3.8 RESOURCE USE PATTERNS

3.8.1 TRANSPORTATION

MADERA SITE

Transportation/Circulation

Existing Circulation Network

The main transportation route through the Madera County is State Route 99 (SR-99), a north-south route connecting the Kern, Tulare, and Fresno Counties to the south with Madera, Mariposa, San Joaquin, and Sacramento Counties to the north. The Madera site is bounded on the north by Avenue 18, rural residential land, light industrial land, and vacant land; on the east by Golden State Boulevard and State Route 99 (SR-99); on the south by agricultural land and residential land; and on the west by Road 23 and agricultural land. Regional access to the Madera site is via SR-99. Road 23, Avenue 18, and Golden State Boulevard would provide direct access to the proposed casino and hotel resort. **Figures 3.8-1** and **3.8-2** show the major roadways in the vicinity of the Madera site. A traffic study was prepared for the project and is included in **Appendix M**. This section discusses the existing traffic conditions in the vicinity of the Madera site. The following is a description of the major roadways in the vicinity of the Madera site:

- Avenue 18 ½ is a two-lane county roadway with a posted speed limit of 35 miles per hour (mph).
- Avenue 18 a two-lane arterial roadway with no posted speed limit.
- Avenue 17 is a two-lane arterial roadway with a posted speed limit of 45 mph.
- Avenue 16 is a two-lane arterial roadway with a posted speed limit varying from 35 to 40 mph.
- Avenue 15½ is a two-lane arterial roadway with no posted speed limit.
- Avenue 14 is a two-lane arterial roadway with no posted speed limit.
- Avenue 12 is a two-lane arterial roadway with a posted speed limit of 35 mph.
- Road 23 is a two-lane county road with a posted speed limit of 45 mph.
- Road 26 is a four-lane county roadway with no posted speed limit.
- Golden State Boulevard/Airport Road is a two-lane arterial roadway with a posted speed limit of 35 mph.
- Golden State Boulevard is a two-lane arterial roadway with no posted speed limit.
- Schnoor Avenue is a two-lane arterial roadway with a posted speed limit of 40 mph.
- Cleveland Avenue is a four-lane roadway with a posted speed limit of 35 mph.
- Olive Avenue is an arterial varying from two to three lanes with a posted speed of 30 mph.
- Ellis Street is a two-lane arterial roadway with no posted speed limit.
- State Route 99 (SR-99) is a four-lane freeway with a posted speed limit of 65 mph.
- State Route 145 (SR-145) is a two-lane highway with a posted speed limit of 35 mph.

Figure 3.8-1 Madera Site – Major Roadways and Study Intersections

Figure 3.8-2 Madera Site – Major Roadways and Study Intersections

Transit, Bicycle and Pedestrian Facilities

Transit. Madera Dial-A-Ride service is offered in the City of Madera and its surrounding area. Dial-A-Ride is a demand-response service offered by the City of Madera with cooperative funding by Madera County. Service area is within approximately five miles of Downtown Madera. Hours of operation are 7:00 a.m. to 6:30 p.m. Monday through Friday, 9:00 a.m. to 4:00 p.m. Saturday, and 8:30 a.m. to 2:30 p.m. Sunday. Reservations are required. Fares are $1.00 for rides beginning or ending within the City limits (Ellis to the north, Avenue 13 to the south, Road 24½ to the west and Road 29 to the east) and $2.00 for rides beginning or ending outside of the City limits but within the area bounded by Avenue 19 to the north, Avenue 12 to the south, Road 23 to the west and Road 29½ and Road 30½ to the east.

Greyhound offers inter-community bus service several times a day with stops in both the City of Madera and Chowchilla. Buses operate seven days a week from the City of Madera's Downtown Intermodal Center.

Madera County also has one private taxi operator that provides service seven days per week, 24 hours per day.

Bicycle. There are currently no bike paths, lanes, or routes located in the study area surrounding the Madera site. According to the Madera County 2004 *Regional Bicycle Transportation Plan*, bike facilities are planned for the study area surrounding the Madera site. Construction is expected to be completed within 10 years.

Pedestrian. There are no pedestrian sidewalks, walking trails, or other areas separated from the roadways in the immediate vicinity of the Madera site.

Analysis Methodologies

Operating conditions experienced by drivers are described in terms of Level of Service (LOS). This term is a qualitative measure that includes factors such as speed, travel time, delay, freedom to maneuver, and driving comfort and convenience. Level of Service is represented as letters ranging from LOS A to LOS F, whereby LOS A represents the best traffic flow driving conditions and LOS F represents the worst traffic flow driving conditions.
Signalized and unsignalized intersections operating conditions are quantified based on average control delay per vehicle per second, while roadway segments use volume-to-capacity ratios and freeway segments use density (passenger cars/mile/lane).

Control delay includes initial acceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections, "the average control delay per vehicle is estimated for each lane group and aggregated for each approach and for the intersections as a whole" (TRB, 2000). The levels of service shown for signalized intersections are representative of the overall

level of service for that intersection. For unsignalized two-way stop controlled intersections, the level of service presented is the level of service for the worst operating movement, or minor road, at that intersection as opposed to the overall intersection level of service.

Street segment assessments for Madera County roadways were completed using the Capacity Table developed by Korve Engineering for use with the MCTC model. Levels of service for the segment volume-to-capacity ratios developed in this study were derived from the level of service ranges used in the model.

Table 3.8-1 relates the operational characteristics associated with each level of service category for both signalized and unsignalized intersections.

The freeway segment analysis used a free-flow speed of 70 mph. A freeway truck percentage of 24 percent was used and a recreational vehicle (RV) percentage of 2 percent was used for the freeway calculations. **Table 3.8-2** relates the operational characteristics associated with each level of service category for freeway segments.

LOS Thresholds

The California Department of Transportation (Caltrans) considers LOS C transitioning to D on State highways to be the acceptable measure, meaning worsening of roadway conditions to LOS D, E or F are unacceptable. Caltrans realizes this LOS may not always be feasible and recommends the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway is operating below the LOS threshold, the existing measures of effectiveness should be maintained.

The County and City of Madera have adopted LOS D as the acceptable LOS measure, meaning a worsening of traffic conditions to LOS E or F is unacceptable. Each table presenting LOS results at the study roadway segments and intersections under existing conditions are shown with the corresponding LOS threshold for reference.

Study Freeway and Roadway Segments and Intersections

Selection of study segments and intersections was based on the Madera County Regional Transportation model (model) and input from Madera County staff. Intersections where trip assignment would reasonably be expected to result in a capacity reduction of less than 1 percent were removed from the study, based on input from Madera County staff. Based on these parameters, the following six freeway segments and five roadway segments were analyzed:

TABLE 3.8-1
INTERSECTION LEVEL OF SERVICE DESCRIPTION

Level of Service	Conditions	Signalized Intersection Description	Signalized Delay (secs/veh)[1]	Unsignalized[2] Delay (secs/veh)
A	Free Flow	Users experience very low delay. Progression is favorable and most vehicles do not stop at all.	< 10.0	< 10.0
B	Stable Operations	Vehicles travel with good progression. Some vehicles stop, causing slight delay.	> 10.0 to 20.0	> 10.0 to 15.0
C	Stable Operations	Higher delays result from fair progression. A significant number of vehicles stop, although many continue to pass through the intersection without stopping.	> 20.0 to 35.0	> 15.0 to 25.0
D	Approaching Unstable	Congestion is noticeable. Progression is unfavorable, with more vehicles stopping rather than passing through the intersection.	> 35.0 to 55.0	> 25.0 to 35.0
E	Unstable Operations	Traffic volumes are at capacity. Users experience poor progression and long delays.	> 55.0 to 80.0	> 35.0 to 50.0
F	Forced Flow	Intersection's capacity is oversaturated, causing poor progression and unusually long delays.	> 80.0	> 50.0

NOTES: [1] seconds/vehicle
[2] Unsignalized intersections include all-way stop and two-way stop controlled intersection.
SOURCE: TPG Consulting, Inc. 2006; AES 2006.

Freeway Segments

1. SR-99 NB – North of Avenue 18½
2. SR-99 SB – North of Avenue 18½
3. SR-99 NB – Avenue 18½ to Avenue 17
4. SR-99 SB – Avenue 18½ to Avenue 17
5. SR-99 NB – South of Avenue 17
6. SR-99 SB – South of Avenue 17

Roadway Segments

1. Avenue 18½ - Road 24 to Road 23
2. Road 23 – Avenue 18½ to Avenue 17
3. Avenue 17 – Road 23 to SR-99
4. Avenue 17 – SR-99 to Road 27
5. Golden State Boulevard – Avenue 17 to Road 23

TABLE 3.8-2
FREEWAY LEVEL OF SERVICE DESCRIPTION

Level of Service	Conditions[1]	Description	Density (pc/mi/ln)[2]
A	Free Flow	Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream. Effects of incidents or point breakdowns are easily absorbed at this level.	≤ 11
B	Stable Operation	Free-flow speeds are maintained. The ability to maneuver within the traffic stream is slightly restricted. Effects of minor incidents or point breakdowns are still easily absorbed at this level.	> 11 to 18
C	Stable Operation	Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver. Minor incidents may still be absorbed, but the local deterioration in service will be substantial. Queues may be expected to form behind any significant blockage.	> 18 to 26
D	Approaching Unstable	Speeds begin to decline slightly with increasing flows and density begins to increase somewhat more quickly. Freedom to maneuver within the traffic stream is more noticeably limited. Even minor incidents can be expected to create queuing, because the traffic stream has little space to absorb disruptions.	> 26 to 35
E	Unstable Operations	Traffic volumes are at capacity. Any disruption to the traffic stream can establish a disruption wave that propagates throughout the upstream traffic flow. Any incident can be expected to produce extensive queuing.	> 35 to 45
F	Forced Flow	Traffic volumes exceed the capacity of the freeway and traffic queues develop easily. Stop and go traffic conditions exist.	> 45

NOTES: [1] free flow conditions at 65 or 70 mph
[2] passenger car/mile /lane
SOURCE: TRB, 2000; TPG Consulting, Inc. 2006; AES, 2006.

As discussed above, in cases where trips assigned to intersections would reasonably be expected to result in a capacity reduction of less than 1 percent, intersections were removed from further analysis. Based on these parameters and upon discussion with Caltrans, Madera County, and the Cities of Madera and Chowchilla, the following thirty intersections were analyzed:

1. Avenue 18½ at SR-99 SB ramps/Road 23
2. Avenue 18½ at SR-99 NB ramps
3. Avenue 17 at SR-99 SB ramps
4. Avenue 17 at SR-99 NB ramps
5. Avenue 12/Golden State Boulevard at SR-99 SB ramps
6. Avenue 12 at Golden State Boulevard
7. Avenue 12 at SR-99 NB ramps

8. Avenue 18 at Road 23
9. Avenue 17 at Road 23
10. Avenue 17 at Golden State Boulevard
11. Ellis Street at Road 26
12. Avenue 15½ at Road 23
13. Avenue 14 at Road 23
14. Avenue 16 at Schnoor Avenue
15. Avenue 16 at SR-99 SB ramps
16. Avenue 16 at SR-99 NB ramps
17. Avenue 16/Avenue 16 connector at SR-99 NB ramps
18. Avenue 16 at SR-99 NB ramp connector
19. Gateway/Avenue 16 at SR-99 NB ramps
20. Avenue 16/Ellis Street at Golden State Boulevard
21. Avenue 16/Ellis Street at SR-99 SB ramps
22. Avenue 16/Ellis Street at SR-99 NB ramps
23. Cleveland Avenue/Avenue 15½ at SR-99 NB ramps
24. Cleveland Avenue/Avenue 15½ at SR-99 SB ramps
25. SR 145/Madera Avenue at SR-99 NB ramps
26. Olive Avenue/Avenue 14 at SR-99 SB off-ramp
27. Olive Avenue/Avenue 14/SR-99 SB on-ramp at SR 145
28. Avenue 18½ at Pistachio Drive
29. Avenue 18½ at Golden State Boulevard
30. Avenue 18½ at Golden State Boulevard/Road 23

Figures 3.8-1 and **3.8-2** present the location of the study intersections for the Madera site and **Figures 3.8-3** and **3.8-4** present the existing lane configuration and traffic controls for the Madera site study intersections.

Data Collection

Traffic volumes were collected in accordance with Caltrans *Guide for the Preparation of Traffic Impact Studies* (Caltrans, 2001). **Table 3.8-3** details when traffic data was collected at each road segment. **Table 3.8-4** provides information on dates when traffic data was collected at each study intersection.

Traffic volumes were collected during the weekday a.m. and p.m. peak periods of the day in the middle of the week. The a.m. and p.m. peak periods were determined to be between the hours of 7:00 to 9:00 a.m. and 4:00 to 6:00 p.m. Per discussions with Madera County, City of Madera, and Caltrans staff, the above peak of the street traffic times were analyzed. These peak periods are also the standard peak periods typically used for study in the County and City of Madera.

Figure 3.8-3 Madera Site – Existing Lane Configuration and Intersection Control

Figure 3.8-4 Madera Site – Existing Lane Configuration and Intersection Control

TABLE 3.8-3
SEGMENT DATA COLLECTION PERIOD (MADERA SITE)

Segments	Day	Date
Avenue 18½ – Road 24 to Road 23	Tuesday	11/30/04
Road 23 – Avenue 18½ to Avenue 17	Tuesday	3/2/04
Avenue 17 – Road 23 to SR-99	Tuesday	11/30/04
Avenue 17 – SR-99 to Road 27	Wednesday	7/28/04
Golden State Boulevard – Avenue 17 to Avenue 18	Tuesday	3/2/04

SOURCE: TPG Consulting, Inc. 2006; AES, 2006.

TABLE 3.8-4
INTERSECTION DATA COLLECTION PERIOD (MADERA SITE)

Intersections	AM Peak Hour		PM Peak Hour	
	Day	Date	Day	Date
Avenue 18½ at SR-99 SB ramps/Road 23	Wednesday	7/26/06	Wednesday	7/26/06
Avenue 18½ at SR-99 NB ramps	Wednesday	7/26/06	Wednesday	7/26/06
Avenue 17 at SR-99 SB ramps	Tuesday	3/2/04	Tuesday	3/2/04
Avenue 17 at SR-99 NB ramps	Tuesday	3/2/04	Tuesday	3/2/04
Avenue 12/Golden State Boulevard at SR-99 SB ramps	Thursday	12/2/04	Thursday	12/2/04
Avenue 12 at Golden State Boulevard / Road 29	Thursday	12/2/04	Thursday	12/2/04
Avenue 12 at SR-99 NB Ramps	Thursday	12/2/04	Thursday	12/2/04
Avenue 18 at Road 23	Tuesday	3/2/04	Tuesday	3/2/04
Avenue 17 at Road 23	Tuesday	3/2/04	Tuesday	3/2/04
Avenue 17 at Golden State Boulevard / Airport Road	Tuesday	3/2/04	Tuesday	3/2/04
Ellis Street at Road 26	Wednesday	12/1/04	Wednesday	12/1/04
Avenue 15½ at Road 23	Wednesday	12/1/04	Wednesday	12/1/04
Avenue 14 at Road 23	Wednesday	12/1/04	Wednesday	12/1/04
Avenue 16 at Schnoor Avenue/Golden State Boulevard	Tuesday	4/5/05	Tuesday	4/5/05
Avenue 16/Avenue 16 connector at SR-99 NB ramps	Tuesday	9/13/05	Wednesday	9/14/05
Avenue 16 at SR-99 NB ramps	Tuesday	9/13/05	Wednesday	9/14/05
Gateway/Avenue 16 at SR-99 NB ramps	Tuesday	9/13/05	Wednesday	9/14/05
Avenue 16 at SR-99 SB Ramps	Tuesday	9/13/05	Wednesday	9/14/05
SR-99 NB Ramps at Cleveland Avenue/Avenue 15½	Wednesday	12/1/04	Wednesday	12/1/04
SR-99 SB Ramps at Cleveland Avenue/Avenue 15½	Wednesday	12/1/04	Wednesday	12/1/04
SR-99 NB Ramps at SR145/Madera Avenue	Thursday	12/2/04	Thursday	12/2/04
Olive Avenue/Avenue 14 at SR-99 SB off-ramp	Thursday	12/2/04	Thursday	12/2/04
SR-99 SB On-Ramp/Olive Avenue/Avenue 14 at SR-145	Wednesday	12/1/04	Wednesday	12/1/04
Avenue 18½ at Pistachio Drive	Wednesday	7/26/06	Wednesday	7/26/06
Avenue 18½ at Golden State Boulevard	Wednesday	7/26/06	Wednesday	7/26/06

SOURCE: TPG Consulting, Inc. 2006; AES, 2006.

Madera County Traffic Model

The Madera County Transportation Commission (MCTC) is responsible for developing and maintaining a microcomputer-based traffic simulation model that represents Madera County. The current model was developed to analyze proposed land uses, circulation systems, and air quality and covers the entire Madera County area, as well as portions of Fresno, Merced, and Stanislaus Counties. Residential dwelling unit and employment adjustments were made to the 2025 Without-Project model land use data to incorporate twenty-one approved or proposed General Plan Amendments (GPAs) that were located in the County and City of Madera. **Section 4.8** provides additional details on the GPAs.

Intersection heavy vehicle percentages were developed from the existing conditions count data. A minimum default of 2 percent heavy vehicles was used on all intersections and in all scenarios. All signalized intersections within a one-half mile distance were analyzed as actuated coordinated. Actuated signals use vehicle detectors and an actuated controller unit to assign the right of way based on changing traffic demand. Coordination between the signals can either be based on pre-timed coordination or hardwire coordination. The signalized intersections were optimized to achieve the greatest reduction in overall intersection delay.

Left turns at signalized intersections were analyzed as "protected" in the study area. Protected lefts are left turns that are only allowed to go during their "protected" phase of the signal, and the left turns are not allowed to go at the same time as the opposing direction through and right-turn movements.

If an unsignalized intersection was projected to operate below the adopted level of service threshold or have movements or approaches that were projected to operate below the adopted level of service threshold, the existing lane configurations were tested to determine if the intersection could be mitigated.

Existing Freeway and Roadway Segment Performance

This condition is based on current traffic counts, existing roadway geometry, and existing development conditions. This condition serves as a baseline from which projections for the 2008 and 2030 years are derived it is reported without the project added into the condition.

Table 3.8-5 summarizes the results of this weekday freeway and roadway segment analysis for the existing level of service conditions. As shown in **Table 3.8-5** below, based on existing traffic volumes, the following freeway and roadway segments currently operate at an unacceptable LOS:

- SR-99 – North of Avenue 18½
- SR-99 SB – Avenue 18½ to Avenue 17
- SR-99 SB – South of Avenue 17

- Avenue 17 – SR-99 to Road 27

TABLE 3.8-5
EXISTING FREEWAY AND ROADWAY SEGMENT PERFORMANCE - MADERA SITE

Segment	LOS Threshold	Existing LOS		Existing Density (pc/mi/ln)[1]	
		AM	PM	AM	PM
Freeway Segment					
SR-99 NB – North of Avenue 18 ½	C	C	C	21.5	21.0
SR-99 SB – North of Avenue 18 ½	C	B	**D**	17.6	**26.5**
SR-99 NB – Avenue 18 ½ to Avenue 17	C	C	C	23.8	23.2
SR-99 SB – Avenue 18 ½ to Avenue 17	C	C	**D**	19.3	**30.1**
SR-99 NB – South of Avenue 17	C	C	C	22.9	22.3
SR-99 SB – South of Avenue 17	C	C	**D**	18.6	**28.5**
Roadway Segment					
Avenue 18½ – Road 24 to Road 23	D	B	B	NA	NA
Road 23 – Avenue 18½ to Avenue 17	D	B	B	NA	NA
Avenue 17 – Road 23 to SR-99	D	A	A	NA	NA
Avenue 17 – SR-99 to Road 27	D	**E**	C	NA	NA
Golden State Boulevard – Avenue 17 to Road 23	D	A	A	NA	NA

NOTES: **Bold** text denotes unacceptable LOS.
NA = not applicable
[1] density = passenger car per mile per lane
SOURCE: TPG Consulting, Inc. 2006; AES 2006.

Existing Intersection Performance

Table 3.8-6 summarizes the results of this weekday intersection analysis for the existing level of service conditions and shows the intersection delay experienced per vehicle. As shown below, based on existing level of service, the following intersections currently operate at an unacceptable LOS:

- Avenue 12/Golden State Boulevard at SR-99 SB ramps/WB Approach
- Avenue 12 at Golden State Boulevard/NB Approach
- Avenue 12 at Golden State Boulevard/SB Approach
- Avenue 12 at SR-99 NB ramps/NB Approach

Figures 3.8-5 and **3.8-6** present the existing intersection volumes at each of the Madera site study intersections.

TABLE 3.8-6
EXISTING INTERSECTION PERFORMANCE - MADERA SITE

Intersection	LOS Thres-hold	2005 w/o Project			
		AM		PM	
		LOS	Delay (secs)[1]	LOS	Delay (secs)
Avenue 18½ at SR-99 SB ramps/Road 23					
• WB Left-Through	C	A	8.1	A	8.2
• NB Approach		B	12.1	B	13.2
• SB Approach		B	13.0	C	15.7
Avenue 18½ at SR-99 NB ramps					
• EB Left	C	A	8.3	A	7.8
• NB Approach		C	15.8	C	15.8
Avenue 17 at SR-99 SB ramps	C				
• SB Approach		B	12.5	B	14.5
Avenue 17 at SR-99 NB ramps					
• EB Left	C	A	8.7	A	8.0
• NB Approach		C	16.5	C	15.5
Avenue 12/Golden State Boulevard at SR-99 SB ramps	C				
• SB Left-Though		A	8.3	A	8.7
• **WB Approach**		B	11.3	**E**	**44.9**
Avenue 12 at Golden State Boulevard					
• EB Left	D	A	8.5	A	8.7
• WB Left		A	8.1	A	8.6
• **NB Approach**		C	20.9	**F**	**279.6**
• **SB Approach**		D	31.9	**F**	**111.1**
Avenue 12 at SR-99 NB ramps					
• EB Left-Though	C	A	8.9	A	8.9
• **NB Approach**		**E**	**46.9**	**F**	**95.1**
Avenue 18 at Road 23					
• NB Left-Through-Right	D	A	7.5	A	7.6
• SB Left-Through-Right		A	7.6	A	7.6
• WB Approach		B	10.5	A	9.8
• EB Approach		A	9.8	B	10.2
Avenue 17 at Road 23					
• NB Left-Through-Right	D	A	7.4	A	7.4
• SB Left-Through-Right		A	7.5	A	7.6
• WB Approach		B	11.2	B	11.5
• EB Approach		B	10.5	B	11.2
Avenue 17 at Golden State Boulevard	D				
• EB Left-Through-Right		A	7.5	A	7.4

• WB Left-Through-Right		A	7.6	A	7.6
• NB Approach		A	9.5	A	9.7
• SB Approach		B	13.5	B	13.3
Ellis Street at Road 26	D	B	11.51	C	16.47
Avenue 15½ at Road 23					
• NB Left-Through-Right		A	7.6	A	7.8
• SB Left-Through-Right	D	A	7.6	A	7.6
• WB Approach		B	10.3	B	9.9
• EB Approach		A	10.2	C	11.8
Avenue 14 at Road 23	D	A	8.72	C	10.03
Avenue 16 at Schnoor Avenue					
• NB Left		A	7.3	A	7.4
• SB Left-Through-Right	D	A	7.5	A	7.3
• WB Approach		A	9.5	B	11.4
• EB Approach		B	10.3	B	11.7
Avenue 16 at SR-99 SB ramps	C	A	9.34	B	11.26
Avenue 16/Avenue 16 connector at SR-99 NB ramps	C				
• EB Left		B	10.1	B	10.6
Avenue 16 at SR-99 NB ramp connector					
• SB Left-Through	C	A	7.6	A	8.0
• WB Right		A	8.8	A	9.3
Gateway/Avenue 16 at SR-99 NB Ramps					
• WB Left	C	A	9.6	B	10.6
Cleveland Avenue/Avenue 15½ at SR-99 NB ramps	C	B	12.3	B	16.4
Cleveland Avenue/Avenue 15½ at SR-99 SB ramps	C	B	11.6	B	15.3
SR-145/Madera Avenue at SR-99 NB ramps	C	C	27.3	C	21.9
Olive Avenue/Avenue 14 at SR-99 SB off-ramp	C	B	13.9	B	15.3
Olive Avenue/Avenue 14/SR-99 SB on-ramp at SR-145	C	C	25.1	C	34.9
Avenue 18½ at Pistachio Drive					
• EB Approach	D	A	8.3	A	8.4
• SB Approach		B	12.4	B	13.8
Avenue 18½ at Golden State Boulevard					
• EB Approach	D	A	7.6	A	7.7
• SB Approach		B	10.6	B	11.0

NOTES: **Bold** text denotes unacceptable LOS
NB = northbound, SB = southbound
[1] delay in seconds per vehicle
SOURCE: TPG Consulting, Inc. 2006; AES 2006.

Figure 3.8-5 Madera Site – Existing Intersection Volumes

Figure 3.8-6 Madera Site – Existing Intersection Volumes

NORTH FORK SITE

Transportation/Circulation

Existing Circulation Network

Streets and highways in the North Fork site vicinity include Mission Drive (Federal Road 209), Road 225 (Mammoth Pool Road), Rainbow Drive, Cascadel Road, Road 222 (Auberry Road), North Fork Road (Road 200), and Road 274 (Malum Ridge Road). The North Fork site bounded by Mammoth Pool Road on the west, Mission Drive on the north and Rainbow Drive to the south. **Figure 3.8-7** shows major roadways in the vicinity of the North Fork site. The following is a description of the major roadways in the vicinity of the North Fork site:

- State Route 49 (SR-49) is a two-lane highway with a posted speed limit if 35 mph.
- Road 200 is a two-lane county roadway with a posted speed limit of 55 mph.
- Road 420 (Thornberry Road) is a two-lane county roadway with no posted speed limit.
- State Route 41 (SR-41) in the North Fork site vicinity varies from two to four lanes with a posted speed limit varying from 45 to 55 mph.
- State Route 145 (SR-145) in the North Fork site vicinity is a two-lane highway varying to a county road with a posted speed limit of 55 mph.
- Road 274 (Malum Ridge Road) is a two-lane county roadway with a posted speed limit of 55 mph.
- Road 225 (Mammoth Pool Road) is a two-lane county roadway with a posted speed limit of 35 mph.
- Cascadel Road is a two-lane county roadway with a posted speed limit of 35 mph.
- Mission Drive is a two-lane county roadway with no posted speed limit.
- North Fork Road is a two-lane county roadway with a posted speed limit of 55 mph.
- Auberry Road is a two-lane county roadway with no posted speed limit.
- Crane Valley Road is a two-lane roadway with a posted speed limit of 55 mph.

Transit, Bicycle and Pedestrian Facilities

Transit. Madera County has one private taxi operator that provides service seven days per week, 24 hours per day.

Bicycle. There are currently no bike paths, lanes, or routes located in the study area surrounding the North Fork site.

Pedestrian. There are no pedestrian sidewalks, walking trails, or other areas separated from the roadways in the immediate vicinity of the North Fork site.

Figure 3.8-7

Analysis Methodologies

The analysis methodologies used are the same as for the Madera site.

LOS Thresholds

The LOS thresholds are the same as for the Madera site.

Study Intersections

The proposed project will generate new vehicular trips that will increase traffic volumes on the nearby street network. To assess changes in traffic conditions associated with the project, the following intersections were evaluated:

1. SR-145 at SR-41
2. SR-41 at Road 200
3. SR-41 at Thornberry Road
4. SR-41 at SR-49
5. Malum Ridge Road at Road 225 (Mammoth Pool Road)
6. Road 225 (Mammoth Pool Road) at Cascadel Road
7. Cascadel Road at Mission Drive (Federal Road 209) – Site Access
8. North Fork Road at Auberry Road
9. North Fork Road at Crane Valley Road

Figure 3.8-8 presents the existing lane geometry and traffic control for these study intersections.

Data Collection

Traffic volumes were collected in accordance with Caltrans *Guide for the Preparation of Traffic Impact Studies* (Caltrans, 2001). **Table 3.8-7** details when traffic data was collected at each study intersection.

Peak Hour Intersection Performance

Table 3.8-8 summarizes the results of this intersection analysis for the existing level of service conditions and shows the intersection delay experienced per vehicle. As shown below, based on existing level of service, the intersection of SR-41 at Road 200 currently operates at an unacceptable LOS.

Figure 3.8-9 presents the existing intersection volumes for each of the North Fork site study intersections.

Figure 3.8-8 North Fork Site – Existing Lane Configuration and Intersection Control

TABLE 3.8-7
INTERSECTION DATA COLLECTION PERIOD – NORTH FORK SITE

Intersections	AM Peak Hour		PM Peak Hour	
	Day	Date	Day	Date
SR-41 at SR-145	Tuesday	8/30/05	Tuesday	8/30/05
SR-41 at Road 200	Tuesday	8/30/05	Tuesday	8/30/05
SR-41 at Thornberry Road	Tuesday	8/30/05	Tuesday	8/30/05
SR-41 at SR-49	Wednesday	4/13/05	Wednesday	4/13/05
Road 274 (Malum Ridge Road) at Road 225 (Mammoth Pool Road)	Wednesday	4/13/05	Wednesday	4/13/05
Road 225 (Mammoth Pool Road) at Cascadel Road	Wednesday	4/13/05	Wednesday	4/13/05
North Fork Road at Auberry Road	Tuesday	4/19/05	Tuesday	4/19/05
North Fork Road at Crane Valley Road	Tuesday	4/19/05	Tuesday	4/19/05
Cascadel Road at Mission Drive (Federal Road 209)	Tuesday	4/19/05	Tuesday	4/19/05

SOURCE: TPG Consulting, Inc., 2006; AES, 2006.

TABLE 3.8-8
EXISTING INTERSECTION PERFORMANCE – NORTH FORK SITE

Intersection	LOS Threshold	Existing			
		AM		PM	
		LOS	Delay (secs)[1]	LOS	Delay (secs)
SR-145 at SR-41	C	B	16.3	C	22.1
SR-41 at Road 200					
• SB Left	C	A	8.0	B	10.2
• WB Approach		**E**	**40.2**	**D**	**29.9**
SR-41 at Thornberry Road					
• SB Left	C	A	9.1	A	9.1
• WB Approach		C	18.0	C	15.3
SR-41 at SR-49	C	A	9.8	B	16.2
Malum Ridge Road at Road 225 (Mammoth Pool Road)	D	A	8.57	A	8.57
Road 225 (Mammoth Pool Road) at Cascadel Road					
• SB Left	D	A	7.4	A	7.3
• WB Approach		A	8.8	A	8.6
Cascadel Road at Mission Drive (Federal Road 209)					
• WB Left-Through	D	A	7.3	A	7.3
• NB Approach		A	8.7	A	8.7
North Fork Road at Auberry Road					
• NB Let-Through-Right		A	7.4	A	7.5
• SB Left-Through-Right	D	A	7.6	A	7.5
• WB Approach		A	9.4	A	9.9
• EB Approach		A	1.0.0	A	9.9
North Fork Road at Crane Valley Road					
• EB Left-Through	D	A	7.5	A	7.4
• SB Approach		A	9.2	A	9.8

NOTES: **Bold** text denotes unacceptable LOS.
[1] delay in seconds per vehicle

SOURCE: TPG Consulting 2006; AES 2006.

Figure 3.8-9 North Fork Site – Existing Intersection Volumes

3.8.2 LAND USE

REGIONAL SETTING

Madera County encompasses 1,374,160 acres (2,147 square miles) and is located in the approximate center of California. The County consists of the region from the San Joaquin Valley to the Sierra Nevada Mountain Range. The Chowchilla River forms the northern boundary of Madera County and the San Joaquin River is located on the southern boundary. The County includes some of the most productive agricultural land in the nation. The cities of Chowchilla and Madera are located within the County along with the unincorporated communities of Ahwahnee, Bass Lake, Berenda, Coarsegold, Fairmead, Madera Ranchos, North Fork, Oakhurst, O'Neals, Raymond, and Rolling Hills (Madera, 2004). The main transportation route through the county is SR-99, a north-south route connecting the Bakersfield area to the south and the Sacramento area to the north.

Landscape characteristics, administrative boundaries, and infrastructure have affected how rural land use has developed within Madera County. Madera County commonly develops in blocks of rural subdivisions in one to five square mile units. Rural subdivisions are most common to the north and east of existing cities at the base of the foothills. Irregular configurations of low-density residential development occur at higher elevations along Highways 41 and 168 toward the Sierra Mountains (DLRP, 2005).

MADERA COUNTY GENERAL PLAN

The purpose of the Madera County General Plan is to create a comprehensive, long-term planning guideline for development throughout the County. The Madera County General Plan, published in October 1995, consists of two separate but interrelated documents: the Background Report and the Policy Document. The Background Report inventories and analyzes existing conditions and trends in Madera County. The General Plan Policy Document constitutes Madera County's formal policies for land use, development, and environmental quality. It includes: goals, policies, and standards; implementation programs; and the Land Use Diagram and the Circulation Plan Diagram. County-stated goals are the underlying motivation for development; these goals are general in nature and immeasurable. A County policy is a specific statement, in text or diagram, intended to guide action and implies a clear commitment.

Policies and Goals

The general plan sets policies and standards for the maintenance and improvement of existing development and for determining the location and characteristics of future development. **Table 3.8-9** shows General Plan goals and policies that are currently applicable to the Madera site and the North Fork site, and are relevant to development proposed by project alternatives (**Section 4.8**).

TABLE 3.8-9
MADERA COUNTY GENERAL PLAN APPLICABLE GOALS AND POLICIES

Goals and Policies	
Commercial Land Uses	
Goal	
Goal 1.D	To designate adequate commercial land for and promote development of commercial uses to meet the present and future needs of Madera County residents and visitors and maintain economic vitality.
Section	**Policy**
1.D.4	To designate adequate commercial land for and promote development of commercial uses to meet the present and future needs of Madera County residents and visitors and maintain economic vitality.
Jobs-Housing Balance	
Goal	
Goal 1.F	To work toward a jobs-housing balance in existing urban areas and new growth areas.
Section	**Policy**
1.F.2	Designate and encourage the development of employment-generating uses in appropriate areas near existing and designated residential development.
Visual and Scenic Resources	
Goal	
Goal 1.H	To protect the visual and scenic resources of Madera County as important quality-of-life amenities and asset in the promotion of recreation and tourism.
Section	**Policy**
1.H.1	Require that new development in scenic rural areas avoid locating structures along ridgelines, on steep slopes, or in other highly-visible locations, except when the location is necessary to avoid hazards or when the screening measures to minimize the visibility of structures and graded areas are incorporated into the project.
1.H.2	Require new development incorporates sound soil conservation practices and minimizes land alterations.
Streets and Highways	
Goal	
Goal 2.A	To provide for the long-range planning and development of the County's roadway system, ensure the safe and efficient movement of people and goods, and provide sufficient access to existing and new development.
Section	**Policy**
2.A.9	To identify the potential impacts of new development on traffic service levels, the County shall require the preparation of traffic impact analyses for developments determined to be large enough to have potentially significant traffic impacts. The County may allow exceptions to the level of service standards where it finds that the improvements or other measures required to achieve the LOS standards are unacceptable.
2.A.17	Require proposed new development projects to analyze their contribution to increased traffic and to implement improvements necessary to address the increase.
2.A.19	Assess fees on new development sufficient to cover the fair share portion of that development's impacts on the local and regional transportation system. Exceptions may be made when new development generates significant public benefits and when alternative sources of funding can be identified to offset foregone revenues.

Goals and Policies

2.A.21	Require that new nonresidential development provide for off-street parking, either on-site or through contributions to consolidated lots or structures, particularly where these facilities are located in or near residential areas.

Transit

Goal

Goal 2.B	To promote a safe and efficient mass transit system, including both rail and bus, to reduce congestion, improve the environment, and provide viable non-automotive means of transportation in and through Madera County

Section	**Policy**
2.B.7	Require new development to provide sheltered public transit stops, with turnouts. The County will also consider development of turnouts in existing developed areas when roadway improvements are made or as deemed necessary for traffic flow and public safety.

Transportation Control Measures (TCM)

Goal

Goal 2.C	To maximize the efficient use of transportation facilities so as to: 1) reduce travel demand on the County's roadway system; 2) reduce the amount of investment required in new or expanded facilities; 3) reduce the quantity of emissions of pollutants from automobiles; and 4) increase the energy efficiency of the transportation system.

Section	**Policy**
2.C.4	Encourage major traffic generators to develop and implement trip reduction measures.
2.C.5	Require major development projects to prepare transportation studies that address potential use of bicycle routes and facilities and the use of public transportation.

Non-motorized Transportation

Goal

Goal 2.D	To provide a safe, comprehensive, and integrated system of facilities for non-motorized transportation to meet the needs of commuters and recreational users.

Section	**Policy**
2.D.7	Require developers to finance and install pedestrian walkways, equestrian trails, and multi-purposed paths in new development, as appropriate.

General Public Facilities and Services

Goal

Goal 3.A	To ensure the timely development of public facilities and to maintain an adequate level of service to meet the needs of existing and future development.

Section	**Policy**
3.A.1	Ensure through the development review process that adequate public facilities and services are available to serve new development. The County shall not approve new development where existing facilities are inadequate unless the applicant can demonstrate that all necessary public facilities will be installed or adequately financed and maintained (through fees or other means).

Public Facilities and Services Funding

Goal

Goal 3.B	To ensure that adopted facility and service standards are achieved and maintained through the use of equitable funding methods.

Section	**Policy**
3.B.1	Require that new development pay its fair share of the cost of developing new facilities and services and upgrading existing public facilities and services subject to the requirements of California Government Code Section 66000, et seq. (AB1600); exceptions may be made when

Goals and Policies

new development generates significant public benefits (e.g., low income housing) and when alternative sources of funding can be identified to offset foregone revenues.

Water Supply and Delivery

Goal

Goal 3.C To ensure the availability of an adequate and safe water supply and the maintenance of high quality water in water bodies and aquifers used as sources of domestic and agricultural water supply.

Section **Policy**

3.C.1 Approve new development only if an adequate water supply to serve such development is demonstrated.

3.C.2 Approve new development based on the following guidelines for water supply:

a. Urban and suburban development should rely on community water systems.
b. Rural communities should rely on community water systems. Individual wells may be permitted in cases where no community water system exists or can be extended to the property but development will be limited to densities which can be safely developed with wells.
c. Agricultural areas should rely on public water systems where available, otherwise individual water wells are acceptable.

3.C.3 Limit development in areas identified as having severe water table depression to uses that do not have high water usage or to uses served by a surface water supply.

3.C.4 Require that water supplies serving new development meet state water quality standards.

3.C.5 Require that new development adjacent to bodies of water used as domestic water sources adequately mitigate potential water quality impacts on these water bodies.

3.C.6 Promote efficient water use and reduced water demand by:

a. Requiring water-conserving design and equipment in new construction.
b. Encouraging water-conserving landscaping and other conservation measures;
c. Encouraging retrofitting existing development with water-conserving devices; and
d. Encouraging use of recycled or gray water for landscaping.

3.C.7 Promote the use of reclaimed wastewater to offset the demand for new water supplies.

Wastewater Collection, Treatment and Disposal

Goal

Goal 3.D To ensure adequate wastewater collection and treatment and the safe disposal of liquid and solid waste.

Section **Policy**

3.D.2 Promote efficient water use and reduced wastewater system demand by:

a. Requiring water-conserving design and equipment in new construction;
b. Encouraging retrofitting with water-conserving devices; and
c. Designing wastewater systems to minimize inflow and infiltration, to the extent economically feasible.

3.D.3 Permit on-site sewage treatment and disposal on parcels where all current regulations can be met; where parcels have the area, soils, and other characteristics that permit such disposal facilities without threatening surface or groundwater quality or posing any other health hazards; and where community sewer service is not available and cannot be provided.

Goals and Policies

3.D.4 Require that the development, operation, and maintenance of on-site disposal systems complies with the requirements and standards of the County Department of Environmental Health.

Storm Drainage and Flood Control

Goal

Goal 3.E To provide efficient, cost-effective, and environmentally sound storm drainage and flood control facilities.

Section	Policy
3.E.2	Require new development to provide protection from the 100-year flood as a minimum.
3.E.4	Require new development to pay its fair share of the costs of Madera County storm drainage and flood control improvements.
3.E.5	Encourage project designs that minimize drainage concentrations and impervious coverage and maintain, to the extent feasible, natural site drainage conditions.
3.E.6	Future drainage system discharges shall comply with applicable state and federal pollutant discharge requirements.
3.E.7	Encourage the use of natural stormwater drainage systems to preserve and enhance natural features.

Landfills, Transfer Stations, and Solid Waste Recycling

Goal

Goal 3.F To ensure the safe and efficient disposal or recycling of solid waste generated in Madera County.

Section	Policy
3.F.2	Promote maximum use of solid waste source reduction, recycling, composting, and environmentally safe transformation of wastes.
3.F.6	Require that all new development comply with applicable provisions of the Madera County Integrated Waste Management Plan.

Law Enforcement, Fire, and Emergency Medical Services

Goal

Goal 3.G To ensure the prompt and efficient provision of law enforcement, fire, and emergency medical facility and service needs.

Section	Policy
3.G.3	Require new development to pay its fair share of the costs for providing law enforcement, fire, and emergency medical facilities, subject to the requirements of California Government Code Section 66000 et seq. (AB1600).
3.G.4	Require that new development be designed to maximize safety and security and minimize fire hazard risks to life and property.

Fire Protection Services

Goal

Goal 3.H To protect residents of and visitors to Madera County from injury and loss of life and to protect property and watershed resources from fires.

Section	Policy
3.H.4	Require new development to develop or fund fire protection facilities that, at a minimum, maintain the (above) service level standards (see Policy 3.H.1 or 3.H.2 in the Madera County General Plan Policy Document or **Section 3.8** of this document for service level standards).

Goals and Policies

3.H.5	Ensure that all proposed developments are reviewed for compliance with fire safety standards by responsible local fire agencies per the Uniform Fire Code and other state and local ordinances.

Utilities

Goal

Section	**Policy**
3.J.3	Require proposed new development in identified underground conversion districts and along scenic corridors to construct underground utility lines on and adjacent to the site of proposed development or, when this is infeasible, to contribute funding for future undergrounding.

Agriculture and Natural Resources

Goal

Goal 5A	To designate adequate agricultural land and promote development of agricultural uses to support the continued viability of Madera County's agricultural economy.

Section	**Policy**
5.A.1	Maintain agriculturally designated areas for agricultural uses and direct urban uses to designated new growth areas, existing communities, and/or cities.
5.A.2	Discourage the conversion of prime agricultural land to urban uses unless an immediate and clear need can be demonstrated that indicates a lack of land for non-agricultural uses.
5.A.3	Ensure that new development and public works projects do not encourage further expansion of urban uses into designated agricultural areas.
5.A.5	Allow the conversion of existing agricultural land to urban uses only within designated urban and rural residential areas, new growth areas, and city spheres of influence where designated for urban development on the General Plan Land Uses Diagram.
5.A.6	Encourage continued and, where possible, increased agricultural activities on lands designated for agricultural uses.
5.A.13	Require development within or adjacent to designated agricultural areas to incorporate design, construction, and maintenance techniques that protect agriculture and minimize conflicts with adjacent agricultural uses.

Water Resources

Goal

Goal 5.C	To protect and enhance the natural qualities of Madera County's streams, creeks and groundwater.

Section	**Policy**
5.C.2	Minimize sedimentation and erosion through control of grading, cutting of trees, removal of vegetation, placement of roads and bridges, and use of off-road vehicles. The County shall discourage grading activities during the rainy season, unless adequately mitigated, to avoid sedimentation of creeks and damage to riparian habitat.
5.C.3	Require new development of facilities near rivers, creeks, reservoirs, or substantial aquifer recharge areas to mitigate any potential impacts of release of pollutants in floodwaters or flowing river, stream, creek, or reservoir waters.
5.C.4	Require the use of feasible and best management practices (BMPs) to protect streams from the adverse effects of construction activities, and shall encourage the urban storm drainage systems and agricultural activities to use BMPs.

Goals and Policies

5.C.5 Approve only wastewater disposal facilities that will not contaminate groundwater or surface water.

5.C.7 Protect groundwater resources from contamination and further overdraft by encouraging water conservation efforts and supporting the use of surface water for urban and agricultural uses wherever feasible.

Wetland and Riparian Areas

Goal

Goal 5.D To protect wetland communities and related riparian areas throughout Madera County as valuable resources.

Section **Policy**

5.D.1 Comply with the wetlands policies of the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, and the California Department of Fish and Game. Coordination with these agencies at all levels of project review shall continue to ensure that appropriate mitigation measures and the concerns of these agencies are adequately addressed.

5.D.2 Require new development to mitigate wetland loss in both regulated and non-regulated wetlands through any combination of avoidance, minimization, or compensation. The County shall support mitigation banking programs that can provide the opportunity to mitigate impacts to rare, threatened, and endangered species and/or the habitat which supports these species in wetland and riparian areas.

5.D.3 Development should be designed in such a manner that pollutants and siltation will not significantly adversely affect the value or function of wetlands.

5.D.4 Require riparian protection zones around natural watercourses. Riparian protection zones shall include the bed and bank of both low- and high-flow channels and associated riparian vegetation, the band of riparian vegetation outside the high-flow channel, and buffers of 100 feet in width as measured form the top of bank of unvegetated channels and 50 feet in width as measured from the outer edge for the canopy of riparian vegetation. Exceptions may be made in existing developed areas where existing development and lots are located within the setback areas.

5.D.5 Identify and conserve remaining upland habitat areas adjacent to wetlands and riparian areas that are critical to the feeding or nesting of wildlife species associated with these wetland and riparian areas.

5.D.6 Require new private or public developments to preserve and enhance existing native riparian habitat unless public safety concerns require removal of habitat for flood control or other public purposes. In cases where new private or public development results in modification or destruction of riparian habitat for purposes of flood control, the developers shall be responsible for creating new riparian habitats within or near the project area at a ration of three acres of new habitat for every acre destroyed.

Fish and Wildlife Habitat

Goal

Goal 5.E To protect, restore, and enhance habitats that support fish and wildlife species so as to maintain populations at viable levels.

Section **Policy**

5.E.2 Require development in areas known to have particular value of wildlife to be carefully planned and, where possible, located so that the reasonable value of the habitat for wildlife is maintained.

5.E.3 Encourage private landowners to adopt sound wildlife habitat management practices, as recommended by the California Department of Fish and Game officials and the U.S. Fish and Wildlife Service.

Vegetation

Goals and Policies

Goal

Goal 5.F To preserve and protect the valuable vegetation resources of Madera County.

Section	Policy
5.F.1	Encourage landowners and developers to preserve the integrity of existing terrain and natural vegetation in visually sensitive areas such as hillsides and ridges, and along important transportation corridors.
5.F.2	Require developers to use native and compatible non-native species, especially drought-resistant species, to the extent possible in fulfilling landscaping requirements imposed as conditions of discretionary permit approval or for project mitigation.
5.F.6	Require that new development preserve natural woodlands to the maximum extent possible.

Open Space for the Preservation of Natural Resources

Goal

Goal 5.H To preserve and enhance open space lands to maintain the natural resources of the County.

Section **Policy**

5.H.2 Require that new development be designed and constructed to preserve the following types of areas and features as open space to the maximum extent feasible:

a. High erosion hazard areas;
b. Scenic and trial corridors;
c. Streams and streamside vegetation;
d. Wetlands;
e. Other significant stands of vegetation;
f. Wildlife corridors; and
g. Any areas of special ecological significance.

5.H.5 Require that significant natural, open space, and cultural resources be identified in advance of development and incorporated into site-specific development project design.

Air Quality

Goal

Goal 5.J To protect and improve air quality in Madera County and the region.

Section	Policy
5.J.5	Require new development projects that exceed adopted SJVUAPCD emission thresholds to submit an air quality analysis for review and approval. Based on this analysis, the County shall require appropriate mitigation measures consistent with the SJVUAPCD's 1991 Air Quality Attainment Plan (or updated edition).
5.J.11	Require developers to pave all access roads, driveways, and parking areas serving new commercial and industrial development.

Air Quality - Transportation/Circulation

Goal

Goal 5.K To integrate air quality planning with the transportation planning process.

5.K.1	Require new development to be planned to result in smooth flowing traffic conditions for major roadways. This includes traffic signals and traffic signal coordination, parallel roadways, and intra- and inter-neighborhood connections where significant reductions in overall emissions can be achieved.
5.K.5	Require large new developments to dedicate land for and construct appropriate improvements for suitably located park-and-ride lots, subject to the requirements of California Government Code

Goals and Policies

Section 66000 et seq. (AB 1600).

Seismic and Geological Hazards

Goal

Goal 6.A To minimize loss of life, injury, and property damage due to seismic and geological hazards.

Section	Policy
6.A.1	Require the preparation of a soils engineering and geologic-seismic analysis prior to permitting development in areas prone to geological or seismic hazards (i.e., groundshaking, landslides, liquefaction, critically expansive soils).

Flood Hazards

Goal

Goal 6.B To minimize the risk of loss of life, injury, damage to property, and economic and social dislocations resulting form flood hazards.

Section	Policy
6.B.1	Require flood-proofing of structures in areas subject to flooding.
6.B.3	Restrict uses in designated floodways to those that are tolerant of occasional flooding and do not restrict or alter flow of floodwaters. Such uses may include agriculture, outdoor recreation, mineral extraction, and natural resource areas.
6.B.4	Require that all development within areas subject to 100-year floods be designed and constructed in a manner that will not cause floodwaters to be diverted onto adjacent property or increase flood hazards to other areas.
6.B.5	Require flood control structures, facilities, and improvements to be designed to conserve resources, incorporate and preserve scenic values, and to incorporate opportunities for recreation, where appropriate.

Fire Hazards

Goal

Goal 6.C To minimize the risk of loss of life, injury, and damage to property and watershed resources resulting from unwanted fires.

Section	Policy
6.C.3	New development shall be required to have water systems that meet County fire flow requirements. Where minimum fire flow is not available to meet County standards, alterative fire protection measures, including sprinkler systems, shall be identified and may be incorporated into development if approved by the appropriate fire protection agency.
6.C.4	The County shall review project proposals to identify potential fire hazards and prevent or mitigate such hazards to acceptable levels of risk.
6.C.5	Require development to have adequate access for fire and emergency vehicles and equipment. All major subdivisions shall have two points of ingress and egress.

Airport Hazards

Goal

Goal 6.D To minimize the risk of loss of life, injury, damage to property, and economic and social dislocations resulting from airport hazards.

Section	Policy

Goals and Policies	
6.D.1	Ensure that new development around airports does not create safety hazards such as lights from direct or reflective sources, smoke, electrical interference, hazardous chemicals, or fuel storage in violation of adopted safety standards.
6.D.2	Limit land uses in airport safety zones to those uses listed in the applicable airport comprehensive land use plans (CLUPs) as compatible uses. Exceptions shall be made only as provided for in the CLUPs. Such uses shall also be regulated to ensure compatibility in terms of location, height, and noise.
Noise	
Goal	
Goal 7.A	To protect County residents from the harmful and annoying effects of exposure to excessive noise.
Section	**Policy**
7.A.2	Noise created by new transportation noise sources, including roadway improvement projects, shall be mitigated so as not to exceed 60 db L_{dn} within the outdoor activity areas of existing or planned noise-sensitive land uses and 45 dB L_{dn} in interior spaces of existing or planned noise-sensitive land uses.
7.A.5	Noise which will be created by new non-transportation noise sources, or existing noise sources, or existing non-transportation noise sources which undergo modification that may increase noise levels, shall be mitigated so as not to exceed the noise level standards of Table 7.A.4 (of the Madera County General Plan Policy Document) on lands designated for noise-sensitive uses. This policy does not apply to noise levels associated with agricultural operations.
7.A.6	Enforce the State Noise Insulation Standards (California Code of Regulations, Title 24) and chapter 35 of the Uniform Building code (UBC) concerning interior noise exposure for multi-family housing, hotels and motels.
7.A.7	Where the development of a project may result in land uses being exposed to existing or projected future noise levels exceeding the levels specified by the policies of the noise section of the General Plan, the County shall require an acoustical analysis early in the review process so that noise mitigation may be included in the project design.

SOURCE: County of Madera, 1995.

MADERA COUNTY ZONING ORDINANCE

The Madera County Code zoning ordinance (Ord. 525 Section 1) provides specific parameters for development on land within the County. The zoning designation ensures that adequate County resources will be available to support development within the County. The zoning designations also act as guidelines for the safety and efficiency of the public streets and highways; aid in stabilizing the economic vitality of the County; and preserve and promote the aesthetics of the community environment. The zoning designations serve as a guide for the distribution and location of the population and of various land uses.

MADERA SITE

The Madera site consists of agricultural land and one single-family rural residential unit. For the last 10 years, the site has been used for non-irrigated feed grain crops such as oat, a winter crop. No crops were planted in 2005 (Shaw, pers. comm., 2005).

Land uses within Madera County are predominantly agricultural. Land uses surrounding the Madera site include light industrial, rural residential, highway service commercial, commercial, recreational and airport. Vacant agricultural, abandoned greenhouses, vacant land, and a single-family residence are located to the north of Avenue 18 adjacent to the Madera site. A junkyard is located south of Avenue 18 between the Madera site and Highway 99. Land directly west of Road 23, adjacent to the Madera site, is used for orchards. The land located directly south-southwest of the Madera site at the northeastern junction of Road 23 and Avenue 17 is used for vineyard and residential uses. The Madera Municipal Airport is located approximately 0.5 miles south of the Madera site across Avenue 17. The Madera Municipal Golf Course is adjacent to the airport.

General Plan and Zoning Designations

General Plan

The Madera County General Plan assigns land a general land use designation to act as overall guidance for Countywide development. The Madera County General Plan land use designation for the Madera site is Agriculture (A) (**Figure 3.8-10**), defined as:

> *Agriculture – This designation provides for agricultural uses, limited agricultural support service uses (e.g., barns, animal feed facilities, silos, stables, fruit stands and feed stores), agriculturally oriented services (e.g., wineries, cotton gins), timber production, mineral extraction, airstrips, public and commercial refuse disposal sites, recreational uses, public and quasi public uses, and similar and compatible uses. The minimum parcel size shall be 18 acres. Allowable residential development in areas designated Agriculture includes one or two single-family homes per parcel, secondary residential units, caretaker/employee housing, and farmworker housing. The FAR for nonresidential uses shall not exceed 0.10, with the following exceptions: the FAR for agriculturally oriented services shall not exceed 0.25 and the FAR for poultry ranches, greenhouses, and similar uses shall not exceed 0.50. This designation assumes an average of 3.2 persons per dwelling unit.*

Zoning

County zoning designations in and surrounding the Madera site include Agricultural, Rural, Exclusive, Twenty Acre District (ARE-20); Commercial, Rural, Highway District (CRH);

Commercial, Rural, General District (CRG); and Agricultural, Rural, Five Acre District (AR-5) (**Figure 3.8-11**).

According to the zoning ordinance (Chapter 18.58, Title 18) of the Madera County Code, the Madera site has been zoned as *ARE-40,* which is defined as "Agricultural, Rural, Exclusive, Forty Acre District" (Madera County, 2005). Permitted uses within the ARE-40 zone include most agricultural uses, single family residential, dormitory or attached multi-family farm labor housing unit, and communication tower/wireless communications facility. Regulations under the zoning designation include setback and offset minimums and maximums, structure height maximums, dimension requirements and off-street parking requirements, as defined in zoning ordinance (Chapter 18.58, Title 18) of the Madera County Code. The Madera site is within the sphere of influence of the City of Madera (City of Madera General Plan, 1992). A sphere of influence is defined as a plan for the expected physical boundaries of a local agency (in this case the City of Madera).

Airport Land Use Compatibility Plan

The City of Madera owns all of the property within the airport runway protection zones, as well as most of the property within the runway protection zones proposed for the future. The Madera

Municipal Airport has 120 non-commercial aircraft based at the airfield. These aircraft include 98 single-engine airplanes, 12 multi-engine airplanes, 1 jet airplane, 1 helicopter and 8 ultralights. Aircraft operations average 139 per day, 75% of which is local general aviation, 24% transient general aviation, less than 1% air taxi and less than 1% military (AirNav, 2005).

The *Airport Land Use Compatibility Plan*, adopted in December 1993, established the criteria and policies to assess the compatibility between the principal airports in Madera County and proposed land use development in the areas surrounding them (**Table 3.8-10**). The plan specifically applies to land uses surrounding the Chowchilla Municipal Airport and the Madera Municipal Airport. The Madera site is located approximately 0.5 miles north of the Madera Municipal Airport.

Portions of the Madera site are located within Madera Municipal Airport Compatibility Zones A, B1, B2, and D, as defined in the Airport Land Use Plan (most of the site is within Zone D). Zone A is classified as runway protection zone or within building restriction line. Zone A is considered high-risk area and no buildings, including residential, or assemblages of people are allowed in this area. A maximum of 10 people per acre is allowed within this area. Zone B1 is classified as an approach/departure zone and includes any land adjacent to a runway. Zone B2 is classified as an extended approach/departure zone. In Zone B1 aircraft commonly travel below 400 feet above ground level within 1,000 feet of the runway. In Zone B2 aircraft are commonly below 800 feet above ground level. Zone B1 and B2 are considered to be subject to substantial noise.

Insert Figure 3.8-10

Insert Figure 3.8-11: Zoning map for Madera Site.

TABLE 3.8-10
MADERA COUNTY AIRPORT LAND USE PLAN – SUPPORTING COMPATIBILITY CRITERIA

Section	Supporting Compatibility Criteria
3.1	**Noise**
3.1.4	Noise Exposure for Other Land Uses – Noise level standards for compatibility with other types of land uses shall be applied in the same manner as the [above] residential noise level criteria (i.e. the maximum CNEL considered normally acceptable for residential uses in the vicinity of the airports covered by the plan is 60 dBA). Examples of acceptable noise levels for other land uses in an airport's vicinity are presented in Table 2B (of the Airport Plan; recreated in **Section 3.10** of this DEIS).
3.2	**Safety**
3.2.2	Risks to People on the Ground – The principal means of reducing risks to people on the ground is to restrict land uses so as to limit the number of people who might gather in areas most susceptible to aircraft accidents.
3.2.3	Land Uses of Particular Concern – Land uses of particular concern are ones in which the occupants have reduced effective mobility or are unable to respond to emergency situations. Schools, hospitals, nursing homes, and other uses in which the majority of occupants are children, the elderly, and the handicapped shall be prohibited within Compatibility Zones A, B, and C.
3.2.4	Other Risks – Any use involving the potential for aboveground explosion or release of toxic or corrosive materials shall be prohibited in Compatibility Zones A and B.
3.2.5	Open Land – In the event that an aircraft is forced to land away from an airport, the risks to people on board can best be minimized by providing as much open land area as possible within the airport vicinity. This concept is based upon the fact that the large majority of aircraft accidents occurring away from an airport runway are controlled emergency landings in which the pilot has reasonable opportunity to select the landing site. (a) To qualify as open land, an area must be: (1) free from structures and other major obstacles such as walls, large trees, and overhead wires; and (2) have minimum dimensions of at least 75 feet by 300 feet. Roads and automobile parking lots are acceptable as open land area if they meet the preceding criteria. (b) Open land requirements for each compatibility zone are to be applied with respect to the entire zone. Individual parcels may be too small to accommodate the minimum-size open area requirement. Consequently, the identification of open land areas must initially be accomplished at the general plan or specific plan level or as part of large-acreage projects. (c) Clustering of development and providing contiguous landscaped and parking areas is encouraged as a means of increase in the size of open land areas (d) Building envelopes and the approach zones should be indicated on all development plans and tentative maps within an airport's planning area in order to assure that individual development projects provide the open land areas identified in a general plan, specific plan, or other large-scale plan.
3.3	**Airspace Protection**
3.3.1	Height Limits – The criteria for limiting the height of structures, trees and other objects in the vicinity of an airport shall be set in accordance with Part 77, subpart c, of the Federal Aviation Regulations and with the United States Standard for Terminal Instrument Procedures (TERPS). Airspace plans for each airport which depict the critical areas for airspace protection are provided in Chapter 4 (of the airport compatibility plan).

Section	Supporting Compatibility Criteria
3.3.2	Avigation Easement Dedication – The owner of any property proposed for development within Compatibility Zones A and B shall be required to dedicate an avigation easement to the jurisdiction owning the airport. (a) The avigation easement shall: (1) provide the right of flight in the airspace above the property; (2) allow the generation of noise and other impacts associated with aircraft overflight; (3) restrict the height of structures, trees and other objects; (4) permit access to the property for the removal or aeronautical marking of objects exceeding the established height limit; and (5) prohibit electrical interference, glare, and other potential hazards to flight from being created on the property. (b) Within Compatibility Zones A and B, height restrictions of less than 35 feet may be required.
3.3.3	Minimum Restriction – Other than within Compatibility Zones A and B, no restrictions shall be set which limit the height of structures, trees, or other objects to less than 35 feet above the level of the ground on which they are located even if the terrain or objects on the ground may penetrate Federal Aviation Regulations Part 77 surfaces.
3.3.5	Other Flight Hazards – Land uses which may produce hazards to aircraft in flight shall not be permitted within any airport's planning area. Specific characteristics to be avoided include: (1) glare or distracting lights which could be mistaken for airport lights; (2) sources of dust, steam, or smoke which may impair pilot visibility; (3) sources of electrical interference with aircraft communications or navigation; and (4) any use which may attract large flocks of birds, especially landfills and certain agricultural uses.

SOURCE: Madera County, 1993; AES, 2006.

Maximum allowable density for both Zone B1 and B2 for uses other than residential is 60 people per acre. The land use should not attract more than the indicated number of people per acre at any time, including all individuals who may be on the property (e.g., employees, customers/visitors, etc.). The densities are intended as general planning guidelines to aid in determining the acceptability of proposed land uses. Zone B1 and B2 are required to be 30% open land, as defined in **Table 3.8-11**. Zone D is classified as other airport environs. It is considered to have negligible safety risk but may have potential for annoyance from overflights. In Zone D there is no limit on land use densities and no requirements for open land.

As indicated in **Figure 3.8-12**, less than a quarter of the Madera site is within Zone B1. A small portion of the Madera site is located in Zones A and B2 and the remainder of the Madera site is within Zone D. Common hazards to flight include: 1) glare or distracting lights which could be mistaken for airport lights, 2) sources of dust, steam, or smoke which may impair pilot visibility, 3) sources of electrical interference with aircraft communications or navigation; and 4) any use which may attract large flocks of birds, especially landfills and certain agricultural uses.

TABLE 3.8-11
MADERA COUNTY AIRPORT LAND USE COMPATIBILITY PLAN – DEVELOPMENT CRITERIA

Zone	Development Criteria		Examples	
	Prohibited Uses	Other Development Conditions	Normally Acceptable Uses	Uses Not Normally Acceptable
A	• All structures except ones with location set by aeronautical function. • Assemblages of people. • Objects exceeding FAR Part 77 height limits. • Hazards to flight.	• Dedication of avigation easement.	• Aircraft tiedown apron. • Pastures, field crops, vineyards. • Automobile parking.	• Heavy poles, signs, large trees, etc.
B1 and B2	• Schools, day care centers, libraries. • Hospitals, nursing homes. • Highly noise-sensitive uses. • Storage of highly flammable materials. • Hazards to flight.	• Locate structures maximum distance from extended runway centerline. • Minimum NLR of 25 dBA in residential and office buildings. • Dedication of avigation easement.	• Aircraft tie down apron. • Pastures, field crops, vineyards. • Automobile parking. • Any agricultural use except ones attracting bird flocks. • Warehousing, truck terminals. • Single-story offices.	• Suburban residential subdivisions. • Intensive retail uses. • Intensive manufacturing or food processing uses. • Two-story offices. • Hotels and motels.
D	• Hazards to flight.	• Deed notice required for residential development.	• All except ones hazardous to flight.	• Land uses with bright lights or bird attractions and uses that create smoke or dust.

NOTES: NRL = noise level reduction; i.e., the attenuation of sound level from outside to inside provided by the structure.
SOURCE: Madera County, 1993.

Federal Aviation Administration Regulations

The Federal Aviation Administration (FAA) regulates height restrictions surrounding the Madera Municipal Airport. The Federal Aviation Regulations (FAR) Part 77, addresses objects affecting navigable airspace (FAA, 2005). FAR Part 77 defines "surfaces" above the ground that represent height restrictions for objects, including buildings, trees, heavy poles, signs, etc. Surfaces surrounding the airport are represented in **Figure 3.8-13**. The southernmost portion of the Madera site is within the transitional surfaces zone. The rest of the Madera site is within the horizontal surface zone. The surface heights are defined in those areas as:

- *Transitional surface.* These surfaces extend outward and upward at right angles to the runway centerline and the runway centerline extended at a slope of 7 to 1 from the sides of the primary surface and from the sides of the approach surfaces. They extend until they reach the height of the horizontal surface.
- *Horizontal surface.* A horizontal plane 150 feet above the established airport elevation.

Insert Figure 3.8-12: Airport COMPATIBILITY ZONES

Insert Figure 3.8-13: Airport height restrictions

The FAA also has several requirements for notifying the FAA if construction of an object may affect the navigable airspace (FAA, 2000). Notice is required if the object is:

> Near a Public-Use or Military Airport, Heliport, or Seaplane Base, where the proposed project would be within 20,000 feet of an airport with at least one runway more than 3,200 feet in length and the object would exceed a slope of 100:1 horizontally from the nearest point of the nearest runway.

In addition to permanent structures, the FAA requires notification of temporary structures or equipment, such as a crane, if the object exceeds the 100:1 horizontal slope requirement.

NORTH FORK SITE

The North Fork site is located within four miles of the community of North Fork, which has a population of approximately 3,600 residents. North Fork is located in the Sierra Nevada Mountains adjacent to the Sierra National Forest, about 30 miles south of Yosemite National Park, and 50 miles north of Fresno. The North Fork site is located on land that is currently held in individual trust by the BIA. Individual trust allotments are held on land to the north of the North Fork site. Current land use at the North Fork site, which has three residences, is rural residential. Land uses surrounding the North Fork site are also rural residential.

General Plan and Zoning

Because the North Fork site is located on land that is currently held in trust by the BIA, it is not subject to local land use jurisdiction. The general plan and zoning for Madera County are not applicable to land that is held in trust by Federal agencies. The North Fork site is not within the range of influence of the Madera Municipal Airport or any other airport.

3.8.3 AGRICULTURE

The United States Department of Agriculture performs a state-by-state census of agriculture every five years. The National Agriculture Statistical Service (NASS) collects census data from a list of all known potential agriculture operators. The census reports on various statistics relating to crop yields, farm acreage, and farm economics. Selected census of agriculture data for Madera County from the past three census years is shown in **Table 3.8-12**. According to the most recent census, 682,468 acres (or 50%) of the total 1,374,160 acres in Madera County were used for farming purposes (USDA, 2005). Farmland in Madera County accounts for 2.5% of the total farmland within the State of California.

The Madera County Department of Agriculture publishes the annual crop report that includes data on that year's crop yields and the progress of any County pest management programs.

TABLE 3.8-12
CENSUS OF AGRICULTURE STATISTICS FOR MADERA COUNTY

Category	1992 Census	1997 Census	2002 Census
Farms	1709	1673	1780
Land in farms	749,465	641,546	682,468
Farm acreage (percentage of total County acreage)	55%	47%	50%
Average size of farm	439	383	383

SOURCE: USDA, 2005; AES, 2006.

According to the *2003 Agricultural Crop Report*, Madera County's gross production value in 2003 was $760,784,000, which was a decrease of 2.4% from the 2002 production value (Madera County, 2003). The report also indicated that field crop production decreased slightly for most commodities, such as cotton, corn, oats, wheat, rice, barley, sugar beets, dry edible beans, and all hay. Wheat production experienced the greatest decline due to wheat stripe rust affecting more than two thirds of the County wheat acreage. Almonds became the number one crop in Madera County in 2003, due to continuing increases in acreage and a 42% increase in production value. Grape values were also increasing slightly although not enough to offset decreased harvested acreage and yield per acre. Variable temperatures harmed pistachio pollination, resulting in a 70% decrease in yield. Apples, olives, and many fruits increased in yield when less productive orchards were taken out of production. Dairy herd numbers increased and market milk production increased by over 14% during 2003. Nursery production acreage increased 58% in 2003, with an accompanying increase in production value of nearly $2.4 million. In contrast, vegetable crop production values decreased over $7 million (Madera County, 2003). The top ten crops for 2002 and 2003 are shown in **Table 3.8-13**.

TABLE 3.8-13
TOP TEN CROPS IN MADERA COUNTY

2002		2003	
Crop	**Gross Production Value**	**Crop**	**Gross Production Value**
Grapes	$155,043,000	Almonds	$163,038,000
Almonds	$115,148,000	Grapes	$148,260,000
Milk	$108,843,000	Milk	$128,973,000
Pistachios	$93,798,000	Heifers	$47,025,000
Heifers	$43,750,000	Pistachios	$31,891,000
Alfalfa	$32,650,000	Alfalfa	$31,374,000
Cattle and Calves	$24,225,000	Cattle and Calves	$29,185,000

Poultry	$23,801,000	Poultry	$22,125,000
Nursery Stock	$18,271,000	Cotton	$21,771,000
Cotton	$21,771,000	Nursery Stock	$20,660,000
Total	**$637,300,000**	**Total**	**$644,302,000**

SOURCE: Madera County, 2004; AES, 2006.

Farmland Protection Policy Act

The Farmland Protection Policy Act (FPPA) (7 U.S.C. § 4201) is intended to minimize the impact Federal programs have on the unnecessary and irreversible conversion of farmland to non-agricultural uses. It assures that Federal programs are compatible with state, local, and private programs and policies to protect farmland (NRCS, 2004).

The Natural Resource Conservation Service (NRCS) is responsible for the implementation of the FPPA and categorizes farmland in a number of ways. These categories include: prime farmland, farmland of statewide importance, and unique farmland. Prime farmland is considered to have the best possible features to sustain long-term productivity. Farmland of statewide importance includes farmland similar to prime farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Unique farmland is characterized by inferior soils and generally needs irrigation depending on climate. The designated farmlands must also have been in production four years prior to the categorization by the NRCS.

Consultation with the NRCS has shown that the Madera site contains prime farmland, unique farmland, and farmland of statewide and local importance (**Appendix Q**). The NRCS uses the California Storie Index to evaluate the land for crop suitability, as detailed in **Table 3.8-14**.

TABLE 3.8-14
STORIE INDEX RATING

Grade	Index Rating	Description
1	80-100	Few limitations that restrict their use for crops.
2	60-80	Suitable for most crops, but have minor limitations that narrow the choice of crops and have a few special management needs.
3	40-60	Suited to a few crops or to special crops and require special management.
4	20-40	If used for crops, are severely limited and require special management.
5	10-20	Not suited for cultivated crops, but can be used for pasture and range.
6	Less than 10	Soil and land types generally not suited to farming.

SOURCE: USDA, 2004; AES, 2004.

In some areas, land that does not meet the criteria for prime or unique farmland is considered to be farmland of statewide importance for the production of food, feed, fiber, forage, and oilseed crops. The criteria for defining and delineating farmland of statewide importance are determined by the State. Generally, the land includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some areas may produce as high a yield as prime farmland if conditions are favorable. Farmland of statewide importance may include tracts of land that have been designated for agriculture by State law. As shown in **Figure 3.8-15**, the majority of the Madera site is made up of farmland of local importance. Farmland of local importance is defined as tracts of land that are not identified as having national (prime or unique farmland) or statewide importance, but which have nonetheless been identified by a local agency as important farmlands (7 C.F.R. § 657.5).

Williamson Act

In addition to the NRCS categorization, the California Land Conservation Act of 1965, referred to as the Williamson Act (CGC § 51200 *et. seq*.), enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments which are much lower than normal because they are based upon farming and open space uses as opposed to full market value. Local governments receive an annual subvention of forgone property tax revenues from the State via the Open Space Subvention Act of 1971. A majority of land in Madera County is under Williamson Act contracts, as shown in **Figure 3.8-14**. Land subject to a Williamson Act contract is valued on a yearly basis according to its income-producing ability. Generally, the assessor values the land by taking the fair rental value, as well as the actual rent being paid (if any) on the subject land. The fair rental value is then divided by a specified capitalization rate. The capitalized value, which will serve as the land's value under the Williamson Act, is the result of this calculation.

The Williamson Act was amended in 1998 to include the Farmland Security Zone (FSZ) Act (CGC § 51200 *et. seq*.). The property must be in a Williamson Act contract in order to qualify as a FSZ. Under the provisions of the act, the landowner applies for FSZ status, and enters into a contract with the county, which annually renews twenty years into the future. The owner of the property promises not to develop the property into non-agricultural uses. In return, the FSZ contact is valued for assessment purposes at 65 percent of the value of its Williamson Act value, or its Proposition 13 value, whichever is lower. The terms of a Williamson Act contract are for a minimum of 10 years, whereas terms of the FSZ contract are for a minimum of 20 years. In September 2002, a group of adjacent landowners just outside of the City of Madera created a farmland security perimeter, which permanently protects 440 acres of farmland to the west of the

Insert Figure 3.8-14: Williamson Act and Farmland Security Zone Parcels

Figure 3.8-15: FMMP Map

city, shown as dark green areas in **Figure 3.8-14**. There are no Williamson Act or FSZ contracts on the Madera site or the North Fork site.

Farmland Mapping and Monitoring Program

The Farmland Mapping and Monitoring Program (FMMP) produces maps and statistical data used for analyzing impacts on California's agricultural resources. Agricultural land is rated according to soil quality and irrigation status and is usually based on information obtained from aerial photographs and from the NRCS. The FMMP map for the vicinity of the Madera site is shown in **Figure 3.8-15**.

Madera County Right to Farm Ordinance

In situations where nonagricultural land uses extend into agricultural areas, agricultural operations sometimes become the subject of nuisance complaints. Litigation sometimes results, leading to a curtailing of agricultural operations and investments in agricultural operations. In order to conserve, protect, and encourage the development, improvement, and viability of agricultural operations, Madera County passed a "right to farm" ordinance protecting existing agricultural operations from nuisance lawsuits (Ord. 522 § 2(part), 1989).

Current Use

For the last 10 years, the Madera site has been used for non-irrigated feed grain crops such as oat. Oat is a winter crop and is harvested in July/August. The land is fallow the remainder of the year. No crop was planted this year and the land is currently vacant (Shaw, pers. comm., 2005). The harvest is used as supplemental feed for private use and is not sold for profit.

The North Fork site is not currently used for agricultural activities. Because the North Fork site is trust land, it is not applicable for Williamson Act or FSZ contract.

3.8.4 OTHER RESOURCE USES

The Madera site is primarily used for agriculture. No hunting, fishing, hiking or other recreational uses exist at the Madera site. The nearest recreational use is the Madera Municipal Golf Course, located just south of the Madera site across Avenue 17.

The North Fork site is currently used for rural residences and for open space.