	SR 88 to San Joaquin Co line	55.3	54.7
	San Joaquin Co line to Coal Mine Rd	52.5	52.5
Stoney Creek Road	Buena Vista Rd to Jackson Valley Rd	54.3	54.5
Liberty Road	SR 99 to Elliott Rd	60.3	61.0
	Elliot Rd to SR 88	59.8	60.5
Jahant Road	SR 99 to Mackville Rd	56.2	56.6
Peltier Road	SR 99 to Tully Rd	56.2	56.6
Ione Road	SR 16 to Michigan Bar Rd	58.1	58.6
Meiss Road	Ione Rd to Amador County Line	58.1	58.8
Michigan Bar Road	Sacramento County Line to SR 104	57.8	57.4
Pardee Dam Rd	Stoney Creek Rd to Campo Seco	55.3	55.3

[1] 100 feet from roadway centerline

Section 15093 of the State CEQA Guidelines, or other acceptable noise mitigation measures have been incorporated into the project:

Existing Ambient Noise Level	Allowed Increase
L_{dn} 55 dB	3 dB L_{dn}
L_{dn} 60 dB	2 dB L_{dn}
L_{dn} 65 dB	1 dB L_{dn}

Moreover, the 24-hour L_{dn} noise level standards measured at the property line of a noise generator may not be exceeded on a per-hour basis beyond the levels listed below.

- Cumulative period of 30 minutes per hour—0 dB.
- Cumulative period of 15 minutes per hour—5 dB.
- Cumulative period of 5 minutes per hour—10 dB.
- Cumulative period of 1 minute per hour—15 dB.
- Level not to be exceeded for any time—20 dB.

Amador County Code

The Amador County Code contains no quantitative noise standards that would apply to the proposed project.

Impact Analysis

Approach and Methodology

The process of assessing the significance of noise impacts associated with the proposed project begins by establishing thresholds at which significant impacts are considered to occur. Next, noise levels associated with project-related activities are predicted and compared to the significance thresholds. A significant impact is considered to occur when a predicted noise level exceeds a threshold.

Traffic generated by the proposed project would be a primary source of noise. Noise from traffic on roadways in the project area has been evaluated for the proposed project and the project alternatives using TNM and traffic information provided by Linscott, Law & Greenspan, Engineers (Linscott, Law & Greenspan 2006).

The traffic conditions listed below were evaluated for this analysis.

- Proposed project.
  - Existing plus project—weekday/weekend.
  - 2025 without project—weekday/weekend.
  - 2025 plus project—weekday/weekend.
- Alternative 2.
  - Existing plus Phase 1—weekday/weekend.
  - Existing plus Phase 2—weekday/weekend.
  - Existing plus Phase 3—weekday/weekend (same as proposed project).
- Alternative 3.
  - Existing plus 75% gaming floor—weekday/weekend (same as Alternative 2 Phase 2).
- Alternative 4.
  - Existing plus 100% gaming floor weekday/weekend (same as proposed project but with more onsite parking).

Noise associated with construction of the proposed facility was evaluated using methods and impact criteria recommended by the U.S. Department of Transportation (Federal Transit Administration 2006). Noise associated with facility operations were evaluated using standard acoustical modeling methods as described in each impact discussion below.

Thresholds of Significance

Significance thresholds for noise are based on Amador County noise standards in the General Plan Noise Element and professional judgment.

Construction Noise

The County has no noise standards relating to construction noise. Accordingly, construction noise standards recommended by the U.S. Department of Transportation (Federal Transit Administration 2006) have been used as the basis for construction noise significance thresholds. Construction activity is considered to result in a significant construction noise impact if the activity is predicted to result in a 1-hour L_{eq} sound level at any residence that exceeds 90 dBA between the hours of 7:00 a.m. and 6:00 p.m. or a sound level that is more than 5 dB above the ambient sound level between the hours of 6:00 p.m. and 7:00 a.m. on any day or at any time on Sundays or state or federal holidays.

Traffic Noise

The Amador County General Plan Noise Element states that residential land uses shall not be exposed to exterior noise at the property line that exceeds 65 L_{dn} and that interior noise shall not exceed 45 L_{dn}. The Noise Element also identifies an "allowed increase" in noise based on the "existing ambient" noise level. For the purposes of this assessment, the "existing ambient" noise level is the no-project noise under the condition being considered (i.e., current conditions or 2025 conditions).

The proposed project is considered to result in a significant traffic noise impact if implementation of the proposed project would cause any of the conditions listed below.

- An increase in noise greater than 3 dB where the no-project noise level is 55 L_{dn} or less.
- An increase in noise greater than 2 dB where the no-project noise level is 56–60 L_{dn}.
- An increase in noise greater than 1 dB where the no-project noise level is 61–65 L_{dn}.
- An increase in noise of 1 dB or more where the no-project noise level is greater than 65 L_{dn}.

Operational Noise

The Amador County General Plan Noise Element sets a variable hourly noise standard at the property line of a "noise generator." The variable standard is a function of the duration of the noise. The project is considered to result in a significant noise impact if implementation of the proposed project would cause the hourly L_{eq} noise level at the property line to exceed any of the limits listed below.

- 65 dBA for a cumulative period of 30 minute per hour.
- 70 dBA for a cumulative period of 15 minutes per hour.
- 75 dBA for a cumulative period of 5 minutes per hour.
- 80 dBA for a cumulative period of 1 minute per hour.
- 85 dBA at any time during a 1-hour period.

The proposed project is also considered to result in a significant noise impact if implementation of the proposed project would cause any of the following conditions.

- An increase in noise greater than 3 dB where the no-project noise level is 55 L_{dn} or less.

- An increase in noise greater than 2 dB where the no-project noise level is 56 to 60 L_{dn}.
- An increase in noise greater than 1 dB where the no-project noise level is 61 to 65 L_{dn}.
- An increase in noise of 1 dB or more where the no-project noise level is greater than 65 L_{dn}.

Impacts and Mitigation Measures

Proposed Project

Impact N-1: Exposure of noise-sensitive land uses to vibration and noise during construction activities (less than significant with mitigation)
Construction activities associated with construction of on-reservation facilities may be a source of noise and groundborne vibration. Construction activities associated with off-reservation roadway improvements identified as mitigation for traffic impacts could also be a source of noise. This impact discussion addresses noise from construction associated with both on-reservation facility construction and off-reservation roadway improvements.

Vibration
Construction activities associated with the operation of heavy equipment may generate localized groundborne vibration. Vibration from non-impact construction activity is typically below the threshold of perception when the activity is more than about 50 feet from the receptor. Additionally, vibration from these activities will be of limited duration and will end when construction is completed. Because construction activity is not anticipated to involve high-impact activities (e.g., piledriving) and because the nearest residences to construction activities will likely be at least 50 feet from onsite construction activity, the vibration impact of construction activity is considered less than significant.

Noise
The assessment of potential construction noise levels was based on methodology developed by the Federal Transit Administration (FTA) (Federal Transit Administration 2006). Table 3I-3 summarizes noise levels produced by commonly used construction equipment. Individual types of construction equipment are expected to generate noise levels ranging from 74 to 89 dBA at a distance of 50 feet. The construction noise level at a given receptor depends on the type of construction activity, the noise level generated by that activity, and the distance and shielding between the activity and noise-sensitive receptors.

Table 3I-3. Construction Equipment Noise Emission Levels

Equipment	Typical Noise Level (dBA) 50 feet from Source
Grader	85
Bulldozers	85
Truck	88
Loader	85
Roller	74
Air Compressor	81
Backhoe	80
Pneumatic Tool	85
Paver	89
Concrete Pump	82

Source: Federal Transit Administration 2006.

Potential noise levels resulting from construction of the proposed project were evaluated by summing the noise levels of the three loudest pieces of equipment (bulldozer, paver, and heavy truck) that would likely operate at the same time in a given location. The combined noise level is 92 dBA at 50 feet. Table 3I-4 shows the estimated sound levels from construction activities as a function of distance based on calculated point-source attenuation over "soft" (i.e., acoustically absorptive) ground.

The results in Table 3I-4 indicate that the daytime construction noise threshold of 90 dBA could be exceeded within about 100 feet of an active construction site. Because onsite construction activity will be at least 500 feet from the nearest residence, the noise impact from on-reservation construction activity is considered to be less than significant during daytime hours. However, residences are located within 500 feet of roadways that may be subject to roadway improvements. Roadway construction noise impacts during daytime hours are therefore considered to be significant.

The results in Table 3I-4 also indicate that construction that occurs between 6:00 p.m. and 7:00 a.m. or on Sundays or holidays could result in noise that exceeds minimum measured hourly L_{eq} values (Table 3I-1) by 5 dB within several thousand feet of the construction activity. Noise-generating construction activities associated with on-reservation facility and off-reservation roadway construction that occur during these time periods are therefore considered to result in significant impacts. Implementation of Mitigation Measure N-1 would reduce this impact to a less-than-significant level.

Mitigation Measure N-1: Employ noise-reducing construction practices

The project applicant will employ noise-reducing construction practices such that noise at off-reservation residences from on-reservation

construction activities is not more than 5 dBA greater than the ambient noise level between the hours of 6:00 p.m. and 7:00 a.m. or on Sundays or holidays. In addition, noise from any off-reservation construction activities will be limited to 90 dBA between the hours of 7:00 a.m. and 6:00 p.m. Measures that can be employed to achieve this include but are not limited to those listed below.

- Prohibiting noise-generating construction operations between the hours of 6:00 p.m. and 7:00 a.m. and on Sundays and holidays.
- Locating equipment as far a practical from noise-sensitive land uses.
- Using sound control devices equipment that is no less effective than devices provided on the original equipment.
- Using noise-reducing enclosures around noise-generating equipment.
- Constructing barriers between noise sources and noise-sensitive land uses or taking advantage of existing barrier features (terrain, structures) to block sound transmission.

Impact N-2: Exposure of existing noise-sensitive land uses to increased traffic noise (significant and unavoidable)
Table 3I-5 summarizes traffic noise modeling results for the proposed project under existing and 2025 conditions (weekday and weekend). Segments and conditions for which the traffic noise significance thresholds are predicted to be exceeded are indicated in Table 3I-2 and summarized in Table3I-6.

Table 3I-6. Road Segments where Noise Significance Thresholds Will Likely Be Exceeded (Proposed Project)

Road	Segment
Weekday Conditions—Existing	
Buena Vista Rd	SR 124 to SR 88 Jackson Valley Rd to Coal Mine Rd
Jackson Valley Rd	SR 88 (west) to Buena Vista Rd
Coal Mine Road	Buena Vista Rd to Project Access Project Access to Comanche Pkwy
Comanche Parkway	San Joaquin Co line to Coal Mine Rd
Weekday Conditions—2025	
Buena Vista Rd	Jackson Valley Rd to Coal Mine Rd
Jackson Valley Rd	SR 88 (west) to Buena Vista Rd
Coal Mine Road	Buena Vista Rd to Project Access Project Access to Comanche Pkwy

Table 3I-4. Predicted Noise Levels from Construction Activities

Entered Data	
Construction condition: site leveling	
Source 1: Grader – sound level (dBA) at 50 feet =	85
Source 2: Truck – sound level (dBA) at 50 feet =	88
Source 3: Paver – sound level (dBA) at 50 feet =	89
Average height of sources – hs (feet) =	10
Average height of receptor – hr (feet) =	5
Ground type (soft or hard) =	Soft
Calculated Data	
All sources combined – sound level (dBA) at 50 feet =	92
Effective height (hs+hr)/2 =	7.5
Ground factor (G) =	0.62

Distance between Source and Receptor (feet)	Geometric Attenuation (dB)	Ground Effect Attenuation (dB)	Calculated Sound Level (dBA)
50	0	0	92
100	-6	-2	85
200	-12	-4	77
300	-16	-5	72
400	-18	-6	69
500	-20	-6	66
600	-22	-7	64
700	-23	-7	62
800	-24	-7	61
900	-25	-8	60
1,000	-26	-8	58
1,200	-28	-9	56
1,400	-29	-9	55
1,600	-30	-9	53
1,800	-31	-10	52
2,000	-32	-10	50
2,500	-34	-10	48
3,000	-36	-11	46

Notes: Calculations based on Federal Transit Authority 1995.
This calculation does not include the effects, if any, of local shielding from walls, topography, or other barriers, which may further reduce sound levels.

Table 3I-5. Traffic Noise Modeling Results for Proposed Project Existing and 2025 Conditions - Weekday and Weekend

		Weekday - Ldn[1]						Weekend - Ldn[1]					
Road	Segment Location	Existing	Existing plus Project	Existing vs. Project	2025 No Project	2025 plus Project	2025 No Project vs. Project	Existing	Existing plus Project	Existing vs. Project	2025 No Project	2025 plus Project	2025 No Project vs. Project
SR 88	SR 99 to Wicox Rd	67.9	68.2	0.3	67.2	67.5	0.4	68.1	68.6	0.5	66.8	67.7	0.9
	Wicox Rd to Fairchild Ln	66.0	66.5	0.5	66.3	66.8	0.5	65.9	66.7	0.8	66.3	67.3	1.0
	Fairchild Ln to Waterloo	62.1	63.2	1.2	66.3	66.7	0.5	64.3	65.3	1.1	65.9	67.0	1.1
	Waterloo to Harney Ln	63.7	64.5	0.8	66.1	66.6	0.5	64.1	65.2	1.1	65.8	66.9	1.1
	Harney Ln to SR 12 (west)	66.0	66.5	0.5	66.8	67.2	0.4	66.3	67.0	0.7	66.4	67.4	1.0
	SR 12 (west) to Jack Tone Rd	66.4	67.1	0.7	69.0	69.4	0.4	66.9	67.8	0.9	68.7	69.3	0.6
	Jack Tone Rd to SR 12 (east)	65.6	66.4	0.8	68.5	68.9	0.4	65.7	66.8	1.1	68.1	68.8	0.7
	SR 12 to Liberty Rd	64.1	65.2	1.1	67.8	68.3	0.5	64.2	65.7	1.6	67.4	68.3	0.9
	Liberty Rd to Amador Co Line	63.5	64.8	1.3	64.4	65.5	1.1	63.6	65.4	1.8	64.3	66.0	1.7
	Amador Co Line to Jackson Val Rd	63.5	64.8	1.3	64.4	65.5	1.1	63.6	65.4	1.8	64.3	66.0	1.7
	Jackson Valley Rd to SR 124	63.6	63.6	0.0	64.4	64.4	0.0	63.7	63.7	0.0	64.3	64.3	0.0
	SR 124 to Buena Vista Rd	62.2	62.2	0.0	64.1	64.1	0.0	62.5	62.5	0.0	64.4	64.4	0.0
	Buena Vista Rd to SR 104	63.9	63.9	0.0	63.3	63.3	0.0	63.9	64.0	0.0	64.4	64.5	0.1
	East of SR 104 to SR 104 (east)	65.6	65.7	0.1	66.5	66.5	0.1	65.6	65.7	0.1	66.4	66.5	0.1
	SR 104 (east) to SR 49	65.8	65.8	0.1	66.7	66.7	0.1	65.8	65.9	0.1	66.6	66.6	0.1
SR 49	North of SR 16	61.9	62.0	0.1	60.3	60.4	0.1	61.9	62.1	0.1	60.8	60.9	0.2
Buena Vista Rd	SR 124 to SR 88	56.8	58.9	2.1	57.6	59.4	1.8	56.4	59.5	3.1	58.0	60.0	2.0
	SR 88 to Jackson Valley Rd	58.4	60.0	1.6	59.0	60.4	1.5	58.3	60.6	2.3	59.0	60.9	1.9
	Jackson Valley Rd to Coal Mine Rd	57.4	62.3	4.9	57.0	62.2	5.1	57.2	63.5	6.3	55.0	63.2	8.1
	Coal Mine Rd to Stoney Creek Rd	56.6	57.2	0.6	56.4	57.0	0.7	56.4	57.4	1.0	55.6	56.3	0.7
Jackson Valley Rd	SR 88 (west) to Buena Vista Rd	55.3	60.5	5.2	55.9	60.7	4.8	55.0	61.8	6.7	55.3	62.2	6.9
	Buena Vista Rd to SR 88 (east)	56.8	57.2	0.4	58.4	58.7	0.3	56.4	57.0	0.6	58.4	58.4	0.0
Coal Mine Road	Buena Vista Rd to Project Access	51.2	61.3	10.1	52.2	52.2	0.0	51.2	62.9	11.8	51.5	62.9	11.5
	Project Access to Comanche Pkwy	50.3	55.1	4.8	52.2	55.8	3.6	50.3	56.3	6.0	51.5	56.6	5.2
SR 12	SR 99 to Bruella Rd	63.6	63.9	0.3	66.2	66.4	0.2	63.8	64.2	0.4	65.8	65.9	0.0
	Bruella Rd to SR 88	63.1	63.5	0.3	65.7	65.9	0.2	63.4	63.9	0.5	65.4	65.4	0.1
SR 16	Latrobe Rd to Murietta Pkwy	65.5	65.7	0.2	68.0	68.1	0.1	65.6	65.9	0.3	67.7	67.7	0.0
	Murietta Pkwy to Ione Rd	63.9	64.1	0.3	66.6	66.7	0.1	64.1	64.4	0.4	66.2	66.3	0.1

Road	Segment Location	Weekday - Ldn[1]						Weekend - Ldn[1]					
		Existing	Existing plus Project	Existing vs. Project	2025 No Project	2025 plus Project	2025 No Project vs. Project	Existing	Existing plus Project	Existing vs. Project	2025 No Project	2025 plus Project	2025 No Project vs. Project
	Ione Rd to Amador County line	62.2	62.2	0.0	64.9	64.9	0.0	62.2	62.2	0.0	64.5	64.5	0.0
	Amador County line to Latrobe Rd	62.3	62.3	0.0	62.7	62.7	0.0	62.3	62.3	0.0	62.6	62.6	0.0
	Latrobe Rd to Jct. Rte. 124 South	63.4	63.4	0.1	64.0	64.0	0.0	63.4	63.5	0.1	63.7	63.8	0.1
	Jct. SR 124 South to Central House, Jct. SR 49	62.7	62.7	0.1	64.0	64.0	0.0	62.7	62.8	0.1	63.7	63.8	0.1
SR 104	Sacramento Co line to Michigan Bar Rd	57.0	57.7	0.7	57.6	58.2	0.6	57.5	58.3	0.8	57.4	58.7	1.3
	Michigan Bar Rd to SR 124	61.0	61.5	0.5	62.4	62.8	0.4	61.3	62.0	0.7	62.4	62.9	0.5
	SR 124 to Main St	58.7	59.2	0.5	60.4	60.8	0.3	59.0	59.7	0.7	60.3	60.7	0.3
	Preston Ave to Church St	58.8	59.3	0.5	60.6	60.9	0.3	59.1	59.8	0.6	60.5	60.5	0.0
	Church St to SR 88	55.1	55.1	0.0	57.5	57.5	0.0	55.1	55.1	0.0	57.4	57.4	0.0
SR 124	SR 16 to Willow Creek Rd	57.0	57.3	0.2	58.6	58.6	0.0	57.0	57.0	0.0	57.8	57.9	0.2
	Willow Creek Rd to SR 104	59.9	60.1	0.2	60.1	60.3	0.2	60.1	60.4	0.4	60.0	60.1	0.1
	Church Street to Buena Vista Rd	55.5	56.4	1.0	54.8	55.9	1.1	56.2	57.4	1.2	54.7	56.1	1.3
	Buena Vista Rd to SR 88	53.3	53.3	0.0	54.8	54.8	0.0	53.3	53.3	0.0	54.7	54.7	0.0
Latrobe Road	El Dorado Co line to SR 16	56.6	56.9	0.3	59.6	59.7	0.1	56.8	57.2	0.4	59.5	59.5	0.0
Willow Creek Road	SR 16 to SR 124	47.2	48.4	1.3	47.2	48.4	1.3	48.1	49.5	1.5	47.2	47.2	0.0
Comanche Parkway	SR 88 to San Joaquin Co line	55.3	57.5	2.1	64.6	64.9	0.3	54.7	57.9	3.2	64.5	65.0	0.5
	San Joaquin Co line to Coal Mine Rd	52.5	55.9	3.4	57.0	58.6	1.5	52.5	57.0	4.5	57.5	59.5	2.0
Stoney Creek Road	Buena Vista Rd to Jackson Valley Rd	54.3	54.6	0.2	50.3	50.8	0.5	54.5	54.8	0.3	49.2	50.2	1.0
Liberty Road	SR 99 to Elliott Rd	60.3	61.2	0.9	65.1	65.4	0.3	61.0	62.1	1.2	64.7	65.3	0.6
	Elliot Rd to SR 88	59.8	60.8	1.0	64.7	65.1	0.4	60.5	61.8	1.3	64.4	65.0	0.6
Jahant Road	SR 99 to Mackville Rd	56.2	56.8	0.7	61.9	62.1	0.2	56.6	57.6	0.9	61.5	61.8	0.3
Peltier Road	SR 99 to Tully Rd	56.2	56.8	0.7	62.6	62.7	0.2	56.6	57.6	0.9	62.2	62.4	0.2
Ione Road	SR 16 to Michigan Bar Rd	58.1	58.8	0.8	58.4	59.1	0.7	58.6	59.6	1.0	58.3	58.6	0.3
Meiss Road	Ione Rd to Amador County line	58.1	59.1	0.9	59.5	60.2	0.7	58.8	60.0	1.2	59.3	60.0	0.7
Michigan Bar Road	Sacramento County line to SR 104	57.8	58.8	1.0	59.5	60.2	0.7	57.4	59.0	1.5	59.3	60.0	0.7
Pardee Dam Rd	Stoney Creek Rd to Campo Seco	55.3	55.3	0.0	56.2	56.2	0.0	55.3	55.3	0.0	56.0	56.3	0.2

Note: Shading indicates significant impact

[1] 100 feet from roadway centerline

Road	Segment
Weekend Conditions—Existing	
SR 88	Fairchild Ln to Waterloo Waterloo to Harney Ln Jack Tone Rd to SR 12 (east) SR 12 to Liberty Rd Liberty Rd to Amador Co line Amador Co line to Jackson Valley Rd
Buena Vista Rd	SR 124 to SR 88 SR 88 to Jackson Valley Rd Jackson Valley Rd to Coal Mine Rd
Jackson Valley Rd	SR 88 (west) to Buena Vista Rd
Coal Mine Road	Buena Vista Rd to Project Access Project Access to Comanche Pkwy
Comanche Parkway	SR 88 to San Joaquin Co line San Joaquin Co line to Coal Mine Rd
Liberty Road	SR 99 to Elliott Rd Elliot Rd to SR 88
Weekend Conditions—2025	
SR 88	Wilcox Rd to Fairchild Ln Fairchild Ln to Waterloo Waterloo to Harney Ln Harney Ln to SR12 (west) Liberty Rd to Amador Co line Amador Co line to Jackson Valley Rd
Buena Vista Rd	SR 124 to SR 88 Jackson Valley Rd to Coal Mine Rd
Jackson Valley Rd	SR 88 (west) to Buena Vista Rd
Coal Mine Road	Buena Vista Rd to Project Access Project Access to Comanche Pkwy

Rural residences are scattered along many of the segments shown in the table. A residential subdivision is located on Jackson Valley Road between SR 88 and Buena Vista Road. Where residences are within 100 feet of Jackson Valley Road, the proposed project is predicted to result in a significant traffic noise impact.

Several methods are available for reducing traffic noise.

- Reduction of speed limits.
- Placement of low-noise pavement such as open-graded asphalt on roadways.
- Placement of barriers between roadways and receptors.

Implementation of Mitigation Measure N-2 would reduce the severity of this impact. However, because it would likely be infeasible to implement these measures in all cases where significant traffic noise impacts are predicted to occur, this impact is considered to be significant and unavoidable.

Mitigation Measure N-2: Implement traffic noise reduction treatments
The project applicant will implement traffic noise reduction treatments along any roadway segment where the project is predicted to result in a significant traffic noise impact. Where the roadway will be repaved as part of traffic mitigation improvements, low noise pavement such as open-graded asphalt will be used.

If implementation of low noise pavement is not predicted to reduce the project-related increase in noise to less than the allowed increase in noise specified in the Amador County General Plan Noise Element, the following additional mitigation measures will be implemented where feasible such that the project-related increase in noise is less than the "allowed increase" specified in the Amador County General Plan Noise Element.

- Reduce posted speed limits.
- Construct solid barriers in the form of earth berms or solid walls between the roadway and frequent use exterior areas of residences.

Impact N-3: Exposure of existing noise-sensitive land uses to noise from onsite mechanical equipment (less than significant with mitigation)
Mechanical equipment that will be in operation on the project site will be a source of noise that could affect adjacent land uses. This equipment could include heating, ventilation, and air conditioning (HVAC) equipment and equipment associated with operation of the wastewater treatment plant. Treatment plant machinery may include blowers, motors, and pumps.

Because the design and location of mechanical equipment that could be used on the project site has not yet been determined, a detailed analysis of potential noise levels cannot be made at this time. However, operation of this equipment has the potential to result in noise that exceeds County noise standards or to cause the ambient noise level (L_{dn}) to increase by more than 3 dB at the property line. Because the property around the project site is currently undeveloped, and the nearest residence is located about 500 feet northwest of the project, it is unlikely that equipment operation would adversely affect existing residences. However, noise-sensitive uses could be built adjacent to the project site in the future. This impact is therefore considered to be significant. Implementation of Mitigation Measure N-3 would reduce this impact to a less-than-significant level.

Mitigation Measure N-3: Design mechanical equipment to comply with County noise standards
The project applicant will design mechanical equipment systems on the project site such that noise at the property line complies with County

noise standards and does not increase the ambient noise level (L_{dn}) at the property line by more than 3 dBA. Measures that can be implemented to control noise from mechanical systems include but are not limited to those listed below.

- Locate equipment so that building structures and natural topography block the line of sight between the equipment and the property line.
- Place enclosures around noise-generating equipment.
- Provide noise-generating equipment with mufflers or other sound-attenuating devices.

Impact N-4: Exposure of existing noise-sensitive land uses to noise from vehicle movements, idling buses, and loading dock activities on the project site (less than significant with mitigation)

Vehicle movements, idling buses, and loading dock activities at the gaming facility would be a source of noise. Noise generated by vehicles moving in parking structures is typically limited by the low speeds. Human activity in parking structures that can produce noise includes talking, yelling, and opening and closing of car doors and trunk lids. The noise levels associated with these activities cannot be precisely estimated because the number of vehicle movements and the time they can occur is highly variable. A typical passing car in a parking structure can produce a maximum noise level of 60–65 dBA at a distance of 50 feet. The hard reflective surfaces of parking structures can cause reflections of sound that may cause noise from traffic and human activities to seem magnified.

Buses would likely be used to deliver patrons to the facility and would drop off and pick up patrons at the facility's northwest corner. Bus operators may choose to leave the bus engines running while waiting to drop off or pick up patrons. The noise level generated by an idling modern diesel bus is about 65 dBA at 50 feet.

Loading docks for facility supplies can be a source of noise, primarily as the result of noise produced by passing trucks. A low-speed truck passage or idling truck can produce noise in the range of 70–75 dBA at 50 feet. Forklift activity can also be a source of noise.

This analysis indicates that vehicle movements, idling buses, and loading dock activities on the facility premises have the potential to result in noise that exceeds County noise standards or to cause the ambient noise level (L_{dn}) to increase by more than 3 dB at the property line. This impact is therefore considered to be significant. Implementation of Mitigation Measure N-4 will reduce this impact to a less-than-significant level.

Mitigation Measure N-4: Design the facility such that noise from onsite vehicle movements, idling buses, and loading dock activities complies with County noise standards

The project applicant will design the facility so that noise from onsite vehicle movements, idling buses, and loading dock activities complies

with County noise standards and does not increase the ambient noise level (L_{dn}) at the property line by more than 3 dBA. Measures that can be implemented to control noise from these onsite activities include but are not limited to those listed below.

- Design the facility so that bus parking areas are as far from off-reservation noise-sensitive uses as possible.
- Limit the amount of time that buses and trucks can idle engines while parked.
- Limit access to loading docks to daytime hours.
- Locate structures or berms between noise-generating areas and off-reservation noise-sensitive uses.

Alternative 1—No Project

Under the No-Project Alternative, a Class III gaming facility would not be constructed. A range of projects could be constructed without the comprehensive environmental review process that is required under the Compact. Under this alternative, potential off-reservation noise impacts would not be evaluated, and mitigation measures would not be required for any such impacts. Depending on the project constructed, there is the potential for either substantially greater or substantially reduced impacts from project-generated noise.

Alternative 2—Phased Project

Impacts N-1, N-3, and N-4 would be the same under Alternative 2 as under the proposed project. These impacts would be similarly reduced to a less-than-significant level by implementation of Mitigation Measures N-1, N-3, and N-4, respectively.

Impact N-5: Exposure of existing noise-sensitive land uses to increased traffic noise under Alternative 2 (significant and unavoidable)
Table 3I-7 summarizes traffic noise modeling results for Phases 1 and 2 of Alternative 2. Phase 3 of Alternative 2 is the same as the proposed project (Table 3I-5). Under Phase 1, segments and conditions for which the traffic noise significance thresholds are predicted to be exceeded are indicated in the tables and are summarized in Table 3I-8.

Table 3I-8. Road Segments where Noise Significance Thresholds Will Likely Be Exceeded (Alternative 2)

Road	Segment
Existing Weekday Conditions—Phase I	
Buena Vista Rd	Jackson Valley Rd to Coal Mine Rd

Table 3I-7. Traffic Noise Modeling Results for Alternative 2 Existing Conditions—Weekday and Weekend

		Weekday L_{dn}[1]					Weekend L_{dn}[1]				
Roadway	Segment Location	Existing	Existing w/ Phase 1	Existing vs. Phase 1	Existing Plus Phase 2	Existing vs. Phase 2	Existing	Existing w/ Phase 1	Existing vs. Phase 1	Existing Plus Phase 2	Existing vs. Phase 2
SR 88	SR 99 to Wicox Rd	67.9	68.0	0.2	68.1	0.3	68.1	68.3	0.2	68.5	0.4
	Wicox Rd to Fairchild Ln	66.0	66.3	0.2	66.4	0.4	65.9	66.3	0.4	66.5	0.6
	Fairchild Ln to Waterloo	62.1	62.7	0.6	63.0	0.9	64.3	64.8	0.5	65.1	0.8
	Waterloo to Harney Ln	63.7	64.1	0.4	64.3	0.6	64.1	64.7	0.5	65.0	0.9
	Harney Ln to SR 12 (west)	66.0	66.2	0.2	66.4	0.4	66.3	66.7	0.3	66.9	0.5
	SR 12 (west) to Jack Tone Rd	66.4	66.7	0.3	66.9	0.5	66.9	67.3	0.4	67.6	0.7
	Jack Tone Rd to SR 12 (east)	65.6	66.0	0.4	66.2	0.6	65.7	66.3	0.6	66.6	0.9
	SR 12 to Liberty Rd	64.1	64.6	0.5	64.9	0.9	64.2	64.9	0.8	65.4	1.2
	Liberty Rd to Amador Co Line	63.5	64.1	0.7	64.5	1.0	63.6	64.5	0.9	65.0	1.4
	Amador Co Line to Jackson Val Rd	63.5	64.1	0.7	64.5	1.0	63.6	64.5	0.9	65.0	1.4
	Jackson Valley Rd to SR 124	63.6	63.6	0.0	63.6	0.0	63.7	63.7	0.0	63.7	0.0
	SR 124 to Buena Vista Rd	62.2	62.2	0.0	62.2	0.0	62.5	62.5	0.0	62.5	0.0
	Buena Vista Rd to SR 104	63.9	63.9	0.0	63.9	0.0	63.9	64.0	0.0	64.0	0.0
	East of SR 104 to SR 104 (east)	65.6	65.6	0.0	65.7	0.1	65.6	65.7	0.0	65.7	0.1
	SR 104 (east) to SR 49	65.8	65.8	0.0	65.8	0.0	65.8	65.9	0.0	65.9	0.1
SR 49	North of SR 16	61.9	61.9	0.0	61.9	0.1	61.9	62.0	0.1	62.0	0.1
Buena Vista Rd	SR 124 to SR 88	56.8	57.9	1.1	58.5	1.7	56.4	58.1	1.7	58.9	2.5
	SR 88 to Jackson Valley Rd	58.4	59.2	0.8	59.7	1.3	58.3	59.5	1.2	60.1	1.8
	Jackson Valley Rd to Coal Mine Rd	57.4	60.3	2.9	61.5	4.1	57.2	61.2	4.0	62.5	5.2
	Coal Mine Rd to Stoney Creek Rd	56.6	56.9	0.3	57.1	0.5	56.4	56.9	0.5	57.1	0.7
Jackson Valley Rd	SR 88 (west) to Buena Vista Rd	55.3	58.5	3.1	59.7	4.3	55.0	59.4	4.3	60.8	5.8
	Buena Vista Rd to SR 88 (east)	56.8	57.0	0.2	57.1	0.3	56.4	56.7	0.3	56.9	0.5
Coal Mine Road	Buena Vista Rd to Project Access	51.2	58.4	7.2	60.2	9.0	51.2	59.9	8.7	61.8	10.6
	Project Access to Comanche Pkwy	50.3	53.1	2.8	54.3	4.0	50.3	54.1	3.8	55.4	5.1
SR 12	SR 99 to Bruella Rd	63.6	63.7	0.1	63.8	0.2	63.8	64.0	0.2	64.1	0.3
	Bruella Rd to SR 88	63.1	63.3	0.2	63.4	0.3	63.4	63.6	0.2	63.7	0.4
SR 16	Latrobe Rd to Murietta Pkwy	65.5	65.6	0.1	65.6	0.1	65.6	65.7	0.1	65.8	0.2
	Murietta Pkwy to Ione Rd	63.9	64.0	0.1	64.1	0.2	64.1	64.2	0.2	64.3	0.3
	Ione Rd to Amador County line	62.2	62.2	0.0	62.2	0.0	62.2	62.2	0.0	62.2	0.0
	Amador County line to Latrobe Rd	62.3	62.3	0.0	62.3	0.0	62.3	62.3	0.0	62.3	0.0

Roadway	Segment Location	Weekday L_{dn}[1]					Weekend L_{dn}[1]				
		Existing	Existing w/ Phase 1	Existing vs. Phase 1	Existing Plus Phase 2	Existing vs. Phase 2	Existing	Existing w/ Phase 1	Existing vs. Phase 1	Existing Plus Phase 2	Existing vs. Phase 2
	Latrobe Rd to Jct. Rte. 124 South	63.4	63.4	0.0	63.4	0.0	63.4	63.5	0.0	63.5	0.1
	Jct. SR 124 South to Central House, Jct. SR 49	62.7	62.7	0.0	62.7	0.0	62.7	62.8	0.0	62.8	0.1
SR 104	Sacramento Co line to Michigan Bar Rd	57.0	57.4	0.3	57.6	0.5	57.5	58.0	0.4	58.2	0.7
	Michigan Bar Rd to SR 124	61.0	61.2	0.2	61.4	0.4	61.3	61.7	0.3	61.9	0.5
	SR 124 to Main St	58.7	58.9	0.2	59.1	0.4	59.0	59.3	0.3	59.5	0.5
	Preston Ave to Church St	58.8	59.0	0.2	59.2	0.4	59.1	59.5	0.3	59.6	0.5
	Church St to SR 88	55.1	55.1	0.0	55.1	0.0	55.1	55.1	0.0	55.1	0.0
SR 124	SR 16 to Willow Creek Rd	57.0	57.2	0.1	57.2	0.2	57.0	57.0	0.0	57.0	0.0
	Willow Creek Rd to SR 104	59.9	60.0	0.1	60.1	0.2	60.1	60.2	0.2	60.3	0.3
	Church Street to Buena Vista Rd	55.5	55.9	0.5	56.2	0.7	56.2	56.7	0.6	57.1	0.9
	Buena Vista Rd to SR 88	53.3	53.3	0.0	53.3	0.0	53.3	53.3	0.0	53.3	0.0
Latrobe Road	El Dorado Co line to SR 16	56.6	56.8	0.1	56.8	0.2	56.8	57.0	0.2	57.1	0.3
Willow Creek Road	SR 16 to SR 124	47.2	47.9	0.7	48.2	1.0	48.1	48.8	0.7	49.3	1.2
Comanche Parkway	SR 88 to San Joaquin Co line	55.3	56.4	1.1	57.0	1.7	54.7	56.5	1.8	57.3	2.6
	San Joaquin Co line to Coal Mine Rd	52.5	54.4	1.9	55.3	2.8	52.5	55.1	2.6	56.2	3.7
Stoney Creek Road	Buena Vista Rd to Jackson Valley Rd	54.3	54.5	0.2	54.5	0.2	54.5	54.6	0.1	54.7	0.2
Liberty Road	SR 99 to Elliott Rd	60.3	60.8	0.5	61.0	0.7	61.0	61.6	0.6	61.9	0.9
	Elliot Rd to SR 88	59.8	60.3	0.5	60.6	0.8	60.5	61.2	0.6	61.5	1.0
Jahant Road	SR 99 to Mackville Rd	56.2	56.5	0.3	56.7	0.5	56.6	57.1	0.4	57.3	0.7
Peltier Road	SR 99 to Tully Rd	56.2	56.5	0.3	56.7	0.5	56.6	57.1	0.4	57.3	0.7
Ione Road	SR 16 to Michigan Bar Rd	58.1	58.4	0.4	58.6	0.6	58.6	59.1	0.5	59.4	0.8
Meiss Road	Ione Rd to Amador County Line	58.1	58.6	0.5	58.8	0.7	58.8	59.4	0.6	59.7	0.9
Michigan Bar Road	Sacramento County Line to SR 104	57.8	58.3	0.5	58.6	0.8	57.4	58.2	0.8	58.6	1.2
Pardee Dam Rd	Stoney Creek Rd to Campo Seco	55.3	55.3	0.0	55.3	0.0	55.3	55.3	0.0	55.3	0.0

Note: Shading indicates significant impact

[1] 100 feet from roadway centerline

Road	Segment
Jackson Valley Rd	SR 88 (west) to Buena Vista Rd
Coal Mine Road	Buena Vista Rd to Project Access
Existing Weekend Conditions—Phase I	
Buena Vista Rd	Jackson Valley Rd to Coal Mine Rd
Jackson Valley Rd	SR 88 (west) to Buena Vista Rd
Coal Mine Road	Buena Vista Rd to Project Access Project Access to Comanche Pkwy
Existing Weekday Conditions—Phase II	
SR 88	Liberty Rd to Amador Co line Amador Co line to Jackson Valley Rd
Buena Vista Rd	Jackson Valley Rd to Coal Mine Rd
Jackson Valley Rd	SR 88 (west) to Buena Vista Rd
Coal Mine Road	Buena Vista Rd to Project Access Project Access to Comanche Pkwy
Comanche Parkway	SR 88 to San Joaquin Co line San Joaquin Co line to Coal Mine Rd
Existing Weekend Conditions—Phase II	
SR 88	SR 12 to Liberty Rd Liberty Rd to Amador Co line Amador Co line to Jackson Valley Rd
Buena Vista Rd	SR 124 to SR 88 Jackson Valley Rd to Coal Mine Rd
Jackson Valley Rd	SR 88 (west) to Buena Vista Rd
Coal Mine Road	Buena Vista Rd to Project Access Project Access to Comanche Pkwy

Rural residences are scattered along many of the segments listed in Table 3I-8. A residential subdivision is located on Jackson Valley Road between SR88 and Buena Vista Road. Where residences are located within 100 feet of Jackson Valley Road, the proposed project is predicted to result in a significant traffic noise impact.

Several methods are available for reducing traffic noise.

- Reduction of speed limits.
- Placement of low noise pavement such as open-graded asphalt on roadways.
- Placement of barriers between roadways and receptors.

Implementation of Mitigation Measure N-2 would reduce the severity of this impact. However, because it would likely be infeasible to implement these

measures in all cases where significant traffic noise impacts are predicted to occur, this impact is considered to be significant and unavoidable.

Alternative 3—Reduced Project (Reduced Gaming Floor Area: 75% of Proposed Project)

Impacts N-1, N-3, and N-4 would be the same under Alternative 2 as under the proposed project. These impacts would be similarly reduced to a less-than-significant level by implementation of Mitigation Measures N-1, N-3, and N-4, respectively.

The exposure of existing noise-sensitive land uses to increased traffic noise would be the same as described in Impact N-5. The severity of this significant and unavoidable impact would be reduced by implementation of Mitigation Measure N-2.

Alternative 4—Reconfigured Access Driveway with Additional Site Access and Parking

Impacts N-1 through N-4 would be the same under Alternative 4 as under the proposed project. Mitigation Measures N-1 through N-4 would similarly apply.

3J Population and Housing

This section analyzes the potential off-reservation impacts on population and housing that would result from implementation of the proposed project. The sources listed below were used in the preparation of this section.

- Amador County Housing Element.
- U.S. Census Bureau.
- Amador County Administrative Agency.
- California Department of Finance Demographic Research Unit.

Existing Conditions

This section discusses the existing conditions relating to population growth, employment conditions, and housing in the study area, and federal, state, and local regulations relating to housing and community services that pertain to the proposed project.

Environmental Setting

Current and Projected Population

According to the U.S. Census, the overall population of Amador County grew from 30,039 to 35,100 individuals between 1990 and 2000, an increase of 16.8%. The California Department of Finance projects more than 40,000 individuals residing in Amador County by 2020.

U.S. Census data indicate that the percentage of persons in Amador County over age 65 is 18.0%, significantly higher than the California average of 10.6%; persons under age 5 in Amador County is 4.2% higher than the California average of 7.3%. Percent of white persons not of Hispanic/Latino origin is 82.4%, well above the California average of 46.7% (U.S. Census 2000).

According to the adopted Amador County Housing Element (2005), the unincorporated county should expect an annual growth rate of approximately 2% through 2009. The projected increase in the population of the unincorporated portions of the county is from 20,500 in 2000 to 23,953 by 2009.

Employment

The civilian labor force in Amador County in 2000 totaled 14,230 individuals. 13,610 of these individuals were employed in 2000; the unemployment rate was 4.4% (Amador County Housing Element 2005).

Housing

The housing area nearest to the project is a residential development less than 1 mile north of the proposed project site at the intersection of Jackson Valley Road and Buena Vista Road.

U.S. Census data indicate that the total number of housing units in the county increased from 12,814 to 15,035 between 1990 and 2000. In 2000, there were 9,629 owner-occupied single-family homes and 3,130 renter-occupied homes in Amador County. The total number of housing units increased to 15,490 in 2002. Owner-occupied single-family units constitute the primary housing unit type in the county (Amador County Housing Element 2005).

Amador County had a home ownership rate of 75.5% in 2000, significantly higher than the California average of 56.9%. Only 6.4% of Amador County's housing units are part of multi-unit structures, significantly less than the California average of 31.4%.

According to the 2005 California Department of Finance, 57.6% (21,953 individuals) of Amador County resident's live in the unincorporated county; the remaining 42.4% (16,180 individuals) live in the incorporated cities (Table 3J-1).

Table 3J-1. Population in Amador County

City	Population (2006)
Amador	213
Ione*	7,613
Jackson	4,350
Plymouth	1,060
Sutter Creek	2,944
Total Incorporated Population	16,180
Unincorporated County Population	21,953

*Population includes 3,650 inmates at Mule Creek Prison, built in 1985
Source: California Department of Finance 2006

According to the U.S. Census Bureau, housing vacancy in Amador County dropped from 17.9% to 15.1% from 1990 to 2000 (Table 3J-2). According to the

2000 U.S. Census, approximately 75.5% of housing in Amador County was owner-occupied; the remaining 24.5% was rental property.

Table 3J-2. Amador County Occupancy and Vacancy Rates, 1990–2000

Occupancy Status	1990 Census	1990 Vacancy Rate	2000 Census	2000 Vacancy Rate
Occupied Units	10,518		12,759	
Vacant Units	2,296		2,276	
Total	12,814	17.9%	15,035	15.1%

Source: U.S. Census Bureau (2000)

The California Department of Finance's E-5 Population and Housing Estimates (2006) estimates the number of vacancies in the counties of California and their incorporated cities. Table 3J-4 lists the estimated number of total and vacant units in Amador County as well as in the next closest likely source of housing, the cities of Stockton and Lodi.

Table 3J-3. Total Local Housing and Vacancy Rates

Location	Total Housing Units	Vacant Units	Vacancy Rate (%)
Amador	102	8	5.88
Ione	1,411	90	6.38
Jackson	2,088	126	6.03
Plymouth	506	72	14.23
Sutter Creek	1,447	107	7.39
Total in Incorporated Amador County		401	7.22
Total in Amador County	11,374	2,128	18.69
Stockton	94,409	3,971	4.21
Lodi	23,300	738	3.21

Source: California Department of Finance E-5 (2006)

To accommodate growth and the needs of various income groups, the Central Sierra Planning Council adopted a Regional Housing Needs Assessment (RHNA) as part of the process of adopting the County General Plan's Housing Element. The RHNA identifies regional housing needs for Alpine, Amador, Calaveras, and Tuolumne Counties and their incorporated cities. Each of these jurisdictions must adopt a general plan housing element that reflects its fair share allocation of

housing needs as identified in the RHNA. The regional housing needs allocation for Amador County is summarized in Table 3J-4.

Table 3J-4. Housing Needs by Income Group (Unincorporated Amador County 2001–2008)

Income Group	New Units Needed by 2008
Very low	231
Lower	160
Moderate	177
Above Moderate	378
Total	946

Source: Draft Regional Housing Needs Assessment, May 2003; Central Sierra Planning Council

Amador County adopted its General Plan Housing Element in 2005. The Housing Element, described in detail below, establishes policies through which the County will accommodate its housing needs allocation.

Regulatory Setting

The regulations applicable to the areas surrounding the proposed project site are described below. Because the proposed project would be constructed on Tribal land, the state and local regulations do not apply directly to the proposed project or its components. The purpose of the discussion is to provide context to the reader by which off-reservation impacts were analyzed.

State Regulations

Section 65588 of the California Government Code mandates that local governments adequately plan to meet the existing and projected housing needs of all economic segments of the community. The law acknowledges that, in order for the private market to adequately address housing needs and demand, local governments must adopt land use plans and regulations that provide opportunities for, and do not unduly constrain, housing development.

Local Regulations

Amador County General Plan

III. Plan objectives, Principles and Standards

A. Objectives of the Plan

4. To provide for adequate housing for all elements of the population, present and future.

Amador County General Plan Housing Element Implementation Programs

The purpose of Amador County's Housing Element is to meet the requirements of California Housing and Community Development Department's 2004–2009 planning cycle and to reflect the housing needs of the unincorporated Amador County population (i.e., excluding the county's five incorporated cities and including the county's unincorporated communities) pursuant to the RHNA adopted by the Central Sierra Planning Council.

The County Housing Element has adopted the following implementation programs:

Continue to Conduct Periodic Reviews of the Amador County Development Code and General Plan

Continue to conduct periodic reviews (at least once every five years) of the County's Development Code and General Plan to facilitate implementation of the Housing Element and to insure consistency between the Housing Element and other elements of the General Plan.

Encourage the Establishment of Small, Affordable Housing Units, Farmworker Housing and Special Needs Housing Distributed Throughout the County

Reduce community opposition to high density affordable housing complexes through the provision of smaller (e.g., duplex, triplex) infill projects in appropriately zoned districts. Encourage the establishment of farmworker and special needs housing through the provision of smaller (e.g., duplex, triplex) infill projects in appropriately zoned districts. The county will facilitate the provision of affordable housing, farmworker housing and special needs housing in infill areas through implementation of the following:

Amend the County Code to provide the following incentives for infill projects on land zoned R1 or R2 in which: a) the project will provide a minimum density equal to 80% of the allowable maximum density for the subject site; and b) the landowner enters into an agreement with longterm affordability covenants and restrictions to maintain the housing for at least 10 years for low or very low income households; special needs housing [for 6 or fewer residents in R1 zones and for 7 or more residents in R2 zones]; and for farm worker housing consistent with the provisions of Sections 17021.5 and 17021.6 of the California Health and Safety Code

Identify Parcels with Available or Anticipated Water and Sewer

In coordination with the Amador Water Agency, the cities and the Amador County Environmental Health Department, prepare a map of those parcels or areas in which water and sewer services is currently available or is located in close proximity, anticipated to become available in the near future, or may be

made available without significant funding. Target areas to be included for consideration should include:

- Outskirts of Ione
- Between the incorporated cities of Sutter Creek and Amador City
- Lower Ridge Road (Highways 104 and 88)
- Around Amador City
- Around Pine Grove

This program should be completed in conjunction with **Program A.i** and areas with both available water and a high potential to support community leach fields should be made a priority for designation as SPR. This map should be included in the Amador Water Agency's Water Master Plan.

Identify Areas Appropriate for Community Leach Fields
In coordination with the Amador Water Agency and Amador County Environmental Health Department, prepare a map of county soils which may support community leach fields for small to moderate developments where public sewer may be unavailable. This project should be completed in conjunction with **Program A.h** and areas with both available water and a high potential to support community leach fields should be made a priority for designation as SPR. This map should be included in the Amador Water Agency's Wastewater Master Plan.

Pursue Funding and Prepare a Plan for Funding Infrastructure Improvements
In cooperation with the Amador Water Agency, identify a list of water and wastewater capital improvement projects which would best support the County's housing goals.

Pursue funding to complete these projects or to assist developers and the Amador Water Agency to complete these capital improvement projects as necessary to increase the availability of housing for low and very low-income households. Potential funding sources include, but are not limited to:

- Investigating establishment of a capital facilities fee to assist in funding infrastructure improvements;
- Submittal of a funding application to the USDA's Small Communities Rural Utilities Service Grants & Loans Program;
- Investigate the potential benefits of forming a redevelopment agency encompassing some portions of existing unincorporated communities. A primary consideration of the district should be the reinvestment of property tax revenues into infrastructure improvements necessary to support affordable housing.

Encourage the Creation of Moderate Wage Jobs
Consistent with the findings of the study proposed pursuant **Program B.a** Evaluate preparing a business attraction and expansion study); designate land in

one or more of the study areas and as necessary to promote businesses identified inconsistent with other general plan policies.

Continue to Support "Redevelopment" in and around the Former Georgia Pacific Mill in Martell and Actively Encourage the Inclusion of Affordable Housing in "Redevelopment" Plans in this Area
Investigate the potential benefits of establishing a redevelopment area in and around the former Georgia Pacific Mill site in Martell to assist in funding infrastructure improvements in the area as the area reestablish itself. Outline an incentive package and adopting a strategy for approaching developers in and around the former mill site to include affordable housing in close proximity to the mill site.

Monitor the County's Jobs/Housing Balance
Require new development, as feasible, to provide jobs/housing information as follows: number of jobs to be provided, the wage range of new jobs and the number of local hires anticipated.

Identify Special Housing Need Areas
Prepare a map identifying those areas of the county identified in Census 2000 as having above average family sizes and provide this information during preapplication meetings with developers pursuing construction of affordable housing so that they may include 2 and 3+ bedroom units in affordable housing projects. Map the general locations of poverty pockets in the county. The county should investigate the benefits of establishing redevelopment districts to assist in improving housing conditions for seniors in those communities.

Impact Analysis

Approach and Methodology

A literature review was conducted to collect baseline information and to perform a qualitative screening-level analysis of the off-reservation impacts of the proposed project in the context of applicable local plans and data sources.

Table 3J-5 shows projected annual wages and the wage levels for identified income groups for a family of four.

Table 3J-5. Projected Annual Wages for Income Groups for a Family of Four (Amador County 2003)

Income Group	Description	Annual Wages
Very low	50% or less of the area median family income for the county (except that HUD has established a higher limit in some areas based on high rent levels relative to incomes in that area)	$0–$28,559
Lower	51%–80% of the median family income for the county	$28,560–$45,359
Moderate	81%–120% of the median family income for the county	$45,360–$67,759
Above Moderate	121% and above of the median family income for the county	$67,760+

Source: Amador County Housing Element 2005

For a single person, an annual wage of $19,600 or less was considered to be "very low" (50% or less of the median county wage), and a wage of $31,350 or less was considered to be "low" (51–80% of the median county wage). For the purposes of this analysis, an assumption was made that those employees whose annual wages were considered low to very low were likely to seek housing within the incorporated and unincorporated parts of Amador County in order to maintain a reasonable commute distance, especially considering the hours of facility operation (peak hours are typically after 5 p.m.). This assumption represents a first tier commute radius of approximately 25 miles or less. The second tier designation includes developed areas outside the county such as Stockton and Lodi, which have additional housing and a commute radius of approximately 25 miles or more. The analysis also assumes that one employee would need one unit of housing.

Thresholds of Significance

As defined in Exhibit A, *Off-Reservation Environmental Impact Analysis Checklist*, in the Compact, an impact on Population and Housing would be considered significant if it would result in either of the following conditions.

- Induce substantial off-reservation population growth.
- Displace substantial numbers of existing housing, necessitating the construction of replacement off-reservation housing elsewhere.

Impacts and Mitigation Measures

Currently, the proposed project area is undeveloped land. There is no housing on the reservation that would be displaced to another location, no people would be displaced, and no replacement housing would be constructed.

Impact POP-1: Inducement of population and housing growth in Amador County and unincorporated cities (significant)

The proposed project entails the creation of a recreational gaming facility on reservation land in Amador County. The projected worker requirements of the facility are anticipated to range from 1,000 to 1,975 employees. The average household size is 2.41 individuals in both incorporated and unincorporated Amador County (U.S. Census Bureau; Census 2000 Summary file Amador County, DP1 Profile of General Demographic Characteristics). Assuming that one worker would come from one household, the proposed project's housing demand could range from 1,000 to 1,975 units. The Amador County Administrative Agency has stated that Amador County has a current unemployment rate of 4.7% in a population of about 37,000, or approximately 900 unemployed in a labor force of about 17,100 workers (State of California, Employment Development Department, Labor Market information Division, Report 400 C, Monthly Labor Force Data for Counties, Annual Average 2004. www.labormarketinfo.edd.ca.gov). If 25% (225 workers) of the unemployed population were to obtain employment at the proposed gaming facility, roughly 770–1,700 facility workers would either seek housing within the county or commute from outside the county. Approximately 682–1,347 employees would earn low to very low incomes (Trzcinski pers. comm. [email to Barry Scott 10-19-06]) as characterized in the Housing Element and would likely seek housing within Amador County, based on the assumptions described in *Approach and Methodology*. Accordingly, for the purposes of this analysis, 682 is considered the minimum number of employees who would not earn enough to have the incentive to commute more than 25 miles to work at the proposed facility.

As described above in *Environmental Setting*, as of 2006, more than 2,100 dwelling units in the incorporated and unincorporated parts of the county were vacant; however, the vacancy rate does not provide data regarding distribution among income groups. The General Plan Housing Element projects a need for 568 additional units by 2008 for moderate, lower, and very low income groups. Although the current vacancy rate would appear to accommodate housing needs engendered by employees of the proposed gaming facility moving to the area, the lack of income data in concert with the additional housing demand generated by project employees (i.e., demand above the level projected during preparation of the Housing Element and RHNA) could substantially reduce the high vacancy rate in the county. The current countywide vacancy rate of 18.69% could decrease to 3.8–11.2% with the project, depending on the total number of employees as well as on the number of those employees who move into the county. A vacancy rate of 5% or less is considered an indicator of a tight housing market and could increase growth-inducing pressures.

Because the proposed project is within commuting distance of Stockton and Lodi (approximately 30 and 25 miles, respectively), many workers may choose to live in those communities, where approximately 4,709 housing units (4.01% combined vacancy rate) are readily available; this number is sufficient to accommodate employees who move to the region to work in the facility (California Department of Finance 2006). The estimated vacancy rate with the project would be approximately 3.3% for both cities collectively; this estimate

assumes that only those employees at income levels commensurate with a second tier commute radius (i.e., moderate to above moderate) would reside in Stockton or Lodi. Nevertheless, an undetermined number of employees may move to Amador County because it is the closest alternative and the shortest commute; this influx is likely to reduce vacancy rates and increase demand for housing within the county. The proposed project does not entail the creation of any housing; however, it would induce population growth in the general area. Although the precise level of growth cannot be estimated, it would exceed the need projected by the housing element; accordingly, this impact is considered significant

On-reservation housing is not feasible due to the limited developable area on the reservation. There is no feasible mitigation that would reduce this impact to a less-than-significant level.

Alternatives

Alternative 1—No Project

Under the No-Project Alternative, a Class III gaming facility would not be constructed. A range of projects could be constructed without the comprehensive environmental review process that is required under the Compact. Under this alternative, potential off-reservation environmental impacts would not be evaluated, and mitigation measures would not be required for any such impacts. Depending on the project constructed, there is the potential for either substantially greater or substantially reduced impacts on population and public housing.

Alternative 2—Phased Project

Phased development of the project would result in a slower increase in population and housing demands. However, because the completed project would be the same as the proposed project, population and housing demands are expected to be the same under as the proposed project.

Alternative 3—Reduced Project (Reduced Gaming Floor Area: 75% of Proposed Project)

A reduced gaming floor would slightly reduce number of employees, and hence the magnitude of impacts on population and housing, but would not reduce them to less-than-significant levels. Because there is no feasible mitigation for this impact, even at the reduced level, the impact would be significant.

Alternative 4—Reconfigured Access Driveway with Additional Site Access and Parking

The reconfigured access driveway alternative would have the same impacts as the proposed project. Because the facility would be the same size as under the proposed project, the impacts of both alternatives on population and housing would be the same.

3K Public Services

This section addresses the potential impacts of the proposed project on the following public services: fire protection, police protection, schools, justice system, and health and human services. It also presents mitigation measures that would reduce these impacts to a less-than-significant level. The primary sources of information used in the preparation of this section are listed below.

- Letters from area service providers.
- Amador County and local agency mitigation fee program information.
- Amador County budget.
- Comparable casino agreement documents (Thunder Valley Memorandum of Understanding and Cache Creek Intergovernmental Service Agreement).
- Amador County Sheriff correspondence.
- Thunder Valley Tribal Environmental Impact Report (TEIR).
- Conversations with the California Department of Forestry Fire Chief.

The Compact requires an analysis of the proposed project's potential to have substantial adverse *physical* impacts associated with *physical* alterations (emphasis added) of off-reservation governmental facilities that will be necessary to maintain acceptable levels of public services. While this section provides this level of analysis to the extent possible, it also provides analysis of potential impacts on public services associated with staffing levels, equipment, and facilities of the proposed project that may not necessarily result in physical environmental impacts. Although this level of analysis is not required by the Compact, such an evaluation and estimates of associated costs are included to provide a framework for the negotiation of compensation to be provided to the County for additional costs that may be incurred in order to maintain acceptable levels of public services.

Existing Conditions

Environmental Setting

Fire Protection

California Department of Forestry and Fire Protection (CDF)

CDF's mission is to protect the people of California from fires; respond to emergencies; and protect and enhance forest, range, and watershed values providing social, economic, and environmental benefits to rural and urban citizens. Responding to all types of emergencies on a daily basis is the role played by most of the CDF workforce. Those emergencies include such

occurrences as wildland fires, residential/commercial structure fires, automobile accidents, heart attacks, drownings, lost hikers, hazardous material spills on highways, train wrecks, floods, and earthquakes. CDF's firefighters, fire engines, and aircraft respond to an average of more than 5,600 wildland fires and respond to more than 300,000 other emergencies each year (State of California 2006). The majority of Amador County falls within a State Responsibility Area (SRA); SRAs are areas where CDF has responsibility for emergency services.

Jackson Valley Fire Protection District

The Buena Vista Rancheria is wholly surrounded by and is contiguous on all sides to private lands protected by the Jackson Valley Fire Protection District (JVFPD). The JVFPD provides volunteer first responder services for fire protection, emergency medical services, rescue services, and hazardous materials responses. The JVFPD is located at 2701 Quiver Drive in Ione, California, and operates two fire stations (Fire Departments Net 2006). At present, the JVFPD has no paid employees.

Amador Fire Protection District

The Amador Fire Protection District (AFPD) was organized in 1990 by approval of the voters and resolution of the Amador County Board of Supervisors. The Board of Supervisors acts as the Board of Directors for the AFPD.

The AFPD is responsible for emergency fire, rescue, and medical aid service in approximately 85% of the unincorporated area of Amador County. These services are provided by AFPD firefighters, who are volunteers, and the response of other firefighters in surrounding fire departments/districts and CDF. The AFPD maintains automatic aid and mutual aid agreements with these agencies.

The AFPD's mission is to provide for the protection of life and property from the threat of fires, medical emergencies, and hazardous materials release. This mission is accomplished through planning, prevention, education, the suppression of fires, and providing emergency care for the sick and injured. Approximately 65 volunteer firefighters respond to more than 1,500 calls for help each year to fire and medical emergencies within the county.

Police Protection

Amador County Sheriff-Coroner

The Sheriff of Amador County is responsible for providing security to the superior courts, operating the coroner's bureau, operating the county jail, operating the County Office of Emergency Services, and providing patrol and investigation services to the unincorporated areas of Amador County. The Sheriff-Coroner's service area includes the project vicinity and adjacent lands.

The County Coroner's office is staffed by a team of peace officer deputy coroners, forensic pathologists, support staff, and administrative and clerical personnel who contribute to the investigation of all deaths within Amador County as defined by the California Government Code and the Health and Safety

Code. This investigative process includes death scene review, body identification, a wide range of forensic science examinations and testing, notification of the decedent's next of kin, preparation or authorization of the issuance of death certificates, and disposition of the remains of the deceased.

City of Ione Police Department

The City of Ione Police Department is responsible for law enforcement efforts within the City of Ione, which is approximately 5 miles north of the proposed project site.

Schools

Amador County Unified School District

Amador County Unified School District (ACUSD) comprises three high schools (Amador High, Argonaut High, and Independence High); two junior high schools (Ione Junior High and Jackson Junior High); six elementary schools (Ione Elementary, Jackson Elementary, Pine Grove Elementary, Pioneer Elementary, Plymouth Elementary, and Sutter Creek Elementary); a primary school (Sutter Creek Primary); an independent study school (North Star Independent Study School); a court/community school; and a special education school.

Other Public Services

Superior Court of the State of California, County of Amador

Amador Superior Court has three courtrooms. Departments 2 and 3 are located in the main Superior Court facility on the corner of Court and Summit streets in Jackson. Superior Court Staff and Public access counters are also located in this building. Department 1 is located in the old Municipal Court building next to the main Superior Court facility. Facilities are owned by the County of Amador.

Amador County Probation Department

The Probation Department provides support for the Criminal, Juvenile, and Family Courts. The Probation Department provides services and programs designed to reduce the likelihood that a local offender will commit another crime.

The Probation Department provides the following services and special programs.

- Adult Services.
- Juvenile Services.
- Juvenile Detention.
- Community Corrections.
- Special Services.

Amador County District Attorney

The District Attorney's Office, in addition to its role of prosecuting both criminal and civil cases, provides the following programs: Auto Insurance Fraud, Elder Abuse Program, Statutory Rape Vertical Prosecution Program, Victim/Witness Program, Workers' Compensation Fraud, and Bad Check Program .

Amador County Health and Human Services

The Amador County Health and Human Services Department provides the following services to citizens of the County: alcohol and drug programs, HIV/AIDS education, social services, mental health, public health, in-home support, child protective services, adult protective services, and tobacco reduction.

Regulatory Setting

The Buena Vista Rancheria of Me-Wuk Indians is recognized as a sovereign nation and is therefore not required to comply with local development regulations. This project would not be required to comply with Amador County Code Chapter 7.78, reproduced below. This section is included only to identify the fee payment regulation that applies to non-Tribal projects in the County and to provide information relevant to potential cost reimbursement that will be subject to negotiation between the Tribe and Amador County. The process of negotiation for compensation for impacts on public services provided by local jurisdictions is described in Section 10.8.8 of the Compact.

Amador County Code (Amador County 2006i)

Chapter 7.78 Development Fees for New Development Projects in the Jackson Valley Fire Protection District

7.78.020 Imposition of fee.

Whenever a development project within the Jackson Valley fire protection district is approved by any agency, the agency shall impose on said development project a fee pursuant to this chapter in the amount determined by said Jackson Valley fire protection district. (Ord. 1378 §1(part), 1995).

7.78.030 Required determinations.

A. The purpose of the fee shall be identified at the time of imposition and shall be consistent with this chapter.

B. The use to which the fee is to be put shall be identified. If the use is the financing of public facilities, the facilities shall be identified.

C. The agency shall determine how there is a reasonable relationship between the use of the fee and the type of development project on which the fee is imposed.

D. The agency shall determine how there is a reasonable relationship between the need for the public facility and the type of development project on which the fee is imposed.

E. The agency shall determine how there is a reasonable relationship between the amount of the fee and the cost of the public facility or portion of the public facility attributable to the development project on which the fee is imposed.

F. The determinations required by subsections (A) through (E) of this section may be made by reference to the capital improvement plan. (Ord. 1378 §1(part), 1995).

7.78.040 Responsibility for compliance with administration of fee.

The Jackson Valley fire protection district shall be responsible for the collecting and receiving of the fees. The treasurer of said district shall hold said fees in a separate account and shall be responsible for the depositing, accounting and management of the fees. (Ord. 1378 §1(part), 1995).

7.78.050 Requirement that fee be paid before permit is issued.

No building permit shall be issued by the county building department until a certificate is issued by the Jackson Valley fire protection district stating that the fee imposed on the development project has been paid. (Ord. 1378 §1(part), 1995).

7.78.060 Fees—Not a limitation.

This chapter and the fees imposed pursuant thereto are not a limitation on exactions or dedications which any agency with jurisdiction over a development may impose as a condition of approval on said development within the Jackson Valley fire protection district. (Ord. 1378 §1(part), 1995).

Other Fee Payment Obligations

Other fee payment obligations that could apply to non-Tribal projects in the County and local jurisdictions include Amador County Facilities Development Fees (public service facilities, public improvements, and community amenities); Amador Fire Protection District Fees; City of Jackson Essential Services Fees (Police and Fire); and City of Ione Development Impact Fees (Police and Fire).

Non-Tribal projects are only required to pay impact fees to the jurisdiction that is the primary service provider. It is the intent of the Tribe to negotiate with the

County and/or relevant local jurisdictions a contribution for the proposed project based on its fair-share obligation and in a method consistent with non-Tribal developments.

Impact Analysis

Approach and Methodology

During the public comment period for the previous Draft TEIR, as well as the NOP comment period for this Draft TEIR, local and state agencies commented on the public service requirements of their jurisdictions and the impact they believed the proposed project would have on those services. In an effort to mitigate the public service impacts of the proposed project, the impacts and mitigation measures analyzed below are based on the quantitative analysis presented in Appendix G.

The County does not have adopted public service standards for casino projects in the current General Plan; consequently, an alternative method must be established to quantify the impacts of a casino on County public services. The impacts created by residential or commercial development projects are typically mitigated through the payment of property or sales tax revenue generated by the project. Residential projects are often conditioned to pay special taxes in addition to traditional property taxes. These special taxes are established under the premise that a clearly defined nexus has been determined that quantifies the project's impacts and related funding responsibilities. Three methodologies have been considered to quantify the mitigation of impacts of the proposed project on local agency public services.

- **Comparable Casino Impact Data Methodology.** This approach is based on data collected on local casinos and their respective public service arrangements.
- **Mitigation Fee in Lieu of Tax Methodology.** This approach estimates the tax revenue the County would collect if a high-volume retail project were developed in place of the proposed project.
- **Comparison of Trip Generation Rates Methodology.** This approach is based on the relationship between traffic count and impact mitigation. Public service standards, when established, are determined at the local agency level. The County has no adopted public service standards, (i.e., officer per resident or employee ratio); accordingly, the analysis in Appendix G utilizes regional and national standards. This methodology is applicable when adding staff to an existing core group of police or fire services.

Thresholds of Significance

The proposed project would have a significant impact on public services if it would result in substantial adverse physical impacts associated with the provision of new or physically altered off-reservation government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the off-reservation public services listed below.

- Fire protection.
- Police protection.
- Schools.
- Parks (see Section 3L, *Recreation*).
- Other public facilities.

Impacts and Mitigation Measures

Impact PS-1a: Significant off-reservation impacts on CDF, Jackson Valley Fire Protection District, and Amador Fire Protection District fire protection and response efforts (less than significant with mitigation)

CDF

Letters were received from Mike Kirkley, Division Chief (February 27, 2005), and Bill Holmes, Unit Chief (June 13, 2005) in response to the previous TEIR. In their letters, these CDF representatives indicated that the project area is in the State Responsibility Area and that CDF would respond to all wildland fires and emergency incidents in the area. They also indicated that the proposed project would increase the demand on their services and that demand associated with the project would exceed current CDF resources.

Jackson Valley Fire Protection District

Letters were received from Jake Herfel, Chairman of the Board (letters dated March 1, 2005 and June 21, 2005), in response to the previous TEIR. In these letters, JVFPD indicated that the existing volunteer fire department would not be able to handle the increased level of service associated with the proposed project.

Amador Fire Protection District

A letter was received from Jim McCart, Chief (letter dated March 10, 2005), in response to the previous TEIR. In this letter, the AFPD indicated that the project would increase the need for fire protection services within AFPD's jurisdiction.

Significance Determination

According to service providers, significant new facilities would be necessary to meet response time standards. Construction of these facilities would take place off the reservation. This is a significant impact. Implementation of Mitigation Measure PS-1 would reduce impacts on standards of service to a less-than-significant level. It is important to note that the fire districts referenced above

responded independently; consequently, the responses reflect redundancies. The proposed mitigation eliminates these redundancies and presents a collective mitigation measure.

Mitigation Measure PS-1: Provide funding for fire department facilities and resources and provide fire protection services
Specific compensation for fire department facilities will be developed in consideration of the existing applicable fire protection district mitigation fee rates paid solely to the primary service provider, which may include one of the fee programs listed below.

- Amador County Facilities Development Fee (includes public service facilities, public improvements, and community amenities.) — $.66/square foot
- Amador Fire Protection District (fire) — $.60/square foot
- City of Jackson Essential Services (police and fire – only fire portion applicable) — $.80/square foot
- City of Ione Development Impact Fee (fire) — $.40/square foot

As an alternative to this mitigation, the Tribe may choose to construct its own fire department on the reservation and contract with outside agencies for emergency medical and ambulance service.

Impacts on fire protection services will be mitigated commensurate with the quantification of impacts presented in Appendix G.

Impact PS-1b: Physical changes caused by Mitigation Measure PS-1 (unknown)
Because potential facilities identified in Impact PS-1 and Appendix G have been neither sited nor designed, it is not possible at this time to identify the specific impacts of such facilities. The significance of the impact is unknown and could, consequently, be subject to further environmental review.

Impact PS-2: Significant off-reservation impacts on law enforcement protection and response efforts (less than significant with mitigation)
Police service providers provided statements describing additional staffing and other resources that they deem necessary to maintain service levels and response times.

Ione Police Department
Letters were received from Louis Pietronave, City Administrator/Chief of Police (letters dated February 28, 2005 and November 1, 2005), in response to the previous TEIR. In these letters, the City of Ione indicated that the City of Ione Police Department law enforcement services would be affected by the project. The City stated that Ione is directly in the path of one of the primary sources of

the gaming and entertainment facility's future patrons and that, consequently, the City's services and infrastructure could be adversely affected. The letters also indicated that the City of Ione is obligated to provide mutual aid to the County Sheriff's Department; this obligation would include responding to crimes that occur in and around the gaming and entertainment facility, and such responses would reduce the Police Department's staffing levels and ability to respond effectively to crime within the city.

Amador County Sheriff-Coroner

A letter was received from Michael F. Prizmich, Sheriff-Coroner (letter dated November 1, 2005), in response to the previous TEIR. This letter, like the letter from the Ione Police Department, stated that the proposed project would have the effect of increasing the quantity and seriousness of crime committed by people attending the gaming and entertainment facility and traveling to and from the facility, and that the increase in crime would have an adverse effect on the Sheriff's ability to respond to crime in other areas of the county. The letter also stated that the arrests of persons committing crimes would adversely affect the already overcrowded County Jail and demand produced by the proposed project would exceed existing resources.

Significance Determination

This would be a significant impact. Implementation of Mitigation Measure PS-2 will reduce this impact to a less-than-significant level.

Mitigation Measure PS-2: Provide funding for law enforcement facilities and resources and provide law enforcement protection services

Specific compensation for law enforcement facilities will developed in consideration of the existing applicable mitigation fee rates paid solely to the primary service provider, which may include one of the fee programs listed below.

- City of Jackson Essential Services (police and fire—only police portion applicable) — $.80/square foot
- City of Ione Development Impact Fee (police) — $.30/square foot
- Amador County Facilities Development Fee (includes public service facilities, public improvements, and community amenities.) — $.66/square foot

Impacts on law enforcement services will be mitigated commensurate with the quantification of impacts presented in Appendix G.

Impact PS-3: Off-reservation impacts on Amador County Unified School District schools (less than significant with mitigation)

As noted in Impact POP-1 in Section 3J, *Population and Housing*, the projected staffing requirements of the gaming and entertainment facility are anticipated to lead to an increase in school-age children and, therefore, to an increase in students attending local schools. The ACUSD currently operates a variety of

schools in the county. The increased pressure on schools associated with the potential new residential developments would add to the reasonably foreseeable growth expected in the region, potentially causing a need for additional school capacity. The potential increase in students could be a significant impact if the numbers of students generated by new employees of the gaming and entertainment facility increase projected student growth beyond that which is currently projected by the school district. The potential increase in student population would be a result of increased residential population rather than a direct result of implementation of the proposed project. Mitigation Measure PS-3 would help reduce this impact to a less-than-significant level.

> **Mitigation Measure PS-3: Comply with established legal mandates for school funding**
> Mitigation for potential increases in student population associated with residential and other projects will follow the established legal mandates pursuant to Government Code Section 65995, which provides for a level of permissible school fees that can be charged by school districts in California. In accordance with those mandates, school fees will be paid by residential or other development projects.

Impact PS-4a: Significant off-reservation impacts on state and county justice system (less than significant with mitigation)

Superior Court of the State of California, County of Amador

Letters were received from Hugh Swift, Court Executive Office (letters dated March 13, 2005; June 23, 2005; and October 27, 2005), in response to the previous TEIR. In these letters, the court stated that the proposed project is expected to result in an increase in criminal activity and a commensurate increase in arrests and prosecutions, adversely affecting the operations of the court. The letters also stated that increased filings would place additional burdens on the court's processing and courtroom staff. According to these letters, the additional court filings would necessitate additional space for court staff, records, judicial officers, and the public.

Amador County Jail

A letter was received from John F. Hahn, Amador County Counsel (letter dated November 9, 2005), in response to the previous TEIR. The letter stated that the proposed project would result in an increased need for inmate bed space in the Amador County Jail.

District Attorney

Letters were received from Patrick Blacklock, County Administrative Officer (letters dated March 10, 2005 and June 24, 2005), of the Amador County Administrative Agency, in response to the previous TEIR. The letters stated that the proposed project is expected to increase the District Attorney's caseload and that additional staff time and resources would be involved in accommodating this increase.

Public Defender's Office

Letters were received from Patrick Blacklock, County Administrative Officer (letters dated March 10, 2005 and June 24, 2005), of the Amador County

Administrative Agency, in response to the previous TEIR. These letters stated that the County Public Defender's Office would be adversely affected by the proposed project and that overall increased referral to the Public Defender's Office would occur as a result of the gaming and entertainment facility.

Probation Department

Letters were received from Michael N. Kriletich, CPO (letters dated June 7, 2005 and June 13, 2005), in response to the previous TEIR. The letters stated that the addition of another casino in Amador County would adversely affect the Probation Department, and that risks associated with gambling include drug addiction, poor parenting, crime, and gambling addiction. The letters also stated that overall increased referral to the Amador County Probation Department would occur as a result of the proposed project.

Significance Determination

This would be a significant impact. Implementation of Mitigation Measure PS-4 will reduce these impacts to a less-than-significant level.

Mitigation Measure PS-4: Provide funding for state and County facilities and resources and state and County personnel

Specific compensation for justice system facilities and resources will be based on the existing applicable mitigation fee rates or payment in lieu of tax, as calculated in Appendix G.

Funding for justice system personnel will include compensation for a deputy district attorney, public defender, and probation officer. Compensatory amounts associated with the justice system personnel are reflected in Appendix G; these amounts are based on existing compensation packages for like personnel.

Impact PS-4b: Physical changes caused by Mitigation Measure PS-4 (unknown)

Potential expansion of the jail and court facility could result in significant impacts related to issues such as traffic, historic resources, and aesthetics. Because potential facilities have been neither sited nor designed, it is not possible at this time to identify the specific impacts of such facilities. The significance of the impact is unknown and could, consequently, be subject to further environmental review.

Impact PS-5: Significant off-reservation impacts on Amador County Health and Human Services (less than significant with mitigation)

Letters were received from Patrick Blacklock, County Administrative Officer (letters dated March 10, 2005 and June 24, 2005), of the Amador County Administrative Agency, in response to the previous TEIR. These letters stated that the number of individuals utilizing public health services would increase as a result of the increase in population and visitors to the county. The letters indicated that additional service needs would include Child Protective Services, Communicable Disease Investigations, and Alcohol and Drug Counseling.

Mitigation Measure PS-5: Develop caseload tracking system and provide funding for additional resource needs
Specific compensation for Health and Human Services facilities and resources will be based on the existing applicable mitigation fee rates or payment in lieu of tax, as calculated in Appendix G.

Funding for Health and Human Services personnel will include compensation for a drug and alcohol counselor. Compensatory amounts associated with a counselor are reflected in Appendix G; these amounts are based on existing compensation packages for like personnel.

Alternatives

Alternative 1—No Project

Under the No-Project Alternative, a Class III gaming facility would not be constructed. A range of projects could be constructed without the comprehensive environmental review process that is required under the Compact. Under this alternative, potential off-reservation environmental impacts would not be evaluated, and mitigation measures would not be required for any such impacts. Depending on the project constructed, there is the potential for either substantially greater or substantially reduced impacts on public services.

Alternative 2—Phased Project

A reduced gaming floor as proposed for Phases I and II would decrease the magnitude of the public services impacts, but would not reduce them to less-than-significant levels without mitigation. However, the levels of mitigation for Phases I and II should be reduced because the levels of impact would be less than those of the proposed project. The levels of demand on public services associated with Phases I, II, and III are quantified in Appendix G.

Alternative 3—Reduced Project (Reduced Gaming Floor Area: 75% of Proposed Project)

A reduced gaming floor would reduce the magnitude of the public services impacts, but would not reduce them to less-than-significant levels without mitigation. However, the levels of mitigation should be reduced, because the impacts on public services would be less than those of the proposed project. The impacts of Alternative 3 would be the same as the impacts associated with Phase II of Alternative 2. These impacts are quantified in Appendix G.

Alternative 4—Reconfigured Access Driveway with Additional Site Access and Parking

The reconfigured access driveway would have impacts similar to those of the proposed project, with the exception of fire, emergency, and police services. Because this alternative would have a dedicated emergency access driveway and would reduce traffic congestion, the impacts on fire, emergency, and police services could be somewhat reduced. With direct access to and from the site, response times could be reduced for emergency vehicles. However, because the size of the facility would be the same as under the proposed project, the facilities, staffing needs, and associated mitigation measures identified in Impacts PS-1 through PS-5 would be the same as under the proposed project.

3L Recreation

This section analyzes the potential off-reservation impacts on recreation that would result from implementation of the proposed project.

Existing Conditions

Environmental Setting

This section discusses the existing conditions relating to off-reservation recreation in the vicinity of the proposed project. The regulatory setting is discussed below.

Recreational Facilities

Recreational facilities most likely to be affected by the proposed project are those that are readily accessed from the state highways nearest the project: SR 88, SR 124, and SR 104. In general, tourists and residents in Amador County participate in a variety of recreational activities surrounding the natural topography of the area, including camping and fishing at the local lakes.

Recreational Water Bodies

Lake Amador

Lake Amador, which encompasses approximately 425 acres, has 14 miles of shoreline and is stocked by a private onsite fish hatchery. The lake offers camping, a marina, boating facilities, and fishing.

Lake Camanche

Lake Camanche, or Camanche Reservoir, encompasses 12 square miles, is 150 feet deep, and has 53 miles of shoreline at full capacity. The lake is used for bass fishing, tent and RV camping, and boating.

Pardee Reservoir

Pardee Reservoir encompasses approximately 3.5 square miles (2,257 acres) and has 37 miles of shoreline, with a capacity of 209,950 af (69.4 billion gallons). The gravity arch dam was completed in 1929 and rises 345 feet above the river bed. At crest height the dam is 580 feet above sea level. The water is used primarily for municipal supplies, serving more than 1.1 million residents in Alameda and Contra Costa Counties. Because drinking water is stored in Pardee Reservoir, swimming, waterskiing, wading, and similar body contact activities are prohibited. However, fishing, camping, and boating are popular activities at the lake.

Jackson

Indian Grinding Rock State Historic Park is located in the Sierra Nevada foothills 8 miles east of Jackson. The park, 2,400 feet above sea level, was created in 1968 to preserve a great outcropping of marbleized limestone with some 1,185 mortar holes—the largest collection of bedrock mortars in North America.

Jackson also has two recreational city parks: Detert Park and Petkovich Park.

Ione

Howard Park, located in the city of Ione, is a multi-use recreational complex currently undergoing upgrade and expansion. The park contains the Ed Hughes Memorial Arena, a 200- by 250-foot covered equestrian/multi-purpose arena for year-round events such as equestrian, car, and dog shows. Howard Park, with a total approximate size of 90 acres, is the hub for local recreational soccer and little leagues.

Plymouth

Plymouth is the site of the Amador County Fairgrounds; the fair is held every July.

Regulatory Setting

There are no applicable Federal of State policies or programs applicable to the proposed project.

The Amador County General Plan sets forth the following objectives, principles, and standards.

> 2. To protect, and carefully where appropriate, the varied resources for public recreation in scenic and historical areas, hunting and fishing areas, lakes and waterways, forests and wilderness and urban open spaces.
>
> 6. To provide and maintain rural and urban services and facilities of high quality for adequate health, safety and comfort, and educational, cultural and recreational facilities for the public benefit and enjoyment.

Impact Analysis

This section analyzes the potential impacts on off-reservation recreation that would be likely to result from implementation of the proposed.

Approach and Methodology

All impacts pertain to off-reservation facilities: historic, private, and city recreational facilities in the surrounding areas. The proposed project would not involve the creation of new housing or the building of new recreational facilities

other than the gaming facility itself. Accordingly, any impacts would derive from visitors who may also visit other recreational facilities on their way to and from the Gaming and Entertainment Facility. Cumulative impacts resulting from implementation of the proposed project are discussed in Chapter 4, *Other Environmental Considerations*.

Because gaming facilities tend to be end destinations, this analysis assumes that visitors would visit only those off-reservation recreational facilities that hold a particular cultural significance (e.g., Indian Grinding Rock State Historic Park) or that are readily accessible and provide visitor facilities.

Thresholds of Significance

As defined in Exhibit A, *Off-Reservation Environmental Impact Analysis Checklist*, of the Compact, an impact on recreation would be considered significant if it would result the following condition.

- Increase the use of existing off-reservation neighborhood and regional parks or other recreation facilities such that substantial physical deterioration of the facility would occur.

Impacts and Mitigation Measures

No additional recreational facilities are currently planned. The gaming facility would be a destination facility and would not be likely to directly contribute to increased use of regional recreational facilities; however, indirect growth-inducing effects would likely result in increased use of existing recreational facilities.

Impact REC-1: Potential increase in the use of existing recreational facilities such that physical deterioration would occur or be accelerated (less than significant with mitigation)
As noted in Impact POP-1 in Section 3J, *Population and Housing*, the projected staffing requirements of the gaming and entertainment facility are anticipated to lead to an increase in local population and, therefore, to an increase in use of local recreational facilities. The increased pressure on recreational facilities associated with the potential new residential developments would add to the reasonably foreseeable growth expected in the region, potentially causing a need for additional recreation capacity. The potential increase in residents could be a significant impact if the numbers of residents generated by new employees of the gaming and entertainment facility increase projected population growth beyond that which is currently projected by the County. The potential increase in population would be a result of increased residential population rather than a direct result of implementation of the proposed project. Mitigation Measure PS-3 would help reduce this impact to a less-than-significant level.

Mitigation Measure REC-1: Comply with established legal mandates for recreation funding
Mitigation for potential increases in use of recreational facilities associated with residential and other projects will follow the established legal mandates, where applicable, to provide for a level of permissible fees or taxes. In accordance with those mandates, fees for recreation facilities will be paid by residential or other development projects or other applicable taxes.

Alternatives

Alternative 1—No Project

Under the No-Project Alternative, a Class III gaming facility would not be constructed. A range of projects could be constructed without the comprehensive environmental review process that is required under the Compact. Under this alternative, potential off-reservation environmental impacts would not be evaluated, and mitigation measures would not be required for any such impacts. Depending on the project constructed, there is the potential for either substantially greater or slightly reduced impacts on recreation.

Alternative 2—Phased Project

Phased development of the proposed project would result in a slower increase in recreation impacts. However, because the completed project would be the same as the proposed project, all impacts would be the same as those under the proposed project.

Alternative 3—Reduced Project (Reduced Gaming Floor Area: 75% of Proposed Project)

A reduced gaming floor alternative would reduce the magnitude of the recreation impacts; impacts would remain less than significant.

Alternative 4—Reconfigured Access Driveway with Additional Site Access and Parking

The reconfigured access driveway would have similar impacts on recreation as the proposed project. Because the size of the project would be the same as under the proposed project, the impact would be the same as under the proposed project.

3M Traffic, Transportation, and Circulation

Linscott, Law & Greenspan, Engineers (LLG) prepared the *Traffic Impact Analysis—Buena Vista Rancheria of Me-Wuk Indians Gaming and Entertainment Facility* (Traffic Report) in October 2006. This section summarizes the analysis and findings published in the Traffic Report, which is included in Appendix F of this TEIR. Tables from the Traffic Report that are referenced in this section can be found in the appendix.

Existing Conditions

The project site is located on tribal land within the boundaries of Amador County (but not under County jurisdiction). The off-reservation circulation system in the vicinity comprises roadways variously under the jurisdiction of and maintained by the California Department of Transportation (Caltrans) and Amador, San Joaquin, and Sacramento Counties.

Circulation System

The key roadways in the project vicinity that are likely to be affected by project-related traffic are listed below. Roadways are classified as arterials, collectors, rural highways, or private roads, according to standards set forth in the *2004 Amador County Regional Transportation Plan Update* (2004 RTP), dated September 2004. Figure 3-1 in the Traffic Report shows the existing conditions in the local and regional circulation system for the key intersections in the study area, including lane geometrics.

SR 88 connects the proposed project with SR 99 and the Stockton area; it would likely be the most heavily used route to the facility. SR 88 is a primary arterial that extends east from an interchange on SR 99 through San Joaquin County and Amador County to SR 49 in the city of Jackson. The route then continues through Amador and Alpine Counties to the Nevada state line. In the vicinity of the proposed project, SR 88 is a two-lane highway with standard shoulders and auxiliary left turn lanes at major intersections.

SR 104 connects the proposed project with SR 99 in Galt and links the site with southern Sacramento County. It is a secondary arterial that extends east from an interchange on SR 99 through southern Sacramento and Amador Counties into the community of Ione. West of Ione, SR 104 is a two-lane highway with varying shoulders and left turn lanes at major intersections. The road is wider within Ione and serves many of the functions of a city street.

SR 16 connects the project with the Sacramento metropolitan area. In the rural area of Sacramento and Amador Counties, SR 16 is a two-lane roadway. The

roadway has been widened in the area of Rancho Murrieta and achieves expressway status due to access controls between the Sacramento County line and SR 49.

SR 49 is a north-south route through the Sierra Nevada foothills. It may be used by patrons traveling to the facility from Placerville, Jackson, and Sutter Creek, as well as by tourists visiting the Motherlode area. In northern Amador County, SR 49 is a primary arterial that has been widened to four lanes in urban areas. East of the project, SR 49 is a four-lane road within the city of Jackson and through the Martell area between Jackson and Sutter Creek.

SR 124 links the proposed project to SR 16 near its junction with SR 49 and provides access to the Placerville area. SR 124 may also be a route from the facility to Ione. SR 124 is a two-lane primary arterial; like SR 104, the route functions as a city street through Ione. The section of SR 124 north of Ione is a limited access expressway, where it is relatively wide with paved shoulders.

Coal Mine Road is a two-lane roadway in Amador County that extends from Buena Vista Road in the north to Camanche Parkway in the south. The road is generally about 20 feet wide with no shoulders. The northern portion of Coal Mine Road near the proposed project site is level and straight. The southern portion of Coal Mine Road between the proposed project site and Camanche Parkway follows mountainous terrain and is curved.

Buena Vista Road is a major collector road that extends south from SR 124 south of Ione, across SR 88, to Jackson Valley Road and on to the Calaveras County line. It is a two-lane road that is generally about 20 feet wide with paved shoulders varying from 0 to 4 feet.

Jackson Valley Road is a two-lane minor collector road that intersects SR 88 about 2 miles west of SR 124 and continues east to intersect Buena Vista Road. Jackson Valley Road then continues east to another intersection with SR 88 adjacent to the SR 104 intersection. Jackson Valley Road is a 20-foot wide road without shoulders.

Latrobe Road is a major collector that extends north from SR 16 across the El Dorado County line to an interchange on US 50. It is generally a two-lane road about 20 feet wide with limited shoulders.

Willow Creek Road is a minor collector that links SR 16 and SR 124 east of Ione. It is about 20 feet wide with no shoulders.

SR 12 extends east from the Stockton area to the Valley Springs area of Calaveras County and on to SR 49 north of San Andreas. This two-lane primary arterial is relatively wide until it crosses into Calaveras County, where the road narrows.

North Camanche Parkway extends east from SR 88 to Coal Mine Road and eventually connects with Buena Vista Road. This route may be used by some

patrons of the proposed gaming facility to reach the Stockton area. Camanche Parkway is a minor collector road that is generally 20–22 feet wide with varying shoulders. This roadway is referred to throughout this section as *Camanche Parkway*.

Stoney Creek Road is a minor collector that links Buena Vista Road with the southwest Jackson area. It is a two-lane road that is about 18–20 feet wide without shoulders, narrowing to approximately 12 feet wide as it approaches the top of the Pardee Reservoir dam. This road may be used by local residents familiar with the area to approach the proposed facility, bypassing SR 88.

Pardee Dam Road is a private road maintained by the East Bay Municipal Utility District, extending south from Stoney Creek Road to Campo Seco Road in Calaveras County. Like Stoney Creek Road, Pardee Dam Road varies in width and has a one-lane section across the dam. A program to widen and improve the road has recently been identified; however, this program is currently unfunded.

Liberty Road extends east from SR 99 to SR 88. This two-lane rural road is primarily used by local residents as an alternative to SR 88. This route may be used by some project-related traffic originating in southern Sacramento/northern San Joaquin Counties.

Old Stockton Road connects SR 104 north of Ione with SR 88 at the Jackson Valley Road intersection. It is a minor arterial about 18–20 feet wide that may be used by some visitors to avoid traveling through Ione.

Ione Road is a rural Sacramento County road that links SR 16 with Michigan Bar Road in the area west of the Amador County line. It is a two-lane rural road with limited shoulders.

Michigan Bar Road is the name of Ione Road as it crosses the Sacramento County line into rural Amador County. Michigan Bar Road is designated a major collector road.

Meiss Road connects Ione Road with Dillard Road in the area south of SR 16; it might be used by some motorists as a connection to SR 16.

Study Area

The study area for this analysis was determined by estimating project trip distribution within the local circulation system and determining the intersections and roadway segments that are most likely to be affected by the proposed project. The analysis considered 54 roadway segments and 17 intersections (none of which are presently signalized).

The intersections listed below were addressed in the Traffic Report.

- SR 16/Ione Road.

- SR 104/Michigan Bar Road.
- SR 104/SR 124.
- Main Street/Preston Avenue.
- Main Street/Church Street.
- SR 124/Buena Vista Road.
- SR 88/SR 124.
- SR 88/Buena Vista Road.
- SR 88/Jackson Valley Road (west)[1].
- SR 88/SR 104/Jackson Valley Road (east).
- Jackson Valley Road/Martin Lane.
- Buena Vista Road/Jackson Valley Road.
- Camanche Parkway/Coal Mine Road.
- SR 88/Camanche Parkway/Liberty Road.
- SR 88/SR 12.
- Coal Mine Road/Buena Vista Road.
- Coal Mine Road/project driveway[2].

The roadway segments addressed in the Traffic Report are summarized in Table 3M-1.

Table 3M-1. Study Area Roadway Segments Area Features

Roadway	Segments Detail
SR 88	15 contiguous segments between SR 99 and SR 49
SR 49	One segment extending north of SR 16
Buena Vista Road	Four contiguous segments between SR 124 and Stoney Creek Road
Jackson Valley Road	Two contiguous segments between SR 88 and Buena Vista Road
Coal Mine Road	Two contiguous segments between Buena Vista Road and Camanche Parkway
SR 12	Two contiguous segments between SR 99 and SR 88
SR 16	Six contiguous segments between Latrobe Road and SR 124
SR 104	Five contiguous segments between the Sacramento County line and SR 88
SR 124	Four contiguous segments between SR 16 and SR 88
Latrobe Road	One segment between the El Dorado County line and SR 16

[1] Jackson Valley Road intersects SR 88 at two locations. They are differentiated in this section as the western and eastern intersections, the latter of which is the three-way intersection of SR 88, Jackson Valley Road, and SR 104.
[2] This intersection does not exist at present, but was studied for operations subsequent to project implementation.

Roadway	Segments Detail
Willow Creek Road	One segment between SR 16 and SR 124
Camanche Parkway	Two contiguous segments between SR 88 and Coal Mine Road
Stoney Creek Road	One segment between Buena Vista Road and Jackson Valley Road
Liberty Road	Two contiguous segments between SR 99 and SR 88
Jahant Road	One segment between SR 99 and Mackville Road
Peltier Road	One segment between SR 99 and Tully Road
Ione Road	One segment between SR 16 and Michigan Bar Road
Meiss Road	One segment between Ione Road and the Amador County line
Michigan Bar Road	One segment between the Sacramento County line and SR 104
Pardee Dam Road	One segment between Stoney Creek Road and Campo Seco

Existing Traffic Operations

Methodology

LLG compiled recent traffic counts available from Caltrans and previous reports and—when existing counts were not available—conducted manual traffic counts. The studied intersections were measured during weekday evening (PM) peak hours (Friday, 4:00–6:00 PM) and weekend peak hours (Saturday, 12:00–2:00 PM) to determine existing traffic volume during the busiest times and when the gaming facility would generate the most traffic.[3] The studied segments were measured in terms of average daily traffic (ADT) volumes, or the average number of cars that traverse the roadway segment in a 24-hour period.

Traffic counts are used to calculate level of service (LOS) grades for each studied roadway segment and intersection. LOS is an index that evaluates operational efficiency of the studied features, taking into account factors such as roadway geometries, signal phasing, speed, travel delay, freedom to maneuver, and safety. LOS is expressed using a letter-graded scale, *A* being the most effective and *F* the least effective. For an intersection, LOS is determined based on the average delay experienced by an approaching vehicle at the intersection during the relevant peak hour. For a roadway segment, LOS is determined by the volume-to-capacity (v/c) ratio , which compares the existing ADT on the roadway segment to the segment's ADT capacity, as determined by the relevant jurisdiction's roadway classification. Capacity is the volume of traffic that the segment can accommodate in a day and remain at an acceptable LOS. The v/c ratio compares traffic over a 24-hour period and does not consider peak-hour traffic. LLG analyzed roadway segments' v/c ratios during weekday and weekend periods.

[3] Weekday morning peak hours were not included because the proposed gaming facility would not generate a substantial amount of traffic during morning commute times.

Intersections

Intersection delay and LOS were determined using SYNCHRO (Version 6.0) computer software. LOS C was selected as the acceptable operational level for intersections, in accordance with standard practice. Table 6-1 of the Traffic Report shows the existing peak-hour operations at the studied intersections. As the table shows, the following intersections were calculated to operate at unacceptable levels under existing conditions.

- SR 104/SR 124 (LOS E weekday PM peak, LOS F weekend peak).
- Main Street/Preston Avenue (LOS E weekday PM peak, LOS F weekend peak).
- SR 88/SR 104/Jackson Valley Road (LOS E weekday PM peak).

All other studied intersections currently operate effectively.

Segments

Roadway segment v/c and LOS were determined by using the Amador County roadway standards, as published in the 2004 RTP. The 2004 RTP states that LOS C is the acceptable level on all roads within Amador County and outside incorporated cities or other developed communities, and that LOS D is the acceptable level for state highways and on local roads within incorporated cities and other developed communities. Table 6-2 of the Traffic Report shows the existing operations at the studied segments. As the table shows, the following eight segments of SR 88 were calculated to operate at unacceptable levels under existing conditions.

- Harney Lane to SR 12 (west) (LOS E weekday, LOS F weekend).
- SR 12 (west)to Jack Tone Road (LOS F weekday, LOS F weekend).
- Jack Tone Road to SR 12 (east) (LOS D weekday, LOS D weekend).
- Liberty Road to Amador County Line (LOS D weekday, LOS D weekend).
- SR 88 to Amador County line to Jackson Valley Road (LOS D weekday, LOS D weekend).
- Buena Vista Road to SR 104 (LOS D weekday, LOS D weekend).
- SR 104 (west) to SR 104 (east) (LOS D weekday, LOS D weekend).
- SR 104 (east) to SR 49 (LOS D weekday, LOS D weekend).

Of the studied roadways, SR 88 is the only one found to have ineffectively operating segments under existing conditions; all other roadways currently operate above their acceptable standards.

Safety

Sight Distance and Driving Conditions

Due to the topography and narrow roadways that exist in certain parts of the project vicinity, unsafe conditions at existing roadways and intersections were identified at several locations, as described below.

LLG's field review of the study area concluded that the sight distance at the Martin Lane/Jackson Valley Road intersection was insufficient. The alignment of Jackson Valley Road west of the intersection curves to the north and drops slightly in elevation. As a result, the sight distance for motorists waiting on the southbound Martin Lane approach is restricted. The available sight distance looking to the west is approximately 310 feet, which is the minimum stopping sight distance for vehicles traveling at 40 mph (based on standards set forth in the Caltrans *Highway Design Manual*). This sight distance is adequate for vehicles entering the intersection only when approaching traffic is traveling at less than 30 mph.

The alignment of Coal Mine Road south of the proposed project site is winding and hilly, creating potentially hazardous conditions for drivers.

Pedestrian and Bicycle Circulation

Pedestrian travel is uncommon throughout much of the study area due to the surrounding area's rural nature. However, pedestrians are known to cross the Buena Vista Road/Jackson Valley Road intersection more frequently than other of the studied locations because it provides access to a nearby commercial area. This is a four-way stop-controlled intersection that has no painted pedestrian crosswalks.

Few designated bicycle routes currently exist in Amador County and a very small percentage of the local population uses bicycles in lieu of automobiles. This is largely due to the dispersed pattern of urbanization, hilly terrain, and traffic hazards that characterize the county. The popularity of recreational bicycle touring is increasing, however, and recent Caltrans projects have included wide shoulders to better accommodate bicycle travel.

School Bus Routes

School buses utilize the off-reservation circulation system to pick up and drop off students residing in the area. Certain loading points in the area lack adequate space to accommodate pick-up/drop-off and vehicular traffic circulation at the same time, creating potentially hazardous conditions.

Public Transportation Network

Public transit service in the project vicinity is provided by Amador Rapid Transit System (ARTS); Pioneer Cab Company, based in Jackson; Amulvan, which provides service to medical patients whose needs cannot be serviced within the county; and New Beginnings, which provides services to people visiting the Mule Creek State Prison in Ione.

ARTS is the most extensive of the services, providing fixed route and demand-responsive bus service throughout the western portion of Amador County. Service can be extended up to 0.5 mile from designated routes. The ARTS service area encompasses all five cities within the county, as well as other small communities. Bus stops in the study area include several on Jackson Valley Road, Martin Lane, and Coal Mine Road south of the proposed project site.

Air Traffic

There are no airports or notable sources of air traffic in the project vicinity.

Impact Analysis

Thresholds of Significance

As defined in Exhibit A, *Off-Reservation Environmental Impact Analysis Checklist*, of the Compact, an impact would be considered significant if it would result in any of the conditions listed below.

- Cause an increase in off-reservation traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ration on roads, or congestion at intersections).
- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated off-reservation roads or highways.]
- Substantially increase hazards to an off-reservation design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access for off-reservation responders.

The first two significance criteria listed above can be evaluated and quantified using computer modeling software and comparing results to relevant thresholds—in this case established by the County of Amador in the 2004 RTP—to determine whether the proposed project's contribution of traffic at a particular location would be significant.

For facilities with minimum operation standards of LOS C (all intersections and most roadway segments), a significant direct impact is assessed where the addition of project-related traffic causes the degradation of operation to LOS D or below. For facilities with minimum operation standards of LOS D (certain roadway segments), a significant direct impact is assessed where the addition of project-related traffic causes the degradation to LOS E or F.

If an intersection or segment already operates at an unacceptable level, a significant cumulative impact is assessed wherever the proposed project would add trips, because project implementation would exacerbate an already poor condition.

Impacts and Mitigation Measures

This discussion presents impacts and mitigation measures, in hierarchical order, by jurisdiction, by feature type (i.e., intersection versus road segment), and by type of impact (i.e., direct versus cumulative).

Direct impacts are those that would degrade traffic conditions in a particular location from meeting operational standards to failing to meet them. Cumulative impacts are those that contribute to conditions that already fail to meet operational standards. These cumulative standards should not be confused with the *Cumulative Analysis* that appears later in this section, addressing conditions in 2025.

Table 8-1 in the Traffic Report shows the estimated effect of project traffic on the studied intersections, restating the existing conditions and comparing them to the "existing + project" conditions. Tables 8-2 and 8-3 in the Traffic Report show the estimated effect of project-related traffic on the studied roadway segments in the weekday and weekend timeframes, respectively. Where contiguous studied segments would be affected as shown in the tables, the impacts are listed for the composite segment rather than for the individual segments.

Mitigation for the impacts discussed below comprises the off-reservation road improvements program that is the subject of many of the analyses in this Draft TEIR. Off-reservation improvements are not within Tribal jurisdiction; accordingly, such improvements would be subject to negotiation with and approval of other governmental jurisdictions and/or agencies. Measures proposed within Amador County are accompanied by a cost estimate and/or fair-share percentage to facilitate negotiations with Amador County pursuant to the Compact.

The Compact does not require the Tribe to analyze or discuss in a TEIR the costs of any mitigation measures, regardless of the jurisdiction in which they occur. However, the Tribe is required to negotiate with the County for an Intergovernmental Services Agreement to address mitigation of impacts occurring within the County's jurisdiction; accordingly, estimated costs and fair-

share percentages are included for Amador County traffic impacts to facilitate future negotiations with the County.

Traffic Operations

The proposed project would permanently add trips to the existing off-reservation roadways by constructing and operating a gaming facility that would draw its patronage and employees from the surrounding region. This additional roadway traffic would increase congestion in the studied off-reservation intersections and road segments.

Although standard trip generation rates are available for more commonly occurring projects like residences or office buildings, such rates do not exist for Native American gaming facilities. To quantify the proposed project's effects on the off-reservation circulation system, LLG created logarithmic rates based on the documented trip generation of three similar Native American gaming facilities in California. The generation equations are fully explained in the Traffic Report (Appendix F of this TEIR). LLG then applied the estimated ADT associated with the proposed project to the off-reservation circulation system and, using modeling software, estimated the temporal distribution of these trips. The distribution of *in* and *out* trips reflect the estimates of when traffic is likeliest to travel to and from the facility, facilitating accurate modeling. Table 3M-2 shows the trip generation estimates for the proposed project, including ADT and peak-hour in/out volume.

Table 3M-2. Project Trip Generation Summary

		Peak Hour Volumes					
		Split			Volume		
Day	Daily Trip Ends (ADT)	In	:	Out	In	Out	Total
Weekday	5,927	55	:	45	241	198	439
Weekend	9,200	38	:	62	206	335	541

As the table shows, ADT is anticipated to be considerably higher on weekends; peak hour total is also anticipated to be slightly higher during the weekend.

Amador County

Intersections

Direct Impacts

Impact T-1: Addition of vehicular traffic to the off-reservation circulation system at the SR 88/Jackson Valley Road intersection (less than significant with mitigation)

Addition of vehicular traffic to the off-reservation circulation system would cause an exceedance of operational standards at the SR 88/Jackson Valley Road intersection. Because the proposed project would be responsible for a

degradation of LOS below the acceptable thresholds at this location, this is considered a direct impact.

Mitigation Measure T-1a: Fund installation of a traffic signal at the SR 88/Jackson Valley Road intersection
The Tribe will fund the installation of a traffic signal at the SR 88/Jackson Valley Road intersection. The estimated cost of this improvement project is $620,000**[AJH1]**.

This improvement will fully mitigate the project's contribution of traffic to the SR 88/Jackson Valley Road intersection and will improve conditions to an acceptable level (LOS B during the weekday and weekend peak hours). In addition to the signalization at this intersection, it is also recommended, although not required, that Mitigation Measure T-1b be implemented.

Mitigation Measure T-1b: Fund improvement of the SR 88/Jackson Valley Road intersection
The Tribe will fund the improvement of the SR 88/Jackson Valley Road intersection to include an eastbound right-turn lane on SR 88. This is a recommended mitigation measure that is not required for the improvement of the intersection's operation. The estimated cost of this improvement project is $_____**[AJH2]**.

Cumulative Impacts

Impact T-2: Addition of vehicular traffic to the Main Street/Preston Avenue intersection (less than significant with mitigation)
Addition of vehicular traffic to the Main Street/Preston Avenue intersection, which already operates below acceptable standards, would further degrade operations at this location. Because this impact would result from the proposed project's contribution of traffic to a location that currently operates below acceptable levels, the project is not anticipated to degrade the LOS at this intersection. However, it would increase the delay experienced by drivers approaching the intersections. Because impacts stem from a contribution to already poor conditions, this is a cumulative impact.

Mitigation Measure T-2: Contribute funds toward improvements of the Main Street/Preston Avenue intersection
The Tribe will contribute a fair share of funds to the County toward installing a traffic signal and providing southbound left- and right-turn lanes at the Main Street/Preston Avenue intersection. The Tribe's contribution would be approximately 21.43% of the total costs.

Roadway Segments

Direct Impacts

Impact T-3: Addition of vehicular traffic to the segment of Buena Vista Road from Jackson Valley Road to Coal Mine Road (less than significant with mitigation)
Addition of vehicular traffic to the segment of Buena Vista Road from Jackson Valley Road to Coal Mine Road would cause an exceedance of operational

standards. Because the project would directly contribute to a degradation of LOS to unacceptable levels, this is considered a direct impact.

Mitigation Measure T-3: Fund improvement of Buena Vista Road from Jackson Valley Road to Coal Mine Road
The Tribe will fund the improvement of the segment of Buena Vista Road from Jackson Valley Road to Coal Mine Road to Amador County Four-Lane Class I Arterial standards. The estimated cost of this improvement project is $8,075,000.

Impact T-4: Addition of vehicular traffic to the segment of Jackson Valley Road from SR 88 (west) to Buena Vista Road (less than significant with mitigation)
Addition of vehicular traffic to the segment of Jackson Valley Road from SR 88 (west) to Buena Vista Road would cause an exceedance of operational standards. Because the project would directly contribute to a degradation of LOS to unacceptable levels, this is considered a direct impact.

Mitigation Measure T-4: Fund improvement of Jackson Valley Road from SR 88 (west) to Buena Vista Road
The Tribe will fund the improvement of the segment of Jackson Valley Road from SR 88 (west) to Buena Vista Road to Amador County Class III Collector standards. The estimated cost of this improvement project is $5,816,000.

Impact T-5: Addition of vehicular traffic to the segment of Coal Mine Road from Buena Vista Road to the project driveway (less than significant with mitigation)
Addition of vehicular traffic to the segment of Coal Mine Road from Buena Vista Road to the project driveway would cause an exceedance of operational standards. Because the project would directly contribute to a degradation of LOS to unacceptable levels, this is considered a direct impact.

Mitigation Measure T-5a: Fund improvement of Coal Mine Road from Buena Vista Road to the Project Access Driveway
The Tribe will fund the improvement of the segment of Coal Mine Road from Buena Vista Road to the Project Access Driveway to Amador County Class III Collector standards. The estimated cost of this improvement project is _____**[AJH3]**.

Mitigation Measure T-5b: Fund improvement of the Buena Vista Road/Coal Mine Road intersection
The Tribe will fund provision of northbound left- and right-turn lanes on Coal Mine Road at the Buena Vista Road/Coal Mine Road intersection. The estimated cost of this improvement project is 507,000**[AJH4]**.

Mitigation Measure T-5c: Fund improvement of the Coal Mine Road/Project Driveway intersection

The Tribe will fund the provision of westbound (outbound) left- and right-turn lanes and a southbound left-turn lane on Coal Mine Road at the Coal Mine Road/Project Driveway intersection. The estimated cost of this improvement project is $885,000**[AJH5]**.

San Joaquin County

Intersections

Direct Impacts

Impact T-6: Addition of vehicular traffic at the SR 88/Camanche Parkway/Liberty Road intersection (less than significant with mitigation)

Addition of vehicular traffic at the SR 88/Camanche Parkway/Liberty Road intersection would cause an exceedance of operational standards. Because the project would directly contribute to a degradation of LOS to unacceptable levels, this is considered a direct impact.

Mitigation Measure T-6: Improve the SR 88/Camanche Parkway/Liberty Road intersection

Install a traffic signal at the SR 88/Camanche Parkway/Liberty Road intersection and improve the intersection to provide a second through lane (north and south) on SR 88 and dedicated left-turn lanes in the eastbound and westbound approaches.

Caltrans

Intersections

Direct Impacts

Impact T-7: Addition of vehicular traffic at the SR 88/SR 12 intersection (less than significant with mitigation)

Addition of vehicular traffic at the SR 88/SR 12 intersection would cause an exceedance of operational standards. Because the project would directly contribute to a degradation of LOS to unacceptable levels, this is considered a direct impact.

Mitigation Measure T-7: Improve the SR 88/SR 12 intersection

Install a traffic signal at the SR 88/SR 12 intersection and improve the intersection to provide dual eastbound left-turn lanes on SR 88 and southbound right-turn-overlap phasing on SR 88.

Cumulative Impacts

Impact T-8: Addition of vehicular traffic at the SR 104/SR 124 intersection (less than significant with mitigation)

Addition of vehicular traffic at the SR 104/SR 124 intersection, which already operates below acceptable standards, would further degrade operations at this location. Because impacts stem from a contribution to already poor conditions, this is a cumulative impact.

Mitigation Measure T-8: Improve the SR 104/SR 124 intersection

Install a traffic signal and provision of northbound and southbound left-turn lanes at the SR 104/SR 124 intersection.

Roadway Segments

Direct Impacts

Impact T-9: Addition of vehicular traffic to the segment of SR 88 from SR 12 (east) to Liberty Road (less than significant with mitigation)

Addition of vehicular traffic to the segment of SR 88 from SR 12 (east) to Liberty Road would cause an exceedance of operational standards. Because the project would directly contribute to a degradation of LOS to unacceptable levels, this is considered a direct impact.

Implementation of Mitigation Measure T-6 (improvements at the SR 88/Camanche Parkway/Liberty Road intersection) will improve operations at the key intersection along this segment and ensure better flow of traffic on this segment, fully mitigating the direct impact on this segment.

Cumulative Impacts

Impact T-10: Addition of vehicular traffic to the segment of SR 88 from Harney Lane to SR 12 (east) (less than significant with mitigation)

Addition of vehicular traffic to the segment of SR 88 from Harney Lane to SR 12 (west), which already operates below acceptable standards, would further degrade operations at this location. Because impacts stem from a contribution to already poor conditions, this is a cumulative impact.

> **Mitigation Measure T-10: Improve SR 88 from Harney Lane to SR 12**
>
> Improve the segment of SR 88 from Harney Lane to SR 12 (east) to four-lane divided arterial standards.

Impact T-11: Addition of vehicular traffic to the segment of SR 88 from Liberty Road to Jackson Valley Road (less than significant with mitigation)

Addition of vehicular traffic to the segment of SR 88 from Liberty Road to Jackson Valley Road, which already operates below acceptable standards, would further degrade operations at this location. Because impacts stem from a contribution to already poor conditions, this is a cumulative impact.

> **Mitigation Measure T-11: Improve SR 88 from Liberty Road to Jackson Valley Road**
>
> Improve the segment of SR 88 from Liberty Road to Jackson Valley Road to four-lane divided arterial standards.

Impact T-12: Addition of vehicular traffic to the segment of SR 88 from Buena Vista Road to SR 49 (less than significant with mitigation)

Addition of vehicular traffic to the segment of SR 88 from Buena Vista Road to SR 49, which already operates below acceptable standards, would further degrade operations at this location. Because impacts stem from a contribution to already poor conditions, this is a cumulative impact.

> **Mitigation Measure T-12: Improve SR 88 from Buena Vista Road to SR 49**
>
> Improve the segment of SR 88 from Buena Vista Road to SR 49 to four-lane divided arterial standards.

Project Access

Figure 9-5 in the Traffic Report shows the proposed access to the project site, which features one public access point at the driveway on Coal Mine Road, as well as a dedicated lane with a gated access adjacent to the main driveway that would be restricted to emergency ingress and egress,

Impact T-13: Insufficient onsite queuing area for project ingress to accommodate peak hour traffic (less than significant with mitigation)
The proposed public access driveway, located on a curve on Coal Mine Road, turns sharply upon entering the site. This configuration would result in drivers having to make turning maneuvers immediately after entering the site, and the slowed speeds would likely cause backup during busy times. Most project traffic would be approaching the driveway traveling south on Coal Mine Road; the onsite queue area is less than sufficient to accommodate vehicles entering the site during busy times. This is a significant impact.

> **Mitigation Measure T-13: Revise alignment of the project access driveway**
> Revise the alignment of the project access driveway to eliminate the curve and to provide additional onsite queuing area.

Parking

Parking would be provided on the Reservation, and would consist of a nine-level parking garage adjoining the gaming and entertainment facility to the south and a valet lot on the ground and mezzanine levels below the main casino floor. The valet parking would accommodate 560 vehicles. The nine-level parking garage would accommodate 2,828 vehicles and 58 handicapped parking spaces, for a total of 3,446 onsite parking spaces. Five bus-only spaces would also be provided. Truck loading bays and parking for service vehicles would be located on the southeast side of the parking garage. Parking would be sufficient to accommodate facility patrons and staff.

Safety

Off-Reservation Emergency Access

The proposed project would not impede circulation for emergency vehicles in the off-reservation system. Any alteration of off-reservation intersections and roadway segments would be implemented to allow for adequate or improved emergency circulation.

Public Transportation Network

The proposed project would contribute vehicle trips to roadways utilized for public transportation, but it would not have a significant impact on transportation service. Project patronage may increase public transportation ridership, but such an increase would not have an adverse effect on the systems operating in the project vicinity.

Air Traffic

The project would not have an air traffic component, nor would it have an adverse effect on air traffic that may travel in the project vicinity. Project structures would not be high enough to be of concern to air traffic, nor would such structures cause air traffic to alter its pattern.

Cumulative Analysis

Methodology

The Traffic Report assesses the project's long-term effects by estimating 2025 circulation system traffic volume and operations without the addition of project traffic and comparing them to conditions in that year if project traffic were added. 2025 conditions were determined by compiling and reviewing information available from Amador, Sacramento, and San Joaquin Counties regarding projected regional growth and planned roadway improvements, both of which would affect the future year operations. Specifically, 2025 traffic volumes were obtained from the Amador County RTP forecasting model, the SACMET regional travel demand forecasting model maintained by the Sacramento Association of Governments, and the *State Route 89 Bypass Feasibility Study Traffic Analysis* (which presents 2025 daily traffic volumes derived from the San Joaquin Council of Governments regional travel demand forecasting model). (For a complete explanation of the methods used to coordinate information from these models, project-related traffic increases, and peak hour operations, see Section 10.1 of the Traffic Report.)

The analysis of impacts under 2025 conditions utilizes the same methodology described above for near-term, project-level impacts; that is, the baseline conditions (without project traffic) are compared to conditions with project traffic. The *with project* conditions in the 2025 analysis assume the implementation of mitigation measures identified for the project-level direct and cumulative impacts.

Several significant impacts have been identified in the 2025 term; these are listed below by jurisdiction. In addition to the mitigation measures for project-level impacts, the implementation of the mitigation measures listed below would adequately address the project's contribution to cumulative impacts in the 2025

term. The estimated percentages of fair-share contributions are presented for mitigation of long-term cumulative impacts identified within the jurisdiction of Amador County.

2025 Impacts

Table 10-3 of the Traffic Report compares 2025 delay and operational conditions without project traffic and with project traffic for the studied intersections (weekday PM and weekend peak hours). As the table shows, several intersections were calculated to operate at unacceptable levels under 2025 conditions *without* the addition of project traffic. The proposed project would contribute traffic trips to these intersections and increase the delay experienced by drivers.

Tables 10-4 and 10-5 of the Traffic Report compare 2025 operations without project traffic and with project traffic at the studied segments. The tables show that many of the studied roadway segments, including most of the segments of SR 88 and SR 16, are anticipated to operate poorly in 2025 without the addition of project traffic. Cumulative impacts have been identified wherever the project would contribute traffic to these poor conditions.

Amador County

Intersections

Impact T-14: Addition of vehicular traffic to the Main Street/Preston Avenue intersection under 2025 conditions (less than significant with mitigation)

This intersection is the location of a project-level cumulative impact (Impact T-2) resulting from the poor operating conditions identified under existing conditions. These conditions will degrade under 2025 conditions.

> **Mitigation Measure T-14: Contribute funds toward improvements at the Main Street/Preston Avenue intersection**
>
> The Tribe will contribute a fair share of funds to the County of Amador toward installing a traffic signal and providing southbound left- and right-turn lanes and a westbound right-turn lane with overlap phasing at the Main Street/Church Street intersection. The project's contribution would be approximately ___ % of the total costs. Portions of this mitigation (signalization and southbound turn lanes) are the same as in the measure proposed to mitigate the project-level cumulative impact; the degradation of conditions in the 2025 timeframe would require additional improvement (westbound turn lane), to which the Tribe would contribute a fair-share amount.

Impact T-15: Addition of vehicular traffic to the Main Street/Church Street intersection under 2025 conditions (less than significant with mitigation)

The addition of project-related traffic would degrade the LOS at this poorly operating location.

Mitigation Measure T-15: Contribute funds toward improvements at the Main Street/Church Street intersection
The Tribe will contribute a fair share of funds to the County of Amador toward installing a traffic signal and providing eastbound right-turn and westbound left-turn lanes at the Main Street/Church Street intersection. The project's contribution would be approximately 9.84 percent of the total costs.

Impact T-16: Addition of vehicular traffic to the SR 88/Buena Vista Road intersection under 2025 conditions (less than significant with mitigation)
The addition of project-related traffic would degrade the LOS at this poorly operating location.

Mitigation Measure T-16: Contribute funds toward installing a traffic signal at the SR 88/Buena Vista Road intersection
The Tribe will contribute a fair share of funds to the County of Amador toward installing a traffic signal at the SR 88/Buena Vista Road intersection. The project's contribution would be approximately 26.74 percent of the total costs.

Impact T-17: Addition of vehicular traffic to the SR 88/SR 104/Jackson Valley Road intersection under 2025 conditions (less than significant with mitigation)
The addition of project-related traffic would degrade the LOS at this poorly operating location.

Mitigation Measure T-17: Contribute funds toward installing a traffic signal at the SR 88/SR 104/Jackson Valley Road intersection
The Tribe will contribute a fair share of funds to the County of Amador toward installing a traffic signal at the SR 88/SR 104/Jackson Valley Road intersection. The project's contribution would be approximately 3.37 percent of the total costs.

Roadway Segments
No impacts on roadway segments are anticipated to result from the proposed project under 2025 conditions.

Sacramento County

Intersections
Impact T-18: Addition of vehicular traffic to the SR 16/Ione Road intersection under 2025 conditions (less than significant with mitigation)
The addition of project-related traffic would degrade the LOS at this poorly operating location.

Mitigation Measure T-18: Install a traffic signal at the SR 16 /Ione Road intersection
Install a traffic signal at the SR 16/Ione Road intersection.

San Joaquin County

Intersections

Impact T-19: Addition of vehicular traffic to the SR 88/Camanche Parkway/Liberty Road intersection under 2025 conditions (less than significant with mitigation)

The addition of project-related traffic would degrade the LOS at this poorly operating location.

> **Mitigation Measure T-19: Install a traffic signal at the SR 88/Camanche Parkway/Liberty Road intersection**

Roadway Segments

Impact T-20: Addition of vehicular traffic to the segment of Liberty Road from SR 99 to SR 88 under 2025 conditions (less than significant with mitigation)

The addition of project-related traffic would further degrade service at this poorly operating location.

> **Mitigation Measure T-20: Improve Liberty Road from SR 99 to SR 88**
>
> Widen the segment of Liberty Road from SR 99 to SR 88 to two-lane arterial (with center turn lane) standards.

Caltrans

Intersections

Impact T-21: Addition of vehicular traffic to the SR 104/SR 124 intersection under 2025 conditions (less than significant with mitigation)

This intersection is the location of a project-level cumulative impact (Impact T-8) resulting from the poor operating conditions identified under existing conditions. These conditions will degrade under 2025 conditions.

> **Mitigation Measure T-21: Improve the SR 104/SR 124 intersection**
>
> Install a traffic signal and provide northbound and southbound left-turn lanes at the SR 104/SR 124 intersection.

Roadway Segments

Impact T-22: Addition of vehicular traffic to the segment of SR 88 from Fairchild Lane to SR 12 (west) under 2025 conditions (less than significant with mitigation)

The addition of project-related traffic would further degrade service at this poorly operating location.

> **Mitigation Measure T-22: Improve SR 88 from Fairchild Lane to SR 12 (west)**
>
> Improve the segment of SR 88 from Fairchild Lane to SR 12 (west) to four-lane divided arterial standards.

Impact T-23: Addition of vehicular traffic to the segment of SR 88 from SR 12 (west) to SR 12 (east) under 2025 conditions (less than significant with mitigation)
The addition of project-related traffic would further degrade service at this poorly operating location.

> **Mitigation Measure T-23: Improve SR 88 from SR 12 (west) the SR 12 (east)**
> Improve the segment of SR 88 from SR 12 (west) the SR 12 (east) to six-lane divided arterial standards.

Impact T-24: Addition of vehicular traffic to the segment of SR 88 from SR 12 (East) to Jackson Valley Road under 2025 conditions (less than significant with mitigation)
The addition of project-related traffic would further degrade service at this poorly operating location.

> **Mitigation Measure T-24: Improve SR 88 from SR 12 (east) to Jackson Valley Road**
> Improve the segment of SR 88 from SR 12 (east) to Jackson Valley Road to four-lane divided arterial standards.

Impact T-25: Addition of vehicular traffic to the segment of SR 88 from Buena Vista Road to SR 49 under 2025 conditions (less than significant with mitigation)
The addition of project-related traffic would further degrade service at this poorly operating location.

This segment is the location of a project-level cumulative impact (Impact T-12) resulting from the poor operating conditions identified under existing conditions. These conditions will degrade under 2025 conditions.

Implementation of Mitigation Measure T-12 would adequately address Impact TC-12; no further mitigation is necessary.

Impact T-26: Addition of vehicular traffic to the segment of SR 12 from SR 99 to SR 88 under 2025 conditions (less than significant with mitigation)
The addition of project-related traffic would further degrade service at this poorly operating location.

> **Mitigation Measure T-26:** Improve the segment of SR 12 from SR 99 to SR 88 to four-lane major road standards.

Impact T-27: Addition of vehicular traffic to the segment of SR 16 from Latrobe Road to Ione Road under 2025 conditions (less than significant with mitigation)
The addition of project-related traffic would further degrade service at this poorly operating location.

Mitigation Measure T-27: Improve the segment of SR 16 from Ione Road to Latrobe Road to four-lane arterial standards.

Impact T-28: Addition of vehicular traffic to the segment of SR 16 from Latrobe Road to SR 49 under 2025 conditions (less than significant with mitigation)
The addition of project-related traffic would further degrade service at this poorly operating location.

Mitigation Measure T-28: Improve the segment of SR 16 from Latrobe Road to SR 49 to four-lane arterial standards.

Impact T-29: Addition of vehicular traffic to the segment of SR 104 from SR 124 to Church Street under 2025 conditions (less than significant with mitigation)
The addition of project-related traffic would further degrade service at this poorly operating location.

Mitigation Measure T-29: Construct the Ione Bypass.
[description to come].

Alternatives

The Traffic Report analyzed the off-reservation traffic impacts associated with each of the alternatives. The following discussion summarizes the findings and recommendations of the Traffic Report.

This analysis utilized the same impact and mitigation measures presented for the proposed project. However, because the magnitude of impacts for some alternatives are reduced (i.e., because earlier phases of Alternative 2 and Alternative 3 constitute reduced project scale with concomitant reductions in projected traffic impacts), the cost associated with some of the individual mitigation measures differ from the those in the same measures as presented earlier in this section.

Alternative 1—No Project

Under the No-Project Alternative, a Class III gaming facility would not be constructed. A range of projects could be constructed without the comprehensive environmental review process that is required under the Compact. Under this alternative, potential off-reservation environmental impacts would not be evaluated, and mitigation measures would not be required for any such impacts. Depending on the project constructed, there is the potential for either substantially greater or substantially reduced traffic-related impacts.

Alternative 2—Phased Project Implementation

Alternative 2 would result in traffic impacts similar to those of the proposed project; proposed mitigation would be likewise be similar. However, because impacts resulting from implementation of Alternative 2 would occur in phases, mitigation would also be phased. While the impacts of the completed Alternative 2 would be the same as those of the proposed project, the perceived severity of impacts of Phases II and III would be less, because mitigation for impacts associated with earlier phases would presumably have been implemented. Impacts and mitigation related to emergency access, pedestrian, driver, and school bus safety would be the same as those associated with the proposed project, and are not discussed further.

After Phase I is completed and the mitigation measures are implemented, Phase II would contribute additional traffic to the circulation system, resulting in further significant impacts on intersections and roadway segments. It should be noted that some cumulative impacts under Phase II are the same as those under Phase I. This assumes that the improvements to which the Tribe would contribute fair-share funds as Phase I mitigation would not yet be completed, and therefore that the existing poor operations would still exist. It also should be noted that, as with Phase I, the reduced scale of Phase II operations when compared to those of the entire project mean that many of the impacts would be reduced from those attributed to the entire project.

Assuming that all three phases of Alternative 2 are implemented prior to 2025, the long-term cumulative traffic impacts of Alternative 2 would be identical to those discussed above for the project. The impacts and mitigation measures associated with all three phases are discussed below. Those mitigation measures located within Amador County jurisdiction are followed by estimates of cost or fair-share funding percentage.

Tables 9-1 through 9-9 of the Traffic Report (Appendix F) detail impacts on the studied intersections and segments associated with each phase.

Phase I

Amador County

Intersections

Impact T-1: Addition of vehicular traffic to the off-reservation circulation system at the SR 88/Jackson Valley Road intersection (less than significant with mitigation)

Addition of vehicular traffic to the off-reservation circulation system would cause an exceedance of operational standards at the SR 88/Jackson Valley Road intersection. Because the proposed project would be responsible for a degradation of LOS below the acceptable thresholds at this location, this is considered a direct impact.

Mitigation Measure T-1a: Fund installation of a traffic signal at the SR 88/Jackson Valley Road intersection

The Tribe will fund the installation of a traffic signal at the SR 88/Jackson Valley Road intersection. The estimated cost of this improvement project is $620,000**[AJH7]**.

Impact T-2: Addition of vehicular traffic to the Main Street/Preston Avenue intersection (less than significant with mitigation)
Addition of vehicular traffic to the Main Street/Preston Avenue intersection, which already operates below acceptable standards, would further degrade operations at this location. Because impacts stem from a contribution to already poor conditions, this is a cumulative impact.

Mitigation Measure T-2_1: Contribute funds toward improvements of the Main Street/Preston Avenue intersection
The Tribe will contribute a fair share of funds to the County toward installing a traffic signal and providing southbound left- and right-turn lanes at the Main Street/Preston Avenue intersection. The Tribe's estimated contribution would be 11.16% of the total cost.

Roadway Segments
Impact T-5: Addition of vehicular traffic to the segment of Coal Mine Road from Buena Vista Road to the project driveway (less than significant with mitigation)
Addition of vehicular traffic to the segment of Coal Mine Road from Buena Vista Road to the project driveway would cause an exceedance of operational standards. Because the project would directly contribute to a degradation of LOS to unacceptable levels, this is considered a direct impact.

Mitigation Measure T-5b: Fund improvement of the Buena Vista Road/Coal Mine Road intersection
The Tribe will fund provision of northbound left- and right-turn lanes on Coal Mine Road at the Buena Vista Road/Coal Mine Road intersection. The estimated cost of this improvement project is $507,000**[AJH8]**.

Mitigation Measure T-5c: Fund improvement of the Coal Mine Road/Project Driveway intersection
The Tribe will fund the provision of westbound (outbound) left- and right-turn lanes on the project driveway and a southbound left-turn lane on Coal Mine Road at the Coal Mine Road/Project Driveway intersection. The estimated cost of this improvement project is $885,000**[AJH9]**. Due to the reduced scale of traffic associated with Phase I, Mitigation Measure T-5a is not necessary to mitigate Phase I impacts.

San Joaquin County
Intersections
Impact T-6: Addition of vehicular traffic at the SR 88/Camanche Parkway/Liberty Road intersection (less than significant with mitigation)
Addition of vehicular traffic at the SR 88/Camanche Parkway/Liberty Road intersection would cause an exceedance of operational standards. Because the project would directly contribute to a degradation of LOS to unacceptable levels, this is considered a direct impact.

Mitigation Measure T-6: Improve the SR 88/Camanche Parkway/Liberty Road intersection
Install a traffic signal at the SR 88/Camanche Parkway/Liberty Road intersection and improve the intersection to provide a second through lane (north and south) on SR 88.

Caltrans

Intersections

Impact T-8: Addition of vehicular traffic at the SR 104/SR 124 intersection (less than significant with mitigation)
Addition of vehicular traffic at the SR 104/SR 124 intersection, which already operates below acceptable standards, would further degrade operations at this location. Because impacts stem from a contribution to already poor conditions, this is a cumulative impact.

Mitigation Measure T-8: Improve the SR 104/SR 124 intersection
Install a traffic signal and provision of northbound and southbound left-turn lanes at the SR 104/SR 124 intersection.

Roadway Segments

Impact T-9: Addition of vehicular traffic to the segment of SR 88 from SR 12 (east) to Liberty Road (less than significant with mitigation)
Addition of vehicular traffic to the segment of SR 88 from SR 12 (east) to Liberty Road would cause an exceedance of operational standards. Because the project would directly contribute to a degradation of LOS to unacceptable levels, this is considered a direct impact.

Implementation of Mitigation Measure T-6 (improvements at the SR 88/Camanche Parkway/Liberty Road intersection) will improve operations at the key intersection along this segment and ensure better flow of traffic on this segment, fully mitigating the direct impact on this segment.

Impact T-10: Addition of vehicular traffic to the segment of SR 88 from Harney Lane to SR 12 (east) (less than significant with mitigation)
Addition of vehicular traffic to the segment of SR 88 from Harney Lane to SR 12 (west), which already operates below acceptable standards, would further degrade operations at this location. Because impacts stem from a contribution to already poor conditions, this is a cumulative impact.

Mitigation Measure T-10: Improve SR 88 from Harney Lane to SR 12
Improve the segment of SR 88 from Harney Lane to SR 12 (east) to four-lane divided arterial standards.

Impact T-11: Addition of vehicular traffic to the segment of SR 88 from Liberty Road to Jackson Valley Road (less than significant with mitigation)
Addition of vehicular traffic to the segment of SR 88 from Liberty Road to Jackson Valley Road, which already operates below acceptable standards, would further degrade operations at this location. Because impacts stem from a contribution to already poor conditions, this is a cumulative impact.

Mitigation Measure T-11: Improve SR 88 from Liberty Road to Jackson Valley Road
Improve the segment of SR 88 from Liberty Road to Jackson Valley Road to four-lane divided arterial standards.

Impact T-12: Addition of vehicular traffic to the segment of SR 88 from Buena Vista Road to SR 49 (less than significant with mitigation)
Addition of vehicular traffic to the segment of SR 88 from Buena Vista Road to SR 49, which already operates below acceptable standards, would further degrade operations at this location. Because impacts stem from a contribution to already poor conditions, this is a cumulative impact.

Mitigation Measure T-12: Improve SR 88 from Buena Vista Road to SR 49
Improve the segment of SR 88 from Buena Vista Road to SR 49 to four-lane divided arterial standards.

Phase II

Amador County

Intersections

Impact T-2: Addition of vehicular traffic to the Main Street/Preston Avenue intersection (less than significant with mitigation)
Addition of vehicular traffic to the Main Street/Preston Avenue intersection, which already operates below acceptable standards, would further degrade operations at this location. Because impacts stem from a contribution to already poor conditions, this is a cumulative impact.

Mitigation Measure T-2_2: Contribute funds toward improvements of the Main Street/Preston Avenue intersection
The Tribe will contribute a fair share of funds to the County toward installing a traffic signal and providing southbound left- and right-turn lanes at the Main Street/Preston Avenue intersection. The Tribe's estimated contribution would be 16.98% of the total cost.

Roadway Segments

Impact T-3: Addition of vehicular traffic to the segment of Buena Vista Road from Jackson Valley Road to Coal Mine Road (less than significant with mitigation)
Addition of vehicular traffic to the segment of Buena Vista Road from Jackson Valley Road to Coal Mine Road would cause an exceedance of operational standards. Because the project would directly contribute to a degradation of LOS to unacceptable levels, this is considered a direct impact.

Mitigation Measure T-3_1: Fund improvement of Buena Vista Road from Jackson Valley Road to Coal Mine Road
The Tribe will fund the improvement of the segment of Buena Vista Road from Jackson Valley Road to Coal Mine Road to Amador County Class I Collector standards. The estimated cost of this improvement project is $905,000.

This is a reduced variation of Mitigation Measure T-3 recommended for the entire project, which specified improvement of this road segment to four-lane class I arterial standards. This measure recommends widening the roadway to Class I Collector standards. The segment would later be widened again as part of the Phase III mitigation program to the level of improvement recommended for the proposed project.

Impact T-4: Addition of vehicular traffic to the segment of Jackson Valley Road from SR 88 (west) to Buena Vista Road (less than significant with mitigation)

Addition of vehicular traffic to the segment of Jackson Valley Road from SR 88 (west) to Buena Vista Road would cause an exceedance of operational standards. Because the project would directly contribute to a degradation of LOS to unacceptable levels, this is considered a direct impact.

Mitigation Measure T-4: Fund improvement of Jackson Valley Road from SR 88 (west) to Buena Vista Road

The Tribe will fund the improvement of the segment of Jackson Valley Road from SR 88 (West) to Buena Vista Road to Amador County Class III Collector standards. The estimated cost of this improvement project is $5,816,000.

Caltrans

Intersections

Impact T-7: Addition of vehicular traffic at the SR 88/SR 12 intersection (less than significant with mitigation)

Addition of vehicular traffic at the SR 88/SR 12 intersection would cause an exceedance of operational standards. Because the project would directly contribute to a degradation of LOS to unacceptable levels, this is considered a direct impact.

Mitigation Measure T-7: Improve the SR 88/SR 12 intersection

Install a traffic signal at the SR 88/SR 12 intersection and improve the intersection to provide dual eastbound left-turn lanes on SR 88 and southbound right-turn-overlap phasing on SR 88.

Impact T-8: Addition of vehicular traffic at the SR 104/SR 124 intersection (less than significant with mitigation)

Addition of vehicular traffic at the SR 104/SR 124 intersection, which already operates below acceptable standards, would further degrade operations at this location. Because impacts stem from a contribution to already poor conditions, this is a cumulative impact.

Mitigation Measure T-8: Improve the SR 104/SR 124 intersection

Install a traffic signal and provision of northbound and southbound left-turn lanes at the SR 104/SR 124 intersection.

Roadway Segments

Impact T-10: Addition of vehicular traffic to the segment of SR 88 from Harney Lane to SR 12 (east) (less than significant with mitigation)

Addition of vehicular traffic to the segment of SR 88 from Harney Lane to SR 12 (west), which already operates below acceptable standards, would further degrade operations at this location. Because impacts stem from a contribution to already poor conditions, this is a cumulative impact.

Mitigation Measure T-10: Improve SR 88 from Harney Lane to SR 12

Improve the segment of SR 88 from Harney Lane to SR 12 (east) to four-lane divided arterial standards.

Impact T-11: Addition of vehicular traffic to the segment of SR 88 from Liberty Road to Jackson Valley Road (less than significant with mitigation)

Addition of vehicular traffic to the segment of SR 88 from Liberty Road to Jackson Valley Road, which already operates below acceptable standards, would further degrade operations at this location. Because impacts stem from a contribution to already poor conditions, this is a cumulative impact.

Mitigation Measure T-11: Improve SR 88 from Liberty Road to Jackson Valley Road

Improve the segment of SR 88 from Liberty Road to Jackson Valley Road to four-lane divided arterial standards.

Impact T-12: Addition of vehicular traffic to the segment of SR 88 from Buena Vista Road to SR 49 (less than significant with mitigation)

Addition of vehicular traffic to the segment of SR 88 from Buena Vista Road to SR 49, which already operates below acceptable standards, would further degrade operations at this location. Because impacts stem from a contribution to already poor conditions, this is a cumulative impact.

Mitigation Measure T-12: Improve SR 88 from Buena Vista Road to SR 49

Improve the segment of SR 88 from Buena Vista Road to SR 49 to four-lane divided arterial standards.

Phase III

Amador County

Intersections

Impact T-1: Addition of vehicular traffic to the off-reservation circulation system at the SR 88/Jackson Valley Road intersection (less than significant with mitigation)

Addition of vehicular traffic to the off-reservation circulation system would cause congestion at the SR 88/Jackson Valley Road intersection. This congestion would not degrade operational standards to below acceptable levels, but mitigation is recommended to improve conditions and maintain proper function of the intersection.

Mitigation Measure T-1b: Fund improvement of the SR 88/Jackson Valley Road intersection
The Tribe will fund the improvement of the SR 88/Jackson Valley Road intersection to include an eastbound right-turn lane on SR 88. This is a recommended mitigation measure that is not required for the improvement of the intersection's operation. The estimated cost of this improvement project is $_____ **[AJH10]**.

Impact T-2: Addition of vehicular traffic to the Main Street/Preston Avenue intersection (less than significant with mitigation)
Addition of vehicular traffic to the Main Street/Preston Avenue intersection, which already operates below acceptable standards, would further degrade operations at this location. Because impacts stem from a contribution to already poor conditions, this is a cumulative impact.

Mitigation Measure T-2: Contribute funds toward improvements of the Main Street/Preston Avenue intersection
The Tribe will contribute a fair share of funds to the County toward installing a traffic signal and providing southbound left- and right-turn lanes at the Main Street/Preston Avenue intersection. The Tribe's contribution would be approximately 21.43% of the total costs.

Roadway Segments

Impact T-3: Addition of vehicular traffic to the segment of Buena Vista Road from Jackson Valley Road to Coal Mine Road (less than significant with mitigation)
Addition of vehicular traffic to the segment of Buena Vista Road from Jackson Valley Road to Coal Mine Road would cause an exceedance of operational standards. Because the project would directly contribute to a degradation of LOS to unacceptable levels, this is considered a direct impact.

Mitigation Measure T-3_2: Fund improvement of Buena Vista Road from Jackson Valley Road to Coal Mine Road
The Tribe will fund the improvement of the segment of Buena Vista Road from Jackson Valley Road to Coal Mine Road to Amador County Four-Lane Class I Arterial standards. The estimated cost of this improvement project is $7,170,000. Mitigation for the impact at this location under Phase II entailed improving the segment to Class I Collector standards; the addition of Phase III traffic would create another significant impact at this already improved location, necessitating further widening of the roadway to Four-Lane Class I Arterial standards.

Impact T-5: Addition of vehicular traffic to the segment of Coal Mine Road from Buena Vista Road to the project driveway (less than significant with mitigation)
Addition of vehicular traffic to the segment of Coal Mine Road from Buena Vista Road to the project driveway would cause an exceedance of operational standards. Because the project would directly contribute to a degradation of LOS to unacceptable levels, this is considered a direct impact.

Mitigation Measure T-5a: Fund improvement of Coal Mine Road from Buena Vista Road to the Project Access Driveway
The Tribe will fund the improvement of the segment of Coal Mine Road from Buena Vista Road to the Project Access Driveway to Amador County Class III Collector standards. The estimated cost of this improvement project is _____**[AJH11]**. Mitigation for the impact at this location within Phase I entailed intersection improvements at either end of the segment. With the addition of Phase III traffic, a new impact would occur at this improved location, resulting in the need to widen the roadway.

Caltrans

Intersections

Impact T-8: Addition of vehicular traffic at the SR 104/SR 124 intersection (less than significant with mitigation)
Addition of vehicular traffic at the SR 104/SR 124 intersection, which already operates below acceptable standards, would further degrade operations at this location. Because impacts stem from a contribution to already poor conditions, this is a cumulative impact.

Mitigation Measure T-8: Improve the SR 104/SR 124 intersection
Install a traffic signal and provision of northbound and southbound left-turn lanes at the SR 104/SR 124 intersection.

Roadway Segments

Impact T-10: Addition of vehicular traffic to the segment of SR 88 from Harney Lane to SR 12 (east) (less than significant with mitigation)
Addition of vehicular traffic to the segment of SR 88 from Harney Lane to SR 12 (west), which already operates below acceptable standards, would further degrade operations at this location. Because impacts stem from a contribution to already poor conditions, this is a cumulative impact.

Mitigation Measure T-10: Improve SR 88 from Harney Lane to SR 12
Improve the segment of SR 88 from Harney Lane to SR 12 (east) to four-lane divided arterial standards.

Impact T-11: Addition of vehicular traffic to the segment of SR 88 from Liberty Road to Jackson Valley Road (less than significant with mitigation)
Addition of vehicular traffic to the segment of SR 88 from Liberty Road to Jackson Valley Road, which already operates below acceptable standards, would further degrade operations at this location. Because impacts stem from a contribution to already poor conditions, this is a cumulative impact.

Mitigation Measure T-11: Improve SR 88 from Liberty Road to Jackson Valley Road
Improve the segment of SR 88 from Liberty Road to Jackson Valley Road to four-lane divided arterial standards.

Impact T-12: Addition of vehicular traffic to the segment of SR 88 from Buena Vista Road to SR 49 (less than significant with mitigation)
Addition of vehicular traffic to the segment of SR 88 from Buena Vista Road to SR 49, which already operates below acceptable standards, would further degrade operations at this location. Because impacts stem from a contribution to already poor conditions, this is a cumulative impact.

> **Mitigation Measure T-12: Improve SR 88 from Buena Vista Road to SR 49**
> Improve the segment of SR 88 from Buena Vista Road to SR 49 to four-lane divided arterial standards.

Alternative 3—Reduced Project (Reduced Gaming Floor Area: 75% of Proposed Project)

Alternative 3 entails completion of the facility at the same level as Alternative 2, Phase II. Accordingly, the impacts and mitigation measures would be the same as those presented for Alternative 2, Phases I and II.

Tables 9-10 through 9-12 of the Traffic Report (Appendix F) detail impacts on the studied intersections and segments associated with Alternative 3.

Alternative 4—Reconfigured Access Driveway with Additional Site Access and Parking

Alternative 4 is an access alternative that could be implemented in conjunction with the proposed project, Alternative 2, or Alternative 3. Alternative 4 itself would have no bearing on the amount of traffic generated by the project or selected alternative; and therefore would result in the same traffic impacts identified for the proposed project, with the exception of Impact T-13, the access impact on Coal Mine Road; accordingly, the same mitigation measures would need to be implemented to reduce the traffic impacts to a less-than-significant level.

Alternative 4 features a revised project access geometry that would address the lack of vehicle queuing room on southbound Coal Mine Road north of the project access. Figure 9-6 in the Traffic Report shows the access driveway proposed under Alternative 4. The alternative access driveway is located farther north on Coal Mine Road than the proposed project access. This configuration would allow a longer on-reservation driveway to the parking structure and avoid the sharp turn currently proposed, thereby providing adequate onsite queuing area during peak periods. Consequently, the access proposed under Alternative 4 would avoid Impact T-13, *Insufficient onsite queuing area for project ingress*.

While the amount of parking proposed for the project (and Alternatives 2 and 2) is considered sufficient, Alternative 4 would also provide additional parking for

the facility on the parcel immediately east of the reservation. Approximately 680 additional parking stalls would be provided under Alternative 4, for a total of 4,126 parking spaces.

3N Utilities and Service Systems

This section analyzes the off-reservation impacts on utilities and service systems that could result from implementation of the proposed project.

Two primary sources were consulted in preparation of this section.

- Amador Water Agency (http://www.amadorwa.com/).
- California Integrated Waste Management Board (2004).

Existing Conditions

This section describes the existing off-reservation conditions pertaining to utilities and service systems. The regulatory setting is described below.

Environmental Setting

The project area is located within Amador County. Existing Amador County utilities providers are listed in Table 3N-1.

Table 3N-1. Amador County Service Providers

Service	Service Provider
Solid waste	Various landfills; private trash haulers
Electricity and natural gas	Pacific Gas and Electric (PG&E)
Telecommunications services	American Telephone and Telegraph (AT&T)
Cable television services	Volcano Communications Group

Solid Waste Disposal

Solid waste generated by large commercial users is typically hauled by private trash haulers and taken to one of two transfer stations: Pine Grove Transfer Station or Western Amador Recycling Facility. From there trash is transported to the appropriate landfill site.

Pine Grove Public Transfer Station

The Pine Grove Public Transfer Station, located in Pine Grove, is a high-volume transfer and processing facility. According to the California Integrated Waste Management Board (CIWMB), it is currently classified as an active, permitted solid waste facility and handles industrial and mixed municipal waste with a permitted capacity of 99 tons per day. The facility encompasses 3 acres.

Western Amador Recycling Facility

The Western Amador Recycling Facility, located in Ione, is a high-volume transfer and processing facility. Like the Pine Grove facility, it is classified by CIWMB as a permitted solid waste facility and handles agricultural, construction/demolition, industrial, mixed municipal, and tire wastes. It is permitted to accept 152 tons of waste per day. The facility encompasses 2 acres.

Private Trash Haulers

There are two local private waste haulers in the area: Amador Disposal Services (ADS) in Ione and ACES Waste Service, Inc., in Pine Grove. Solid waste collection service is currently not provided to Tribal lands. However, it is planned that collected non-hazardous wastes will be hauled by one of these private waste haulers to the appropriate landfill site. A phone conversation with the ADS operations manager (Craig pers. comm.) indicated that ADS primarily utilizes two sites: Forward Landfill in Manteca and Avenal Regional Landfill in Avenal.

Forward Landfill

Forward Landfill, a solid waste landfill in Manteca, California, is active and permitted to receive wastes from surrounding areas. ADS has the option to transport waste to this facility. Receiving an estimated 1.5 million tons of solid waste a year, the landfill has approximately 34,031,058 cubic yards of capacity left until the 2020 cease operation date (Griffith pers. comm.). Forward Landfill is a solid waste landfill of classes I, II, and III, and accepts the following waste types: agricultural, asbestos, ash, construction/demolition, contaminated soil, green materials, industrial, mixed municipal, sludge (biosolids), tires, asbestos, and friable (California Integrated Waste Management Board 2004). The expected operation cease date for this facility is January 1, 2020.

Avenal Regional Landfill

Avenal Regional Landfill, a solid waste facility in Avenal, California, is active and permitted to receive wastes from surrounding areas. ADS has the option to transport waste to this facility. As of August 10, 2006, the facility had a remaining permitted capacity of 26,000,000 cubic yards (6,000 tons/day) (California Integrated Waste Management Board 2006). Avenal Regional Landfill is a class III landfill and accepts the following waste types: agricultural, construction/demolition, dead animals, industrial, inert, and mixed municipal. The expected operation cease date is December 31, 2020 (California Integrated Waste Management Board 2004).

Electrical and Natural Gas Service

PG&E has been contacted by Tribal representatives regarding the availability of gas and electric service for the Gaming and Entertainment Facility. A natural gas transmission line is located in Coal Mine Road. PG&E has confirmed that the gas line can provide adequate capacity to serve the proposed project. PG&E is also preparing a survey to determine necessary upgrades to electrical transmission lines. It is anticipated that PG&E will provide a *will serve* letter at

the completion of the survey. Propane and natural gas would not be stored at the Gaming and Entertainment Facility.

According to the California Energy Commission, there are eight active power generation facilities in Amador County, not including the cogeneration facility on Coal Mine Road that may be reactivated. The active power generation facilities in Amador County as of August 2005 are listed in Table 3N-2.

Table 3N-2. Power Generation Facilities in Amador County as of August 2005

Name	Type of plant	Owner	Year Online
Jackson Valley Energy LP*	Coal	Jackson Valley Energy Partner LP	1987
Electra	Hydroelectric	Pacific Gas and Electric Company	1948
Tiger Creek	Hydroelectric	Pacific Gas and Electric Company	1931
Salt Springs	Hydroelectric	Pacific Gas and Electric Company	1931
Pardee Dam	Hydroelectric	East Bay Municipal Utility District	1930
West Point	Hydroelectric	Pacific Gas and Electric Company	1948
Jackson Valley	Hydroelectric	Jackson Valley Irrigation District	1982
Mule Creek State Prison*	Oil/gas	State of California - Dept. of Corrections	1989

*cogeneration facilities
Source: California Energy Commission 2005

PG&E draws its electrical power supply from the western power grid; consequently, the supply is not limited to power generated within Amador County. Like all electrical power supplied by PG&E, the sources may include a varying mix of fossil fuel–powered generation plants, wind power, hydroelectric power, and geothermal power.

Telecommunications Service

ATT/SBC currently provides telecommunications service for the project vicinity. Tribal representatives have contacted SBC/Pacific Bell's (SBC's) engineering department for feedback on the availability of telephone service. SBC provided a *will serve* letter to the Tribe dated March 1, 2005. SBC can provide 200 phone connections immediately, and will upgrade this number as necessitated by requirements specified in the final project design.

Cable Television Service

Tribal representatives have contacted Volcano Communications Group (VCG), a local cable and internet service provider, regarding the provision of cable

television service. VCG provided a *will serve* letter to the Tribe dated April 5, 2005.

Regulatory Setting

Federal Regulations

There are no directly applicable federal regulations.

State Regulations

California Public Utilities Commission

The California Public Utilities Commission (CPUC) regulates investor-owned telecommunications, electric, natural gas, water, railroad, rail transit, and passenger transportation companies. CPUC is responsible for ensuring that California utility customers have safe, reliable utility service at reasonable rates; protecting utility customers from fraud; and promoting the health of California's economy. The CPUC establishes service standards and safety rules, and authorizes utility rate changes as well as enforcing CEQA for utility construction. CPUC also regulates the relocation of power lines by public utilities under its jurisdiction, such as PG&E. CPUC works with other state and federal agencies in promoting water quality, environmental protection, and safety. CPUC will most likely have jurisdiction if any additional utilities are needed for the proposed project.

California Integrated Waste Management Board

The California Integrated Waste Management Board (CIWMB) is the designated State agency to oversee and manage California's 76 million tons of solid waste generated each year. CIWMB promotes a sustainable environment where resources are not wasted, but can be reused or recycled when possible. The Board provides grants and loans in order to help California cities, counties, businesses, and organizations meet the state's reduction, reuse, and recycling goals. In addition to programs and incentives, CIWMB promotes the use of new and innovative technologies for the practice of diverting California's resources away from landfills. CIWMB oversees the landfills that serve the proposed project area.

In 1989, Assembly Bill 939 (AB 939), known as the Integrated Waste Management Act, was passed into law. Enactment of AB 939 established CIWMB and set forth aggressive solid waste diversion requirements. Under AB 939, every city and county in California is required to reduce the volume of waste sent to landfills by 50% compared to 1989 levels through recycling, reuse, composting, and other means. AB 939 requires counties to prepare a Countywide Integrated Waste Management Plan (CIWMP). An adequate CIWMP contains a summary plan that includes goals and objectives, a summary of waste management issues and problems identified in the incorporated and

unincorporated areas of the county, a summary of waste management programs and infrastructure, existing and proposed solid waste facilities, and an overview of specific steps that will be taken to achieve the goals outlined in the components of the CIWMP.

Local Regulations

The Amador County Waste Management Department manages the safe and sanitary storage, collection, transportation, and disposal of solid waste in Amador County. The Department is also responsible for the design, development, implementation, and promotion of recycling, waste reduction, and waste diversion programs.

The Amador County Environmental Health Department is certified by the State of California to be the Local Enforcement Agency whose activities include oversight of proper storage of industrial and commercial solid waste.

Impact Analysis

Approach and Methodology

This analysis reflects a qualitative evaluation of the probable effects of the proposed project on existing and future planned utilities in the surrounding off-reservation area. Various online data sources were used to collect information on utilities in Amador County such as the CIWMB website, the AWA website, and CPUC website.

Thresholds of Significance

Exhibit A, *Off-Reservation Environmental Impact Analysis Checklist*, of the Compact, lists significance thresholds for impacts on utilities and service systems that pertain to water and wastewater treatment facilities and stormwater drainage facilities. Because the proposed project would develop its own water supply and water treatment facilities as well as its own wastewater treatment plant, there would be no impact. Stormwater drainage is addressed in Section 3O, *Water Resources*.

Although the Exhibit A of the Compact does not specify these areas, the Tribe has elected to analyze impacts on solid waste landfills and existing utility infrastructure. Moreover, there would be no impact on utility demands; adequate capacity exists to supply the demands of the proposed project.

Impacts and Mitigation Measures

Impact UTL-1: Adverse effects on the capacity of solid waste landfills (less than significant)
According to information collected by CIWMB from EIRs for projects throughout the state (California Integrated Waste Management Board 2006), the daily estimated solid waste generation rates for commercial establishments ranges from 2.5 to 13 pounds per 1,000 square feet of floor area. (CIWMB does not officially endorse any of these rates and cannot validate their accuracy. However, they may be useful in providing a general level of information for planning purposes).

Commercial and retail areas of the proposed gaming facility would encompass approximately 328,521 square feet. Using the generation estimates referenced above, the commercial/retail uses are estimated to generate a maximum of 2.1 tons of solid waste per day, or 766.5 tons per year. Solid waste generated by the facility would be removed by a private trash service under contract with the Tribe. As described above, private trash haulers convey solid waste to the appropriate transfer stations and landfills on the basis of tipping fees at the individual facilities and the cost to transport the waste. Because the two regional landfills discussed earlier in this section have a combined daily capacity in excess of 10,000 tons, the solid waste generated by the proposed project would constitute less than 0.02% of that capacity. This impact is less than significant. No mitigation is necessary.

Impact UTL-2: Potential interference with existing utility infrastructure (less than significant)
Traffic easements, improvements, and construction activities associated with the proposed gaming facility have the potential to temporarily disrupt existing utility services (e.g., underground transmission lines or cables, aboveground utility cables) and require realignment of the utility infrastructure. However, prior to the construction phase of the project, affected service providers would be contacted so that any potential utility conflicts can be identified and relocation efforts can be initiated. The proposed project would avoid many potential conflicts because overhead utilities generally follow road rights-of-way. Additionally, the contractor would contact Underground Service Alert at least 2 full working days before construction begins. This would reduce impacts to a less-than-significant level. No mitigation is necessary.

Alternative 1—No Project

Under the No-Project Alternative, a Class III gaming facility would not be constructed. A range of projects could be constructed without the comprehensive environmental review process that is required under the Compact. Under this alternative, potential off-reservation environmental impacts would not be evaluated, and mitigation measures would not be required for any such impacts. Depending on the project constructed, there is the potential for either substantially greater or substantially reduced impacts on utilities and service

systems. A high-intensity use could generate large amounts of solid waste, or the property could remain undeveloped. Because the road improvements would not be implemented, there would be no interference with existing utility infrastructure along road rights-of-way.

Alternative 2—Phased Project

Because the completed project would be the same as the proposed project, utility demands are expected to be the same as those under the proposed project.

Alternative 3—Reduced Project (Reduced Gaming Floor Area: 75% of Proposed Project)

A reduced gaming floor alternative would reduce the magnitude of the utility demands and, consequently, the magnitude of associated impacts. These impacts would be less than significant. No mitigation would be required.

Alternative 4—Reconfigured Access Driveway with Additional Site Access and Parking

The reconfigured access driveway would have the impacts on utilities as the proposed project. Because the size of the project would be the same as the proposed project, Impacts UTL-1 and UTL-2 would be the same as under the proposed project. No mitigation would be necessary.

3O Water Resources

This section analyzes the potential off-reservation impacts on hydrology and water quality that could result from implementation of the proposed project.

Existing Conditions

Environmental Setting

Surface Water

Hydrology

The low rolling hills that characterize the topography of the reservation area are drained by a network of artificial ditches, swales, ephemeral drainages, and intermittent streams. The ephemeral drainages and swales on the northern half of the reservation flow north and west to Jackson Creek. The ephemeral drainages and swales on the southern half of the reservation and the Pacific Coast property flow south, ultimately discharging into Camanche Reservoir and the Mokelumne River.

Camanche Reservoir, approximately 4 miles south of the Jackson Creek/Dry Creek confluence, is the largest reservoir in the Mokelumne River watershed, with a capacity of 430,800 acre-feet (af). Releases from Camanche Reservoir are the primary control on flows in the Mokelumne River. These flows range from approximately 150 cubic feet per second (cfs) to 5,000 cfs, averaging approximately 1,000 cfs during the winter and spring and decreasing to approximately 300 cfs during the fall (U.S. Geological Survey 2007).

Several ponds are present in and near the Jackson Valley; some of these are associated with past and present mining and agricultural operations. There are three major surface water bodies near the proposed project site (Figure 2-1).

- Lake Amador, about 3 miles northeast of the site.
- Pardee Reservoir, about 3 miles east of the site.
- Camanche Reservoir, about 3 miles south-southwest of the site.

Lake Amador and Lake Amador dam were completed in 1965; the dam and reservoir are operated by the Jackson Valley Irrigation District (JVID). The JVID was formed in 1956 to serve a 12,800-acre area; 18,000 af of irrigation water is made available annually for approximately 6,000 irrigated acres. Flows in Jackson Creek, which was historically an ephemeral stream and ceased flowing by June of each year, are supplemented by discharges from Lake Amador (California State Water Resources Control Board Decision no. D 976, adopted June 30, 1960).

Water Quality

Surrounding land uses typically affect surface water quality; both point- and nonpoint-source discharges contribute contaminants to surface waters. The project vicinity is rural with limited industrial, mining, and residential uses; the area is predominantly agricultural.

Flows into area waterways during the dry season may consist entirely of nonpoint source runoff. These waterways are associated mainly with agricultural return flows as well as irrigation water supplies.

During the wet season, stormwater discharge conveys precipitation from areas of saturation or impermeable surfaces to low-lying collection areas and drainages. *First flush* storm events, during which pollutants that have accumulated throughout the dry season are concentrated with little dilution by the initial storm of the season, are thought to have the largest impact on receiving waters.

Polluted runoff can result in significant adverse impacts on aquatic ecosystems, public use, human health (through ground- and surface water contamination), damage to and destruction of wildlife habitat, decline in fisheries, and loss of recreational opportunities. Small soil particles washed into streams can smother spawning grounds and marsh habitat. Suspended particulates can restrict light penetration into water and limit photosynthesis of aquatic biota. Metals and petroleum hydrocarbons flushed from roadways and parking lots and fertilizers, pesticides, and herbicides conveyed from landscaped areas can cause toxic responses in aquatic life or contaminate possible water supply sources such as reservoirs and aquifers.

Section 303(d) of the CWA requires the identification of water bodies that do not meet, or are expected not to meet, water quality standards or are considered impaired. The affected water body and associated pollutant are placed on the 303(d) List. The lower Mokelumne River and Camanche Reservoir are listed as impaired for copper and zinc on the 2006 CWA Section 303(d) List that was last updated by EPA in October 2006. The probable source for these impairments is resource extraction (mining) (State Water Resources Control Board 2006).

Flooding

The Federal Emergency Management Agency (FEMA) issues Flood Insurance Rate Maps (FIRMs) to assess the likelihood of a flood to occur. Review of map 60015E, which encompasses Amador County, indicates that the northern portion of the project area is located in FEMA Zone A. This zone is designated as a special flood hazard area inundated by a 100-year flood, for which no base flood elevations have been determined (Federal Emergency Management Agency 2000).

Regulatory Setting

Federal Regulations

Clean Water Act

Several sections of the CWA pertain to impacts on waters of the United States. These sections are briefly discussed below.

Section 303

The State of California adopts water quality standards to protect beneficial uses of state waters as required by Section 303 of the CWA and the Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne). Section 303(d) of the CWA established the Total Maximum Daily Load (TMDL) process to guide the application of state water quality standards (see discussion of state water quality standards below). To identify candidate water bodies for TMDL analysis, a list of water quality–limited streams was generated. These streams are impaired by the presence of pollutants, including sediment, and are more sensitive to disturbance.

Section 401

Section 401 of the CWA requires that an applicant pursuing a federal permit to conduct any activity that may result in a discharge of a pollutant obtain a water quality certification. Water quality certifications are issued by Regional Water Quality Control Boards (RWQCBs) in California. Under the CWA, the appropriate RWQCB must issue Section 401 water quality certification for the project to be permitted under Section 404. Water quality certification requires the evaluation of water quality considerations associated with dredging or placement of fill materials into waters of the United States and imposes project-specific conditions on development.

Section 402

The 1972 amendments to the CWA established the National Pollutant Discharge Elimination System (NPDES) permit program to control discharges of pollutants from point sources (Section 402). The 1987 amendments to the CWA created a new section (Section 402[p]) devoted to stormwater permitting. EPA has granted the State of California (the State Water Resources Control Board [State Water Board] and RWQCBs) primacy in administering and enforcing the provisions of CWA and NPDES. NPDES is the primary federal program that regulates point-source and nonpoint-source discharges to waters of the United States.

The State Water Board issues both general and individual permits for both point-source and non-point source discharges to surface waters. In response to the 1987 amendments, EPA developed a Phase I NPDES Storm Water Program for cities with populations larger than 100,000, and a Phase II program for smaller cities. In California, the State Water Board has drafted the *General Permit for Discharges of Storm Water from Small Municipal Separate Storm Sewer Systems* (Small MS4 General Permit).

Construction Activities. Construction activities are regulated under the NPDES General Permit for Discharges of Storm Water Runoff associated with Construction Activity (General Construction Permit), provided that the total amount of ground disturbance during construction exceeds 1 acre. The appropriate RWQCB (i.e., the Central Valley Water Board for the proposed project) enforces the General Construction Permit. Coverage under a General Construction Permit requires the preparation of a storm water pollution prevention plan (SWPPP) and notice of intent (NOI). The SWPPP is required to set forth pollution prevention measures (erosion and sediment control measures and measures to control non-stormwater discharges and hazardous spills); demonstrate compliance with all applicable local and regional erosion and sediment control standards; and identify responsible parties, a detailed construction timeline, and a best management practices (BMPs) monitoring and maintenance schedule. The NOI provides site-specific information and the certification of compliance with the terms of the General Construction Permit.

Dewatering Activities. While small amounts of construction-related dewatering are covered under the General Construction Permit, the RWQCB has also adopted a General Dewatering Permit. This permit applies to various categories of dewatering activities and would likely apply to aspects of the proposed project if construction requires dewatering in greater quantities than that allowed under the General Construction Permit and entails discharge of the effluent to surface waters. The General Dewatering Permit contains waste discharge limitations and prohibitions similar to those in the general construction permit. To obtain coverage, the applicant must submit an NOI and a pollution prevention and monitoring program (PPMP). The PPMP must include a description of the discharge location, discharge characteristics, primary pollutants, receiving water, treatment systems, spill prevention plans, and other measures necessary to comply with discharge limits. A representative sampling and analysis program must be prepared as part of the PPMP and implemented by the permittee, along with record keeping and quarterly reporting requirements during dewatering activities. For dewatering activities that are not covered by the General Dewatering Permit, an individual NPDES permit and waste discharge requirements (WDRs) must be obtained from the RWQCB. The General Dewatering Permit may be applicable where excavation activities may explore the water table.

Section 404

Dredging and placement of fill materials into the waters of the United States is regulated by Section 404 of CWA, which is administered by USACE. As described above, a water quality certification must be issued for the project to be permitted under Section 404.

California Toxics Rule

As part of the California Toxics Rule (CTR), EPA has promulgated numeric water quality criteria for priority toxic pollutants and other provisions for water quality standards to be applied to waters in California. EPA promulgated this rule based on the EPA administrator's determination that the numeric criteria are necessary in California to protect human health and the environment.

The rule fills a gap in California water quality standards that was created in 1994, when a state court overturned the state's water quality control plans containing water quality criteria for priority toxic pollutants. Consequently, California was without numeric water quality criteria for many priority toxic pollutants as required by the CWA, necessitating EPA's action. These federal criteria are legally applicable in California for inland surface waters, enclosed bays, and estuaries.

State Regulations

Although the proposed project is not subject to state or local requirements, they are discussed here to provide context for the impact analysis.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act establishes the State Water Board and divides the state into nine regional basins, each with an RWQCB. The State Water Board and nine RWQCBs are the primary state agencies responsible for protecting the quality of the state's surface and groundwater resources.

The Porter-Cologne Act authorizes the State Water Board to draft state policies regarding water quality. In addition, the Porter-Cologne Act (Section 13263) authorizes the State Water Board and RWQCBs to issue general WDRs for projects or activities that would discharge waste to waters of the state. The Porter-Cologne Act requires that the State Water Board or the RWQCB adopt water quality control plans (Basin Plans) for the protection of water quality. A Basin Plan must identify beneficial uses of water to be protected, establish water quality objectives for the reasonable protection of the beneficial uses, and establish a program of implementation for achieving the water quality objectives.

The Porter-Cologne Act, Section 13260, requires

> any person discharging waste, or proposing to discharge waste that could affect the quality of the waters of the State, file a report of discharge (an application for waste discharge requirements) along with a filing fee, in anticipation that the Regional Water Board will provide Waste Discharge Requirements (WDRs).

The RWQCB is obligated to prescribe WDRs except where the Board finds that a waiver of WDRs for a specific type of discharge is in the public interest. Section 13269 also provides that any such waiver of WDRs shall be for a period not to exceed 5 years, is conditional and may be terminated at any time by the RWQCB.

California Department of Health Services (Division of Drinking Water and Environmental Management)

The California Department of Health Services (DHS) and its division of Drinking Water and Environmental Management are responsible for enforcing the federal and state Safe Drinking Water Acts, and for enforcing Title 22 of the California Code of Regulations. Specific responsibilities of Drinking Water and Environmental Management include: the enforcement of drinking water quality

standards, issuance of operating permits for water suppliers, review of plans and specifications for new water treatment facilities, enforcement actions for non-compliance with laws and regulations, and review of water quality monitoring results (California Department of Health Services 2004). The water treatment facility associated with the proposed project would meet water quality and monitoring requirements detailed in Title 22. The proposed wastewater reclamation plant would meet water-recycling criteria that are outlined in the California Health Laws Related to Recycled Water (also known as the "Purple Book") published by DHS.

Local Regulations

Amador County General Plan

Objectives and policies of the Amador County General Plan (1973) related to water resources and the proposed project are described below.

III. Plan Objectives, Principles and Standards

A. Objectives of the Plan

1. To preserve, protect and where appropriate, promote the development of natural resources in water, minerals, timber and soils resources.

3. Land Use Element: Waste Disposal Facilities, Flood Areas, Airport Land Use Plan.

a) Restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities.

b) Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction.

c) Controlling the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel floodwaters.

d) Controlling filling, grading, dredging, and other development which may increase flood damage; and

e) Preventing or regulating the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards in other areas.

Impact Analysis

Approach and Methodology

This analysis addresses off-reservation impacts related to hydrology and water quality, but does not attempt to identify specific water resources or impacts on the reservation property. The *Draft Water and Wastewater Feasibility Study* (feasibility study) (Appendix H) and the *Technical Drainage Study Addendum No. 2 for the Flying Cloud Casino at Buena Vista Rancheria* (drainage study) (Appendix D) provided the basis for this analysis. The specific project features pertaining to water resources are described following the discussion of the feasibility study.

Draft Water and Wastewater Feasibility Study

The feasibility study was prepared in support of the proposed project to meet the objectives listed below.

- Estimate domestic water demands and onsite storage requirements.
- Evaluate wastewater flows on the basis of the proposed facility design and comparable gaming facilities.
- Develop preliminary sizing of key wastewater collection and treatment facilities.
- Evaluate the potential for reducing water demands through the use of reclaimed water.
- Develop a water supply strategy.
- Develop a wastewater treatment and disposal strategy.

Wastewater demands, potable water demands, recycled water capabilities, and treated effluent discharge rates calculated in the feasibility study are discussed below. Wastewater flows and potable and recycled water demands are shown in Table 3O-1.

The proposed project would generate wastewater flows of approximately 150,000 gallons per day (gpd) on weekdays and 250,000 gpd on weekends.

Potable water demands do not include the proposed recycled water demand; recycled water uses would likely include flush toilets and urinals, where appropriate, and landscape irrigation water. The recycled water demand assumes that the quality of the treated effluent would be sufficient for landscape irrigation uses and has been sufficiently treated to DHS Title 22 standards. Thus, the proposed project's actual potable water demands would comprise the figure shown in Table 3O-1 less the recycled water demand shown in the table.

The daily treated effluent discharge of the proposed project was estimated as the average wastewater flows minus the recycled water use. Thus, during weekdays approximately 100,000 gpd would be discharged. On weekends, approximately 170,000 gpd of treated effluent would be discharged. The average treated effluent discharge flows of the proposed project would be approximately 110,000 gpd.

Table 3O-1. Summary of Estimated Daily Wastewater Flows, Potable Water Demand, and Recycled Water Demand (in gallons per day)

	Time Period of Water Use		
Type of Water Use	Weekday	Weekend	Average
Wastewater flows	150,000	250,000	170,000
Potable water demand (if water is not recycled)	170,000	260,000	190,000
Recycled water demand	50,000	80,000	60,000

The feasibility study advances two main recommendations regarding onsite project features that would affect water resources outside the project site; these are described below.

Water Treatment Plant

Surface water or groundwater from onsite wells or wells on adjacent properties could serve as potential water supplies for the proposed project. The proposed water treatment plant would have a designed capacity to accommodate the gaming facility. The water treatment plant's treatment technologies would be selected following identification of the specific water supply sources, the characteristics of those sources, and the treatment necessary. Appropriate treatment technologies would be implemented to ensure that the plant would provide potable water in accordance with applicable drinking water criteria (including Title 22 requirements). If surface water supplies are used for the proposed project, the feasibility study recommends using a membrane separation process to treat the water.

In addition, the feasibility study recommends a water storage tank of approximately 1,000,000 gallons to store water from the project's treatment plant for domestic water storage and fire suppression. This would include the need for a pump station ultimately having a pumping capacity dependent on fire flow requirements.

Wastewater Treatment Plant

To treat the project's wastewater in a compact layout and reliable method, the feasibility study recommends a tertiary treatment system—specifically, a membrane bioreactor (MBR) treatment system. Disinfection of the treated effluent would be effected through ultraviolet (UV) radiation and chlorine. The proposed treatment system would comply with Title 22 criteria and

nitrify/denitrify wastewater to meet requirements of the Central Valley Basin Plan for Region 5.

Surface water discharge of the tertiary-treated effluent, as described in Chapter 2, *Project Description*, is discussed in Section 5.1.4 of the feasibility study. A discharge point would be located on the reservation; these flows would ultimately discharge into Jackson Creek. Average discharge volumes are shown in Table 3O-1. An NPDES permit would be required by the Central Valley Water Board. Anticipated NPDES constituent limitations are discussed in Table 5-2 of the feasibility study.

Drainage Study/Design Recommendations

According to the drainage study (Appendix D), runoff from onsite and offsite watersheds follow the natural contours of the project site and are conveyed by existing natural or artificial swales to two downstream discharge points: the existing wetlands at the northwest corner of the property, and the existing natural streambed along the northeast boundary of the property. The storage volume of the existing onsite wetlands is approximately 48,600 cubic feet. As discussed previously, the stream on the reservation flows northwest into Jackson Creek approximately one-quarter mile downstream from the reservation boundary.

Existing stormwater runoff conditions were analyzed using the Rational Method with two design storms: the 25-year storm event and the 100-year storm event. These hydrology calculations were used to determine the existing conditions of the offsite and onsite wetland basins and to make design recommendations for the proposed stormwater basins. These recommendations propose design capacity for the basins, drainage sites on the developed and undeveloped portions of the reservation, and riprap design features to minimize scour and erosion in the onsite wetlands.

Thresholds of Significance

As defined in Exhibit A, *Off-Reservation Environmental Impact Analysis Checklist*, of the Compact, an impact would be considered significant if it would result in any of the conditions listed below.

- Violate any water quality standards or waste discharge requirements.
- Substantially deplete off-reservation groundwater supplies or interfere substantially with groundwater recharge such that there should be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted). (See Section 3P, *Groundwater Resources*).

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation off-site.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding off-site.
- Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff off-reservation.
- Place within a 100-year flood hazard area, structures which would impede or redirect off-reservation flood flows.
- Expose off-reservation people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

Impacts and Mitigation Measures

Impact HYD-1: Degrade surface and groundwater quality by means of construction-related ground-disturbing activities and construction-related hazardous materials (less than significant with mitigation)
Construction-related ground-disturbing activities associated with development of the proposed project could cause soil erosion and sediment transport to local off-reservation waterways. In particular, realignment and upgrades of the existing agricultural drainages on the reservation could provide a direct pathway for sediment and other contaminants to reach surface waters; these waterways would be likely to exhibit elevated levels of turbidity during the first few years of channel establishment.

In addition, construction equipment would have the potential to leak hazardous materials that may include oil and gasoline. Improper use of fuels, oils, and other construction-related hazardous materials (e.g., pipe sealant), or accidental spills of contaminants may also pose a threat to surface or groundwater quality.

NPDES Requirements
To reduce or eliminate construction-related water quality effects, before onset of any construction activities, where the disturbed area is 1 acre or more in size, the Tribe will require the project contractors to obtain coverage under the NPDES General Construction Permit and to comply with the requirements of the permit. The County's Erosion Control Guidelines and General Construction Permit require pollutant discharges to be controlled using the best available technology that is economically achievable (BAT) and the best conventional pollutant control technology (BCT) to reduce pollutants, and any more stringent controls necessary to meet water quality standards.

Best management practices (BMPs) may consist of a wide variety of measures taken to reduce pollutants in stormwater and other nonpoint-source runoff. Measures range from source control, such as reduced surface disturbance, to treatment of polluted runoff, such as detention or retention basins. BMPs to be implemented as part of the Stormwater Management Program and General Construction Permit and detailed in the SWPPP may include, but are not limited to, the following measures.

- Temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) may be implemented to control erosion from disturbed areas.
- Drainages in downstream offsite areas will be protected from sediment impairments by the use of BMPs acceptable to the Central Valley Water Board.
- Grass or other vegetative cover will be established on the construction site as soon as possible after disturbance. At minimum, vegetative application will be completed by September 15 to allow plants to establish. No disturbed surfaces will be left without erosion control measures in place between October 15 and April 15.

Final selection of BMPs will be subject to approval by the Central Valley Water Board. The Tribe will verify that an NOI has been filed with the State Water Board and that a SWPPP has been developed before allowing construction to begin. The Tribe will perform inspections of the construction area to verify that the BMPs specified in the SWPPP are properly implemented and maintained. The Tribe will notify contractors immediately if there is a noncompliance issue and will require compliance.

Spill Prevention and Control Program

The Tribe will require that all project contractors develop and implement an SPCP to minimize the potential for, and effects of, spills of hazardous, toxic, or petroleum substances during construction activities. The program will be completed before any construction activities begin. Implementation of this measure would comply with state and federal water quality regulations.

The Tribe will review and approve the SPCP before onset of construction activities. The Tribe or its contractors will routinely inspect the construction area to verify that the measures specified in the SPCP are properly implemented and maintained. The Tribe will notify contractors immediately if there is a noncompliance issue and will require compliance.

The federal reportable spill quantity for petroleum products, as defined in 40 CFR 110, is any oil spill that exhibits the characteristics listed below.

- Violates applicable water quality standards.
- Causes a film or sheen on, or discoloration of, the water surface or adjoining shoreline.

- Causes a sludge or emulsion to be deposited beneath the surface of the water or adjoining shorelines.

If a spill is reportable, the contractor's superintendent will notify the Tribe, and the Tribe will take action to contact the appropriate safety and clean-up crews to ensure that the SPCP is followed. A written description of reportable releases must be submitted to the Central Valley Water Board and the Department of Toxic Substances Control (DTSC). This submittal must contain a description of the release, including the type of material and an estimate of the amount spilled, the date of the release, an explanation of why the spill occurred, and a description of the steps taken to prevent and control future releases. The releases would be documented on a spill report form.

If an appreciable spill has occurred and results determine that project activities have adversely affected surface water or groundwater quality, a detailed analysis will be performed to the specifications of DTSC to identify the likely cause of contamination. This analysis will include recommendations for reducing or eliminating the source or mechanisms of contamination. Based on this analysis, the Tribe and/or contractors will select and implement measures to control contamination, with a performance standard that surface and/or groundwater quality must be returned to baseline conditions. These measures will be subject to approval by the Tribe.

Compliance with the NPDES General Construction Permit and development and implementation of a spill prevention and control program (SPCP) as described below would reduce Impact HYD-1, but not to a less-than-significant level. Implementation of Mitigation Measures HYD-1a and HYD-1b would reduce impacts to a less-than-significant level.

Mitigation Measure HYD-1: Conduct construction activities in water bodies during the dry season

Where construction activity in a water body is unavoidable and flows in the water body are seasonal, construction will be conducted during the dry season. This proposed mitigation is subject to additional conditions associated with required permits from USACE, DFG, and the Central Valley Water Board. In addition, following any adjustment or realignment of surface water bodies that flow into adjacent off-reservation water bodies, water bodies would be lined with cobbles or other non-erosive materials to minimize the potential for turbidity generated from the water body where work is conducted.

Mitigation Measure HYD-2: Implement protection measures for work in surface waters

Should dry season construction prove infeasible, or where year-round flows are present in the on-reservation water bodies that flow to off-reservation water bodies, the contractor will implement measures to protect off-reservation surface water quality, such as flow diversions, impoundments (e.g., cofferdams), or other methods to avoid the direct exposure of surface water to sediment created as part of construction

activity. As a performance standard, the measures will maintain Basin Plan standards for turbidity, listed below.

- Where natural turbidity is between 0 and 5 nephelometric turbidity units (NTUs), increases will not exceed 1 NTU.
- Where natural turbidity is between 5 and 50 NTUs, increases will not exceed 20%.
- Where natural turbidity is between 50 and 100 NTUs, increases will not exceed 10 NTUs.
- Where natural turbidity is greater than 100 NTUs, increases will not exceed 1%.

Where construction activities have the potential to result in elevated turbidity, monitoring will be performed at least twice daily at downstream locations, if necessary, to determine whether the standards outlined above have been met. In the event that they are not being met, the turbidity-generating activities will cease until turbidity is within the identified limits, and construction methods or turbidity control measures will be modified to ensure that turbidity limits continue to be met.

Impact HYD-2: Water quality impairment from construction below the water table (less than significant)

Because of the presence of shallow groundwater in the project area, trenching and excavation associated with the proposed project may reach a depth that could expose the groundwater table and provide a direct path for pollutants to affect the quality of off-reservation groundwater. Dewatering would be conducted for construction activities that intersect the water table. Discharges from dewatering activities into surface waters could potentially affect the water quality of the surface waters. However, the Tribe will conform to the County's Standard Specifications for Dewatering and will obtain an NPDES permit and WDRs from the Central Valley Water Board. Depending on the volume and characteristics of the discharge, coverage under the NPDES General Construction Permit or General Dewatering Permit is permissible. As part of the permit, the Tribe will design and implement measures as necessary so that the discharge limits identified in the relevant permit are met. As a performance standard, these measures will be selected to control pollutant discharges using BAT and BCT to reduce pollutants, and any more stringent controls necessary to meet water quality standards. No further mitigation is required.

Impact HYD-3: Water quality impacts resulting from the discharge of treated effluent (less than significant with mitigation)

The project's proposed discharge of treated effluent to a tributary of Jackson Creek on reservation property could result in potential impacts on the existing offsite water quality and beneficial uses of the tributary, Jackson Creek, Dry Creek, or the Mokelumne River. The water quality of the tertiary-treated effluent would be dependent on the influent concentrations and the wastewater treatment processes. Because the potential influent water quality is unknown, the water quality of the tertiary-treated effluent is unknown; this impact could be

potentially significant. Implementation of Mitigation Measures HYD-3 and HYD-4 would reduce this impact to a less-than-significant level.

Mitigation Measure HYD-3: Comply with NPDES Operation Permit requirements, basin plan objectives, and California Toxics Rule and conduct water quality monitoring
The Tribe will be required to comply with all NPDES permit requirements, including those in the General Industrial Permit (e.g., temperature criteria, Basin Plan objectives, and CTR criteria). The Tribe will conduct quarterly monitoring of the receiving water body downstream of the discharge to determine if the project is in compliance with the established NPDES permit requirements, Basin Plan objectives, and CTR criteria. If the project cannot comply with all NPDES permit requirements, Basin Plan objectives, and CTR criteria, mitigation measure HYD-4 will be implemented.

Mitigation Measure HYD-4: Adjust wastewater treatment
If the proposed project cannot meet the criteria discussed in Mitigation Measure HYD-3, the Tribe will adjust the facility's wastewater treatment technologies to meet the criteria. Such adjustments could entail adding additional wastewater treatment technologies or temperature control devices.

Impact HYD-4: Surface runoff exceeding capacity of drainage facilities as a result of new impervious surfaces (less than significant with mitigation)
The completed gaming facility and associated improvements would result in new impervious surfaces, which would result in an incremental reduction in the amount of pervious soil surfaces available for infiltration of rainfall and runoff, potentially generating additional runoff during storm events. Additional surface runoff can result in off-reservation impacts by contributing to the flooding potential of natural stream channels, accelerating soil erosion and stream channel scour, and contributing to the transport of pollutants to waterways. Although a drainage plan has been developed for the proposed project, the plan does not detail potential drainage features that would capture onsite flows and prevent offsite impacts. Therefore, this impact is potentially significant. Implementation of Mitigation Measure HYD-5 would reduce this impact to a less-than-significant level.

Mitigation Measure HYD-5: Implement a drainage concept plan
As part of the infrastructure plan, the developer will implement a drainage concept plan. This plan will address the following topics.

- A calculation of predevelopment runoff conditions and post-development runoff scenarios using appropriate engineering methods. This analysis will evaluate potential changes to runoff through specific design criteria and will account for increased surface runoff.
- An assessment of existing drainage facilities within the project area and an inventory of necessary upgrades, replacements, redesigns,

and/or rehabilitation such that the project does not result in an increase of the existing net flows to onsite water features. Project facilities would be designed in consideration of recommendations for detention basins and stormwater quality management facilities set forth in the draft drainage study (Appendix D); these recommendations include the potential development of an underground detention basin.

- A description of the proposed maintenance program for the onsite drainage system.
- Standards for drainage systems to be installed on a project/parcel-specific basis.
- Design measures to ensure that structures are not located within 100-year floodplain areas and do not alter the existing 100-year floodplain boundaries.

Impact HYD-5: Degrade water quality as a result of urban runoff (less than significant with mitigation)

As previously discussed, the project facilities are expected to result in an increase in impervious surfaces. Accordingly, the proposed project could increase stormwater and non-stormwater runoff and the potential transport of contaminants to adjacent receiving waters. Contaminated runoff waters could flow into the agricultural ditches and ultimately into Jackson Creek, Dry Creek, and the Mokelumne River and could degrade the water quality of any of these water bodies.

During the dry season, vehicles and other urban activities release contaminants onto the impervious surfaces where they would accumulate until the first storm event. During this initial storm event or *first flush*, the concentrated pollutants would be transported in runoff to stormwater drainage systems. Anticipated runoff contaminants associated with the proposed project include sediment, pesticides, oil and grease, nutrients, metals, bacteria, and trash from facility operations, landscaping activities, and visitors to the gaming facilities and their vehicles.

Finally, existing wetlands are likely to interact with the shallow groundwater in the project area, providing a direct mechanism for contaminants to reach the aquifer. Implementation of Mitigation Measure HYD-6 would reduce these impacts to a less-than-significant level.

Mitigation Measure HYD-6: Maintain water quality after construction

The following procedures are excerpted from the *California Storm Water Best Management Practice Handbooks* (2004). Infiltration systems may be incorporated into the proposed project to reduce runoff and allow for the recharge of groundwater. These infiltration systems should comprise natural systems such as biofilters and vegetative swales. Such systems will be installed at any areas that do not flow directly or indirectly into a

retention basin. These systems may include but are not limited to those listed below.

- Retention/detention systems will be installed under the roof downspouts to retain water, which will be released at a later time once pollutants have settled out.
- Biofilters will be established in grass or vegetated swales as part of the project design. This will allow sediments and particulates to filter and degrade biologically. Biofilters are most effective when flows are slow with a shallow depth. Slow flow provides an opportunity for the vegetation to filter sediments and particulates.
- Structural source controls, such as covers, impermeable surfaces, secondary containment facilities, runoff diversion berms, and diversions to the wastewater treatment plant, may be included in the project design.
- Parking spaces outside the parking structure will be designed of pervious materials, such as turf block or unit pavers on sand, crushed aggregate, or concrete (under tires only) to reduce runoff.
- In order to reduce erosion and retain water on site, organic amendments will be incorporated into disturbed sites after construction, and the soil will be covered after revegetation.
- Designated outdoor trash storage areas will be covered to protect bins from rainfall.

The measures will be selected to attenuate the increase in flows from the project site and improve water quality in site runoff to the maximum extent possible, and will represent the BAT. All measures will be subject to the review and approval of the Tribe.

Impact HYD-6: Degraded water quality from surface runoff to surface waters that are 303(d) Listed (less than significant)

Surface water runoff from the proposed project could contribute to the lower Mokelumne River's existing copper and zinc impairments. These constituents could be gathered from lawn runoff, rooftops, and even building facility runoff. However, the concentration of these constituents is expected to be relatively low. In addition, all drainage from the facility would be channeled toward the detention facilities, which would include measures for sediment removal and excessive contaminant treatment. Mititgation Measures HYD-5 and HYD-6 would reduce the potential for contaminants to reach the Mokelumne River at concentrations that would contribute to the impairment and would reduce these impacts to a less-than-significant level. This impact is considered less than significant. No additional mitigation is required.

Impact HYD-7: Construction of structures within the floodplain or risk of exposure to flooding

A small area in the northern portion of the reservation near Coal Mine road is within the FEMA 100-year flood zone. However, this area is not planned for

building construction that would be susceptible to flooding or could expose persons to risk associated with flooding. It would support a portion of driveway with no structures. There would be no structures built within the floodplain off the reservation, and no persons would be exposed to hazards associated with flooding off the reservation as a result of project implementation. There would be no impact.

Alternatives

Alternative 1—No Project

Under the No-Project Alternative, a Class III gaming facility would not be constructed. A range of projects could be constructed without the comprehensive environmental review process that is required under the Compact. Under this alternative, potential off-reservation environmental impacts would not be evaluated, and mitigation measures would not be required for any such impacts. Depending on the project constructed, there is the potential for either substantially greater or substantially reduced impacts on water quality and hydrology.

Alternative 2—Phased Project

A reduced gaming floor as proposed for Phases I and II would decrease the magnitude of the water quality and hydrology impacts, but would not reduce them to less-than-significant levels without mitigation. However, the levels of mitigation for Phases I and II should be reduced because the levels of impact would be less than those under the proposed project.

Alternative 3—Reduced Project (Reduced Gaming Floor Area: 75% of Proposed Project)

A reduced gaming floor would reduce the magnitude of the water quality and hydrology impacts, but would not reduce them to less-than-significant levels without mitigation. However, the levels of mitigation should be reduced, because the impacts on water quality and hydrology would be less than those under the proposed project. The impacts of Alternative 3 would be the same as the impacts associated with Alternative 2, Phase II.

Alternative 4—Reconfigured Access Driveway with Additional Site Access and Parking

The reconfigured access driveway would result in impacts similar to but of greater magnitude than those of the proposed project. The access driveway and the offsite parking area would introduce additional impervious surfaces;

moreover, these areas could generate additional water quality contaminants that would be conveyed by stormwater runoff.

Reference Cited

U.S. Geological Survey. National Water Information Systems. 2007. Available: <http://waterdata.usgs.gov/nwis/sw>. Accessed January 10, 2007.

California State Water Resources Control Board. 2006. Proposed 2006 CWA Section 303(d) list of water quality limited segments- Central Valley Regional Board. Available: <http://www.swrcb.ca.gov/tmdl/docs/303dlists2006/final/r5_final303dlist.pdf>. Accessed January 10, 2007.

3P Groundwater Resources

This section analyzes the potential impacts on off-reservation groundwater users that could result from implementation of the proposed project.

A brief summary of the proposed project and the alternatives in the context of groundwater resources is provided in Table 3P-1. Alternatives 1 and 4 are not addressed in this analysis. The water demands associated with the No-Project Alternative cannot be assessed because the Tribe could initiate a wide range of projects that would not be subject to the environmental review required under the Compact; Alternative 4 would have the same water demands as the proposed project.

Table 3P-1. Project Alternatives and Water Demand (Average Daily Water Demand, on an annual basis)

Project Alternative		Description	Water Demand w/o Recycling (gpd [gpm])	Water Demand w/ Recycling (gpd [gpm])
Proposed project		2,000 slot machines 80 gaming tables 71,525 ft^2 for gaming	200,000 (139)	130,000 (90)
Alternative 1	No project	Range of potential site uses exist	Not estimated	Not estimated
Alternative 2	Phase I	1,150 slot machines 40 gaming tables 32,900 ft^2 for gaming	120,000 (83)	80,000 (56)
	Phase II	1,650 slot machines 60 gaming tables 53,600 ft^2 for gaming	160,000 (111)	110,000 (76)
	Phase III	2,000 slot machines 80 gaming tables 71,525 ft^2 for gaming	200,000 (139)	130,000 (90)
Alternative 3	Reduced project	1,650 slot machines 60 gaming tables 53,600 ft^2 for gaming	Same as Alternative 2, Phase II	Same as Alternative 2, Phase II
Alternative 4	Change in traffic circulation	Modify entrance and parking	Same as proposed project	Same as proposed project

HydroScience Engineers Inc. (HydroScience) calculated water demands for the proposed project and alternatives (Table 3P-1). The table reflects water demands both with and without recycling; it is assumed for this analysis that recycling will be implemented.

This analysis focuses on three water demand scenarios in terms of the average annual continuous flow rate in gallons per minute (gpm).

- 90 gpm (145.2 af/yer) (proposed project).
- 76 gpm (122.6 af/yr) (Phase II of Alternative 2 and Alternative 3).
- 56 gpm (90.3 af/yr) (Phase I of Alternative 2).

HydroScience and its subcontractors conducted all the fieldwork upon which the analyses in this section are based. Analyses of the hydraulic (pumping) tests are summarized in Appendix I.

HydroScience installed and tested five production wells (W-1 through W-5) and one observation well (MW-01) in 2005 and 2006. Three other wells are currently located on the reservation. Two shallow monitoring wells (piezometers) were installed by ENGEO Inc. during the geotechnical investigation of the proposed project's construction footprint. A third well (the Hunt well) has been in use by the Tribe since it was installed in 1999.

Existing Conditions

Environmental Setting

Site Location

The 67-acre Buena Vista Rancheria is located approximately 40 miles southeast of Sacramento, California (Figure 2-1). The proposed project site is on the east side of Coal Mine Road about 1 mile south of the community of Buena Vista, in the southwestern portion of Amador County, California. The site address is 4650 Coal Mine Road, Ione, California, 95640 (APN 012-100-005). This water supply analysis also addresses two adjacent parcels: a 171-acre portion of the Pacific Coast property (APN 012-100-010) and the 9-acre Yocheim property (APN 012-100-038) (Figure 3P-1).

Topography

The project area is at the extreme eastern margin of California's Great Valley physiographic province. The reservation lies in the lower Sierra Nevada foothills, characterized by generally gradual slopes.

The project site is on a hillside adjacent to the southern side of Jackson Valley. The land surrounding the project site has gently sloping or hilly topography with elevations ranging from 276 feet (msl) at Jackson Creek near Buena Vista Road to 844 feet msl at the Buena Vista Peaks (Figure 3P-1). Jackson Creek flows through an active floodplain in the central portion of the Jackson Valley at the northern end of the study area. It flows west-northwest to Dry Creek and ultimately to the Mokelumne River.

Rainfall and Surface Water

Average annual rainfall in the reservation vicinity is approximately 21 inches. Rainfall occurs primarily from November to March. Summers are typically dry and hot. Average temperatures range from 60 to 95ºF in summer and from 35 to 52ºF in winter.

The low rolling hills that characterize the topography of the reservation area are drained by a network of artificial ditches, swales, ephemeral drainages, and intermittent streams. The ephemeral drainages and swales on the northern half of the reservation flow north and west to Jackson Creek. The ephemeral drainages and swales on the southern half of the reservation and the Pacific Coast property flow south, ultimately discharging into Camanche Reservoir and the Mokelumne River.

Several ponds are present in and adjacent to the Jackson Valley; some of these are associated with past and present mining and agricultural operations. There are three major surface water bodies near the proposed project site (Figure 2-1).

- Lake Amador, about 3 miles northeast of the site.
- Pardee Reservoir, about 3 miles east of the site.
- Camanche Reservoir, about 3 miles south-southwest of the site.

Lake Amador and Lake Amador dam were completed in 1965; the dam and reservoir are operated by the Jackson Valley Irrigation District (JVID). The JVID was formed in 1956 to serve a 12,800-acre area; 18,000 af of irrigation water is made available annually for approximately 6,000 irrigated acres. Flows in Jackson Creek, which was historically an ephemeral stream and ceased flowing by June of each year, are supplemented by discharges from Lake Amador (California State Water Resources Control Board Decision no. D 976, adopted June 30, 1960).

Geologic Setting

Amador County is in a region that possesses an extensive and diverse range of economic mineral resources. As noted by the California Department of Mines and Geology (1983; page 1), it is “One of the most important high quality clay, specialty sand, and lignite resource areas in California.” Moreover, a 14-mile segment of the Mother Lode gold belt, well known from the California gold rush, lies approximately 10 miles northeast of the reservation. Consequently, a significant body of geologic information is available regarding the project area.

Regional Geology

The reservation lies between the Sierra Nevada to the east and the Great Valley to the west. Tertiary-age sediments exposed at the site are underlain by a complex of metamorphic, ultramafic, and plutonic igneous rocks. The Tertiary sediments are exposed along a northwest trend that parallels a series of older Jurassic-age metamorphic belts defined by the Bear Mountains Fault Zone and the Melones Fault Zone. Quaternary-age alluvium occurs in areas such as Jackson Valley, north of the site.

The USGS Sutter Creek 15-minute quadrangle (California Department of Mines and Geology 1983) shows that the Tertiary sediments were non-conformally deposited onto the Jurassic basement complex (i.e., they were deposited after the Jurassic section had been substantially deformed, metamorphosed, and eroded). The overlying Tertiary sedimentary sequence remains relatively horizontal and undeformed.

The Tertiary sediments appear to have been deposited in a non-marine environment consisting of fluvial systems originating in the ancestral Sierra Nevada to the northeast. These systems generally flowed southwest toward the Great Valley. The overall sediment transport direction is interpreted to be roughly perpendicular to the Jurassic-age metamorphic belts shown in Exhibit 1 (see, for example, Gillam 1974; Chapman and Bishop 1975; Rodgers 1986). The sediments that contain the local aquifer system are of Tertiary age and formed in a northwest-trending trough or embayment, roughly parallel to the Jurassic-age metamorphics. Metamorphic rock was encountered at depth during drilling of groundwater wells at the site.

The Tertiary sediments comprise the Eocene Ione Formation, the Miocene/Oligocene Valley Springs Formation, and the Pliocene/Miocene Mehrten Formation (Bartow 1992). Of these, only the Ione and Valley Springs Formations occur at the project site. The Ione Formation is characterized by interlayered kaolinitic clays, quartzose sand, sandstone, shale, and lignite. The overlying Valley Springs Formation consists of stream channel and alluvial deposits derived from rhyolitic volcanic rocks (California Department of Mines and Geology 1983).

Bartow (1992) held that the contact between the Ione and Valley Springs Formations does not represent a continuous sedimentary sequence, and that the formations are separated by a regional disconformity. The base of the Valley Springs Formation is regarded to be similar in composition to the upper Ione Formation due to the reworking of Ione detritus into the Valley Springs sediment.

The Ione Formation has been extensively studied because it contains commercially significant lignite, silica sand, and kaolinite clay. Some of the more detailed analyses of the Ione Formation and the relationship between the Ione and the Valley Springs Formation are presented in Pask and Turner (1952), Gillam (1974), Chapman and Bishop (1975), Rodgers (1986), and Bartow (1992). In general, the Ione Formation is regarded to have been deposited as

non-marine fluvio-deltaic sediments. It has been differentiated into two to four sections in the various reports. This analysis differentiates it into the upper and lower Ione Formation. Water production for the proposed project would be primarily derived from the upper Ione Formation; accordingly, the upper Ione Formation is the primary focus of this analysis.

Figure 3P-2 shows that the Ione Formation crops out along a northwest-trending ridge that encompasses the project site. It has little dip—on the order of 2º (Bartow 1992)—despite predating the mid-Pliocene western tilt and uplift of the Sierra Nevada. Disconnected normal faults of apparently minor displacement are mapped southeast and northeast of the site. The nearest identified fault, the Foothills Fault System, is mapped approximately 1.8 miles east of the site (California Department of Mines and Geology Open-file Report 96-08 as reported in ENGEO 2005).

The overall thickness of Tertiary sediments that occur beneath the site and in western Amador County was assessed in a geophysical study report by Chapman and Bishop (California Department of Mines and Geology Special Report 117). They incorporated the results of exploratory drilling together with geophysical surveys (seismic refraction, magnetics, and gravity) to estimate the total depth of sediment that overlays deeper metamorphic rock. A portion of their map has been adapted in Figure 3P-3 to show the depth and extent of sedimentary rock that occurs on and adjacent to the site. Figure 3P-3 also shows the mapped contact between the Tertiary sediments and the Jurassic-age metamorphic rocks that defines the lateral extent of sedimentary rocks east of the site.

Site Geology

Three geologic units are exposed at the site: the Tertiary Ione and Valley Springs Formations and the Quarternary alluvium of the Jackson Valley (Figure 3P-2). The reservation is underlain by the upper portion of the Ione Formation, which consists of interbedded claystone, siltstone, and sandstone. Bedding typically ranges from a few inches to tens of feet in thickness.

Lignite within the upper Ione Formation has proven to be a local economic resource. A mine operated by the American Lignite Products Company began open pit strip mining operations northwest of the site in 1947 (Carlson and Clark 1954). The mine produced up to approximately 800 tons of lignite per day. The amount of overburden overlying the 1- to 14-foot-thick lens of lignite reportedly varied from 15 to 25 feet. Lignite was processed on site to produce various types of waxes. The mine is currently inactive; review of site conditions indicates that the excavation is filled with water. The source of the water is likely a combination of rainfall and discharge of groundwater from the adjacent Tertiary sediments and younger alluvium.

Hydrogeologic Setting

Because of the abundant, high-quality water resources of the Sierra Nevada, regional water districts typically rely on surface water as their primary source. Locally, both the JVID and the Amador Water Agency rely on surface water for water supply (with the exception of three production wells used by the Amador Water Agency at Camanche Village immediately north of Lake Camanche, and one well located at the La Mel Heights subdivision). Groundwater resources are also used throughout the region, primarily by properties that lie outside local water districts' service areas.

Several small ponds are present in the area; two of these ponds are shown in Figure 3P-4. Comparison of the water levels in the ponds (estimated from the topographic map) with the reported groundwater elevations at the site suggests that the ponds occur at a level above the potentiometric surface[1] of the underlying confined aquifer system and are therefore hydraulically independent from it.

Local Groundwater Resources

Groundwater occurs locally within alluvium, sedimentary rock, and metamorphic rock. Unconfined aquifer conditions are expected to occur within the shallow Quaternary alluvium in Jackson Valley. These alluvial deposits are reported to be approximately 25–50 feet thick (Pask and Turner 1952).

The Tertiary-age sedimentary rocks on the reservation (primarily the Ione Formation) contain sections of sands and gravels. The interbedded clay and sand deposits of the Ione Formation define the potential water production zones within the sedimentary section, and the layers of less permeable clay-rich sediments create confined aquifer conditions.

Water also occurs within the underlying metamorphic rock under confined conditions beneath the Tertiary sediments. Water within the metamorphic rock is contained largely within fractures and fracture zones.

Production from the wells installed by HydroScience in 2005 and 2006 has shown that the Upper Ione Formation is a viable source of water. Six wells (W-1 through W-5 and MW-01) all encountered similar lithologies and intercepted a laterally continuous water-bearing unit within the upper Ione Formation. The locations of these wells are shown in Figure 3P-4.

Two geologic cross sections are shown in Figures 3P-5 and 3P-6. These are based on the lithologic logs provided by the drillers during well installation and from downhole geophysical logs conducted to aid well development. These datasets are combined in the figures to identify the location and relative thickness of sedimentary layers encountered in the subsurface. The electrical resistivity

[1] Potentiometric surface: the level to which water will rise in cased wells or other cased excavations into aquifers, here measured as an elevation in feet above mean sea level.

logs, similarly scaled, are shown adjacent to the location of each well. The resistivity logs clearly identify the productive interval within the confined portion of the upper Ione Formation. Figures 6 and 7 also show the screened intervals of all the wells discussed in this report.

Figure 3P-5 is a roughly north-south cross section that depicts the general hydrogeology of the sedimentary and metamorphic rocks that occur on the reservation. Because the two wells are so close together, a composite description for wells W-1 and W-2 is shown to the right of W-2.

Figure 3P-6 is a roughly west-east cross section. The wells and borings did not extend into the underlying metamorphic rock. The cross section shows that the confined aquifer dips to the west; however, this dip is exaggerated in the figure. Subsurface conditions encountered in W-5 include an upper, likely unconfined water-bearing zone that has been screened at depths of 50–90 feet below the ground surface. This zone may extend into the adjacent hillside, and is located at a projected elevation above ground surface north and east of W-5 (for example at W-3).

Review of the subsurface data indicates that five hydrogeologic units can be identified at the site (Figure 3P-5). These are described below in descending order.

1. An upper, locally unconfined aquifer comprised of sand, silty sands, and clay.
2. A confining layer of interbedded clayey and organic sediments.
3. A confined aquifer (the primary water production zone) containing sands, gravels, and sandy clay.
4. Lower Ione Formation, generally of low permeability with occasional sands and gravels.
5. Underlying Jurassic-age metamorphic rock with limited productivity.

Comparison of the estimated surface elevation of the underlying metamorphic rock as established by Chapman and Bishop with the elevation of the metamorphic rock encountered in the north-south cross section (Figure 3P-5) shows the two representations to be generally consistent. Accordingly, the elevation contours of Chapman and Bishop have not been modified for this report.

In summary, site-specific testing has identified two water-bearing zones within the Ione Formation; the primary production is derived from a confined aquifer located at an approximate elevation of 100–200 feet msl. Limited water production has also been established from the lower metamorphic rock in W-3, W-2, and the Hunt well. Review of regional studies and site-specific data indicates that the sediments of the upper Ione Formation are relatively horizontal and expected to be laterally continuous with no apparent structural complexities, such as faulting or folding, in the immediate vicinity.

A map depicting the potentiometric surface for the area supporting the water supply wells (Figure 3P-4) has been developed on the basis of water level data obtained in June 2006 immediately prior to a multi-well aquifer test. All onsite pumping wells were shut down for approximately 1 month prior to the water level measurement. In all the wells, the water levels are well above the screened depths. W-3 has, at times, been artesian—meaning that water can flow from the well under unpumped conditions.

The potentiometric surface shown in Figure 3P-4 indicates that regional groundwater flow is away from Jackson Valley in a generally southward direction, suggesting that the recharge areas for the aquifer lie north of the site.

A shallow unconfined aquifer system occurs within the alluvium of Jackson Valley (north of the site) and within the upper Ione Formation sediments that is hydraulically separate from the underlying confined aquifer system. Water level measurements from wells ENGEO 7 and ENGEO 14 reflect water levels in the sediments that overlie the confined aquifer system.

While the two systems appear to be separated by a less permeable layer (aquitard) on the reservation, the potential interconnectivity of the upper and lower zones is not known beyond the boundaries of the study area.

Aquifer Extent

Because the sediments of the upper Ione Formation are generally reported to be relatively horizontal, lateral boundaries are likely to occur at the interface with the underlying metamorphic rock as indicated by the elevation contours shown in Figure 3P-3. The production interval of project wells occurs at an elevation of approximately 100–200 feet msl; accordingly, the next overlying contour interval (200–300 feet msl) is highlighted in Figure 3P-3 as the maximum lateral extent of the upper Ione Formation aquifer system. The primary potential boundary lies approximately 1–1.5 miles east of the reservation. A basement high approximately 1.5 miles west of the reservation may extend into the water production zones within the upper Ione Formation.

Geologic and geophysical mapping indicates the presence an apparent lateral aquifer boundary approximately 6,500 feet northeast of the northeast corner of the reservation. Although this boundary constitutes a terminus of the aquifer, the Theis curve suggests that this area receives recharge along the feature from precipitation and infiltration originating in the higher terrain east of the study area.

Impact Analysis

Approach and Methodology

This analysis of groundwater pumping impacts is based on a review of publicly available information and pump test data gathered by Hydroscience.

Regional Geology and Hydrogeology

An understanding of local and regional geologic and hydrologic conditions is necessary to assess the conditions that support groundwater pumping. The geologic information provides a basis for understanding subsurface conditions specific to the underlying aquifer system.

The project area has been well studied because of the mineral resources that occur in the region; these studies have been conducted and published by the State of California and USGS, among others. Most of the published studies are available at the State of California Geology Library in Sacramento, California.

Because most property owners outside the delivery area of the JVID and other area water districts may potentially have water supply wells, the Tribe initiated a survey of water well owners within a 2-mile radius of the proposed project in support of the Draft TEIR in spring 2006 (Appendix I). A total of 434 letters were sent to nearby property owners. Seventeen nearby well owners responded to the survey, and 12 provided detailed information; respondents' personal information has not been disclosed. Four owners allowed the California Department of Water Resources (DWR) to release boring logs of their wells to the Tribe.

Review of the survey data provided by these well owners indicates that the average well production is 38 gpm for wells averaging 195 feet in depth.

Area well locations and property boundaries are shown in Figure 3P-7. While the figure provides an attempt to characterize the number and extent of off-reservation water wells, well information is not publicly available; consequently, the locations in the figure are approximations and are intended for analytic purposes only. For purposes of the TEIR analysis, it is assumed that the wells of all off-reservation property owners who rely on groundwater wells would be similar to the wells addressed in the survey for both domestic and commercial uses.

A quantification of the area-wide groundwater demand has not been attempted due to the potentially wide variation in commercial use rates that likely occur. A single-family residence uses approximately 0.5 af of water per year (equivalent to a continuous pumping rate of 0.31 gpm). In contrast, approximately 3 af of water per acre is used for irrigated pasture or crops (18.6 gpm for 10 acres of irrigated land).

A windshield survey of surrounding properties was conducted on November 10, 2006, to assess the number and use of groundwater wells. Many wells were observed within a 2-mile radius of the proposed project. Uses ranged from single wells for single-family dwellings to agricultural wells with irrigation screens and fertigation equipment attached for use with drip and sprinkler irrigation on grape vines. A number of pasture irrigation systems and wells that supply landscape and stock ponds were also observed. While it was impossible to visually determine the well depths or screen intervals, it is apparent that local residents depend on the aquifer for water supply. The survey report is included in Appendix I.

New Water Production Wells and Well Testing

HydroScience installed, developed, and tested five water supply wells and one monitoring well in support of the proposed project. Table 3P-2 summarizes the well construction details. Four of these wells underwent constant discharge tests; subsequently, a multi-well aquifer test was conducted July 25–29, 2006, utilizing seven observation wells. Analyses for each of the tests are described below and detailed in Appendix I and Table 3P-3.

The objective of the constant discharge testing was to determine the flow capacity of each of the wells. A controlled constant discharge test was not conducted for W-5; however, the well was pumped for approximately 2 weeks, during which time the well appeared capable of sustained pumping rates of 25–40 gpm.

Because data from observation wells are necessary to assess aquifer storativity (an essential parameter for calculating the effect of well pumping over time), a controlled multi-well aquifer test was conducted following the installation, development, and initial constant discharge testing of each of the proposed water supply wells. The intent of the multi-well test was to provide aquifer test data in support of the off-reservation drawdown analysis summarized in Table 3P-4.

Prior to the multi-well aquifer test, all five production wells (W-1 through W-5) were shut down from June 26 to July 25, 2006, and water levels monitored to observe the water level recovery. Although the water levels did not stabilize to a constant value, the observed rate of increase was sufficiently constant to be accounted for in the test interpretation.

The pumping test was conducted from July 25 to 29, 2006, at an average discharge rate of 31.5 gpm. The discharge was conveyed to a surface water drainage along Coal Mine Road and directed away from the pumping and observation wells.

The drawdown and recovery data from the pumping test and the data analyses are presented in Appendix I and summarized in Tables 3P-3 and 3P-4. The Theis curve does not confirm the presence of a lateral boundary such as might

Table 3P-2. Buena Vista Rancheria Production and Monitoring Well Construction Details

Well	Install Date[1]	Elevation[2]	DTW (ft)[3]	WL (ft msl)[4]	Water Column[5]	Total Depth (ft)		Diameter (inches)		Screen 1		Screen 2		Screen 3		Screen 4	
						bore	casing	bore	casing	top	bottom	top	bottom	top	bottom	top	bottom
W-1	10/11/2005	318.64	51.75	266.89	148	220	210	16	8	120	200						
W-2	11/9/2005	320.31	52.50	267.81	148	500	490	16	6	160	200	235	255	300	330	370	485
W-3	12/16/2005	276.11	-0.43	276.54	160	465	460	16	8	80	160	190	260	420	450		
W-4	4/21/2006	337.26	71.95	265.31	133	300	215	14	6	145	205						
W-5	5/11/2006	352.40	83.99	268.41	181	340	275	14	6	50	90	205	265				
MW-1	3/29/2006	319.01	51.66	267.35	138	400	275	10.5	5	160	190						
				Average Water Column	151												

[1] Install Date based on date of geophysical testing for the production wells.

[2] Elevation is measured at top of well casing.

[3] DTW = depth to water.

[4] WL = water level (measure on 7/25/06).

[5] Water column depth measured from static water level to bottom of well screen in the confined aquifer system (Screen 1 in W-1 through W-4; Screen 2 in W-5).

Table 3P-3. Buena Vista Rancheria Constant Discharge Pumping Tests

Test	Test Rate (gpm)	Start of Pumping	DTW, Start	End of Pumping	DTW, End	Total DD (ft)	Recovery End Time	Recovery Test Duration	DTW, End of Recovery Test	% Recovery Measured
Single-Well Constant Discharge										
W-1 (25 hrs)	40	11/8/05 12:40 PM	47.50	11/9/05 1:40 PM	125.00	77.50	11/10/05 5:20 AM	15:40	51.75	95%
W-2 (24 hrs)	30	12/15/05 10:00 AM	58.00	12/16/05 10:00 AM	163.80	105.80	12/16/05 1:00 PM	3:00	103.85	57%
W-3 (77 hrs)	54	2/1/05 9:40 AM	5.63	2/3/05 2:30 PM	71.08	65.45	2/3/05 5:30 PM	3:00	41.04	46%
W-4 (27 hrs)	25	5/8/06 9:00 AM	67.65	5/9/06 12:00 PM	90.77	23.12	5/9/06 3:00 PM	3:00	73.53	75%
Multi-Well Aquifer										
W-1 (95 hrs)	31.5	7/25/06 4:00 PM	51.75	7/29/06 3:00 PM	120.52	68.77	8/14/2006			100%
W-2	Observation well		52.50	DL	68.13	15.63	8/14/2006			100%
W-3	Observation well		-0.43	DL	2.06	2.49	8/14/2006			100%
W-4	Observation well		71.92	DL	78.85	6.93	8/14/2006			100%
W-5	Observation well		83.99	DL	93.01	9.02	8/14/2006			100%
MW-01	Observation well		51.66	DL	82.99	31.33	8/14/2006			100%
EnGeo 7	Observation well		61.80	DL	61.96	0.16	8/14/2006			100%
EnGeo 14	Observation well		17.16		17.41	0.25	8/14/2006			100%

Notes:

Single-Well Tests

No formal test conducted for W-5. Multi-day pumping indicated sustainable flow rate of 25–40 gpm with a maximum drawdown of 189 ft. below top of casing.

Multi-Well Test

Hunt well shut down for test. No pumping of site wells for 29 days prior to test (June 26 to July 25).
Pump problems occurred from 4:00 to 5:05 PM; steady pumping initiated at 5:05 PM.
Pumping rate stepped down at 7:55 PM on 7/25/06 from approximately 40 gpm to approximately 31–32 gpm. Average pumping rate for test duration of 31.5 gpm.
Reported drawdowns have not been corrected for ongoing water level changes (a baseline increase of approximately 0.2 feet/day before and after testing).
All recoveries at 100% water level monitoring continued until August 14, 16 days after the test was completed.

DTW = Depth to water (measured from top of well casing)
DD = Drawdown
gpm = gallons per minute

Table 3P-4. Buena Vista Rancheria Constant Discharge Pumping Test Analyses

Well	Test	Rate (gpm)	r (ft)	Drawdown (T) (m^2/day)	Recovery (T) (m^2/day)	Drawdown (S)	Drawdown (ft^2/day)	Recovery (ft^2/day)
Single Well Tests								
W-1 (25 hrs)		40		13	8		140	86
W-2 (24 hrs)		30		3	3		32	32
W-3 (77 hrs)		54		5	14		54	151
W-4 (27 hrs)		25		14	17		151	183
	Average						94	113
Multi-Well Test								
W-1 (95 hrs)		31.5			15	not calc'd	not calc'd	158
W-2		Obs. well	101.0	14	15	1.50E-03	149	165
W-3		Obs. well	1,385.0	24	34	3.40E-04	256	365
W-4		Obs. well	902.2	18	24	1.60E-04	196	253
W-5		Obs. well	845.3	22	19	6.20E-05	236	209
MW-01		Obs. well	259.7	9	15	2.10E-05	95	156
	Average			17.3	20.2	4.17E-04	186	218

Notes: Refer to Appendix A for graphs depicting the test results.

characterize a bounded system, indicating that substantial recharge likely occurs along the aquifer boundary to the northeast.

Because of the limited data on current groundwater demand and subsequent recharge of the aquifer, the analysis of impacts on off-reservation users was confined to comparison of drawdown and recovery analysis of on-reservation wells. These comparisons are based on steady-state assumptions, which provide only a snapshot of local aquifer conditions based on relatively fixed data. Introduction of additional pumping over long periods of time will alter the transient flow regime such that the recharge and discharge relationships change over time (Freeze and Cherry 1979). Long-term verification monitoring will be necessary to assess the performance of the groundwater supply wells and the accompanying change in water levels that occur as a result of long-term groundwater extraction.

Thresholds of Significance

As defined in Exhibit A, *Off-Reservation Environmental Impact Analysis Checklist*, of the Compact, an impact would be considered significant if it would "Substantially deplete off-reservation groundwater supplies or interfere substantially with groundwater recharge such that there should be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)."

Groundwater use causes changes in water levels within the confined aquifer system, whether extraction occurs on or off the reservation. The proposed project would obtain water primarily from the confined aquifer system within the upper Ione Formation; it is anticipated that water use would cause static water levels to change in off-reservation water wells. Water levels may also change as a result of seasonal variability, long-term wet and dry cycles, and off-reservation pumping. Accordingly, significance determinations are based on the ability to continue use of off-reservation wells as intended. Therefore, any change in static groundwater level that would interfere with off-reservation well performance would constitute a significant impact.

To identify off-reservation impacts that could preclude existing uses of off-reservation wells, a standardized, representative well (i.e., a hypothetical well) outside the reservation was postulated on the basis of available survey and well log information. This representative well, designed to resemble the wells installed by the Tribe, is screened to a depth of 195 feet with a standing water column of 150 feet. To be conservative, it was assumed that if water levels in on-reservation wells were to drop below the screened interval, the water level in the representative well would also drop below the screened interval. In reality, however, it is not likely that the response in off-reservation wells would approximate the drop of water levels in on-reservation wells, because the cone of

depression created by the on-reservation wells would diminish with distance from the project.

Impacts and Mitigation Measures

The analysis of off-reservation groundwater impacts is based on the assumptions listed below.

- The projected water demands of the proposed project and alternatives would be met by groundwater drawn from three of the five subject wells.
- Changes in water levels are based solely on pump test data.
- The aquifer system is confined, as demonstrated by the Theis curve, and does not appear to be bounded by a null recharge zone.
- The aquifer system is assumed to be homogenous and isotropic.
- For purposes of comparative analysis, the determination of off-reservation impacts was conducted using pump test results from wells W-1, W-2, and W-3.

Drawdown testing of W-1 indicated a maximum sustainable yield of 40 gpm with a drawdown of the water level in the well to 194.6 feet msl (approximately 6 feet below the top of the screened interval of the well.

Drawdown testing of W-2 indicated a maximum sustainable yield of 25 gpm with a drawdown of the water level in the well to 208.3 feet msl (approximately 45 feet above the screened interval of the well).

Drawdown testing of W-3 indicated a maximum sustainable yield of 55 gpm with a drawdown of the water level in the well to 206.1 feet msl (approximately 8 feet above the screened interval of the well).

Proposed Project

Impact GW-1: Adverse effect on off-reservation wells resulting from 90 gpm extraction of groundwater (significant)
The calculated water demand of the proposed project would require a pumping rate of 90 gpm. The tested long-term sustainable yield for the three supply wells is indicated to be 120 gpm (40 gpm + 25 gpm + 55 gpm). Single well drawdown testing of well W-1 suggested that the meeting the water demand of the proposed project would result in significant impacts on off-reservation groundwater users. During peak demand periods, the entire pumping capacity (120 gpm) would be needed to serve the project. Therefore, there would be potentially significant impacts associated with relying on groundwater for the proposed project.

The multi-well aquifer test indicated that the drawdown and associated cone of depression would increase if wells were pumped at the maximum rate. The

extent of this increase remains uncertain because it is anticipated that additional recharge would enter the system through the contact zones to the northeast and at Jackson Creek in response to the additional pumping. The mitigation measures listed below would be implemented sequentially with severity of impacts to reduce these impacts to a less-than-significant level.

Mitigation Measure GW-1: Create a basin management group to monitor and identify impacts associated with groundwater extraction
The Tribe will create a basin management group that will be responsible for monitoring the basin and identifying any impacts associated with the operation of the project. The Tribe will install several monitoring wells at intervals from the project that will allow adequate assessment of the basin and any associated drawdown that may occur as part of the Proposed Project. Monitoring this well network will provide baseline data to ensure that use of the wells does not affect off-reservation users. The Tribe will be responsible for the costs of installing the monitoring network and data collection.

The basin management group will comprise local off-reservation well owners on a voluntary basis. The Tribe will be responsible for the costs associated with the group meeting on a regular biannual basis to assess monitoring data. The monitoring data will be sufficient to address concerns that pumping for the project is not resulting in significant impacts on off-reservation well users. The group will develop assessment criteria for determining the capability of the aquifer to sustain pumping in quantities to supply the proposed project.

Mitigation Measure GW-2: Reduce pumping to a sustainable level
If it is determined that use of the aquifer to supply water is not sustainable, then the Tribe will be required to reduce pumping to a sustainable level and seek a supplemental supply.

Mitigation Measure GW-3: Reduce pumping and secure supplementary water supplies
If the group determines that the aquifer cannot sustain the above levels of pumping, the Tribe will be required to further reduce pumping and seek supplementary water supplies.

Alternative 2, Phase I

Impact GW-2: Effects of 56 gmp water demand on off-reservation users (less than significant)
This alternative would require a combined pumping rate of 56 gpm. Results of both the constant discharge and multi-well tests indicate that the groundwater aquifer could fully support Phase I without any significant impact on off-reservation groundwater users. Water levels would remain well above the screened interval of the project wells and, consequently, of the representative

well. Additionally, the multi-well aquifer test indicated that pumping at a constant rate of 40 gpm from W-1 was sustainable over the long term without impacts on aquifer water levels. Although this impact would require no mitigation, monitoring as described in Impact GW-1 would be implemented.

Alternative 2 Phase II and Alternative 3

Impact GW-3: Effects of 76 gpm on off-reservation users (less than significant with mitigation)

Review of the drawdown in the constant discharge tests indicates that the use of groundwater as the sole source of water for Phase II would not result in a significant impact on off-reservation water users. Interpretation of the multi-well aquifer test is less conclusive. Pumping at a rate up 31–40 gpm is sustainable into the foreseeable future; however, at a rate of 76 gpm, the cone of depression might continue to expand. It is difficult to determine the rate at which this cone of depression may expand without additional knowledge of local recharge characteristics, other basin demands, and the response of the aquifer to the additional demand. Implementation of Mitigation Measures GW-1, GW-2, and GW-3 would reduce this impact to a less-than-significant level.

Chapter 3P Figures

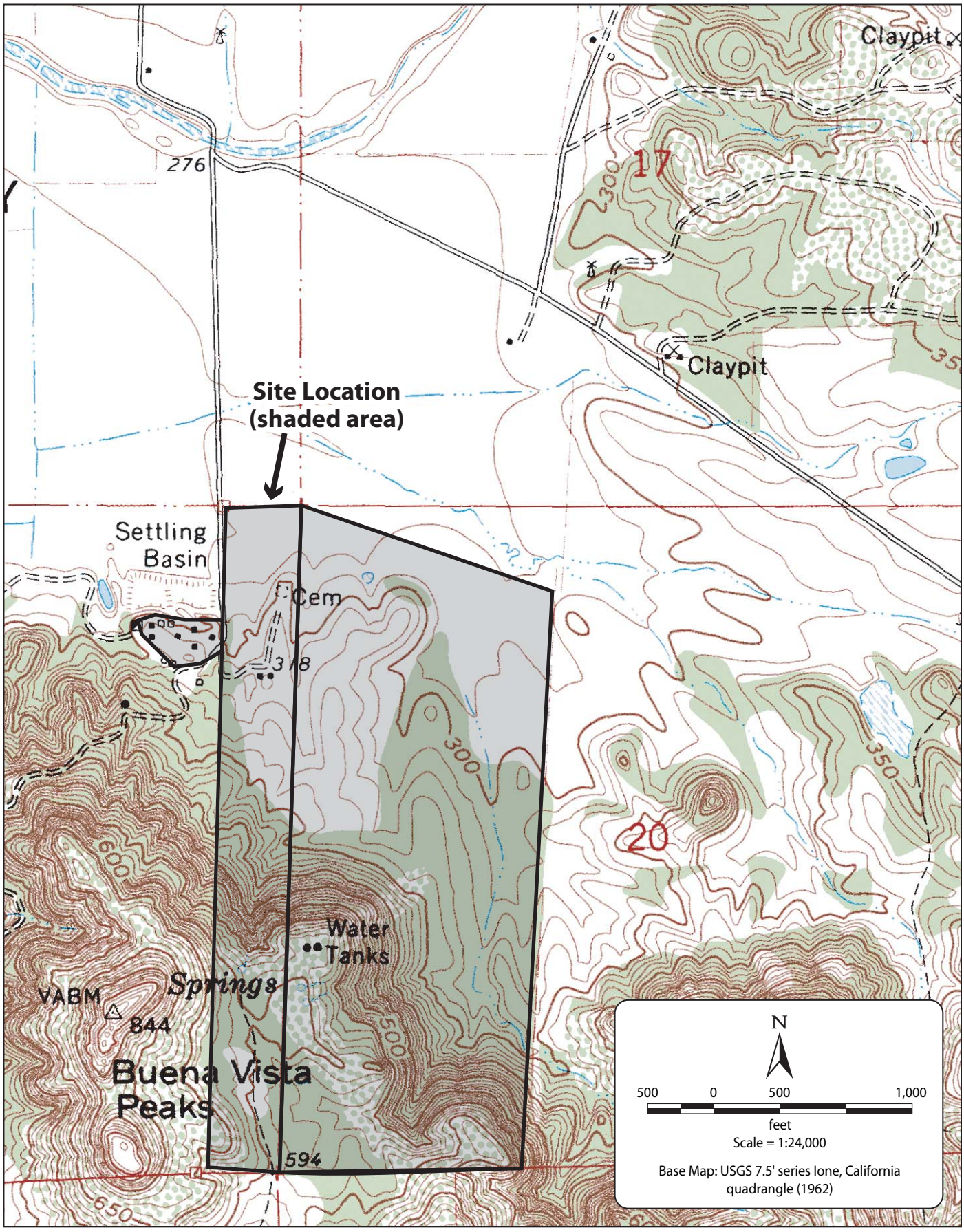
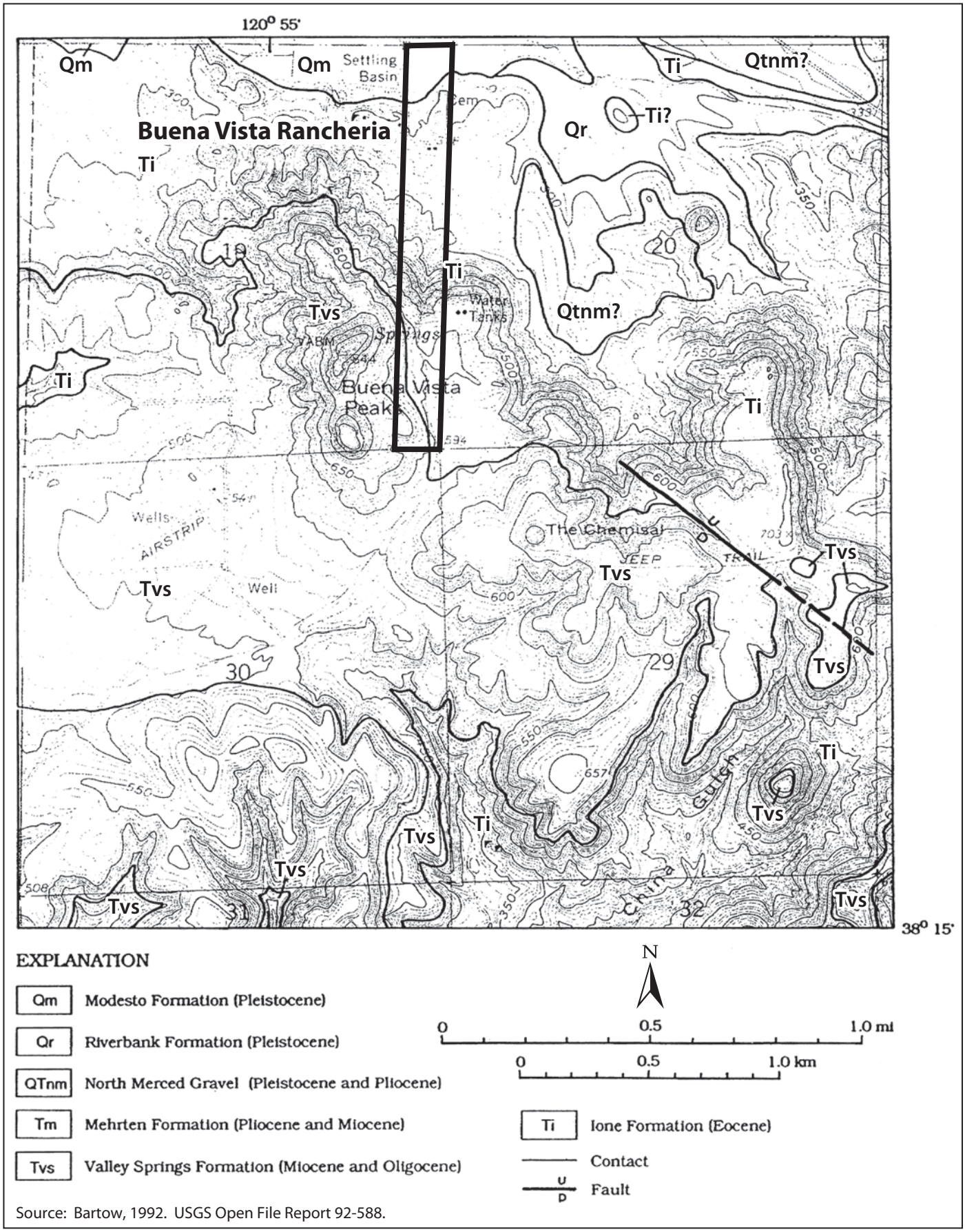


Figure 3P-1
Site Location Map



Source: Bartow, 1992. USGS Open File Report 92-588.

Figure 3P-2
Geologic Map

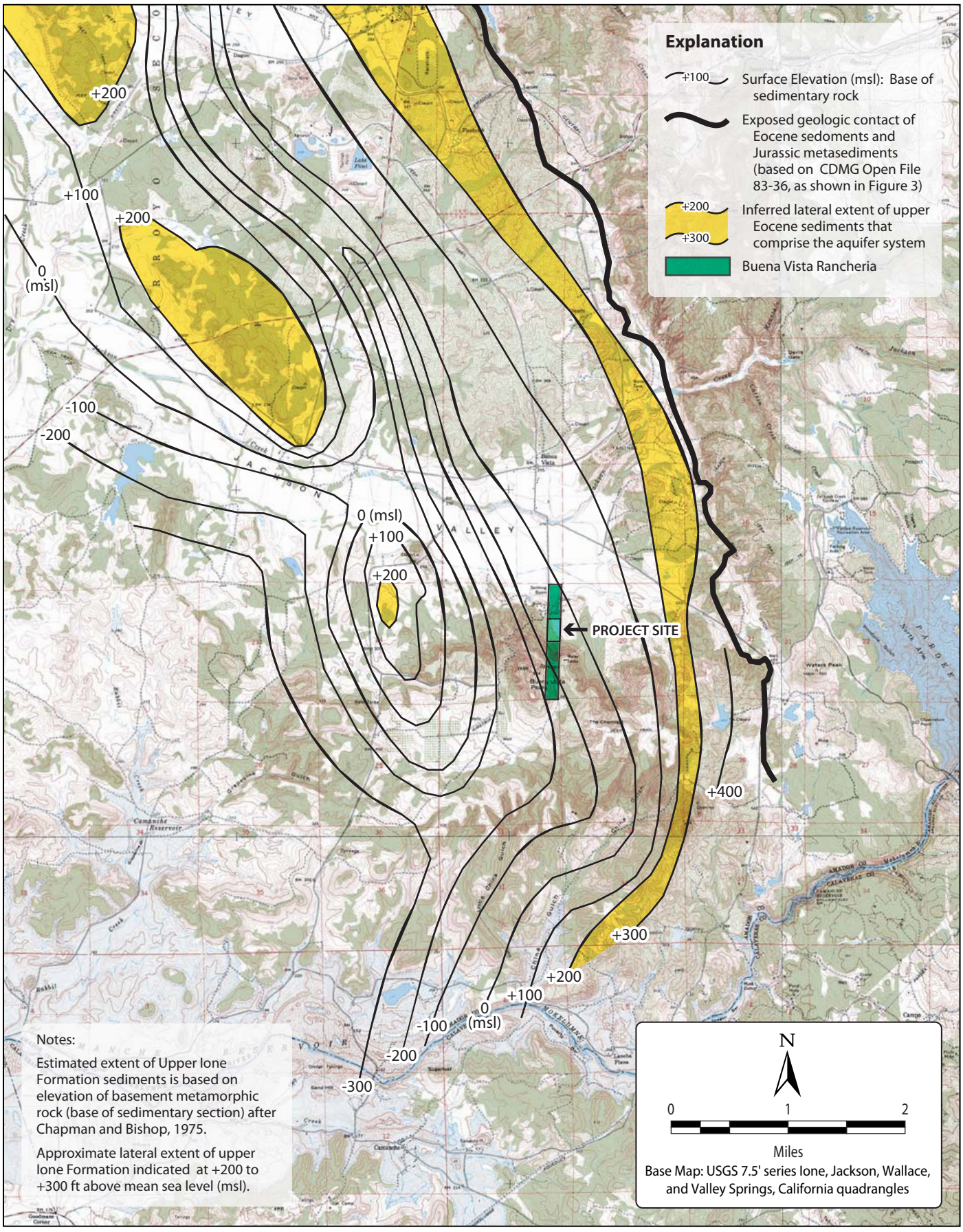


Figure 3P-3
Estimated Extent of Upper Ione Formation Sediments

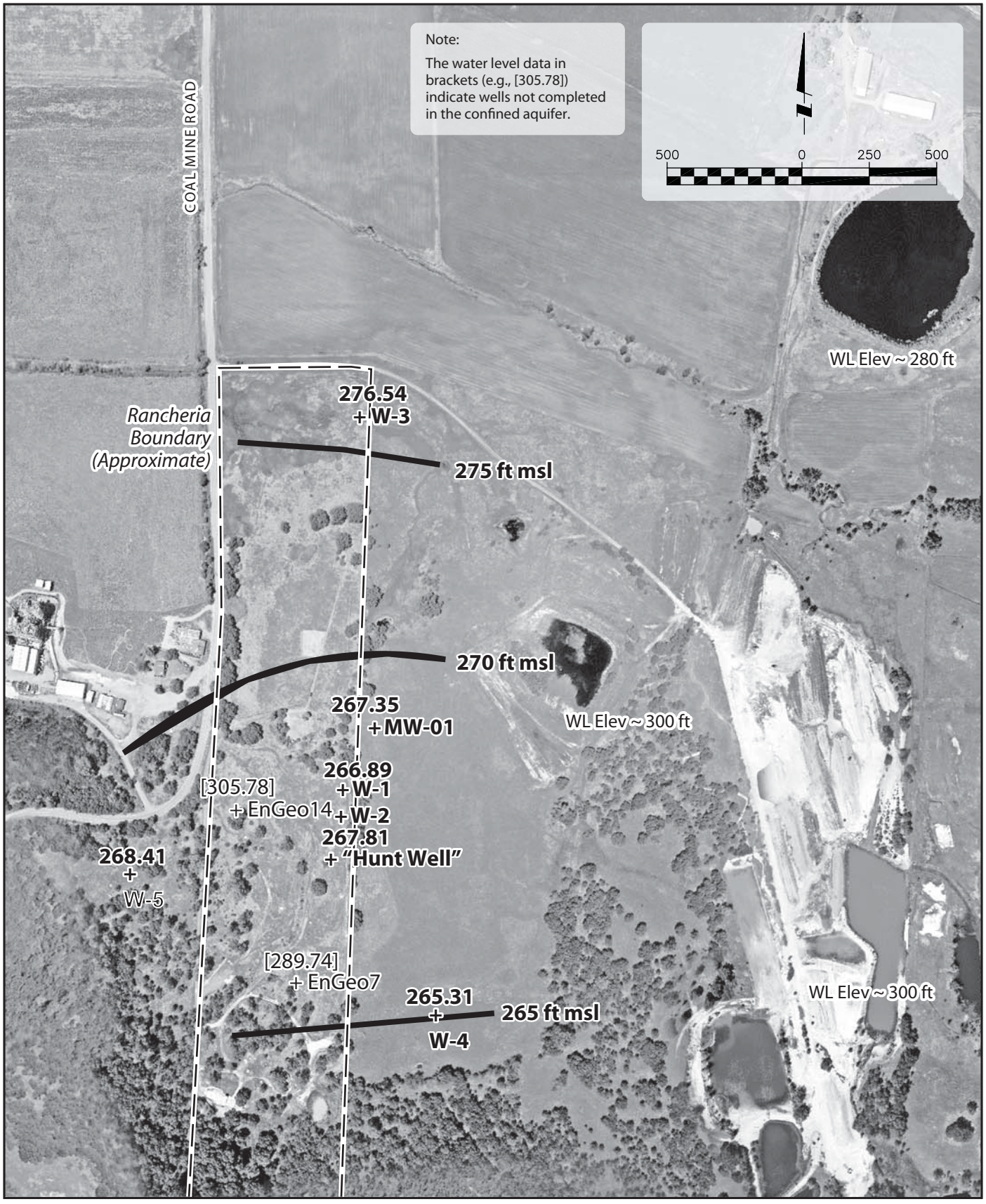
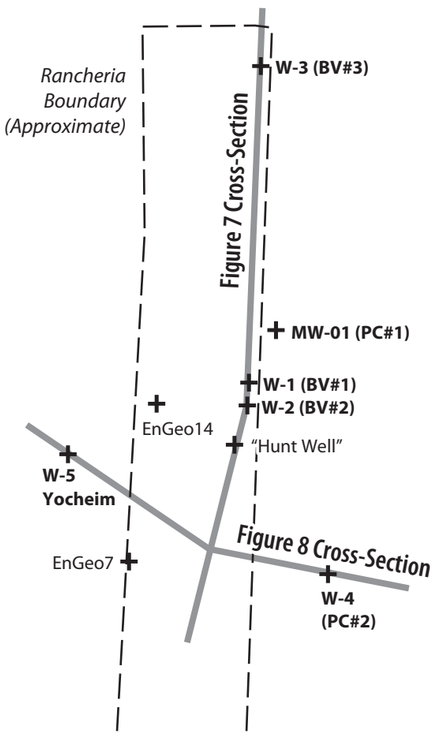
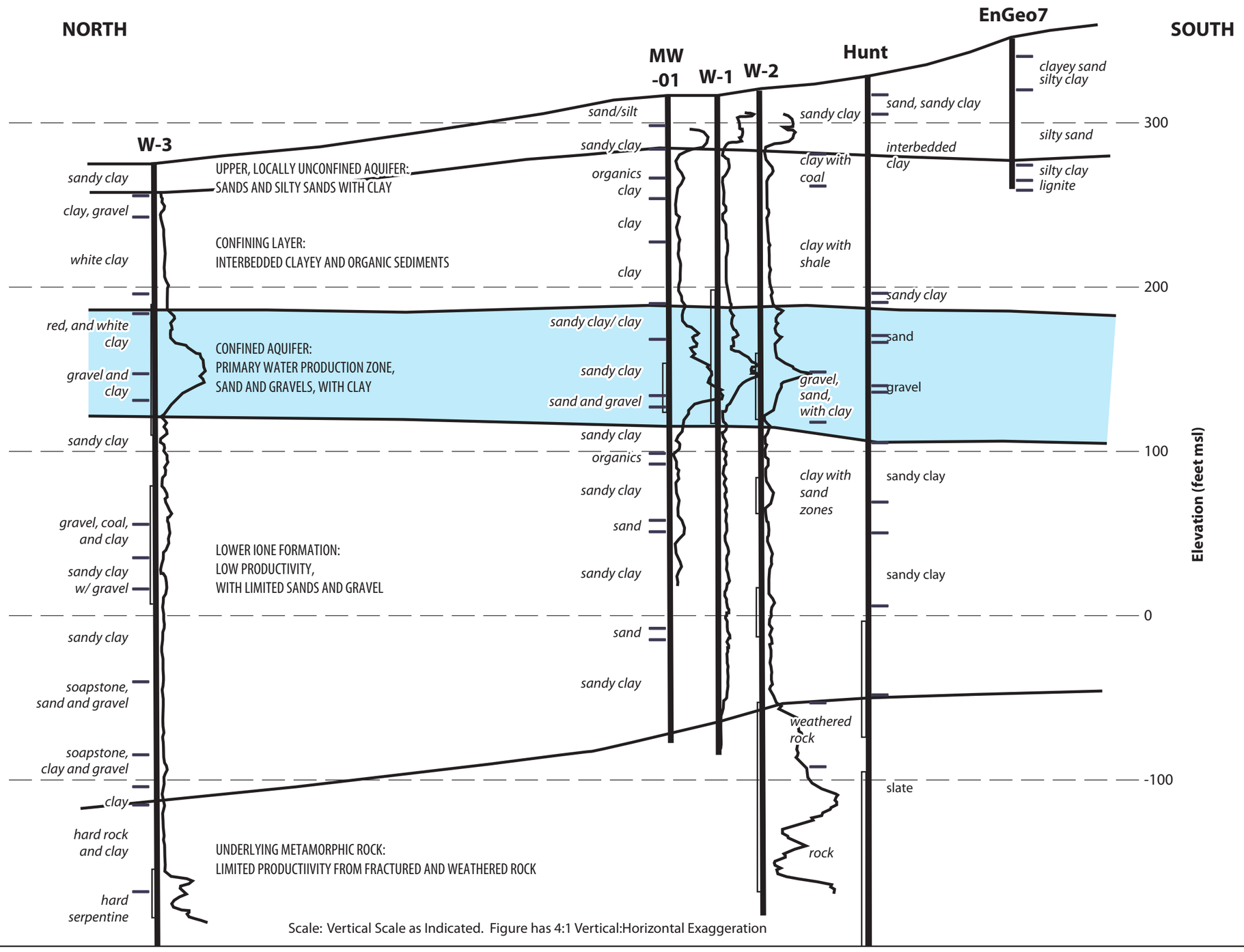


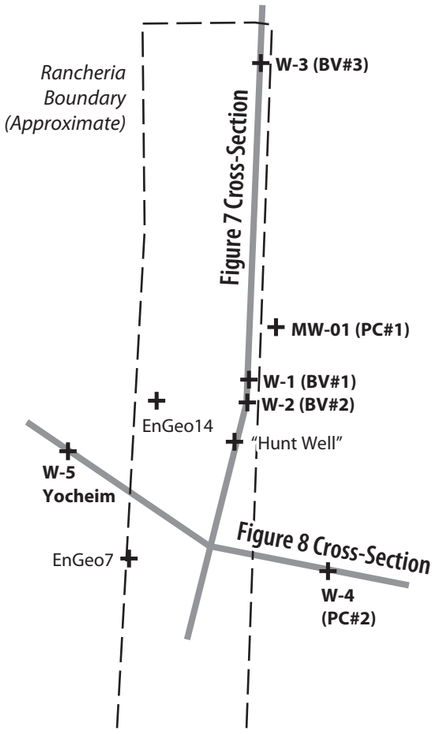
Figure 3P-4
Well Location Map and
Confined Aquifer Potentiometric Surface (7/25/06)

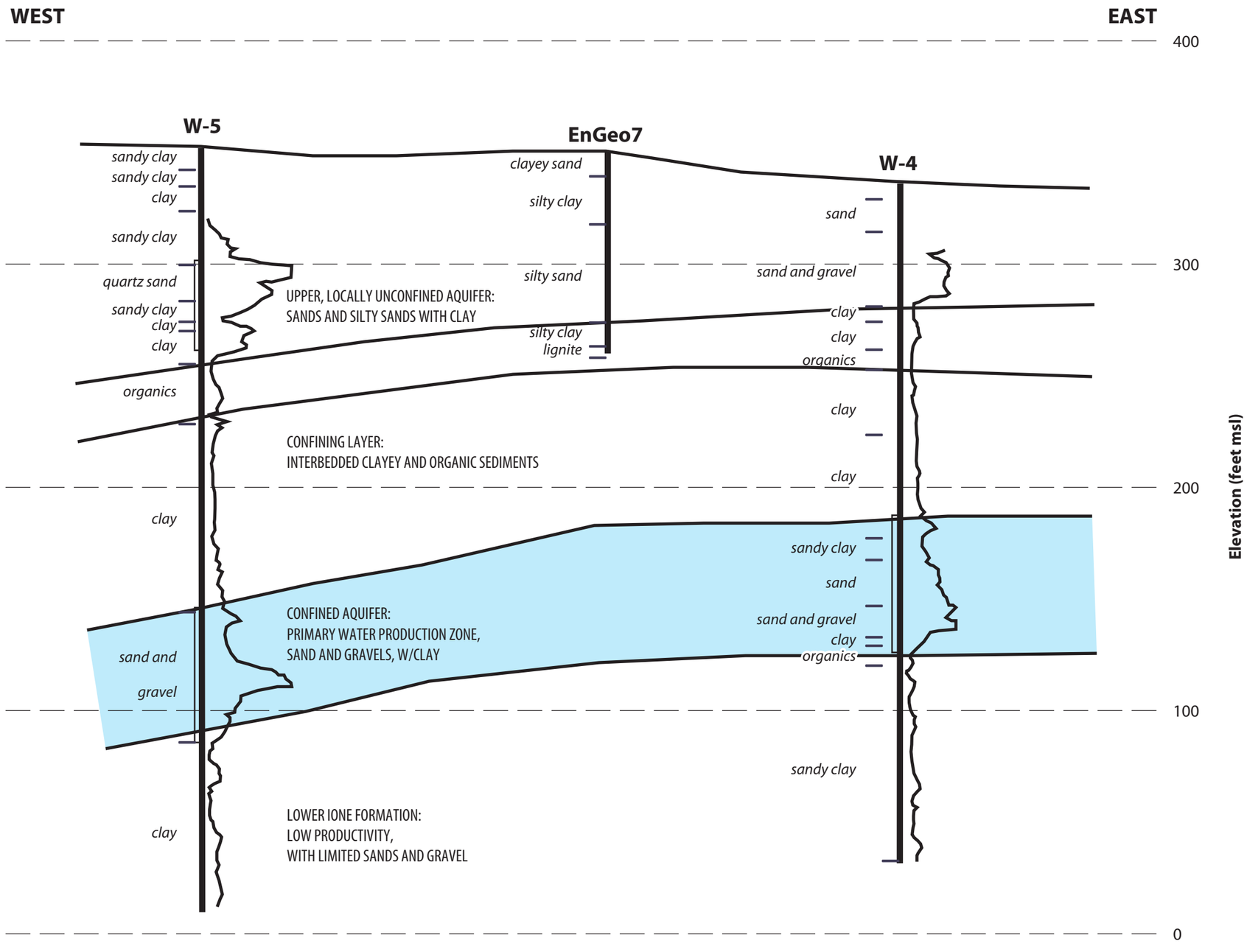




Scale: Vertical Scale as Indicated. Figure has 4:1 Vertical:Horizontal Exaggeration

Figure 7
North-South Cross-Section, Buena Vista Rancheria





Scale: Vertical Scale as Indicated. Figure has 4:1 Vertical:Horizontal Exaggeration

Figure 8
East–West Cross-Section, Buena Vista Rancheria

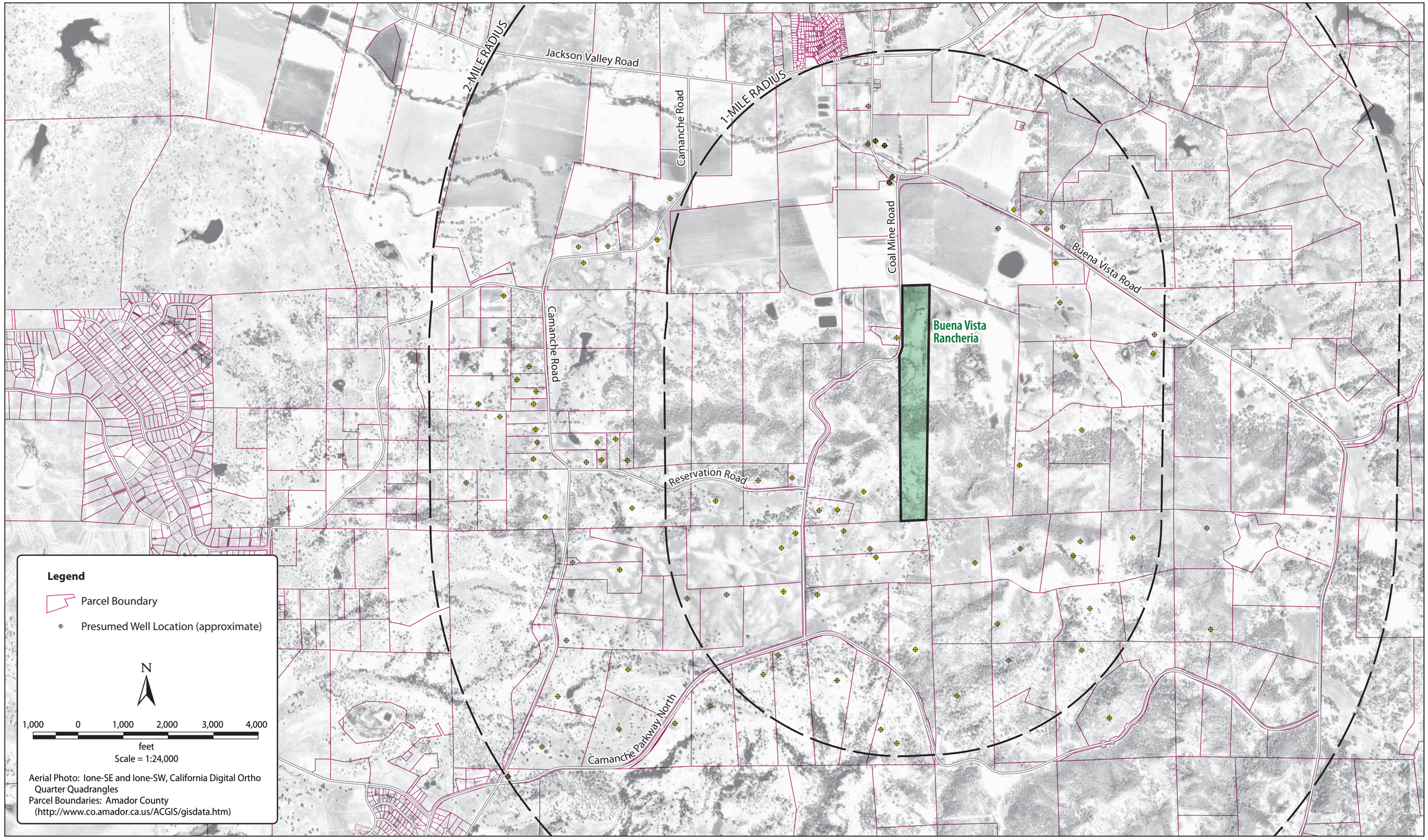


Figure 3P-7
Presumed Locations of Offsite Wells

Chapter 4

Other Environmental Considerations

This chapter discusses the following subjects, as required by the Compact.

- Cumulative impacts.
- Growth-inducing impacts.
- Significant and unavoidable impacts.
- Significant and irreversible environmental changes.
- Alternatives analysis summary.

Cumulative Impacts

Compact Guidance on Cumulative Impact Analysis

The Compact requires that the TEIR include an analysis of the potentially significant Off-Reservation cumulative effects of the Gaming and Entertainment Facility.

As defined in Exhibit A, *Off-Reservation Environmental Impact Analysis Checklist*, of the Compact, *cumulatively considerable* effects are the incremental effects of the project when viewed in connection with the effects of past, current, or probable future projects. Pursuant to the Compact, the Draft TEIR may incorporate by reference any previously approved land use documents, including but not limited to general plans, specific plans, and local coastal plans, to be used in cumulative impact analysis.

In addition, although CEQA does not apply to this Draft TEIR, some guidance can be derived from it. Although the environmental effects of an individual project may not be significant when that project is considered separately, CEQA considers that the combined effects of several projects may be significant when considered collectively. CEQA states, for example, that "cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time" (State CEQA Guidelines, Section 15355[b]). These guidelines can be loosely applied to this Draft TEIR.

Approach to Cumulative Impact Analysis

The cumulative impact analysis presented in this Draft TEIR addresses impacts resulting from the combination of the proposed project with other projects in the area that would cause related impacts. The cumulative analysis also assumes growth for the region that will add traffic to the roadway network.

Cumulative impact analysis in this TEIR is less detailed than the analysis of the proposed project's individual effects. There are two approaches to identifying cumulative projects and the associated impacts. The *list* approach identifies individual projects known to be occurring or proposed in the surrounding area in order to identify potential cumulative impacts. The *projection* approach uses a summary of projections in an adopted general plan or related planning document to identify potential cumulative impacts. Due to the complex nature of the proposed project, this Draft EIR uses both approaches to cumulative analysis.

Table 4-1. Cumulative Analysis Approach and Applicable Impact Zone by Resource Area

		Impact Zone	
Resource Topic	Cumulative Analysis Approach	Off-Reservation in Vicinity of Facility	Amador County
Aesthetics	List	X	
Agricultural Resources & Land Use	List	X	X
Air Quality	Projection		X
Biological Resources	List	X	
Cultural Resources	List	X	
Geology & Soils	List	X	
Hazards and Hazardous Materials	List	X	X
Mineral Resources	List	X	
Noise	Projection		X
Population & Housing	Projection		X
Public Services	Projection		X
Recreation	Projection		X
Traffic, Transportation, and Circulation	Projection		X
Utilities	Projection		
Water Resources	Projection		
Groundwater	Projection	X	

As of November 8, 2006, Amador County had eight tentative subdivision applications representing a total of 1,681 units on approximately 835 acres. The County also had 18 approved tentative subdivision applications representing a total of 569 units on approximately 1,708 acres. Analysis of cumulative effects

considered the cumulative developments and cumulative projected buildout in Amador County described below by area.

Buckhorn Area

- **Fairway Vista II (formerly Cambra Pines).** This project consists of a tentative subdivision application for a 69-unit mixed-use residential project on 30.57 acres.
- **The Sixteenth Fairway.** The tentative subdivision application for this project consists of a 5-unit residential project on 5.87 acres.
- **Silver Pointe.** This approved project consists of 46 residential units on approximately 233 acres.
- **The Pines at Mace Meadows.** This project consists of a 13-unit residential subdivision on 4.09 acres.

Ione Area

- **Lone Oak Estates.** This pending project consists of a 45-unit residential subdivision on 12.11 acres.
- **Vintage Estates.** This approved 9-unit residential subdivision is located on 371 acres.

Jackson Area

- **Clinton Oaks.** This pending project would subdivide 20.6 acres into four residential parcels.

Kirkwood Area

- **Timber Creek Village Unit 1.** This approved project consists of the subdivision of approximately 153 acres into seven parcels.
- **Revised Thunder Mountain Lodge.** This approved project consists of 67 condominiums on 2.22 acres.
- **Sentinels West.** This approved project consists of 18 townhouses on 1.92 acres.
- **Palisades Unit 6.** This approved project is a 21-unit residential subdivision on 8.1 acres.

Martell Area

- **Wicklow Subdivision.** This pending project consists of mixed-use/single-family residential, multi-family residential, and commercial uses on 201 acres. The project consists of approximately 750 residential units with 26 acres of commercial uses.
- **Golden Vale Subdivision.** The pending application for the Golden Vale Subdivision consists of 607 mixed-use/single-family and multi-family residential and commercial units on 383 acres.
- **Sierra West Business Park.** This approved project consists of the subdivision of approximately 70 acres into 17 units for commercial uses.
- **Martell Business Park.** This approved project consists of the subdivision of approximately 374 acres into 56 units for commercial uses.
- **Sierra West Business Park (Re-subdivision of Phase 2).** This approved project consists of commercial and industrial uses on 13 acres subdivided into 18 units.

Pine Grove Area

- **Mokelumne Bluffs.** This pending project consists of an application for 95 residential units on 137.86 acres.
- **Pine Acres North.** This pending project consists of 106 mixed-use/single and multi-family residential units on 44.2 acres.
- **Petersen Ranch.** This approved project consists of the subdivision of 141.22 acres into 58 units for residential uses.
- **Revised Pine Grove Bluffs.** This approved project consists of the subdivision of 32 acres into 28 units for residential uses.

Pioneer Area

- **Fairway Pines PD.** This approved project consists of the subdivision of 23.87 acres into 109 units for residential, recreation, and commercial uses.
- **Quail Ridge.** This approved project consists of the subdivision of approximately 82 acres into 81 residential units.
- **Red Tail Ridge.** This approved project consists of the subdivision of 31.05 acres into 5 units for residential uses.
- **Black Oak Ridge.** This approved project consists of seven residential units on approximately 40 acres.

Sutter Creek Area

- **Sherrill Subdivision.** This approved project consists of four residential units on approximately 97 acres.

- **Aparicio Subdivision.** This approved project consists of five residential units on 31.03 acres.

Cumulative Effects

Cumulative impacts for most issue areas are not quantifiable, and are accordingly discussed in general terms as they pertain to development patterns in the surrounding region. Exceptions to this are traffic, noise, and air quality (the latter two of which are associated with traffic volumes), which may be quantified by estimating future traffic patterns, pollutant emitters, and traffic noise and determining the combined effects that may result.

Aesthetics

Of the projected developments listed in the previous section, all but two are within communities that are along eligible State Scenic Highways. These projects represent more than 3,000 acres of new development contributing to the overall sense of encroachment of development in those areas. For scenic drivers, these eligible areas are SR 49 and SR 88, leading to the segment of SR 88 in the northeast portion of Amador County that is an officially designated State Scenic Highway. Because of the overall rural nature of Amador County, developments that do not immediately encroach upon that scenic drive are likely to encroach upon the scenic open pasturelands or hillsides in more remote areas. The two projected developments outside those areas would occupy 383.11 acres in the vicinity of Ione, which is within approximately 5 miles of the proposed project. Because the proposed project would significantly change the character and quality of the area, the combined impact with these subdivision projects would be cumulatively considerable. Because there is no feasible mitigation available to reduce this impact, it is considered significant and unavoidable.

Agricultural Resources and Land Use

The proposed project would not contribute to cumulative land use conflicts in the county. The state FMMP indicates that approximately 4 acres of agricultural land in the county have been shifted to Urban and Built-Up Land between 2000 and 2002 (California Department of Conservation 2002). This is not a significant trend of agricultural land conversion within the county; consequently, the project would not contribute to a cumulatively considerable impact related to agricultural uses. This impact is less than significant.

Air Quality

The proposed project would contribute to short- and long-term air quality impacts. Short-term impacts comprise construction-related emissions. Long-term impacts comprise vehicle trips and on-reservation sources such as space heating and landscape maintenance equipment.

Project emissions would occur primarily within the Mountain Counties Air Basin. However, emissions from vehicle trips would also occur within the San Joaquin Valley and Lower Sacramento Valley Air Basins. All three air basins currently fail to meet the state and/or federal ambient air quality standards for one or more pollutants. Therefore, the additional emissions contributed by this project would result in cumulatively considerable air quality impacts. Because there is no feasible mitigation available to reduce cumulative impacts, this impact is considered significant and unavoidable.

Biological Resources

For purposes of this analysis, impacts of the proposed project entail off-reservation roadway improvements that would convert a relatively small amount of sensitive habitat potentially occupied by special-status species located along the affected roadways. Potential impacts on special-status plants, special-status wildlife, and sensitive habitats were identified; although there is the potential for significant impacts, the proposed mitigation measures would reduce those impacts to a less-than-significant level. However, the take of federally listed species, such as listed vernal pool crustaceans and California tiger salamander, are considered cumulative impacts potentially affecting the survival of these species. As part of the Section 7 consultation process, the cumulative impacts related to take of these species will be reduced through the purchase of mitigation credits and, if possible, onsite mitigation or restoration. Because the proposed project would not contribute substantially to a cumulatively considerable biological resources impact, this impact is less than significant.

Cultural Resources

Development in the project area has not been anticipated in the County General Plan. Because only reasonably foreseeable projects need be evaluated in a cumulative analysis, cumulative impacts on cultural resources are not considerable. This impact is less than significant.

Geology, Soils, and Seismicity

Development of the site would temporarily increase the number of people and structures that would be exposed to geologic and seismic hazards, and would result in temporary and permanent topographic changes that could affect drainage

patterns and erosion rates. However, potentially adverse environmental effects associated with seismic and geologic hazards are usually site specific and would not be expected to combine with similar effects that could occur with other projects in Amador County. Additionally, the proposed project would be constructed in accordance with CBSC standards and the site-specific geotechnical recommendations provided by ENGEO (2005). Consequently, cumulative geologic, seismic, and soil-related impacts resulting from implementation of the proposed project would not be cumulatively considerable; this impact is less than significant.

Hazards and Hazardous Materials

The proposed project would contribute to a minor local increase in hazards. Impacts HAZ-1 through HAZ-4 have identified these project-specific impacts; however, mitigation has been added to reduce these impacts. Because the proposed project's cumulative contribution to increased hazards in the county would not be considerable, it is less than significant.

Mineral Resources

The proposed project would not result in any project-specific impacts on mineral resources and would not contribute to an increase in impacts on important mineral resources in the project area. Therefore, the project's contribution to cumulative impacts related to mineral resources is not considerable; this impact is less than significant.

Noise

Noise from construction activity, mechanical equipment, and onsite vehicle movements (Impacts N-1, N-3, and N-4) will be highly localized and will therefore not contribute to cumulative noise effects from other projects in the area. Noise from traffic accessing the project site (Impact N-2), however, is predicted to contribute to cumulative traffic noise conditions that exceed Amador County noise standards (i.e., the project will contribute to significant cumulative noise impacts.) The project is predicted to cause increases in noise of up to 12 dB; therefore, the project's contribution to cumulative traffic noise impacts is considered cumulatively considerable. Because feasible mitigation is not available to reduce this impact, the impact is considered significant and unavoidable.

Population and Housing

The proposed project would contribute to an increase in population and demand for housing throughout the county. Impact POP-1 has identified this project-

specific impact. No mitigation has been identified to reduce this impact. The project therefore contributes to cumulative growth-inducing impacts in Amador County and is cumulatively considerable. Because feasible mitigation is not available to reduce this impact, it is considered significant and unavoidable.

Public Services

The proposed project would contribute to an increase in public services needs throughout the county. Because significant impacts have been identified, recommended mitigation has been identified to reduce these impacts to a less-than-significant level. The proposed project's cumulative contribution to increased demand on public services in the county may also be significant; however, the proposed mitigation measures are expected to reduce the project's contribution to cumulative impacts on public services to a less-than-considerable level. Potential impacts created through population growth stimulated by the proposed project would be mitigated through the collection of property tax, special taxes or assessments, and/or development impact fees collected at the resident level rather than the employer level.

Additionally, Impacts PS-1b and 4b (physical changes caused by Mitigation Measures PS-1 and PS 4, which entail construction of new fire and law enforcement facilities, respectively) may reflect a physical change to the environment through the construction of new or expansion of existing facilities. Because the physical changes are not specified, the extent and nature of the potential impacts are not known. Accordingly, the project's contribution to cumulative impacts associated with the potential construction of such facilities is unknown.

Recreation

The proposed project may contribute to increased use of recreational facilities throughout the county. Because significant impacts have been identified, recommended mitigation has been identified to reduce these impacts to a less-than-significant level. The proposed project's indirect cumulative contribution to increased demand on recreation facilities in the county may also be significant; however, the proposed mitigation measure is expected to reduce the project's contribution to cumulative impacts on recreational facilities to a less-than-cumulatively considerable level. Potential impacts created through population growth stimulated by the proposed project would be mitigated through the collection of property tax, special taxes or assessments, and/or development impact fees collected at the resident rather than the employer level. Therefore, cumulative impacts on recreation are considered less than significant.

Traffic, Transportation, and Circulation

Chapter 3M, *Traffic, Transportation, and Circulation*, identifies all cumulative traffic impacts as less than significant or less than significant with mitigation. Please refer to Chapter 3M for a more detailed discussion of cumulative impacts associated with traffic, transportation, and circulation.

Utilities and Service Systems

The proposed project would contribute to an increase in demand for solid waste capacity and has the potential to interfere with existing utility infrastructure throughout the county. Impacts UTL-1 and UTL-2 have identified these project-specific impacts; however, they were deemed less than significant. Overall, the proposed project's contribution to impacts on utilities in the county would not be cumulatively considerable and are therefore considered less than significant.

Water Resources

The proposed project would contribute to water quality and hydrology impacts throughout the county. The Mokelumne River is 303(d) impaired for zinc and copper due to resource extraction, and the proposed project has the potential to contribute to the degradation of water quality in the river during construction and operation. Additionally, potential to affect groundwater quality in the localized basin could occur if shallow groundwater is encountered. Impacts HYD-1 through HYD-7 address this issue. However, adherence to state and federal regulations and implementation of Mitigation Measures HYD-1 through HYD-5 would reduce these cumulative impacts to less-than-significant levels. Therefore, the project's contribution to water resources impacts is not considered cumulatively considerable and is less than significant.

Groundwater

The proposed project would cause a significant impact on local off-reservation groundwater users because of the drawdown caused by the proposed project's pumping rates (Impact GW-1). This drawdown and the associated cone of depression coupled with other local users' groundwater pumping could result in significant cumulative effects on the aquifer and, consequently, to off-reservation users. However, implementation of monitoring requirements, pumping rate adjustments, and subsequent supplementary water sources as described in Mitigation Measures GW-1, GW-2, and GW-3 would minimize these impacts to a less-than-significant level. Therefore, cumulative impacts would not be considered cumulatively considerable; this impact is less than significant.

Growth-Inducing Impacts

The Compact requires this Draft TEIR to discuss any growth-inducing impacts of the project. Growth can be induced in several ways, including eliminating obstacles to growth or stimulating economic activity within the region. A project is considered to be either directly or indirectly growth-inducing if it causes any of the conditions listed below.

- Fosters economic or population growth or additional housing.
- Removes obstacles to growth (e.g., through development of physical infrastructure, roadways, and utilities).
- Taxes community services or facilities to such an extent that new services or facilities would be necessary.

The growth inducement discussion examines whether the proposed project would induce additional growth in the off-reservation environment.

Impact GI-1: Induce indirect or direct growth (significant and unavoidable) The proposed project entails the creation of a recreational gaming facility on Tribal land in Amador County. The projected worker requirements of the facility are projected at 1,000–1,975 employees. The average household size is 2.41 individuals in both incorporated and unincorporated Amador County (U.S. Census Bureau; Census 2000 Summary file Amador County, DP1 Profile of General Demographic Characteristics). Assuming that one worker would come from one household, the housing demand associated with the facility's work force could range from 1,000 to 1,975 units. The Amador County Administrative Agency has stated that Amador County has a current unemployment rate of 4.7% in a population of about 37,000, or approximately 900 unemployed in a labor force of about 17,100 workers (State of California 2004). If 25% (225 workers) of the unemployed population were to obtain employment at the proposed gaming facility, roughly 770–1,700 facility workers would either seek housing within the county or commute from outside the county. Approximately 682–1,347 employees would earn low to very low incomes (Trzcinski pers. comm. [email to Barry Scott 10-19-06]) as characterized in the Housing Element and would likely seek housing within Amador County, based on the assumptions described in the methodology discussion in Chapter 3, *Population and Housing*. Accordingly, for the purposes of this analysis, 682 is considered the minimum number of employees who would not earn enough to have the incentive to commute more than 25 miles to work at the proposed facility.

More than 2,100 dwelling units in the incorporated and unincorporated parts of the county were vacant; however, the vacancy rate does not provide data regarding distribution among income groups. The General Plan Housing Element projects a need for 568 additional units by 2008 for moderate, lower, and very low income groups. Although the current vacancy rate would appear to accommodate housing needs engendered by employees of the proposed gaming facility moving to the area, the lack of income data in concert with the additional housing demand generated by project employees (i.e., demand above the level

projected during preparation of the Housing Element and RHNA) could substantially reduce the high vacancy rate in the county. The current countywide vacancy rate of 18.69% could decrease to 3.8–11.2% with the project, depending on the total number of employees as well as on the number of those employees who move into the county. A vacancy rate of 5% or less is considered an indicator of a tight housing market and could increase growth-inducing pressures.

Because the proposed project is within commuting distance of Stockton and Lodi (approximately 30 and 25 miles, respectively), many workers may choose to live in those communities, where approximately 4,709 housing units (4.01% combined vacancy rate) are readily available; this number is sufficient to accommodate employees who move to the region to work in the facility (California Department of Finance 2006). The estimated vacancy rate with the project would be approximately 3.3% for both cities collectively; this estimate assumes that only those employees at income levels commensurate with a second tier commute radius (i.e., moderate to above moderate) would reside in Stockton or Lodi. Nevertheless, an undetermined number of employees may move to Amador County because it is the closest alternative and the shortest commute; this influx is likely to reduce vacancy rates and increase demand for housing within the county. The proposed project does not entail the creation of any housing; however, it would induce population growth in the general area. Although the precise level of growth cannot be estimated, it would exceed the need projected by the housing element; accordingly, this impact is considered a significant indirect impact.

On-reservation housing is not feasible due to the limited developable area on the reservation. Because there is no feasible mitigation that would reduce this impact to a less-than-significant level, this impact is considered significant and unavoidable.

Impact GI-2: Removal of a potential obstacle to growth (no impact)
The proposed project does not include the extension of public services such as sewer, water, or drainage facilities to a previously unserved location. Although the proposed project does not include roadway improvements, road improvements have been identified as mitigation for traffic impacts resulting from the proposed project. Road improvements, if implemented, would improve road capacity in selected areas but would not remove obstacles to growth because no new roads are recommended. Consequently, no impact is anticipated.

Impact GI-3: Tax community services or facilities to an extent that new services or facilities would be necessary (less than significant with mitigation)
Development of the proposed project would require the increase of various public services such as fire and police protection. Required improvements to these services are described in Section 3K, *Public Services*, and would be limited to an extension of the capacity necessary to accommodate the proposed project. This impact is considered to be significant. Implementation of Mitigation Measures PS-1, PS-2, PS-3, PS-4, and PS-5 would reduce this impact to a less-than-significant level.

Significant and Unavoidable Impacts

A significant and unavoidable impact is one that would cause a substantial adverse effect on the environment and for which no mitigation is available or feasible to reduce the impact to a less-than-significant level. The significant and unavoidable impacts of the proposed project are listed below.

Impact AES-3: Adverse effect on a scenic vista associated with introduction of the gaming and entertainment facility into the local viewshed (significant and unavoidable)
Presence of the gaming facility would permanently change views of the project area by permanently altering the overall visual character of the predominantly rural project vicinity. The gaming facility would introduce a large-scale structure into an area that is presently richly vegetated and primarily scenic (Figures 3A-13 through 3A-16). Although the existing project vicinity includes large visible cogeneration plant structures immediately west of the project site, these structures are visually consistent with the agricultural character of the landscape, and the material and coloring of these structures do not stand out from their surroundings. The abandoned quarry east of the site is essentially hidden by existing vegetation. In contrast, the scale and general appearance of the gaming facility would introduce a considerable impact to the overall rural quality of the area.

Recreationists. Gaming facility impacts on recreationists would be significant. Although recreationists would have moderately low sensitivity to views of the project site, and those views would be brief middleground views, the predominantly scenic rural countryside would be adversely affected by the gaming facility's horizontal and vertical scale and general appearance sharply contrasting with the Buena Vista Peaks, especially for recreationists who visit the area for its scenic beauty.

Roadway Users. Gaming facility impacts on roadway users would be significant because, while they are moderately sensitive to changing views, the middleground views of the predominantly scenic rural countryside would be adversely affected by the gaming facility's horizontal and vertical scale and general appearance sharply contrasting with the Buena Vista Peaks.

Nearby Residents. Gaming facility impacts on nearby residents would be significant because they have moderately high sensitivity to the permanent and sometimes direct middleground views of the site and because of the existing, generally rural, scenic nature of the project area.

Implementation of Mitigation Measures AES-1 and AES-2 would reduce the severity of these impacts, but would not reduce them to a less-than-significant level.

Impact AES-7: Creation of a new source of substantial light or glare that would adversely affect day or nighttime views of historic buildings or views

in the area associated with operation of the gaming and entertainment facility (significant and unavoidable)

The parking structure would include a substantial amount of lighting that would appear as horizontal bands and contrast sharply with the natural surroundings and the Peaks as the sun begins to set and the lights are turned on. At night, the parking garage and horizontal bands of lighting would appear as a highly urbanized structure standing out noticeably in an area where there is little intrusion of nighttime lighting. In addition, entry drive lighting leading to the gaming facility, as well as walkway, landscaping, or signage lighting, would be directly visible to some residents and passing roadway users and would create an overall increase in ambient lighting in the area.

Although the project vicinity includes a large, visible cogeneration plant structure immediately west of the project site, the plant is currently not in operation and only a limited amount of lighting is located on the structures.

The proposed gaming facility would generate additional traffic and the associated light and glare from vehicle headlights. The primary roadway that area drivers such as recreationists would share with the proposed gaming facility would be on Buena Vista Road between Jackson Valley Road and Coal Mine Road. The projected average daily number of vehicles (with their associated headlights) traveling that road by 2025 without the project would be 2,100 on a weekday and 1,300 on a weekend. With the project, the traffic is estimated at 6,950 on a weekday and 8,600 on a weekend. This constitutes more than a threefold and a sixfold increase in traffic, respectively. Considering the rural and scenic nature of the affected roadways, this would be a significant increase in light and glare from vehicle headlights.

Recreationists. Gaming facility impacts on recreationists would be significant. Although recreationists would have moderately low sensitivity to views of the project site, and those views would be brief middleground views, the predominantly scenic rural countryside would be adversely affected by the daytime glare and nighttime lighting of the gaming facility sharply contrasting with the rural countryside, especially for recreationists who visit the area for its scenic beauty. In addition, glare from daytime traffic and light from nighttime vehicle headlights would significantly affect recreationists.

Roadway Users. Gaming facility impacts on roadway users would be significant because, although these viewers are moderately sensitive to changing views, their middleground views of the predominantly scenic rural countryside would be adversely affected by the gaming facility's nighttime lighting sharply contrasting with the rural atmosphere and scenery, as well as by the glare from daytime traffic and light from nighttime vehicle headlights.

Nearby Residents. Gaming facility impacts on nearby residents would be significant because these viewers have moderately high sensitivity to the permanent and in some cases direct middleground views of the daytime glare and nighttime lighting at the gaming facility; because of the existing, generally rural, scenic character of the project area; and because of the glare from daytime traffic and light from nighttime vehicle headlights.

Implementation of Mitigation Measures AES-1 (above), AES-5, and AES-6 would reduce the severity of this impact but would not reduce it to a less-than-significant level.

Impact LUA-1: Land use conflicts with surrounding land uses (significant) Development of the proposed project adjacent to two mining/industrial operations (Pacific Coast Building Products to the east and the inactive cogeneration facility to the west) creates the potential for land use conflicts between the gaming and entertainment facility (and its patrons) and the adjacent uses. Lands to the east include active aggregate pits, clay pits, processing ponds, haul roads, and stockpiles. It is the Tribe's understanding that the coal mining operations on the parcel to the west are considered inactive by the State Office of Mined Lands. The site has been reclaimed pursuant to the Surface Mining and Reclamation Act (SMARA). Therefore, there is no conflict with the inactive mining/industrial uses east of the project area. However, reactivation of the cogeneration facility would generate truck traffic on the same roads that would serve the gaming facility, and any stockpiles of biomass or other fuels would have an aesthetic impact on patrons. Other project-related issues that could conflict with existing surrounding land uses (e.g., traffic, noise, visual quality, air quality) are discussed in the respective sections of this chapter.

The other surrounding land uses are characterized as agricultural, rural, and open space. The proposed project (gaming facility, wastewater treatment plant, and parking structure) would create high-intensity land uses that contrast with the existing surrounding low-intensity agricultural uses. Therefore, the proposed project would establish a land use that is inconsistent with adjacent land uses. This impact is significant.

There is no feasible mitigation that would reduce this to a less-than-significant level.

Impact AIR-3: Generation of significant levels of ROG, NO_X, CO, and PM10 emissions from project operations (significant and unavoidable). Operation of the proposed project would generate ROG, NO_X, CO, and PM10 emissions associated with area sources and vehicular trips generated by the project. Area source emissions include those from natural gas combustion for water and space heating, landscaping equipment, and personal household product use. Calculations of vehicular emissions for the proposed project were based on patron and employee vehicle trips of 6,040 per day on weekdays and 9,104 on weekends, respectively. Estimated emissions of area and mobile source emissions from project operations were evaluated using the URBEMIS2002 computer model.

The CO emissions on both the weekday and weekend are anticipated to exceed the ACAPCD threshold. Implementation of Mitigation Measure AIR-3 would reduce vehicular emissions, but the impact would remain significant and unavoidable.

Impact CUL-1: Visual and audible disruption of the Buena Vista Rancheria–Buena Vista Peaks complex resulting from construction of the gaming facility and associated features (significant and unavoidable)
The proposed project entails the construction of a gaming facility, a nine-level parking structure, a wastewater treatment facility, signs and lighting, and other features. These facilities, especially the parking structure, would impose prominently on the viewshed from the Rancheria to the Buena Vista Peaks. Because the view from the Rancheria to the peaks is one of the character- or significance-defining characteristics of the Buena Vista Rancheria–Buena Vista Peaks complex, the visual intrusions described above would incur a significant adverse change to a character-defining trait of a significant cultural resource. This impact is significant and unavoidable. Implementation of Mitigation Measures AES-2 and AES-5, which require construction with low-sheen and low-reflectivity materials compatible with the character of the project vicinity, would reduce the severity of this impact, but not to a less-than-significant level.

Impact CUL-4: Potential impact on a significant historical resource: Buena Vista Store and Saloon (significant and unavoidable)
Mitigation associated with the proposed project would entail widening Buena Vista Road to 22–24 feet with 4-foot-wide shoulders. The proposed widening would encroach on the parcel containing the Buena Vista Store and Saloon (BV-06) located at the corner of Buena Vista Road and Jackson Valley Road. Because the Saloon is situated within approximately 15 feet of the main roadway, the road improvements would physically change the setting of the Saloon, thereby altering it to such a degree that the ability of the building to convey its significance as a saloon would be materially impaired. This would constitute a significant impact. Implementation of Mitigation Measure CUL-3 would reduce this impact, but not to a less-than-significant level.

Impact N-2: Exposure of existing noise-sensitive land uses to increased traffic noise (significant and unavoidable)
Table 3I-5 summarizes traffic noise modeling results for the proposed project under existing and 2025 conditions (weekday and weekend). Rural residences are scattered along many of the segments. A residential subdivision is located on Jackson Valley Road between SR 88 and Buena Vista Road. Where residences are within 100 feet of Jackson Valley Road, the proposed project is predicted to result in a significant traffic noise impact.

Several methods are available for reducing traffic noise.

- Reduction of speed limits.
- Placement of low-noise pavement such as open-graded asphalt on roadways.
- Placement of barriers between roadways and receptors.

Implementation of Mitigation Measure N-2 would reduce the severity of this impact. However, because it would likely be infeasible to implement these measures in all cases where significant traffic noise impacts are predicted to occur, this impact is considered to be significant and unavoidable.

Impact POP-1: Inducement of population and housing growth in Amador County and unincorporated cities (significant)

The proposed project entails the creation of a recreational gaming facility on reservation land in Amador County. The projected worker requirements of the facility are anticipated to range from 1,000 to 1,975 employees. The average household size is 2.41 individuals in both incorporated and unincorporated Amador County (U.S. Census Bureau; Census 2000 Summary file Amador County, DP1 Profile of General Demographic Characteristics). Assuming that one worker would come from one household, the proposed project's housing demand could range from 1,000 to 1,975 units. The Amador County Administrative Agency has stated that Amador County has a current unemployment rate of 4.7% in a population of about 37,000, or approximately 900 unemployed in a labor force of about 17,100 workers (State of California, Employment Development Department, Labor Market information Division, Report 400 C, Monthly Labor Force Data for Counties, Annual Average 2004. www.labormarketinfo.edd.ca.gov). If 25% (225 workers) of the unemployed population were to obtain employment at the proposed gaming facility, roughly 770–1,700 facility workers would either seek housing within the county or commute from outside the county. Approximately 682–1,347 employees would earn low to very low incomes (Trzcinski pers. comm. [email to Barry Scott 10-19-06]) as characterized in the Housing Element and would likely seek housing within Amador County, based on the assumptions described in *Approach and Methodology*. Accordingly, for the purposes of this analysis, 682 is considered the minimum number of employees who would not earn enough to have the incentive to commute more than 25 miles to work at the proposed facility.

As described above in *Environmental Setting*, as of 2006, more than 2,100 dwelling units in the incorporated and unincorporated parts of the county were vacant; however, the vacancy rate does not provide data regarding distribution among income groups. The General Plan Housing Element projects a need for 568 additional units by 2008 for moderate, lower, and very low income groups. Although the current vacancy rate would appear to accommodate housing needs engendered by employees of the proposed gaming facility moving to the area, the lack of income data in concert with the additional housing demand generated by project employees (i.e., demand above the level projected during preparation of the Housing Element and RHNA) could substantially reduce the high vacancy rate in the county. The current countywide vacancy rate of 18.69% could decrease to 3.8–11.2% with the project, depending on the total number of employees as well as on the number of those employees who move into the county. A vacancy rate of 5% or less is considered an indicator of a tight housing market and could increase growth-inducing pressures.

Because the proposed project is within commuting distance of Stockton and Lodi (approximately 30 and 25 miles, respectively), many workers may choose to live in those communities, where approximately 4,709 housing units (4.01% combined vacancy rate) are readily available; this number is sufficient to accommodate employees who move to the region to work in the facility (California Department of Finance 2006). The estimated vacancy rate with the project would be approximately 3.3% for both cities collectively; this estimate assumes that only those employees at income levels commensurate with a second

tier commute radius (i.e., moderate to above moderate) would reside in Stockton or Lodi. Nevertheless, an undetermined number of employees may move to Amador County because it is the closest alternative and the shortest commute; this influx is likely to reduce vacancy rates and increase demand for housing within the county. The proposed project does not entail the creation of any housing; however, it would induce population growth in the general area. Although the precise level of growth cannot be estimated, it would exceed the need projected by the housing element; accordingly, this impact is considered significant

On-reservation housing is not feasible due to the limited developable area on the reservation. There is no feasible mitigation that would reduce this impact to a less-than-significant level.

Significant and Irreversible Environmental Changes

The Compact requires a statement describing any significant effect on the environment that would be irreversible if the project is implemented (Section 10.8.1 [ii] [B]). Because the Compact does not provide criteria for determining significance of irreversible environmental changes, Section 15126.2(c) of the State CEQA Guidelines was used to provide direction for the discussion of irreversible changes.

> Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvements which provide access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irreversible commitments of resources should be evaluated to ensure that current consumption is justified.

The proposed project would result in an irreversible commitment of energy resources, primarily in the form of fossil fuels (e.g., fuel, oil, natural gas, gasoline) for construction equipment, as well as consumption or destruction of other nonrenewable and slowly renewable resources (e.g., gravel, metals, water). The relatively small scale of the proposed project, however, leads to the conclusion that these irreversible environmental changes are not significant.

Alternatives Analysis Summary

Chapter 2, *Project Description*, includes a discussion of the Compact requirements pertaining to the environmental analysis of alternatives to the proposed project, a description of the factors in the selection of alternatives, a description of the alternatives selected for detailed analysis in this document, and a description of alternatives that were initially identified but were eliminated from further consideration in this TEIR.

The alternatives listed below were selected for analysis in the Draft TEIR.

- Alternative 1—No-Project Alternative.
- Alternative 2—Phased Project Implementation.
  - Phase I (Reduced Gaming Floor Area: 45% of Proposed Project).
  - Phase II (Reduced Gaming Floor Area: 75% of Proposed Project).
  - Phase III (100% of Proposed Project).
- Alternative 3—Reduced Project (Reduced Gaming Floor Area: 75% of Proposed Project).
- Alternative 4—Reconfigured Access Driveway with Additional Site Access and Parking.

Based on the analysis presented in Chapter 3, the proposed project would have no impacts or less-than-significant impacts on mineral resources and utilities and service systems. The project would have significant impacts that could be mitigated to a less than significant level on biology; geology, soils, and seismicity; hazards and hazardous materials; public services; recreation; traffic and transportation; water resources; and groundwater resources. The proposed project would have significant and unavoidable impacts on aesthetics, land use, air quality, cultural resources, noise, and population and housing. Each section in Chapter 3, *Impact Analysis*, provides an analysis of each alternative and compares the level of impact of that alternative to the proposed project. This section summarizes each alternative's impacts compared to the impacts of the proposed project for each resource area.

Alternative 1—No Project

Under the No-Project Alternative, a range of commercial or residential projects could be constructed without a comprehensive environmental review process as is required under the Compact. Under this alternative, off-reservation environmental impacts would likely not be evaluated, and mitigation measures would not be required for any such impacts. Consequently, environmental impacts could be less than those of the proposed project if no project were implemented; similarly, they could be greater than those of the proposed project, depending on the type and size of the alternative project. However, because the No-Project Alternative would not include off-reservation road improvements as mitigation for traffic impacts, the resulting impacts on biological resources and cultural resources would be less than under the proposed project. Aesthetic impacts resulting from road improvements would also be less than for the proposed project.

Alternative 2—Phased Project

With full implementation of Alternative 2 (completion of Phases I, II, and III), the environmental impacts would be the same as those under the proposed project, but many of the impacts identified for the proposed project would be deferred until the second and third phases were complete. Phase I of Alternative 2 would result in a less-than-significant impact on off-reservation groundwater resources. Phase I would also substantially lessen other impacts, especially impacts on air quality, biology, noise, population and housing, public services, and traffic. Phase I of Alternative 2 could be implemented with substantially reduced off-reservation road improvements because substantially less patron traffic would be generated.

Alternative 3—Reduced Project (Reduced Gaming Floor Area: 75% of Proposed Project)

Implementation of Alternative 3 (same as Alternative 2, Phase II) would result in lesser environmental impacts than both the proposed project and Alternative 2 because under this alternative the gaming facility would generate less traffic and would cause lower levels of impacts on air quality, biological resources, noise, population and housing, public services, traffic, and groundwater resources.

Alternative 4—Reconfigured Access Driveway with Additional Site Access and Parking

Implementation of Alternative 4 would result in lesser traffic impacts than the proposed project. The alternative access driveway included in Alternative 4 would eliminate the traffic impact associated with insufficient queuing area for vehicles entering the project site; moreover, Although no parking impacts were identified for the proposed project, additional surface parking would be provided under this alternative as a contingency. Alternative 4 would result in greater aesthetic impacts than would the proposed project, as a result of increased lighting in the parking area. Implementation of Alternative 4 would require Amador County approval and cancellation of a Williamson Act contract; it may also require additional federal permits and approvals.

Alternative 4 could be implemented in conjunction with the proposed project, Alternative 2, or Alternative 3. The proposed project and Alternatives 2 and 3, however, would be fully functional without implementation of Alternative 4, which could be implemented at a later date, at such time as any permits and approvals are obtained.