

General Plan Amendment and Zoning Amendment for Colusa Industrial Properties

Draft
Environmental Impact Report
SCH No. 2006052113

Volume 1

Submitted to:

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1. EXECUTIVE SUMMARY

1.1 PROJECT OVERVIEW

The County of Colusa is the lead agency responsible for preparation of this Draft Environmental Impact Report (EIR). The Draft EIR discusses the environmental effects of implementation of a Colusa County General Plan Amendment and a Zoning Amendment for approximately 138 acres in the northern portion of the Colusa Industrial Park (Park) and 13 acres within the Colusa Golf and Country Club, and it evaluates the environmental effects of wastewater treatment facilities in the Park. The project area is located just south of the City of Colusa in unincorporated Colusa County (maps are provided in Chapter 3). Colusa Industrial Properties, owner of the Park, has submitted an application to the County to allow residential, commercial, and recreational uses on 151 acres and to construct the associated utilities and service systems, including on-site wastewater treatment facilities.

The project would consist of a mixed-use community with approximately 286 residential units, improvements to the existing golf course, various commercial and office uses along State Route (SR) 20 (approximately 116,580 square feet), and wastewater treatment facilities to serve the mixed-use community and other uses in the Park. Development of the mixed-use community would require the following amendments to the Colusa County General Plan and Zoning Ordinance:

- Change in land use designation for 138 acres from Industrial (I) to Urban Residential (UR), Parks and Recreation (P-R), and Commercial (C).
- Change in land use designation for 13 acres from Parks and Recreation (P-R) to Urban Residential (UR).
- Change in zoning for 138 acres from Industrial (M) and Industrial Planned Development (M-PD) to Single Family Residential (R-1-8), High Density Residential (R-4), General Recreation (G-R), Neighborhood Commercial (C-1), Community Commercial (C-2), and Highway Commercial (CH).
- Change in zoning for 13 acres from General Recreation (G-R) to High Density Residential (R-4).

Construction of the wastewater treatment facilities would not require a General Plan Amendment or Zoning Amendment; the proposed site is currently zoned for Industrial (M) with a land use designation of Industrial (I). A conditional use permit would be required.

The residential community would include approximately 140 single-family homes and 30 condominiums or townhomes in the northwestern portion of the Park and approximately 116 apartments along SR 20, north of the existing office buildings. The office and commercial uses would include office buildings, a hotel or motel, family restaurant, gas station, and other small retail services. The Colusa Golf and Country Club would be expanded to include a new clubhouse, driving range, parking area, and cart sheds, with two holes being redesigned and located south of the existing golf course.

The water supply for the project would be provided by two existing, permitted groundwater wells in the northern end of the Park. Wastewater treatment service would be provided by a proposed wastewater treatment plant in the southern end of the Park. Sewers, water supply pipelines, and storm drains would be constructed throughout the mixed-use community as part of the development.

Other project features include the realignment and extension of Farinon Road through the mixed-use community to Wescott Road, walking and biking trails along Farinon Road and near the golf course, and a potential overflight corridor with hangar access. Farinon Road would be shifted north, outside of the Colusa County Airport property, and would travel along the east side of the single family homes and exit the project area to the northwest, connecting to Wescott Road. Sunrise Boulevard, which currently provides access to the office buildings in the northern end of the Park, would terminate on the east side of the proposed golf course expansion. A 150-foot wide overflight corridor may be designated along the southern side of the single family homes. The single family homes would also be setback from the adjacent agricultural uses to the west by a 100-foot open space buffer.

The applicant's project objectives are as follows:

1. Create a mixed-use community that can serve as the gateway to the City of Colusa and provides superior quality development with an aesthetically pleasing landscape.
2. Provide a mix of uses and facilities that create a positive financial impact on the County over the long term.
3. Provide a recreational area that benefits the community and increases tourism revenue in the County and City of Colusa.
4. Accommodate a percentage of future job creation and population growth by providing office and commercial space and residential units in a mix of residential unit types and densities.

1.2 SCOPE AND CONTENT OF EIR

The purpose of this EIR is to provide decision-makers, public agencies, and the general public with information on the significant environmental effects of the project and to identify feasible alternatives and mitigation measures to avoid or reduce those effects.

The EIR will also be used as a reference document for subsequent review of tentative subdivision maps. Although the tentative subdivision maps will be a separate, future discretionary approval requiring CEQA compliance, the project analyzed in this EIR includes preliminary subdivision plans, and the EIR addresses reasonably foreseeable impacts of these preliminary plans.

1.3 SUMMARY OF IMPACTS AND MITIGATION MEASURES

The following environmental impact and mitigation summary table (Table 1-1 Summary of Impacts and Mitigation Measures) provides an overview of the environmental effects of the project and the mitigation measures recommended to eliminate or reduce the impacts. The residual impact after mitigation is also identified. Detailed discussions of each of the identified impacts and mitigation measures, including pertinent support data, can be found in the specific topic sections in Chapter 4 of this Draft EIR.

This Draft EIR has identified impacts associated with the following resources as significant:

- Land Use
- Population, Housing, and Employment
- Public Services
- Transportation and Traffic
- Noise
- Air Quality

- Utilities and Service Systems
- Hydrology and Water Quality
- Geology and Soils
- Hazards and Hazardous Materials
- Agricultural Resources
- Cultural Resources
- Aesthetics

This report identifies significant and unavoidable impacts related to Land Use (inconsistent with General Plan due to excessive noise; incompatible with airport due to noise and safety concerns; conflicts with City of Colusa uses because of increased traffic), Transportation and Traffic (increased traffic congestion on nearby roadways and intersections; modification of air traffic patterns), Noise (increased traffic noise off-site; exposure of residents to airport noise), Air Quality (increased construction pollutants and vehicle emissions), Hazards and Hazardous Materials (hazards associated with aircraft overflights); Agricultural Resources (indirect conversion of adjacent agricultural lands).

Table 1-1. Summary of Impacts and Mitigation Measures

Impacts	Significance	Mitigation Measures	Residual Significance
4.1 Land Use			
LU-1 The project would be inconsistent with Colusa County General Plan land use policies LU-12 and LU-35 because the project would conflict with the adjacent airport and expose residents to excessive noise.	Significant	Mitigation Measure LU-1a: Design homes and businesses to reduce interior aircraft-related noise levels by up to 30 dB. Mitigation Measure LU-1b: Encourage aerial application operators to takeoff to the south and land to the north when weather conditions permit. Mitigation Measure LU-1c: Encourage aerial application operators to make early turns (left or right) during Runway 31 departures (northbound take-offs). Mitigation Measure LU-1d: Encourage straight-out departures for Runway 31 operations (northbound take-offs). Mitigation Measure LU-1e: Encourage power reduction during departures for Runway 31 operations (northbound take-offs). Mitigation Measure LU-1f: Require aerial application operators to comply with Federal Aviation Administration regulations for operations over congested areas, prohibiting loaded aircraft from overflying the development area at low altitudes.	Significant and unavoidable
LU-2 With adoption of the proposed General Plan amendment, the project would be consistent with the project area's General Plan land use designations.	Less than significant	None.	Less than significant

Table 1-1. Summary of Impacts and Mitigation Measures

Impacts	Significance	Mitigation Measures	Residual Significance
LU-3 With adoption of the proposed zoning amendment, the proposed land uses would be consistent with the Colusa County Zoning Ordinance.	Less than significant	None.	Less than significant

Table 1-1. Summary of Impacts and Mitigation Measures

Impacts	Significance	Mitigation Measures	Residual Significance
<p>LU-4 The project would not be consistent with the Colusa County Airport Comprehensive Land Use Plan with regard to noise standards, safety concerns, and incompatible land uses within the overflight zone.</p>	<p>Significant</p>	<p>Mitigation Measure LU-4a: Design homes and businesses to reduce interior aircraft-related noise levels by up to 30 dB.</p> <p>Mitigation Measure LU-4b: Notify all prospective purchasers and users of property in the project area of inconveniences or discomforts that may accompany airport operations.</p> <p>Mitigation Measure LU-4c: Locate permanent water features associated with the golf course outside of the approach-departure zone.</p> <p>Mitigation Measure LU-4d: Encourage aerial application operators to takeoff to the south and land to the north when weather conditions permit.</p> <p>Mitigation Measure LU-4e: Encourage aerial application operators to make early turns (left or right) during Runway 31 departures (northbound take-offs).</p> <p>Mitigation Measure LU-4f: Encourage straight-out departures for Runway 31 operations (northbound take-offs).</p> <p>Mitigation Measure LU-4g: Encourage power reduction during departures for Runway 31 operations (northbound take-offs).</p> <p>Mitigation Measure LU-4h: Require aerial application operators to comply with Federal Aviation Administration regulations for operations over congested areas, prohibiting loaded aircraft from overflying the development area at low altitudes.</p>	<p>Significant and unavoidable</p>

Table 1-1. Summary of Impacts and Mitigation Measures

Impacts	Significance	Mitigation Measures	Residual Significance
LU-5 The project would create physical conflicts with existing agricultural uses as well as uses within the City of Colusa.	Significant	Mitigation Measure LU-5a: Provide funding to install a signal at Bridge Street and Fremont Street intersection when Caltrans approves. Mitigation Measure LU-5b: Construct a wall along western project boundary to provide a barrier between residences and agricultural uses. Mitigation Measure LU-5c: Implement landscaping and lighting plans for uses along State Route 20.	Significant and unavoidable

4.2 Population, Housing, and Employment

PHE-1 The project would add 860 persons to the unincorporated Colusa County population, but population projections would not be exceeded.	Less than significant	None.	Less than significant
PHE-2 The project would add up to 286 dwelling units in unincorporated Colusa County, but housing projections would not be exceeded.	Less than significant	None.	Less than significant
PHE-3 The project would not provide affordable housing and would be inconsistent with affordable housing policies and programs in the County General Plan Housing Element.	Significant	Mitigation PHE-3: Identify on subdivision map at least 29 affordable housing units in the high density residential zone in the project area.	Less than significant

Table 1-1. Summary of Impacts and Mitigation Measures

Impacts	Significance	Mitigation Measures	Residual Significance
4.3 Public Services			
PS-1 The project would increase the demand on the Sheriff’s Department, requiring the need for two new staff members and possibly new or expanded facilities.	Significant	Mitigation Measure PS-1: Provide funding for two new Sheriff’s Department staff and temporary rent-free office space, if needed.	Less than significant
PS-2 The project would increase demand for jail services by 4 percent, but existing jail facilities would have adequate capacity to serve the project.	Less than significant	None.	Less than significant
PS-3 The project would increase the demand for the Sacramento River Fire District by about 10 percent annually, resulting in the need for one new firefighter and improvements to existing facilities.	Significant	Mitigation Measure PS-3: Provide funding for one new firefighter and temporary rent-free office space, if needed.	Less than significant
PS-4 New students generated by the project would exceed the capacity of Burchfield Elementary School, resulting in the need for a new school in the Colusa Unified School District.	Significant	Mitigation Measure PS-4: Provide fair share funding for a new elementary school and other facilities deemed necessary by the Colusa Unified School District.	Less than significant
PS-5 The project would increase City park usage by 15 percent and accelerate physical deterioration of the City’s park facilities, resulting in the need for increased maintenance and possibly new facilities.	Significant	Mitigation Measure PS-5: Provide fair share funding for park development and City park maintenance, operation, and renovations based on the increased demand of 15 percent.	Less than significant

Table 1-1. Summary of Impacts and Mitigation Measures

Impacts	Significance	Mitigation Measures	Residual Significance
PS-6 The project would increase visitation at the Colusa-Sacramento River SRA, Colusa County Fairgrounds, and Colusa or Delevan NWRs, but would not be expected to accelerate substantial physical deterioration of these recreation facilities.	Less than significant	None.	Less than significant
PS-7 The project would result in a minor increase in demand for library services.	Less than significant	None.	Less than significant
PS-8 The project would result in a minor increase in demand on medical and public health services and facilities.	Less than significant	None.	Less than significant
PS-9 The project would result in a minor increase in demand on Superior Court and County Probation Department services.	Less than significant	None.	Less than significant

4.4 Transportation and Traffic

TT-1 The project would generate 10,497 daily trips, which would increase traffic congestion on SR 20 (Bridge Street) in the area between Sioc Street and Fremont Street, resulting in a reduction in level of service from D to F.	Significant	Mitigation Measure TT-1: Provide funding to install a signal at Bridge Street and Fremont Street intersection when Caltrans approves.	Significant and unavoidable
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Table 1-1. Summary of Impacts and Mitigation Measures

Impacts	Significance	Mitigation Measures	Residual Significance
TT-2 The addition of 10,497 daily project trips would have an incremental impact on traffic operations at key intersections in the project vicinity.	Significant	Mitigation Measure TT-2: Provide funding to install a signal at Bridge Street and Fremont Street intersection when Caltrans approves.	Significant and unavoidable
TT-3 Construction of project roads would have a minor physical effect on the environment.	Less than significant	None.	Less than significant
TT-4 Project implementation may result in minor increases in airport traffic and could adversely affect air traffic patterns, resulting in increased safety concerns for aircraft operators.	Significant	None available.	Significant and unavoidable
TT-5 Agricultural vehicle traffic and road designs may cause minor hazards to drivers in the project vicinity, but the project would not substantially increase driver hazards.	Less than significant	None.	Less than significant
TT-6 The project would incrementally increase demand for the area's bicycle and pedestrian facilities.	Significant	Mitigation Measure TT-6: Provide sidewalks and bike routes on all project roads and establish opportunities for transit.	Less than significant
TT-7 The project would exacerbate traffic congestion on SR 20 between Wescott Road and Sunrise Boulevard at project buildout in 2010.	Significant	Mitigation Measure TT-7a: Contribute fair share costs for widening SR 20/Bridge Street from Market Street to Farinon Road to a four-lane road (31-43% depending on the roadway segment). Mitigation Measure TT-7b: Contribute fair share costs (16%) for modifying Fremont Street.	Significant and unavoidable

Table 1-1. Summary of Impacts and Mitigation Measures

Impacts	Significance	Mitigation Measures	Residual Significance
<p>TT-8 The project would exacerbate degraded traffic operations at key intersections in the project vicinity at project buildout in 2010.</p>	<p>Significant</p>	<p>Mitigation Measure TT-8a: Contribute fair share costs for road improvements on SR 20 between Fremont Street and Wescott Road (14-59% depending on the improvement). Mitigation Measure TT-8b: Contribute fair share costs for installing traffic signals on SR 20 at Sunrise Boulevard and Farinon Road (30-36% depending on the improvement).</p>	<p>Significant and unavoidable</p>
<p>TT-9 Cumulative development would result in a substantial increase in traffic volumes along roads in the project vicinity in 2025, exceeding acceptable Level of Service in several locations.</p>	<p>Significant</p>	<p>Mitigation Measure TT-9a: Contribute fair share costs for road improvements on Sioc Street and Wescott Road within the City of Colusa (1.4-2.3% depending on the improvement). Mitigation Measure TT-9b: Contribute fair share costs for road improvements on Wescott Road and Farinon Road in the County (1.4-3.2% depending on the improvement). Mitigation Measure TT-9c: Contribute fair share costs for widening SR 20 to four lanes from SR 99 to Interstate 5 (2.0-2.1% depending on the improvement).</p>	<p>Significant and unavoidable</p>
<p>TT-10 Cumulative development would result in a substantial increase in traffic volumes at intersections in the project vicinity in 2025, exceeding acceptable Level of Service at several intersections.</p>	<p>Significant</p>	<p>Mitigation Measure TT-10a: Contribute fair share costs for road improvements on SR 20, Sioc Street, and Wescott Road within the City of Colusa (3.4-4.3% depending on the improvement). Mitigation Measure TT-10b: Contribute fair share costs for road improvements on SR 20, Wescott Road, and Farinon Road in the County (3.0-6.3% depending on the improvement).</p>	<p>Significant and unavoidable</p>

Table 1-1. Summary of Impacts and Mitigation Measures

Impacts	Significance	Mitigation Measures	Residual Significance
4.5 Noise			
N-1 Short-term construction would increase noise levels and create perceptible groundborne vibrations, affecting nearby residents.	Significant	Mitigation Measure N-1a: Limit construction activities to daytime hours and no more than 8 hours in a 24-hour period. Mitigation Measure N-1b: Provide a minimum six-foot high temporary noise barrier along the northwest corner of the project area during grading activities. Mitigation Measure N-1c: Minimize noisy construction activities in the northwest corner of the project area.	Less than significant
N-2 Existing and project-related traffic noise levels along State Route 20 would expose certain project residents and commercial tenants to significant noise levels.	Significant	Mitigation Measure N-2: Provide appropriate barriers, setbacks, and insulation for homes and businesses along SR 20 in the project area to reduce traffic noise levels by 5-10 dB.	Less than significant
N-3 Project-related traffic would significantly increase off-site noise levels along State Route 20 between Sioc Street and Sunrise Boulevard.	Significant	None available.	Significant and unavoidable

Table 1-1. Summary of Impacts and Mitigation Measures

Impacts	Significance	Mitigation Measures	Residual Significance
<p>N-4 Ongoing aircraft overflights would expose project residences and businesses to excessive noise levels.</p>	<p>Significant</p>	<p>Mitigation Measure N-4a: Design homes and businesses to reduce interior aircraft-related noise levels by up to 30 dB.</p> <p>Mitigation Measure N-4b: Notify all prospective purchasers and users of property in the project area of inconveniences or discomforts that may accompany airport operations.</p> <p>Mitigation Measure N-4c: Encourage aerial application operators to takeoff to the south and land to the north when weather conditions permit.</p> <p>Mitigation Measure N-4d: Encourage aerial application operators to make early turns (left or right) during Runway 31 departures (northbound take-offs).</p> <p>Mitigation Measure N-4e: Encourage straight-out departures for Runway 31 operations (northbound take-offs).</p> <p>Mitigation Measure N-4f: Encourage power reduction during departures for Runway 31 operations (northbound take-offs).</p> <p>Mitigation Measure N-4g: Require aerial application operators to comply with Federal Aviation Administration regulations for operations over congested areas, prohibiting loaded aircraft from overflying the development area at low altitudes.</p>	<p>Significant and unavoidable</p>

Table 1-1. Summary of Impacts and Mitigation Measures

Impacts	Significance	Mitigation Measures	Residual Significance
N-5 Nearby industrial operations may generate periodic loud noises, but project residents would not be exposed to unacceptable noise levels from these operations.	Less than significant	None.	Less than significant
N-6 The wastewater treatment facility would generate some operational noise, but the facility's design and location would minimize the effects of noise on project residents.	Less than significant	None.	Less than significant
4.6 Air Quality			
AQ-1 Construction activities would generate dust and produce vehicle emissions that would exceed established emissions thresholds for ROG, NOx, and PM10.	Significant	Mitigation Measure AQ-1: Reduce construction emissions through water application, covering loads, periodic cleaning of paved areas, and establishing speed limits.	Significant and unavoidable
AQ-2 Project traffic and residential and commercial operations would result in long-term stationary and mobile emissions that would exceed air quality thresholds for ROG, NOx, and PM10.	Significant	Mitigation Measure AQ-2a: Design homes to include certified woodstoves and outdoor electrical outlets. Mitigation Measure AQ-2b: Provide sidewalks and bike routes on all project roads and establish opportunities for transit.	Significant and unavoidable
AQ-3 Project traffic would increase CO concentrations at intersections, but would not expose sensitive receptors to substantial CO concentrations.	Less than significant	None.	Less than significant

Table 1-1. Summary of Impacts and Mitigation Measures

Impacts	Significance	Mitigation Measures	Residual Significance
AQ-4 The proposed wastewater treatment facilities could create objectionable odors and create a nuisance for project residents.	Significant	Mitigation Measure AQ-4: Implement an Odor Management Plan to identify procedures for reducing odors.	Less than significant
4.7 Utilities and Service Systems			
U-1 The project would increase water supply demand by 290 gallons per minute, but capacity of existing groundwater wells in the Park (1,750 gallons per minute) would not be exceeded.	Less than significant	None.	Less than significant
U-2 The project would increase wastewater volumes by 90,000 gallons per day, but the planned wastewater facilities will accommodate this demand, and the facilities would not cause significant environmental effects.	Less than significant	None.	Less than significant
U-3 Project drainage facilities would accommodate additional stormwater runoff, but the downstream drainage ditch may exceed capacity during major storm events and result in significant environmental effects.	Significant	Mitigation Measure U-3a: Maintain, and widen as necessary, the unnamed ditch from the southern end of the development to the Park boundary. Mitigation Measure U-3b: Implement a Master Drainage Plan to assure downstream drainages will accommodate project runoff.	Less than significant

Table 1-1. Summary of Impacts and Mitigation Measures

Impacts	Significance	Mitigation Measures	Residual Significance
U-4 The project would generate 5.2 tons/day of solid waste, but transfer station and landfill capacity is sufficient to accommodate this increase.	Less than significant	None.	Less than significant
4.8 Hydrology and Water Quality			
HWQ-1 Project construction would result in a temporary discharge of pollutants into the unnamed drainage ditch running through the project area.	Significant	Mitigation Measure HWQ-1: Implement best management practices to control construction-related stormwater runoff, erosion, and sedimentation.	Less than significant
HWQ-2 Development in the project area would result in increased stormwater flows, which could affect water quality of downstream drainages.	Significant	Mitigation Measure HWQ-2a: Maintain, and widen as necessary, the unnamed ditch from the southern end of the development to the Park boundary. Mitigation Measure HWQ-2b: Implement and enforce a stormwater quality management plan and stormwater best management practices to manage urban runoff in the developed area. Mitigation Measure HWQ-2c: Implement a Master Drainage Plan to assure downstream drainages will accommodate project runoff.	Less than significant
HWQ-3 Development of the project area would result in a minor reduction in groundwater recharge in the Colusa Subbasin.	Less than significant	None.	Less than significant

Table 1-1. Summary of Impacts and Mitigation Measures

Impacts	Significance	Mitigation Measures	Residual Significance
HWQ-4 Groundwater pumping for the project’s water supply would increase groundwater use in Colusa County by 0.15 percent, and the effect on groundwater levels within the Colusa Subbasin would be minimal.	Less than significant	None.	Less than significant
HWQ-5 Land application of treated effluent could affect ground water quality.	Significant	Mitigation Measure HWQ-5: Comply with Waste Discharge Requirements issued by the Central Valley Regional Water Quality Control Board.	Less than significant
4.9 Geology and Soils			
GS-1 Earthquakes could result in damage to the project’s residences, commercial and office buildings, wastewater treatment facility, and utility lines, or personal injuries.	Significant	Mitigation Measure GS-1: Design project buildings and infrastructure to withstand earthquake activity.	Less than significant
GS-2 Development on expansive soils could cause structural damage and personal injury.	Significant	Mitigation Measure GS-2: Design project buildings and infrastructure to withstand expansive soil conditions based on geotechnical investigation.	Less than significant
GS-3 Construction activities would expose soils in disturbed areas to wind and water erosion.	Significant	Mitigation Measure GS-3: Implement best management practices to control construction-related stormwater runoff, erosion, and sedimentation.	Less than significant
4.10 Hazards and Hazardous Materials			
HHM-1 Releases of hazardous materials from truck traffic along SR 20 would pose minimal risks to project residents.	Less than significant	None.	Less than significant

Table 1-1. Summary of Impacts and Mitigation Measures

Impacts	Significance	Mitigation Measures	Residual Significance
<p>HHM-2 Hazards associated with routine use of the project gas station would pose minimal risks to project residents or the environment.</p>	<p>Less than significant</p>	<p>None.</p>	<p>Less than significant</p>
<p>HHM-3 Airport operations would expose project residents, visitors, and workers to health and safety risks associated with routine crop-dusting.</p>	<p>Significant</p>	<p>Mitigation Measure HHM-3a: Notify all prospective purchasers and users of property near or adjacent to agricultural operations of inconveniences or discomforts that may accompany agricultural operations.</p> <p>Mitigation Measure HHM-3b: Encourage aerial application operators to takeoff to the south and land to the north when weather conditions permit.</p> <p>Mitigation Measure HHM-3c: Encourage aerial application operators to make early turns (left or right) during Runway 31 departures (northbound take-offs).</p> <p>Mitigation Measure HHM-3d: Encourage straight-out departures for Runway 31 operations (northbound take-offs).</p> <p>Mitigation Measure HHM-3e: Require aerial application operators to comply with Federal Aviation Administration regulations for operations over congested areas, prohibiting loaded aircraft from overflying the development area at low altitudes.</p>	<p>Significant and unavoidable</p>
<p>HHM-4 Road improvements associated with the project would have a minimal effect on emergency access.</p>	<p>Less than significant</p>	<p>None.</p>	<p>Less than significant</p>

Table 1-1. Summary of Impacts and Mitigation Measures

Impacts	Significance	Mitigation Measures	Residual Significance
HHM-5 Project residents and structures may be exposed to flooding from increased flows in the unnamed ditch during major storm events.	Significant	Mitigation Measure HHM-5: Maintain, and widen as necessary, the unnamed ditch from the southern end of the development to the Park boundary.	Less than significant
4.11 Biological Resources			
BR-1 Development of the project area would result in a loss of low quality foraging habitat, including 93 acres of former agricultural fields, 23 acres of disturbed habitat, two acres of active agricultural fields, and 0.7-acre of oak trees.	Less than significant	None.	Less than significant
BR-2 Construction of the wastewater treatment plant would result in the loss of one acre of agricultural fields.	Less than significant	None.	Less than significant
BR-3 Construction activities may result in discharge of sediment into the unnamed ditch and could adversely affect low quality habitat within the ditch.	Less than significant	Mitigation Measure BR-3: Implement best management practices to control construction-related stormwater runoff, erosion, and sedimentation.	Less than significant
BR-4 Construction activities may temporarily disturb wildlife in the project vicinity, but impacts would not be substantial.	Less than significant	None.	Less than significant

Table 1-1. Summary of Impacts and Mitigation Measures

Impacts	Significance	Mitigation Measures	Residual Significance
BR-5 Construction activities would have minimal impacts on the giant garter snake, if it is present in the ditch, and other species utilizing the unnamed ditch.	Less than significant	None.	Less than significant
BR-6 Construction activities would have a minimal effect on Swainson’s hawk, and development of the project area would remove low quality foraging habitat.	Less than significant	None.	Less than significant

4.12 Agricultural Resources

AR-1 Development of the project area would result in the conversion of less than two acres of Prime Farmland, 27 acres of Farmland of Local Importance, and 98 acres of Grazing Land to non-agricultural uses, but would not result in a loss of agricultural productivity in the project area.	Less than significant	None.	Less than significant
AR-2 Construction of the wastewater treatment plant would result in the conversion of one acre of Unique Farmland to non-agricultural uses and would result in a minimal loss of agricultural productivity in the project area.	Less than significant	None.	Less than significant

Table 1-1. Summary of Impacts and Mitigation Measures

Impacts		Significance	Mitigation Measures	Residual Significance
AR-3	Development in the project area would increase agricultural-residential conflicts and could reduce productivity of adjacent agricultural lands.	Significant	Mitigation Measure AR-3a: Construct a wall along western project boundary to provide a barrier between residences and agricultural uses. Mitigation Measure AR-3b: Notify all prospective purchasers and users of property near or adjacent to agricultural operations of inconveniences or discomforts that may accompany agricultural operations.	Less than significant
AR-4	Project implementation could encourage the conversion of adjacent farmland to non-agricultural uses.	Significant	Mitigation Measure AR-4: Construct a wall along western project boundary to provide a barrier between residences and agricultural uses.	Significant and unavoidable
4.13 Cultural Resources				
CR-1	Ground disturbance could affect undocumented cultural resources, including human remains.	Significant	Mitigation Measure CR-1a: Conduct a pre-construction survey for cultural resources and ensure adequate recordation, protection, or recovery of any significant resources. Mitigation Measure CR-1b: Ensure adequate recordation, protection, or recovery of inadvertent resource discoveries (prehistoric or historic cultural resources, including human remains) during construction activities.	Less than significant
4.14 Aesthetics				
A-1	Nighttime construction lighting could adversely affect adjacent residences and could interfere with the nighttime vision of drivers on State Route 20.	Significant	Mitigation Measure A-1: Restrict construction to daytime hours (7 a.m. to 7 p.m.).	Less than significant

Table 1-1. Summary of Impacts and Mitigation Measures

Impacts	Significance	Mitigation Measures	Residual Significance
A-2 The project would have no effect on views of Sutter Buttes from public viewpoints and a minor effect on views from non-public viewpoints.	Less than significant	None.	Less than significant
A-3 The project would change the visual character of the project area, and proposed uses along State Route 20 may be inconsistent with the visual character of nearby residential, commercial, and industrial uses.	Significant	Mitigation Measure A-3: Implement a landscaping plan for uses along State Route 20.	Less than significant
A-4 The project would increase nighttime lighting and could affect visibility of drivers on State Route 20.	Significant	Mitigation Measure A-4a: Implement a landscaping plan for uses along State Route 20. Mitigation Measure A-4b: Implement a lighting plan for uses along State Route 20.	Less than significant

5.0 Cumulative Impacts

See Chapter 5.0 for the analysis of cumulative impacts.

1.4 SCOPING PROCESS

Colusa County distributed a Notice of Preparation in May 2006 to federal, state, and local agencies and other interested parties to solicit comments on the project and scope of the EIR (see Appendix A). A public scoping meeting was held on June 14, 2006 to present the project to the public and solicit additional feedback. Concerns raised during the meeting and comment period relate primarily to the project's close proximity to the Colusa County Airport, its consistency with applicable land use plans, and its compatibility with surrounding land uses. Additional concerns were raised regarding the provision of public services and the effects of the project's demand on County and City of Colusa service providers. Colusa County also identified specific concerns with the project in an Initial Study prepared in 2005 for the initial project application (see Appendix B). Concerns raised by Colusa County in response to the project application and by the public and other agencies during the scoping period were considered during preparation of the Draft EIR and are summarized below (refer to Chapter 2 Introduction for a more detailed summary). Comment letters are provided in Appendix A, and a copy of the County's Initial Study is provided in Appendix B.

The following environmental effects were identified as concerns by the County, public, and other agencies:

- *Land Use*: Compatibility with adjacent land uses; consistency with land use plans.
- *Population and Housing*: Potential growth-inducing effects.
- *Public Services*: Ability of City and County service providers and facilities to serve project.
- *Transportation and Traffic*: Effects of increased traffic on City streets and intersections.
- *Noise*: Effects of aircraft noise during take-offs to the north over the project area; effects of noise from nearby industrial operations.
- *Air Quality*: Effects of dust generated by nearby industrial operations; increased pollutants from construction and traffic emissions.
- *Utilities and Service Systems*: Ability of proposed or existing systems to meet project's demand; increased wastewater and impacts on water quality.
- *Hydrology and Water Quality*: Effects of increased runoff from City and project; effects of construction and urban runoff on water quality.
- *Geology and Soils*: Effects of expansive soils on project development; effects of construction on soils.
- *Hazards and Hazardous Materials*: Effects of project on public safety and emergency access; effects of airport operations on project.
- *Biological Resources*: Potential adverse effects on sensitive biological resources, including wetlands and special-status species.
- *Cultural Resources*: Potential adverse effects on historic resources.
- *Agricultural Resources*: Effects of project on adjacent farmland; loss of prime farmland.
- *Aesthetics*: Effects of project development on visual resources.

1.5 AREAS OF KNOWN CONTROVERSY

Of the issues identified above, impacts related to public services, transportation and traffic, noise, hazards and hazardous materials, and utilities and service systems as well as the project's proximity to the Colusa County Airport are likely to continue to be of concern to Draft EIR reviewers.

1.6 ALTERNATIVES TO THE PROJECT

Two land use alternatives, a wastewater facility alternative, and the No Project Alternative were evaluated in this EIR. The land use alternatives include a reduced residential density alternative, which reduces all residential densities to five units per acre to be consistent with residential uses allowed within the Colusa County Airport overflight zone, and a reduced commercial zone alternative, which designates the commercial zone along SR 20 as Industrial (M) instead of Highway Commercial (C-2/CH). The wastewater facility alternative discusses the potential for the project to connect into the City of Colusa's wastewater treatment facility. The No Project Alternative assumes no change in land uses in the Park and development of land uses allowed under its current zoning (Industrial) and Declaration of Protective Covenants. Table 1-1 provides a summary comparison of the environmental effects of the project and each alternative. The feasibility of each alternative is discussed in Chapter 8 Alternatives.

Table 1-1. Comparison of Alternatives to the Proposed Project

Proposed Project	No Project	Reduced Residential Density	Reduced Commercial Zoning	Wastewater Alternative – Connect to City Wastewater Facility
Description				
<ul style="list-style-type: none"> ▪ 140 single family residential units ▪ 146 high density residential units ▪ 6.52 acres of neighborhood commercial ▪ 21.67 acres of community commercial and highway commercial ▪ Golf course modification and improvements ▪ Farinon Road extension ▪ Onsite tertiary wastewater treatment facility 	<ul style="list-style-type: none"> ▪ 37.52 acres of office and commercial ▪ 76 acres of industrial ▪ No residential ▪ No community commercial or highway commercial ▪ No golf course modification or improvements ▪ No Farinon Road extension ▪ Onsite tertiary wastewater treatment facility 	<ul style="list-style-type: none"> ▪ 21 rural residences with 5-acre minimum parcels ▪ 6.52 acres of neighborhood commercial ▪ 21.67 acres of community commercial and highway commercial ▪ Golf course modification and improvements ▪ Farinon Road extension ▪ Onsite tertiary wastewater treatment facility 	<ul style="list-style-type: none"> ▪ 140 single family residential units ▪ 146 high density residential units ▪ 6.52 acres of commercial ▪ 21.67 acres of industrial ▪ Golf course modification and improvements ▪ Farinon Road extension ▪ Onsite tertiary wastewater treatment facility 	<ul style="list-style-type: none"> ▪ Same land development as project ▪ No onsite wastewater treatment facility ▪ Connect to City wastewater facility

Table 1-1. Comparison of Alternatives to the Proposed Project

Proposed Project	No Project	Reduced Residential Density	Reduced Commercial Zoning	Wastewater Alternative – Connect to City Wastewater Facility
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Results of Analysis

Table 1-1. Comparison of Alternatives to the Proposed Project

Proposed Project	No Project	Reduced Residential Density	Reduced Commercial Zoning	Wastewater Alternative – Connect to City Wastewater Facility
<p><u>Advantages</u></p> <ul style="list-style-type: none"> Meets all project objectives <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Inconsistent with airport land use restrictions for residential density (SU) Inconsistent with airport and County noise standards (SU) Safety concerns for project residents due to proximity of airport (SU) Traffic noise (SU) Traffic impacts (SU) Air quality impacts (SU) Indirect farmland conversion (SU) 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> No residential uses Fewer conflicts with airport and agricultural uses Less demand for public services Less night lighting Fewer safety concerns <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Does not meet any project objectives No residential uses Inconsistent with airport noise guidelines for some commercial uses More traffic than project More traffic noise and emissions than project No Farinon Road extension No golf course modification or improvements Increased noise and other concerns from industrial uses 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Consistent with airport land use restrictions for residential density Less demand for public services Less traffic - may reduce two SU traffic impacts Less vehicle noise Less vehicle emissions Fewer conflicts with agricultural uses Reduced safety concerns Would meet most project objectives <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Inconsistent with airport noise guidelines and safety concerns (but fewer residences affected) Other environmental impacts would occur Might be economically infeasible 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Less traffic - may reduce some impacts Less vehicle noise Less vehicle emissions Fewer noise concerns for commercial uses near airport Less night lighting Would meet most project objectives <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Inconsistent with airport land use restrictions for residential density Inconsistent with airport noise guidelines and safety concerns for residences Other environmental impacts would occur Less revenue for County 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Meets all project objectives <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Would result in similar impacts within the development area Could exacerbate water quality and aquatic biology impacts associated with the WWTP's noncompliance with WDR effluent limitations, depending on project and WWTP improvement schedules (SU)

Table 1-1. Comparison of Alternatives to the Proposed Project

Proposed Project	No Project	Reduced Residential Density	Reduced Commercial Zoning	Wastewater Alternative – Connect to City Wastewater Facility
<p>Conclusions</p> <ul style="list-style-type: none"> Meets all project objectives 	<ul style="list-style-type: none"> Does not reduce any SU impacts to LTS New impacts from industrial noise and odor Does not meet any project objectives 	<ul style="list-style-type: none"> Environmentally superior alternative May reduce two SU traffic impacts Exposes fewer residences to airport noise and safety concerns Would meet most project objectives Might be economically infeasible 	<ul style="list-style-type: none"> Does not reduce any SU impacts to LTS Would meet most project objectives Might be economically infeasible 	<ul style="list-style-type: none"> Does not reduce any SU impacts to LTS Could generate new water quality and aquatic biology SU impact, depending on schedules Meets all project objectives Concerns with schedule

LOS = Level of Service
LTS = Less than Significant
SU = Significant and Unavoidable
WDR = Waste Discharge Requirements
WWTP = Wastewater Treatment Plant

2. INTRODUCTION

The County of Colusa is the lead agency responsible for preparation of this Draft Environmental Impact Report (EIR). The Draft EIR discusses the environmental effects of implementation of a Colusa County General Plan Amendment and a Zoning Amendment for approximately 138 acres in the northern portion of the Colusa Industrial Park (Park) and 13 acres within the Colusa Golf and Country Club, and it evaluates the environmental effects of wastewater treatment facilities in the Park. The project area is located just south of the City of Colusa in unincorporated Colusa County (maps are provided in Chapter 3). Colusa Industrial Properties (CIP), owner of the Park, has submitted an application to the County to allow residential, commercial, and recreational uses on 151 acres and to construct the associated utilities and service systems, including on-site wastewater treatment facilities.

This chapter provides an overview of the EIR and the California Environmental Quality Act (CEQA) review process.

2.1 PURPOSE AND SCOPE OF EIR

The purpose of this EIR is to provide decision-makers, public agencies, and the general public with information on the significant environmental effects of the project and identify feasible alternatives and mitigation measures to avoid or reduce those effects. The EIR describes the anticipated effects of the project on the following resources:

- Land Use
- Population, Housing, and Employment
- Public Services
- Transportation and Traffic
- Noise
- Air Quality
- Utilities and Service Systems
- Hydrology and Water Quality
- Geology and Soils
- Hazards and Hazardous Materials
- Biological Resources
- Agricultural Resources
- Cultural Resources
- Aesthetics

The EIR will also be used as a reference document for subsequent review of tentative subdivision maps. Although the tentative subdivision maps will be a separate, future discretionary approval requiring CEQA compliance, the project analyzed in this EIR includes preliminary subdivision plans and the EIR addresses reasonably foreseeable impacts of these preliminary plans.

2.2 CEQA REQUIREMENTS AND SCOPING PROCESS

The Draft EIR has been prepared in accordance with CEQA (Public Resources Code Secs. 21000 et seq.) and the CEQA Guidelines (14 Cal. Code Regs Secs. 15000 et seq.). The EIR has also been prepared pursuant to Colusa County CEQA requirements.

2.2.1 Notice of Preparation

In compliance with Section 15082 of the CEQA Guidelines, the County circulated a Notice of Preparation (NOP) on May 16, 2006 to interested agencies, groups, and individuals, including the State Clearinghouse. The State Clearinghouse assigned a state identification number (SCH #2006052113) to this EIR. The NOP was intended to encourage interagency communication and provide sufficient background information about the project to enable agencies, organizations, and individuals to respond with specific comments on the scope and content of the EIR.

A public scoping meeting was held at the Colusa Industrial Park on June 14, 2006. All comments received during the NOP public notice period and scoping meeting were considered during the preparation of this Draft EIR. The NOP and comment letters are included in Appendix A.

2.2.2 Public and Agency Scoping

Comment letters received in response to the NOP expressed concern with the project's effects on public services in the City of Colusa and fire protection services, economic feasibility, proximity to industrial uses (air and noise concerns), and land use compatibility (Appendix A). The public scoping meeting also identified a variety of issues relating to land use compatibility, services, and project details. Colusa County identified specific concerns with the project in an Initial Study prepared in 2005 for the initial project application (see Appendix B). County concerns focused on the proximity of the project to the adjacent Colusa County Airport, industrial uses, and agricultural uses and the potential effects of the project on the adjacent land uses.

The County has also contacted local Native American tribes to solicit input on potential concerns and cultural resources that may be affected by the project and to comply with Senate Bill 18 (SB 18), which requires lead agencies to contact the tribes when projects require a General Plan or Specific Plan amendment or adoption. Letters were mailed to four tribes in May 2006; one tribe requested consultation, and follow-up letters were sent by the County to the four tribes as well as seven other Native American groups and individuals. Additional information on the consultation process is provided in the cultural resources report in Appendix H.

Table 2-1 summarizes concerns raised during the scoping period and identifies where they are addressed in this document.

Table 2-1. Summary of Public and Agency Comments

Comment/Concern	Process/Resource	EIR Discussion
Could the project be presented to the Airport Land Use Commission (ALUC)?	Process	Part of public involvement will include meeting with the ALUC. See Chapter 2 Introduction.
Does ALUC have to approve project before County?	Process	The ALUC must make a finding on project consistency with the Comprehensive Land Use Plan (CLUP). See Chapter 3 Project Description.
Tentative subdivision map as application in need of processing	Project Approval Process	Tentative subdivision maps will be processed separately. See Chapter 2 Introduction.
Which City permits will be needed? NOP identified encroachment permit	Project Description/Approvals	Permits needed for project implementation are identified in Chapter 3 Project Description.
Does applicant have deeded access along Farinon Road?	Project Description; Land Use; Transportation and Traffic	Farinon Road description is provided in Chapter 3 Project Description. Potential conflicts with adjacent landowners and access are discussed under Land Use, Transportation and Traffic, and Agricultural Resources in Chapter 4 Impact Analysis.
Phasing of retail and commercial	Project Description	Project phasing is discussed in Chapter 3 Project Description.
When is project buildout anticipated?	Project Description	Project buildout is discussed in Chapter 3 Project Description.
Large lot homes in south part of low density residential	Project Description; Impact Analysis	Project density and housing are discussed in Chapter 3 Project Description. Effects of the homes on the environment are discussed in Chapter 4 Impact Analysis.
5,000-foot buffer around airport	Land Use	Compatibility with adjacent land uses and the airport's CLUP is discussed under Land Use in Chapter 4 Impact Analysis.
Consider the policies of the City of Colusa General Plan update regarding urbanized development within the sphere of influence	Land Use	Cumulative effects of the project and the City's General Plan Update are evaluated in Chapter 5 Cumulative Impacts.

Table 2-1. Summary of Public and Agency Comments

Comment/Concern	Process/Resource	EIR Discussion
Compatibility of multi- and single-family residential uses and Colusa County Airport	Land Use	The project's compatibility with adjacent land uses and consistency with the CLUP are evaluated under Land Use in Chapter 4 Impact Analysis.
No high density housing allowed within overflight area per the CLUP	Land Use; Alternatives	Consistency with the CLUP is discussed under Land Use in Chapter 4 Impact Analysis. An alternative to the project addresses the residential land use restrictions in the CLUP (See Chapter 8 Alternatives).
Tax dollars for public safety for remainder of project	Funding for Public Services	The project's effects on public services are discussed under Public Services in Chapter 4 Impact Analysis.
Fire district services- staffing, fire station location, apparatus, protection systems, and population increase	Fire Services	The ability of the Sacramento River Fire District to serve the project and its residents is discussed under Public Services in Chapter 4 Impact Analysis.
Ability of City to provide emergency services for the project area	Emergency Services	The ability of various City service providers to provide services for the project is evaluated under Public Services in Chapter 4 Impact Analysis.
Impacts on City's parks and recreation facilities; identify measures to fully mitigate impacts	Parks and Recreation	The project's effects on parks and recreation facilities in the area are discussed under Public Services in Chapter 4 Impact Analysis.
Possible future access to State Route (SR) 20 to/from west	Project Description; Transportation and Traffic	Project access points are described in Chapter 3 Project Description. Effects of project traffic on adjacent roads are discussed under Transportation and Traffic in Chapter 4 Impact Analysis.

Table 2-1. Summary of Public and Agency Comments

Comment/Concern	Process/Resource	EIR Discussion
Consider City's Level of Service when evaluating impacts on City streets and intersections	Transportation and Traffic	Project traffic and its effects on streets and intersections in the City and County are discussed under Transportation and Traffic in Chapter 4 Impact Analysis and were evaluated in a traffic study (Appendix C).
Speed concerns along SR 20 while accessing commercial properties	Transportation and Traffic	The project's effects on traffic along SR 20 are discussed under Transportation and Traffic in Chapter 4 Impact Analysis.
Aircraft noise during take-offs to the north	Noise	The effects of noise from the adjacent airport are analyzed under Noise in Chapter 4 Impact Analysis.
Industrial facilities generate noise 24 hours a day, 7 days a week for 6-8 weeks of the year	Noise	The effects of noise from industrial uses are analyzed under Noise in Chapter 4 Impact Analysis.
Dust generated by industrial facilities could affect residents and result in stricter requirements for the industrial facility; appropriate buffer zones may be needed	Air Quality	The effects of air pollutants and emissions on project residents are discussed under Air Quality in Chapter 4 Impact Analysis.
Public safety analysis	Hazards and Hazardous Materials	Potential hazards and public safety impacts are discussed under Hazards and Hazardous Materials in Chapter 4 Impact Analysis. An operational analysis was also completed for the project (see Appendix I).
Project access for emergency services	Hazards and Hazardous Materials	The ability of emergency vehicles to access the project area is discussed under Hazards and Hazardous Materials in Chapter 4 Impact Analysis.
Applicant does not have a permit for the wastewater treatment plant before planning development project. Will treatment plant be approved first?	Project Description; Wastewater	The project schedule and phasing are described in Chapter 3 Project Description. Availability of the necessary utilities and service systems is discussed under Utilities and Service Systems in Chapter 4 Impact Analysis.

Table 2-1. Summary of Public and Agency Comments

Comment/Concern	Process/Resource	EIR Discussion
Evaluate availability of wastewater treatment capacity and impacts at time EIR is prepared	Wastewater	The ability of the proposed wastewater treatment facility to serve the project is discussed under Utilities and Service Systems in Chapter 4 Impact Analysis.
Water supply and fire hydrant distribution	Project Description; Water Supply	The project's water supply and ability to provide emergency water supply for fire hydrants are described in Chapter 3 Project Description and evaluated under Utilities and Service Systems in Chapter 4 Impact Analysis.
Evaluate impacts of proposed wells on City's and other existing water supply wells	Water Supply	Use of groundwater for the project's water supply was evaluated in a water sufficiency study (Appendix F).
Consider ability of drainage system to accept drainage from the City's northeast side	Drainage	The project's drainage system and its ability to receive existing and project flows are evaluated under Hydrology and Water Quality and Utilities and Service Systems in Chapter 4 Impact Analysis.
Best Management Practices (BMPs) are needed to avoid degradation of water quality during construction and from post-construction urban runoff	Water Quality	Mitigation measures to reduce impacts on water quality during and following construction are identified under Hydrology and Water Quality in Chapter 4 Impact Analysis.
Expansive soils	Soils	The presence of expansive soils in the project area is discussed under Geology and Soils in Chapter 4 Impact Analysis.
BMPs are needed to avoid soil erosion or loss of topsoil during grading	Soils	Mitigation measures to reduce soil impacts during construction are identified under Geology and Soils in Chapter 4 Impact Analysis.
Would the project result in the conversion of farmland to non-agricultural uses?	Agricultural Resources; Growth-Inducing Effects	The project's growth-inducing effects and direct/indirect impacts on farmland are discussed under Agricultural Resources in Chapter 4 Impact Analysis and in Chapter 7 Growth-Inducing Effects.

Table 2-1. Summary of Public and Agency Comments

Comment/Concern	Process/Resource	EIR Discussion
Mitigation is needed to conclude less than significant impacts on cultural resources	Cultural Resources	The project's potential effects on buried cultural resources are evaluated under Cultural Resources in Chapter 4 Impact Analysis, and mitigation measures are identified.
Further analysis needed to conclude less than significant impacts on aesthetics	Aesthetics	The project's effects on aesthetics or visual resources in the project vicinity are discussed under Aesthetics in Chapter 4 Impact Analysis.
Bypass around Colusa would go through Industrial Park	Project Description; Cumulative Impacts	Project roads are described in Chapter 3 Project Description. Cumulative projects, such as the City of Colusa General Plan Update, are analyzed in Chapter 5 Cumulative Impacts.

2.2.3 Public Review of Draft EIR and Final EIR

The public will be provided a 45-day period to review and provide comments on the Draft EIR. The public review period closes on *[TBD, 2007]*.

Within this 45-day review period, Colusa County will hold a public hearing to present the document and solicit comments. Also within the review period, Colusa County will present the project and EIR to the ALUC. Comments received by Colusa County will be considered in preparing the Final EIR. Copies of comments, and responses to comments, will be included in the Final EIR.

2.3 ORGANIZATION

The Draft EIR is organized into eight main chapters:

- Chapter 1, Executive Summary: provides a summary of the project and the environmental analyses for each resource.
- Chapter 2, Introduction: provides an overview of the EIR.
- Chapter 3, Project Description: provides a detailed description of the proposed project and identifies potential permits and approvals necessary for project implementation.
- Chapter 4, Impact Analysis: describes the regulatory and environmental settings, provides an analysis of impacts on resources potentially affected by project implementation, and identifies mitigation measures to reduce significant effects.

- Chapter 5, Cumulative Impacts: provides a discussion of cumulative impacts of the project.
- Chapter 6, Global Climate Change: provides a discussion of the project's contribution to global climate change.
- Chapter 7, Growth-Inducing Effects: provides a discussion of the potential growth-inducing effects of the project.
- Chapter 8, Alternatives: provides descriptions of alternatives evaluated to reduce one or more significant effects of the project.

Volume I of the Draft EIR includes chapters 1 through 10 plus Appendix A (Notice of Preparation) and B (Initial Study). Volume II of the Draft EIR includes the technical appendices (Appendix C through I) that support the impact analyses in Chapter 4; this volume is available for review upon request.

2.4 INTENDED USES OF THE EIR

The Colusa County Board of Supervisors will use the Final EIR to consider the project's significant environmental effects, mitigation measures, and alternatives in the process of deciding whether to approve the requested General Plan Amendment and Zoning Amendment. Responsible agencies may also use the EIR as needed for subsequent discretionary actions. Colusa County Local Agency Formation Commission would be a responsible agency for approving a wastewater service provider to serve the project. The EIR will also serve as a first-tier CEQA document for later environmental review of subdivision map applications and a conditional use permit for the wastewater facilities.

3. PROJECT DESCRIPTION

This chapter provides a description of the project, including the proposed land use and zoning changes, project objectives, utilities and service systems to serve the project's land uses, and the phasing of the development. Anticipated approvals and permits are provided at the end of this chapter.

3.1 PROJECT LOCATION AND BACKGROUND

Colusa Industrial Properties (CIP) is proposing a Colusa County General Plan Amendment and Zoning Amendment to change land use designations and zoning classifications on 151 acres within the Colusa Industrial Park (Park) and the adjacent Colusa Golf and Country Club. The Park and Golf and Country Club are located entirely within unincorporated Colusa County, just south of the City of Colusa and west of State Route (SR) 20 (Figure 3-1). The project area encompasses approximately 138 acres within the northernmost portion of the 950-acre Park, 13 acres within the Colusa Golf and Country Club, and 34 acres in the southern portion of the Park. The proposed development area includes the 138 acres in the north and the 13 acres on the golf course, and proposed wastewater treatment facilities would be located on a 34-acre site about one mile south of the development area. The Colusa County Airport is located south of the development area, and the Colusa Golf and Country Club is adjacent to the northern boundary of the Park. Surrounding land uses include agriculture fields, industrial facilities, and residential development.

The Park was established in 1981 when Colusa County approved development of approximately 253 acres for industrial and commercial uses (Colusa County 1981). The land was divided into 5- and 10-acre parcels with smaller parcels along SR 20. The larger parcels in the southern portion are used for industrial uses, including agricultural processing facilities and fertilizer suppliers. Professional offices were constructed on the smaller parcels in the northern portion; Colusa County, Natural Resources Conservation Service, CIP, and various service and other companies currently use these offices. This portion of the Park is currently zoned Industrial (M) and Industrial-Planned Development (M-PD) and has a land use designation of Industrial (I). The Colusa County General Plan (1989) acknowledged the 253-acre Park as an industrial area with vacant parcels capable of accommodating the City of Colusa's projected industrial growth.

In the early 1990s, another 195 acres were added to the Park following Colusa County certification of a Supplemental EIR (Colusa County 1992). The Park's expansion required an amendment to the Colusa County General Plan to designate the land for industrial uses. The 195 acres are located south of the original 253-acre Park, just south of an old Southern Pacific Railroad right-of-way (ROW). The land was designated Agriculture-General (A-G) and zoned for Exclusive Agriculture (E-A) in the 1989 General Plan and was changed to Industrial in 1992. Current uses on this land include industrial processing facilities, industrial process wastewater disposal (land application), and domestic wastewater evaporation ponds. The proposed wastewater treatment facilities would be located within the existing 34-acre land application site used for industrial process wastewater disposal.

In 2004 another 502 acres of land were added to the Park (ECO-ANALYSTS 2005). This land is referred to as the Davis property and is used for rice production. The property has a land use designation of Agriculture-General and is zoned for Exclusive Agriculture. The easternmost 150 acres are equipped to receive industrial process wastewater. Groundwater monitoring wells have been installed in the four corners of the 150-acre site to monitor water quality in accordance with a Regional Water Quality Control Board (RWQCB) permit. Ditches surround the rice fields and are used to convey flows to the land for flood irrigation and detain and recycle surface flows to prevent it from exiting the site.

3.2 PROJECT DESCRIPTION

3.2.1 Project Objectives

The applicant's project objectives are as follows:

1. Create a mixed-use community that can serve as the gateway to the City of Colusa and provides superior quality development with an aesthetically pleasing landscape.
2. Provide a mix of uses and facilities that create a positive financial impact on the County over the long term.
3. Provide a recreational area that benefits the community and increases tourism revenue in the County and City of Colusa.
4. Accommodate a percentage of future job creation and population growth by providing office and commercial space and residential units in a mix of residential unit types and densities.

3.2.2 Land Use and Zoning Changes

As part of the General Plan Amendment, the land use designation for the development area within the Park (138 acres) would change from Industrial (I) to Urban Residential (UR), Parks and Recreation (P-R), and Commercial (C) (Figure 3-2 and Table 3-1). The land use designation for the 13 acres within the Golf and Country Club would change from Parks and Recreation (P-R) to Urban Residential (UR). No land use changes are proposed for the wastewater treatment facilities.

Under the Zoning Amendment, zoning classifications for the development area within the Park would change from Industrial (M) and Industrial Planned Development (M-PD) to Single Family Residential (R-1-8), High Density Residential (R-4), General Recreation (G-R), Neighborhood Commercial (C-1), Community Commercial (C-2), and Highway Commercial (CH). Zoning classification for the 13 acres within the Golf and Country Club would change from General Recreation (G-R) to High Density Residential (R-4). No zoning changes are proposed for the wastewater treatment facilities.

Table 3-1. Land Use and Zoning Changes – Project Buildout Estimates

Proposed Land Use	Proposed Zoning	Acres	Units/Square Feet
Urban Residential, UR	Single Family Residential, R-1-8	49.86	140 units
Urban Residential, UR	High Density Residential, R-4	3.4	30 units
Urban Residential, UR	High Density Residential, R-4	13.2	116 units
Parks and Recreation, P-R	General Recreation, G-R	56.01	-
Commercial, C	Neighborhood Commercial, C-1	6.52	24,800 square feet
Commercial, C	Community Commercial, C-2 and Highway Commercial, CH	21.67	91,780 square feet
Total		150.66	286 units/116,580 sf

Project Description

The project would consist of a mixed-use community with approximately 286 residential units, improvements to the existing golf course, various commercial and office uses along SR 20, and wastewater treatment facilities to serve the mixed-use community and other uses in the Park.

Figure 3-1. Project Location

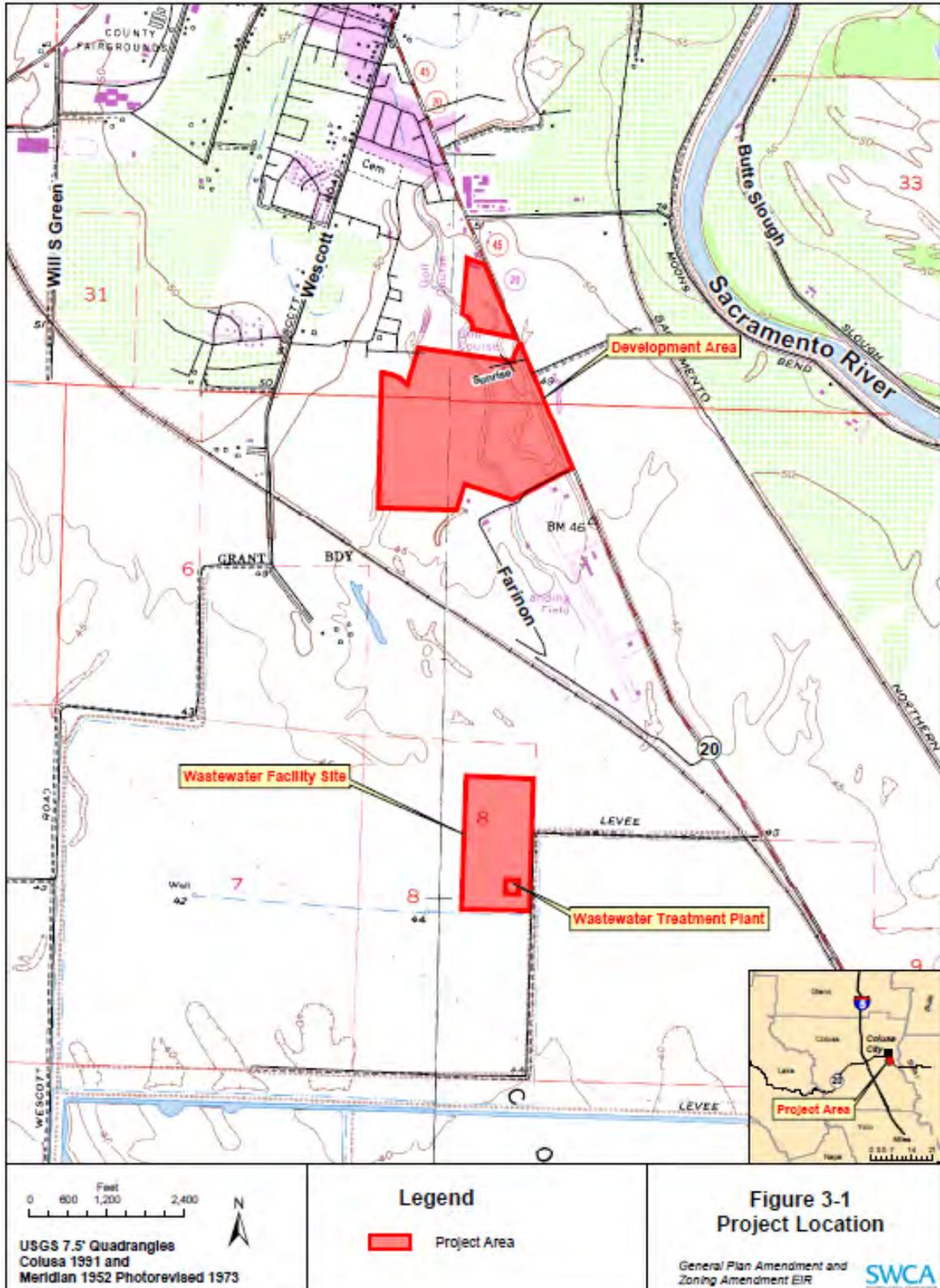
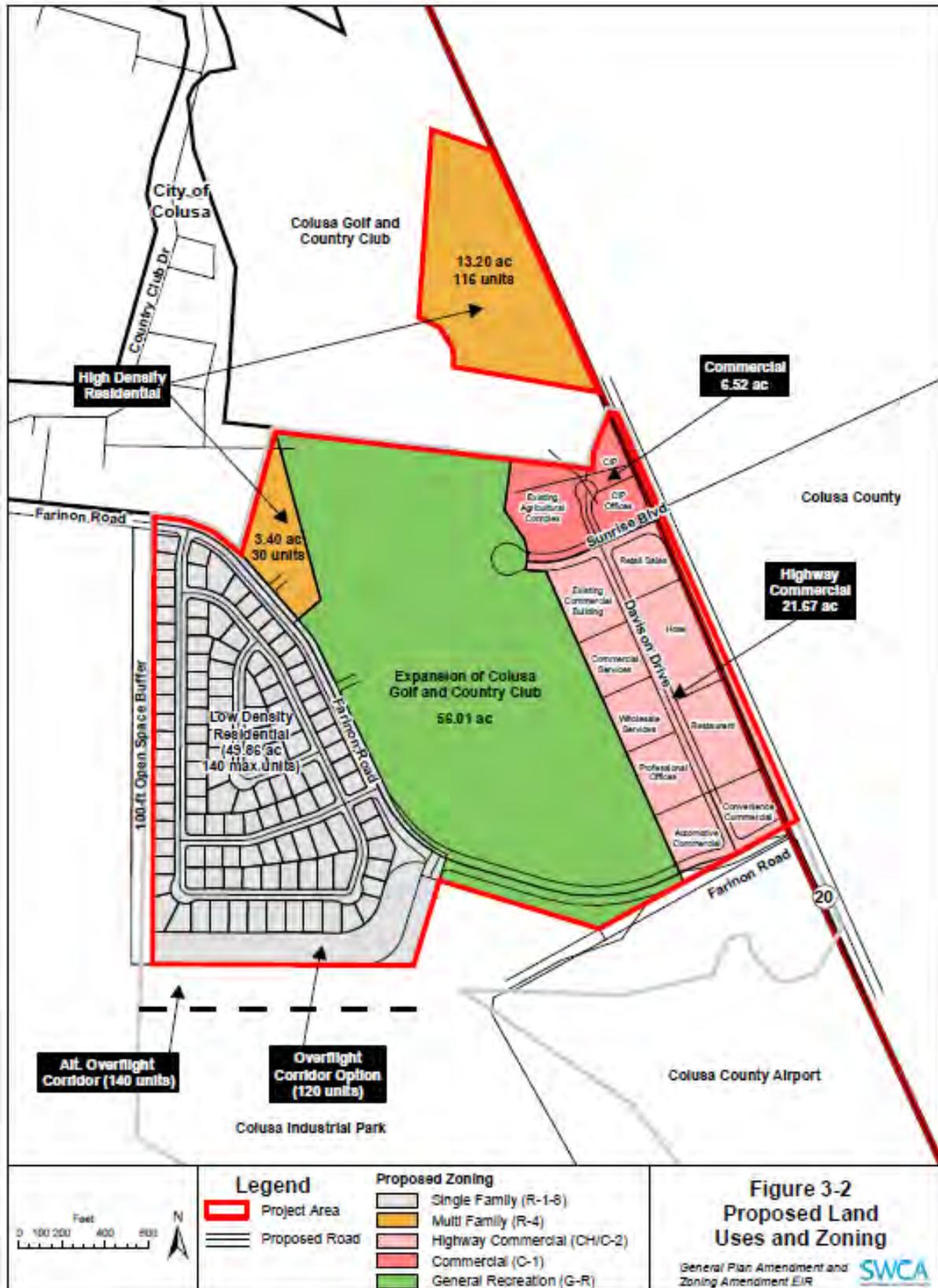


Figure 3-2. Proposed Land Uses and Zoning



Project Description

A maximum of 140 single-family residential units would be constructed in the western portion of the development area. The total number of single-family units would be identified on the tentative subdivision map, which would be submitted to the County for review after the requested amendments are processed. The total number of single-family units could range from approximately 119 units to a maximum of 140 units. The number of units is dependent on the location of an overflight corridor; if the corridor is outside the project area, the maximum number of units could be constructed (see below). A 100-foot wide open space buffer would be designated along the western boundary of the single-family homes to provide a buffer between the adjacent agricultural lands and the development.

Approximately 30 condominiums or townhomes would be located on a 3.4-acre parcel between the single-family homes and the golf course expansion. Approximately 116 high-density residential units would be located on a 13.2-acre parcel along SR 20, where three holes of the golf course currently occur. The high-density units would be constructed as part of a second or later phase of the project, as described in Section 3.2.4, Phases.

As part of the project, the Golf and Country Club, a public 9-hole golf course, would be slightly modified to relocate two holes away from SR 20. The locations of these holes currently pose problems as golf balls are often hit onto the highway and into traffic. CIP proposes to relocate the two holes onto the 56 acres of land within the Park that would be zoned for general recreation. In addition to relocating two of the holes, CIP would construct a new clubhouse, new driving range, cart sheds, and parking area, which would be part of the second phase of construction (see Section 3.2.4, Phases). The golf course would continue to be open to the public. The general recreation-zoned area would also include walking trails and a bike path to provide recreational opportunities for residents.

Proposed commercial facilities along SR 20 include a hotel or motel, family restaurant, retail services, and a gas station. These facilities would be located adjacent to the highway and would be easily accessible from Sunrise Boulevard and Davison Drive. In addition to the commercial facilities, the project would involve construction of new office buildings and commercial services between Sunrise Boulevard and Farinon Road, to the west of the commercial facilities. The total square footage of commercial and office space in the project area would be approximately 116,580 square feet, including 36,580 square feet of existing office buildings (Table 3-2).

Table 3-2. Commercial and Office Uses

Commercial/Office Use	Acres	Estimated Square Feet*
Community Commercial and Highway Commercial Zone		
Gas Station/Market	1.9	5,000
Restaurant	2.58	10,000
Motel	2.9	40,000
Proposed Office	1.44	5,000
Proposed Office	1.61	5,000
Proposed Office	1.82	5,000
Commercial Services	2.07	10,000
Existing Office (Wells Fargo, Medical, Office)	1.96	9,380
Existing Business Center	1.61	2,400
Roads	3.78	N/a

Table 3-2. Commercial and Office Uses

Commercial/Office Use	Acres	Estimated Square Feet*
Subtotal	21.67	91,780
Neighborhood Commercial		
Existing Office	6.52	24,800
Subtotal	6.52	24,800
Total	28.19	116,580

*Estimated square feet are for the developed area (building, parking, and other associated facilities).

The layout for the hotel/motel and restaurant along SR 20 would allow for an approximately 20-foot wide landscaped buffer zone between the buildings and the highway according to early conceptual diagrams provided by CIP. The restaurant would include an approximate 50-foot by 100-foot building with the capacity to serve 300 to 500 meals per day. Parking would be provided for approximately 58 cars plus two handicap spaces. The hotel/motel would provide for a maximum of 75 units with adequate parking spaces. Specific plans for the commercial uses would be identified following approval of the land use and zoning amendments, as part of the tentative subdivision map approval process.

An overflight corridor may be designated along the southern boundary of the low density residential area to provide a corridor for crop-dusting planes to fly over the area and reduce safety concerns for residents. This corridor would be approximately 150 feet wide and may include hangar access from the homes adjacent to the corridor. As an alternative to the corridor within the project area, the corridor may be designated along the southern boundary of the development area to maximize the number of low density residential lots (see Figure 3-2, alternative overflight corridor). For purposes of the environmental analysis, the maximum number of single-family homes (140) that could be developed with the overflight corridor adjacent to the southern boundary (outside of the development area) is evaluated in this EIR.

The wastewater treatment facilities would include a 1,526-square foot building, 532-square foot filtration yard, and land disposal area (approximately 34 acres). The building would be setback from other land uses by 150 feet on all sides. Details on these facilities are provided in the following section.

3.2.3 Utilities and Services

To accommodate the project, existing infrastructure would need to be expanded or improved, and new facilities would be constructed.

Roadway improvements would include expanding Farinon Road along the southern boundary of the mixed-use community to a four-lane road that feeds the center of the Park and the development (Figure 3-2). Farinon Road, just west of SR 20, would be relocated about 100 feet to the north to move it out of the airport property and place it approximately 560 feet from the end of the airport runway. The road would also be extended from the northwest corner of the low-density residential area to Wescott Road to provide alternate access west of the project area. The extension would be located within a 60-foot corridor owned by CIP and would follow the southern boundary of the City of Colusa, adjacent to a residential development. It would be designed with two lanes initially, but could be expanded to provide four lanes to accommodate traffic demands. Sunrise Boulevard would terminate in a cul-de-sac at the eastern side of the golf course. Davison Drive would be expanded south of Sunrise Boulevard as a two-

lane road to serve as a frontage road for the commercial and office uses along SR 20. It may also connect to Farinon Road, pending final road designs.

Recreation within the mixed-use community would include a bike path along the extension of Farinon Road and walking trails near the golf course. The golf course would also provide recreation opportunities for future residents in the project area and vicinity as well as visitors to the area.

Water supply for the project would be provided by CIP's existing state-licensed water system (Permit #01-21-03P06001). The CIP water system serves current uses within the Park and the adjacent golf course by providing chlorinated water from two groundwater wells on the property. The two wells are located within the development area, just east of the ditch and north of Farinon Road (Figure 3-3). The wells include a submersible well with a capacity of supplying approximately 650 gallons per minute (gpm) and a turbine well with capacity to supply approximately 1,100 gpm. Additionally, the well system includes a back-up system with a 50,000-gallon fire water storage tank. CIP may also construct a new well in the Park in the future (Figure 3-3), but details of the well are not known at this time and will not be evaluated in this EIR. The estimated water supply demand for new development in the project area is approximately 290 gallons per minute or 417,600 gallons per day (average day demand) (see Appendix F).

Residential lots would connect into 8-inch water supply pipelines under the proposed roads within the subdivision (California Engineering Company 2006). These pipelines would connect into a new 10-inch wide pipeline under Farinon Road. The pipeline under Farinon Road would connect into an existing 10-inch wide pipeline that currently distributes water from the groundwater wells to the industrial buildings and offices in the Park. An 8-inch pipeline would also be constructed along the existing road on the west side of the ditch to provide potable water for the wastewater facility. This pipeline would connect into an existing pipeline at Niagara Avenue.

These pipelines have been sized to meet standards established by the City of Colusa (the County does not have standards), which require a minimum water pipe diameter of 8 inches (California Engineering Company 2006). The 10-inch line under the expansion of Farinon Road was selected so that it would match with the existing 10-inch line. The maximum capacity for an 8-inch water line is approximately 1.2 million gallons per day (mgd). The maximum capacity for a 10-inch water line is approximately 2.3 mgd.

Wastewater treatment service for the project would be provided by the proposed CIP Water Reclamation Facility (wastewater facility) in the southern end of the Park, 1.2 miles south of the mixed-use community (Figure 3-3). The wastewater facility has been designed to serve the mixed use community as well as industrial and office tenants within the Park (domestic wastewater only). The wastewater facility would either be operated by the City of Colusa or a new county service area, which would ultimately be managed by the residents. Operation by the City of Colusa would require annexation of the project into the City, which would require Colusa County Local Agency Formation Commission (LAFCO) approval and subsequent environmental reviews. Alternatively, creation of a new county service area would also require LAFCO approval and possibly subsequent environmental reviews, but the project may need to be removed from the City's sphere of influence in order to allow the creation of a county service area (Benoit 2007). This document assumes that a service provider will be identified and approved by LAFCO prior to project implementation.

The existing treatment and disposal system for domestic wastewater consists of septic tanks within each industrial and commercial parcel, leach fields in some parcels, and pipelines to convey "grey" water from parcels without leach fields to a domestic wastewater pond (Pond 1 on Figure 3-3). Pond 1 is lined and serves as an evaporation pond without discharging to nearby surface waters. The second and larger pond (Pond 2) serves as an emergency overflow pond for industrial process wastewater only. Water in Pond 2 can be pumped into nearby fields to irrigate crops when it is used. Industrial process wastewater

generated by CIP tenants is used for land application within the Park in accordance with Waste Discharge Requirements (WDRs, Order No. 5-01-250) issued by the Central Valley RWQCB. The WDRs are in the process of being revised to allow land application of treated domestic wastewater within the Park.

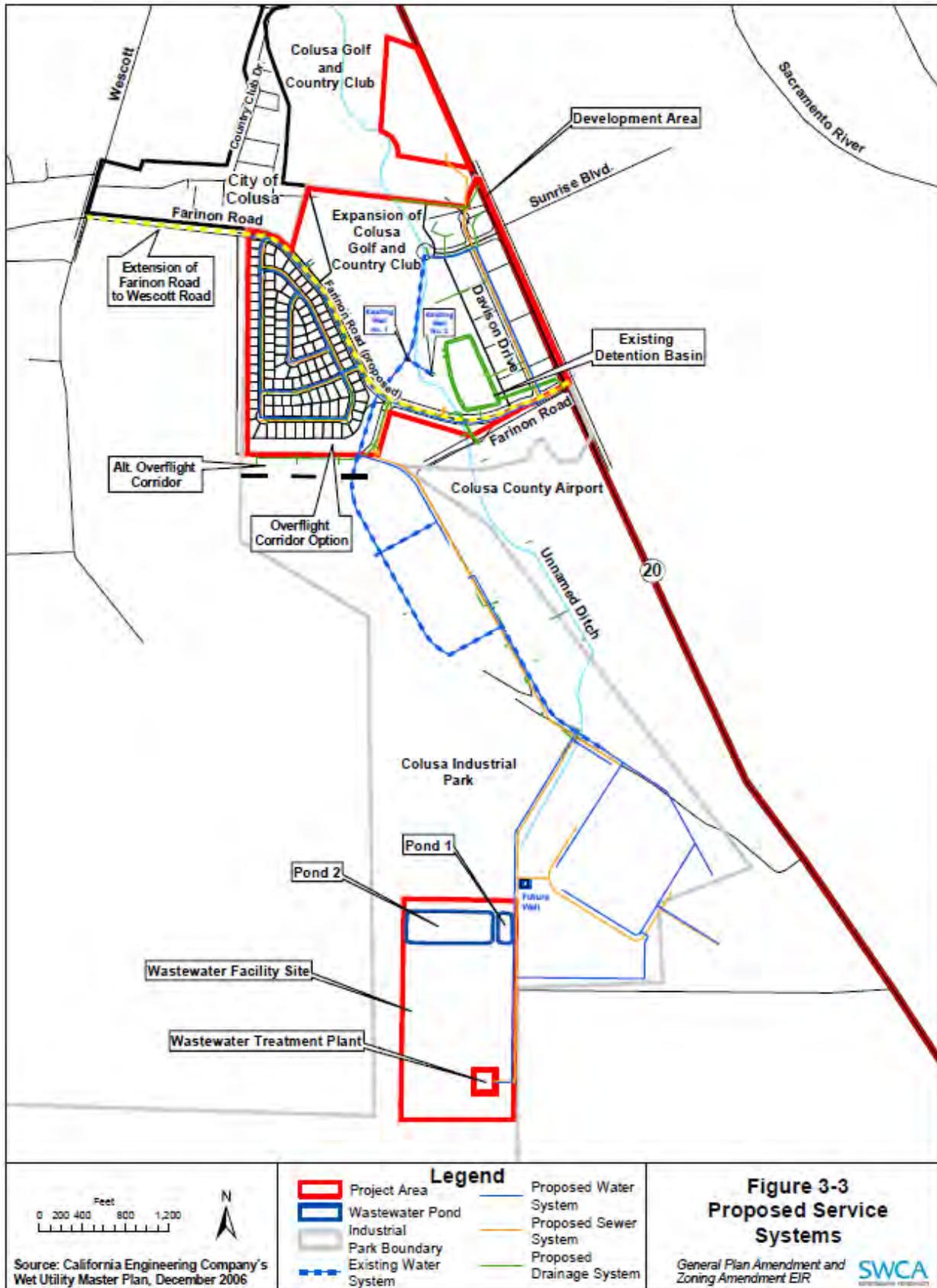
The new wastewater facility would have capacity to treat 100,000 gallons per day (gpd), maximum month day flow. The residential and commercial uses would generate an estimated 90,000 gpd, average dry weather flow (California Engineering Company 2006). The facility would have an activated sludge process system that utilizes hybrid sequencing batch reactor technology (Pacific Environmental Resources Corporation 2006). The system would produce tertiary effluent complying with California Title 22 standards. The facility would include the following equipment: an influent lift station and screen, anoxic reactor, sequencing batch reactor, decant surge tank, tertiary filtration units, ultraviolet channel, sludge storage tanks, and passive and active odor control systems. Power would be supplied to the facility using an automatic transfer switch to provide a primary power source and generator for alternate power. Loss of the primary source power would trigger the generator to automatically start; the generator would be capable of running for up to 12 hours if needed.

Treated effluent would be used for land application and may be used for irrigation of the golf course in the future. Land application would include discharging the effluent to the existing cropland surrounding the treatment facility (approximately 34 acres of cropland available). The 34-acre site would be sufficient for disposing the effluent according to Pacific Environmental Resources Corporation, the engineering firm designing the wastewater facility. Disposal of the effluent would be rotated periodically between the existing crops to minimize salt build-up. The 34 acres at the proposed facility site are currently used for disposal of industrial process wastewater, and the entire site has been permitted for land application of industrial process wastewater under the RWQCB permit. The industrial process wastewater would be redirected to land south of the facility site (approximately 150 acres), which is also currently permitted for land application under the RWQCB permit. Distribution pipelines are currently in place to dispose of the industrial wastewater on the 150 acres of land because groundwater is currently piped to the fields for irrigation. The existing evaporation ponds would be used for overflow and emergency storage purposes, as needed. No improvements or expansions to these ponds are proposed at this time.

Sewer service would be provided for residential, commercial, and industrial customers via 8- to 10-inch sewers throughout the Park (California Engineering Company 2006). The sewers would be constructed under existing and proposed roads (Figure 3-3). The 8-inch sewers would collect wastewater within the developed areas and convey it along Niagara Avenue to a 10-inch sewer where Niagara Avenue crosses the ditch. The 10-inch sewer would also collect domestic wastewater from the industrial facilities along Niagara Avenue and Otterson Drive. It would follow an existing graded road, which follows the ditch between industrial buildings and the eastern side of the wastewater ponds, to the wastewater facility.

The minimum pipe size for main sewer lines for development projects is typically 6 inches (California Engineering Company 2006). The project would have a minimum pipe size of 8 inches, which would allow gravity to transport the wastewater and minimize the number of required lift stations (five are proposed throughout the Park). The maximum capacity for an 8-inch sewer line is approximately 0.6 mgd. The maximum capacity for a 10-inch sewer line is approximately 0.9 mgd.

Figure 3-3. Proposed Service Systems



The existing **storm drain system** within the Park would be expanded to include several storm drains under the residential areas. Pipelines would be constructed under proposed roads to drain stormwater from the low density and high density areas in the western portion of the project area. The storm drains would include 15-inch, 18-inch, 24-inch, and 30-inch pipelines under the roads within the low density residential area and 15-inch, 24-inch, 48-inch, and 54-inch pipelines under Farinon Road, with increasing diameters from north to south (California Engineering Company 2006). A 42-inch storm drain would connect the low density residential area to the storm drain under Farinon Road. The storm drains would discharge into the unnamed ditch, or conveyance lateral, running through the Park. No improvements or modifications to the unnamed ditch are proposed as part of the project. Existing storm drains would also be expanded in the eastern portion of the project area (where commercial and office uses are proposed) to drain into an existing unlined detention pond. The detention pond was constructed in summer 2006 to detain run-off from the highway and a portion of the commercial/office area. The detention pond has capacity to detain flows from a 100-year storm event and discharges the flows into the ditch.

The drainage system pipelines have been sized to meet the City of Colusa standards of a minimum pipe size of 15 inches because the County does not currently have standards. The maximum capacity for the various pipe sizes as shown on the storm drain master plan (California Engineering Company 2006) are as follows:

- 15-inch – 1.6 mgd
- 18-inch – 2.3 mgd
- 24-inch – 4.1 mgd
- 30-inch – 6.5 mgd
- 42-inch – 14.5 mgd
- 48-inch – 20.8 mgd
- 54-inch – 28.4 mgd

Solid waste pick-up service would be provided by NorCal Waste Systems, which currently serves the Park. NorCal Waste Systems provides trash and recycling services and operates transfer stations and landfills in the County, including the Maxwell Transfer Station. Solid waste from the Park is currently taken to the Maxwell Transfer Station about 15 miles northwest of the project area, where it is sorted, and non-recyclable materials are transported to the Ostrom Road Landfill in Yuba County.

3.2.4 Phases

Prior to development of the mixed-use community, the wastewater treatment facilities would be constructed and in operation. These facilities are expected to begin construction in 2008, once all permits and approvals have been received.

The first phase of the development would involve construction of single-family homes, two holes to expand the golf course, commercial facilities along SR 20, and some office buildings. This phase is tied to completion of the wastewater treatment facility, which would need to be operating before the homes and other buildings can be completed. As part of the first phase, a hotel or motel, family-style restaurant, and gas station would be constructed along SR 20. Construction of the first phase is expected to begin by the end of 2008.

The second phase of the development would involve construction of the high-density homes on 13.2-acre and 3.4-acre parcels (see Figure 3-2), completion of the golf course (a clubhouse and other upgrades), and construction of additional office buildings. The second phase of construction is tied to the relocation of

the two holes for the golf course. Construction of the high-density units on the 13.2-acre parcel along SR 20 would require the transfer of the land from the golf course owner to CIP. The golf course expansion area would be traded for the 13.2 acres. Buildout of the project area is expected to be complete within two to three years after the start of construction or by the end of 2010.

3.3 POTENTIAL APPROVALS AND PERMITS

Construction of the project may require several local, state and federal permits and approvals. The following table (Table 3-3) provides a list of potential permits or discretionary actions and the agencies responsible for issuing the permits or approving the action. These agencies may use the EIR for their review or approval process. Colusa County LAFCO may be a responsible agency in terms of identifying an operator for the proposed wastewater facilities.

Colusa County will require a development agreement with the applicant to identify specific mitigation requirements, including those identified in this Draft EIR, and additional measures, such as additional funding, that the County deems appropriate and necessary to offset the project’s physical and economic impacts. To the extent feasible, the County will identify specific funding requirements in the agreement to enforce the applicant’s payment of fair share mitigation measures, as identified in this Draft EIR. Specifically, to the extent feasible, the costs of the project’s fair share of road improvements and some public services will be identified in the agreement. The payments will be held in escrow pending full funding by other developer fees or other sources. The specific costs for facilities and improvements in the City will be identified through coordination with the City. Road improvement costs may be identified through the City’s Streets and Roadways Master Plan, to be developed following completion of the City’s General Plan Update. The development agreement will enforce payment of all necessary fees prior to issuance of building permits.

Table 3-3. Potential Permits and Discretionary Actions

Responsible Agency	Permit or Discretionary Action
Colusa County Board of Supervisors	Colusa County General Plan Amendment Zone Amendment
Colusa County Airport Land Use Commission	Consistency finding with Airport Land Use Plan
Colusa County Department of Public Works	Encroachment Permit
Colusa County	Subdivision Map Approvals Building Permit Grading Permit Conditional Use Permit
City of Colusa	Encroachment Permit
Local Agency Formation Commission of Colusa County	Formation of County Service Area and removal from Colusa Sphere of Influence, or Annexation into City of Colusa

Table 3-3. Potential Permits and Discretionary Actions

Responsible Agency	Permit or Discretionary Action
Central Valley Regional Water Quality Control Board	Waste Discharge Requirements Stormwater Management Permit – Construction Stormwater Management Permit – Permanent Installation
Department of Health Services, Division of Drinking Water	Domestic Water System Permit
California Department of Transportation	Encroachment Permit Approval of Road Improvements

4. IMPACT ANALYSIS

This chapter describes applicable laws and regulations and the environmental setting of the project area and evaluates the environmental effects that would occur with implementation of the project. Each resource section includes a summary of applicable laws, regulations, and policies; a description of the existing conditions in the project area; the methodology used to evaluate impacts; the thresholds for determining impact significance; an impact analysis; and a list of mitigation measures to reduce significant impacts, where possible. Cumulative impacts of the project with other foreseeable projects in the area are evaluated in Chapter 5; the project's contribution to global climate change is discussed in Chapter 6; and growth-inducing effects of the project are discussed in Chapter 7.

Colusa County completed an Initial Study in October 2005 to identify resources that may be affected by project activities (Appendix B). Most of the resources were determined to have potentially significant adverse effects as a result of the project; therefore, they are evaluated in this chapter of the Draft Environmental Impact Report (EIR). Mineral resources would not be affected by the project and are not further considered in this document.

4.1 LAND USE

This section describes land uses in the project area and immediate vicinity and addresses issues related to potential inconsistency of the project with land use plans and policies. This section also summarizes the project's physical and operational compatibility with the surrounding existing and planned environment. Detailed analyses of land use compatibility issues, such as visual impact (aesthetics), noise, and traffic, are fully evaluated in other sections of the EIR. Those issues are summarized in this section in the context of overall land use compatibility.

4.1.1 Setting

Regulatory Setting

Land use in the project area is guided by the **Colusa County General Plan** (General Plan). The General Plan was adopted in 1989, and the Housing Element was revised and readopted in 2003 and 2004. The General Plan is a comprehensive, long-range plan for the physical development of unincorporated land within the County. The General Plan governs the intensity and location of land use throughout the County and designates land use categories for land within the County. The General Plan's land use designations for the project area and surrounding properties are described in the Environmental Setting.

The General Plan includes the County's stated policies for the use of public and private land. These policies cover a range of land use planning issues and are intended to guide County decision-making for land use in the County. Many of the General Plan policies relate to environmental issues and are intended to avoid or mitigate environmental effects. The land use policies that are relevant to the project and the project area are presented in Table 4.1-1, along with an analysis of the consistency of the project with those policies.

Table 4.1-1. Colusa County General Plan Land Use Policy Consistency Analysis

Policy	Consistent (Yes or No)	Discussion
<p>Policy LU-6. Unless development would adversely affect town character, higher-density uses should be promoted on vacant lots within existing communities. This will conserve open space outside the community, permit more efficient use of public services, and reinforce the idea that the towns are the center of activity in the county.</p>	Yes	<p>The project's high density uses would be adjacent to existing development within the City of Colusa and would not be located in an area designated as open space. The project would incrementally enlarge the City's residential community, while providing its own infrastructure to accommodate the development and providing funding for local public services (see Section 4.3).</p>
<p>Policy LU-9. The proposed development pattern should protect the integrity of agriculture and shall not in any way create a hardship for the county's farmers. Lands presently in agricultural uses that do not adjoin existing communities should be protected through the county's land use regulations. In addition, the Initial Study checklist should consider the potential impact of proposed development on existing and adjoining agricultural operations and on water supply.</p>	Yes	<p>The project would remove less than three acres of farmland from productivity for construction of a wastewater facility and extension of Farinon Road. The project would be located adjacent to agricultural lands and could affect crop-dusting activities. The adjacent agricultural lands to the west adjoin the City of Colusa. Although some conflicts may arise with the adjacent airport and agricultural uses, airport operations would continue, and farmers would not be presented with additional hardships (see Section 4.12). The project would provide its own water supply and would not affect the water supply for nearby agricultural operations.</p>
<p>Policy LU-12. Potential conflicts between airports or landing strips and surrounding land uses shall be avoided by closely regulating future development in take off and approach zones.</p>	No	<p>Although incompatible uses would not be placed within the take off and approach zones, incompatible residential uses would be placed within the overflight zone. The project would create conflicts between the airport and proposed residential uses.</p>

Table 4.1–1. Colusa County General Plan Land Use Policy Consistency Analysis

Policy	Consistent (Yes or No)	Discussion
<p>Policy LU-14. Appropriate sites for recreational uses should be provided in Colusa County, as long as the activities are compatible with the environment and surrounding uses. Local recreational facilities in unincorporated areas should be paid for by service districts or by developer fees.</p>	Yes	<p>The project would provide some recreational uses as part of the golf course expansion and walking trails, but residents would likely utilize nearby City parks for everyday recreational activities. Developer fees would fully fund the project's recreation facilities, and the golf course expansion would be compatible with the existing golf course and proposed residential and commercial uses. Additional fees would be established to mitigate impacts to City parks (see Section 4.3).</p>
<p>Policy LU-21. The site planning, design, and construction of on-site and off-site improvements for urban development near agricultural areas should avoid adverse impacts on facilities used to supply water to agricultural operations. Where agricultural and proposed urban uses are competing for the same water supply, priority should generally be given to agriculture.</p>	Yes	<p>Water for the proposed development would be supplied by existing wells that were developed for the Colusa Industrial Park (Park). The project would not modify any existing water supply facilities used for offsite agricultural operations. As discussed in Section 4.8 (Hydrology and Water Quality) and the water sufficiency analysis (Appendix F), the aquifer would have sufficient capacity to serve the project.</p>

Table 4.1-1. Colusa County General Plan Land Use Policy Consistency Analysis

Policy	Consistent (Yes or No)	Discussion
<p>Policy LU-32. The following guidelines should be used when evaluating proposed residential development: <u>Urban Residential</u>: Areas designated "urban residential" should not be developed until the following requirements are met:</p> <ul style="list-style-type: none"> ▪ the community utility systems, including water, drainage, and sewer, if available, can accommodate the added demand ▪ the area has access to a major transportation route ▪ the impact of the development on local streets can be mitigated ▪ adequate fire protection measures are provided 	<p>Yes</p>	<p>The project would be constructed in phases, with development occurring after completion of the necessary utilities and road improvements. The project would have direct access to SR 20 and would provide adequate fire protection measures (see Section 4.3). The project would exacerbate existing traffic congestion on a state highway (SR 20) (Existing Plus Project conditions), but would not substantially affect traffic on local streets (see Section 4.4).</p>
<p>Policy LU-35. Residential uses shall be discouraged in areas of excessive noise, smoke, or dust, especially in those areas adjoining freeways. Transitional or buffer uses shall be encouraged between residential and industrial or agricultural uses.</p>	<p>No</p>	<p>The project includes a 100-foot wide buffer between the proposed residential areas and adjacent agriculture lands to the west. The proposed overflight corridor, roads, airport, and other uses would provide a buffer and transition area between residential uses and the nearest industrial facilities. The project area is not considered an area of excessive smoke or dust. Noise from aircraft overflights, however, would exceed County and CLUP noise standards for residential and commercial uses. Mitigation would not fully reduce this impact (see Section 4.5). Traffic noise impacts on the project's uses along SR 20 would be mitigable.</p>

Table 4.1-1. Colusa County General Plan Land Use Policy Consistency Analysis

Policy	Consistent (Yes or No)	Discussion
<p>Policy LU-37. Areas designated “commercial” should not be developed until the following requirements are met:</p> <ul style="list-style-type: none"> ▪ the area can be readily hooked up to public water facilities; ▪ the community utility systems can accommodate the added demand; ▪ the area has access to a major transportation route; ▪ the impact of the development on local streets can be mitigated; ▪ adequate fire protection measures are provided; ▪ the development does not result in a commercial “strip” 	Yes	<p>The project would be constructed in phases, with development occurring after completion of the necessary utilities and road improvements. The project would have direct access to SR 20 and would provide adequate fire protection measures (see Section 4.3).</p> <p>The proposed commercial zones would be served by an internal road system. Because direct access would not be provided from SR 20, the project would not result in a commercial “strip” along SR 20.</p> <p>The project would exacerbate existing traffic congestion on a state highway (SR 20) (Existing Plus Project conditions), but would not substantially affect traffic on local streets (see Section 4.4).</p>
<p>Policy LU-42. Adequate off-street parking should be provided for all new commercial establishments. Parking standards in the county zoning ordinance should be reviewed to ensure that provisions are sufficient.</p>	Yes	<p>Off-street parking would be provided for the proposed commercial uses and would be required to comply with County parking standards.</p>
<p>Policy LU-43. Commercial buildings, landscaping, and signage should be designed to be compatible with surrounding uses and should not detract from the character of existing communities.</p>	Yes	<p>Commercial buildings would be designed similar to the existing buildings in the project area, and they would be required to comply with all County design standards. A mitigation measure would include approval of a Landscape Plan to ensure compatibility of uses along SR 20 (see Section 4.14).</p>

The **Colusa County zoning ordinance** (County Ordinance No. 534) establishes zoning districts and describes the intended applications for the zoning districts, the principal permitted land uses within each zoning district, and the uses allowed under a use permit. Zoning districts are shown on the County Assessor’s parcel maps.

In the 1960s the California legislature created a system of county commissions to regulate land planning in the vicinity of airports (**Public Utilities Code Sections 21670 - 21679.5**). Under this law, Airport Land Use Commissions (ALUCs) have been established for public use airports.

ALUCs are required to adopt compatibility plans for their airports. Safety and noise are the two fundamental compatibility concerns. Safety is addressed by building height restrictions that protect airport airspace from obstructions and other hazards and by airport safety zones that limit land uses to protect people and property on the ground near airports. Noise concerns are addressed by drawing noise contours and establishing noise criteria for different land uses. Compatibility determinations are guided by the “California Airport Land Use Planning Handbook” (Caltrans 2002).

Local governments must refer proposed land use changes that require general plan and zoning ordinance amendments, such as the CIP project, to the ALUC for review of project consistency with CLUP standards. The ALUC determines whether the project is compatible, compatible subject to specific conditions, or incompatible, and transmits a formal consistency review to the local government. If the ALUC determines the project is inconsistent with the compatibility plan, the local government must either disapprove the project or make specific findings that the project is consistent with the purpose of the Public Utilities Code (i.e., protecting public health, safety, and welfare).

The **Colusa County Airport CLUP** was adopted in 1995. The CLUP includes policies that establish land use compatibility standards for height restrictions, noise compatibility, and safety of persons on the ground. These standards are applied primarily to proposed new land use in the airport vicinity and not to existing development that may be inconsistent with the standards. Proposed land uses must be compatible with each of the CLUP’s height, noise, and safety standards to be considered consistent with the CLUP. An overview of the CLUP’s height, noise, and safety standards is provided below.

Height Restrictions

The height restrictions are needed to ensure that objects will not impair flight safety or decrease the operational capability of the airport. The CLUP defines seven imaginary horizontal and sloping surfaces in airspace near the airport. Any new construction that would penetrate the imaginary surfaces is deemed to be an incompatible land use, unless either (1) the Federal Aviation Administration (FAA) has determined that the proposed structure does not constitute a hazard to air navigation or (2) the State Aeronautics Program has issued a permit allowing construction of the proposed structure (CLUP Policy A2n). Figure 4.1-1 shows the building height restrictions at 500-foot intervals within the project area based on the imaginary surfaces defined in the CLUP. The height restrictions range from less than 25 feet tall at the southern end of the development area to 200 feet tall at the northern end.

Noise

The CLUP adopts land use compatibility guidelines for different noise levels. Compatibility guidelines applicable to the project are as follows:

- Residential: Exterior noise levels of 55 dB CNEL (community noise equivalent level) or less; interior noise levels of 45 dB CNEL with windows closed (except for single-family detached homes; no interior level is identified).
- Hotels and motels: exterior noise levels of 80 dB CNEL or less, but measures to achieve an interior noise level of 50 dB CNEL must be incorporated into design of public areas.
- Most commercial uses: exterior noise levels of 80 dB CNEL or less, but measures to achieve an interior noise level of 50 dB CNEL must be incorporated into design of public areas.

- Golf course: exterior noise levels of 80 dB or less, but measures to achieve an interior noise level of 50 dB CNEL must be incorporated into design of public areas.

Noise contours for the airport are depicted in Figure 4.5-1 and are based on a noise study conducted by Bollard Acoustical Consultants (2005). These contours show that the project area generally falls within aircraft noise contours of 60 dB or greater (day-night average sound levels). Section 4.5 (Noise) provides a more detailed discussion of noise levels in the project area.

Safety Restriction Area

The CLUP designates three safety areas (Figure 4.1-2). The clear zone is near the end of the runway and is the most restrictive. The approach-departure zone is located under the takeoff and landing slopes and is less restrictive. The overflight zone is the area under the air traffic pattern and is even less restrictive. The entire project area falls within the overflight zone, and the central portion of the development area falls within the clear and approach-departure zones.

The CLUP adopts land use compatibility guidelines for each zone in order to minimize safety concerns associated with potential airplane crashes, noise, and other inconveniences of airport operation. Compatibility guidelines applicable to the project are as follows:

- Single family residential detached: permitted only in overflight zone if density is five acres or more per residence.
- Other residential: not permitted in any zone.
- Hotels and motels: permitted in approach zone and overflight zone; in approach zone, uses are compatible only if they do not result in a large concentration of people (as defined in CLUP) and uses in buildings must be compatible with airport operations.
- Commercial uses: some permitted in approach zone and overflight zone, others in overflight zone only; in approach zone, special conditions apply to specific uses.
- Golf course: permitted in approach zone and overflight zone; in approach zone, uses are compatible only if they do not result in a large concentration of people (as defined in CLUP). No clubhouses, bars, restaurants, or banquet facilities are allowed in approach zone; ancillary uses such as pro shops, snack bars, and specialty food and beverage services are allowed.
- Sewer treatment plants: permitted only in overflight zone if they do not result in a possibility that a water area may cause ground fog or result in a bird hazard.

The CLUP (Colusa County ALUC 1995) defines a large concentration of people:

As a gathering of individuals in an area that would result in an average density of greater than 25 persons per acre per hour during any 24 hour period ending at midnight, not to exceed 50 persons per acre at any time.

The CLUP (Colusa County ALUC 1995) clarifies that in cases where a safety zone line splits a parcel:

The parcel may be developed to split uses and densities, as long as the individual portions of the parcel are consistent with the land use policies for the safety zone in which they lie.

Although current uses in the project area appear consistent with the CLUP's land use guidelines for the safety areas, the project would introduce new residences and commercial uses to the overflight zone and

portions of the approach-departure zone. Specific safety concerns with these new uses are discussed in detail in Section 4.10 (Hazards and Hazardous Materials).

Figure 4.1-1. Airport Height Restrictions

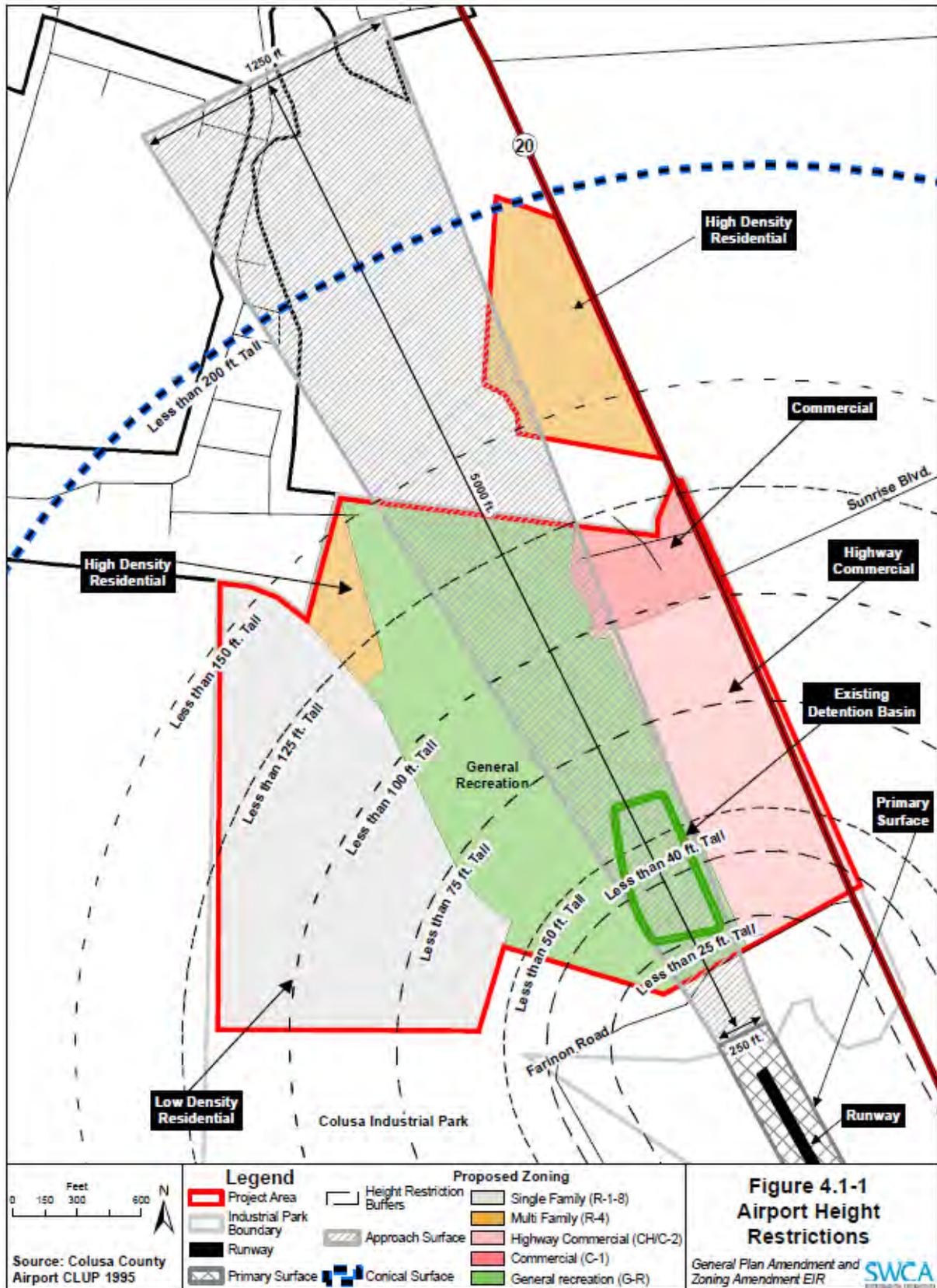
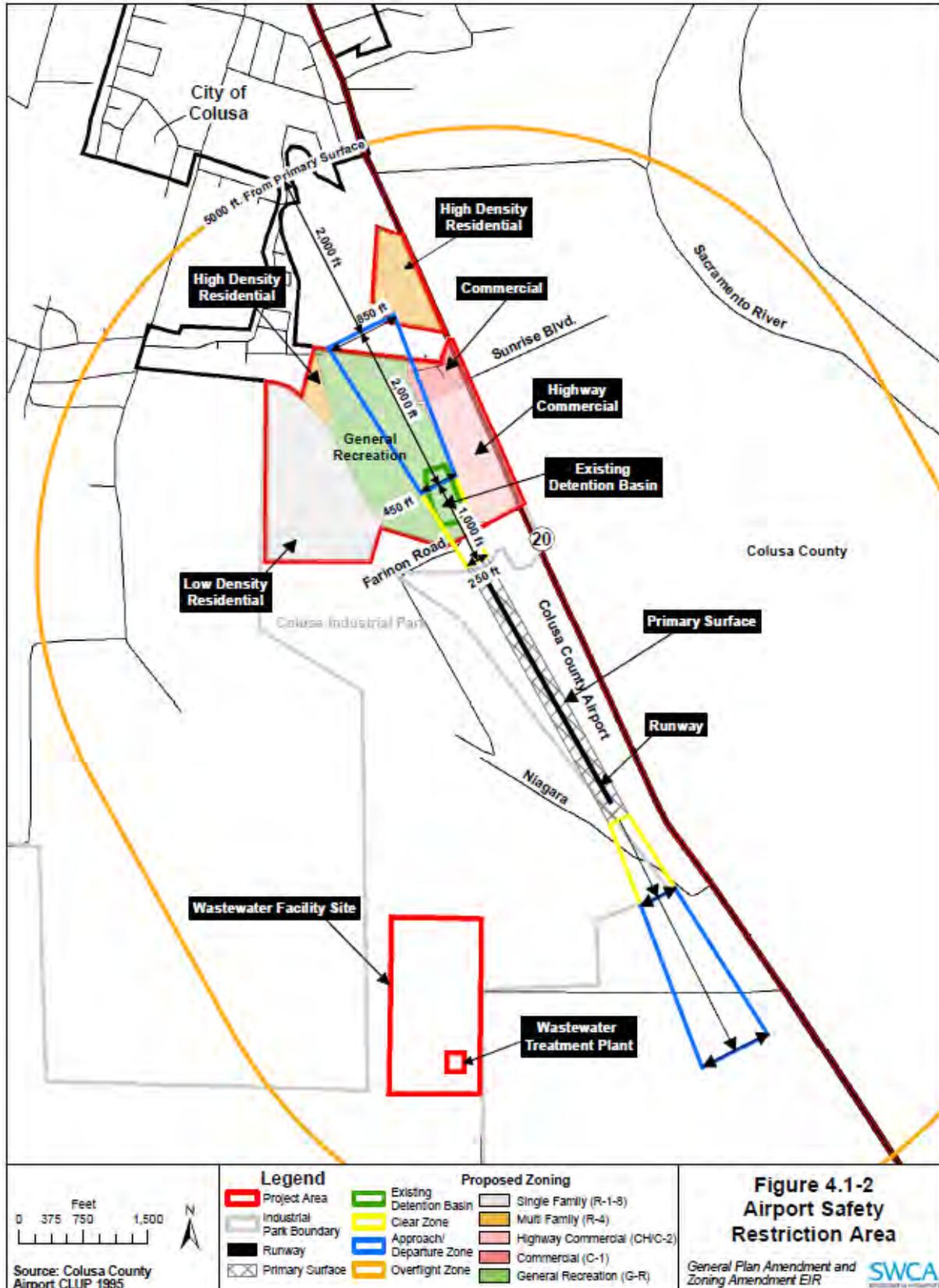


Figure 4.1-2. Airport Safety Restriction Area



Environmental Setting

The project area was historically used for rice production. The project area is currently comprised of fallow agricultural land and developed parcels of the Park that include the CIP business office and other commercial and professional buildings. The northernmost portion of the project area lies within the Colusa Golf and Country Club where two golf holes, the driving range, the clubhouse, and the parking lot are now located. The proposed land application area for the treated effluent is in agricultural production (rice and sudan grass). A ditch conveys flow through the center of the Park from north to south. The Colusa County Airport is located south of the development area. Other surrounding land uses include agricultural, industrial, recreational (golf course), and residential.

General Plan Land Use Designations

The current General Plan land use designation for the portion of the development area in the Park is Industrial (I); the land use designation for the Colusa Golf and Country Club is Parks and Recreation (P-R); and the land use designation for the wastewater facility site is Industrial (I). Figure 4.1-3 shows the land use designations for the project area and vicinity. The Industrial (I) land use designation includes two categories of land: existing industrial areas and vacant land designated for master-planned, subdivided industrial uses such as the current uses within the Park. The Parks and Recreation (P-R) land use designation includes golf courses, parks, fairgrounds, and other recreational areas.

County land use designations immediately surrounding the project area include Parks and Recreation (P-R) to the north, Agricultural-Transition Area (A-T) to the east and west, Agriculture-General (A-G) to the east, Public and Semi-Public Services (P-S) to the south, Industrial (I) to the south, and Urban Residential (UR) to the northwest. The Colusa city limits abut the northwestern boundary of the project area for approximately 900 feet. The City land use designation for this adjacent land is Low Density Residential (LDR). The project area is not located within an established community, although it is adjacent to residential development within the City of Colusa. Therefore, physical division of an established community is not further discussed in this EIR.

Zoning Districts

The current zoning for the portion of the development area in the Park and for the wastewater facility site is Industrial (M) and Industrial Planned Development (M-PD) (Figure 4.1-4). The Industrial (M) zone is intended for land devoted to light manufacturing, heavy commercial uses, large administrative facilities, sewage plants, and normal operations of industries. A wide range of industrial, manufacturing, business, and professional uses are permitted in the M zone. The Industrial Planned Development (M-PD) zone is a combined zone, intended to provide for greater flexibility in the design of developments than is otherwise possible through the strict application of zoning district regulations. Allowable uses in a combined zone are governed by the principal zoning district; in this case Industrial (M).

The current zoning for the golf course is General Recreation (G-R). The G-R zone is intended for land best suited for recreational use and development because of natural features related or contributing to recreational use. Golf courses are a principle permitted use within the G-R zone.

County zoning districts immediately surrounding the project area include Commercial/Industrial Planned Development (C, M-PD), Industrial (M), Exclusive Agriculture (E-A), Airport (A-V), and Residential Single-Family (R-1-8). The City zoning district for the adjacent land is Single Family Residence (R-1).

4.1.2 Impact Analysis

Methodology

The project was compared to the County General Plan's land use policies and land use designations, the County zoning code, and the CLUP to analyze consistency with the applicable land use plans, policies, and zoning regulations. The results of the aesthetics, noise, safety, and traffic analyses in other sections of the EIR were used to evaluate overall land use compatibility.

Criteria for Determining Significance

Adverse impacts to land use and planning would be considered significant if the project would:

- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
- Create physical conflicts with existing or planned land uses in neighboring areas caused by factors such as traffic congestion, noise, safety, and lighting.

Impacts and Mitigation Measures

Impact LU-1: The project would be inconsistent with Colusa County General Plan land use policies LU-12 and LU-35 because the project would conflict with the adjacent airport and expose residents to excessive noise.

As shown in Table 4.1-1, the project would be consistent with most General Plan land use policies adopted for the purpose of avoiding or mitigating an environmental effect, except policies LU-12 (conflicts with airports) and LU-35 (excessive noise in residential areas). These inconsistencies are discussed in more detail in the noise and hazards sections of this chapter, and an overview of the issues is provided below.

Policy LU-12: Although most of the project's land uses would be compatible with the uses identified in the airport CLUP for the approach/departure zone and overflight zone, the proposed residential uses would not be compatible. The project would expose residents to unacceptable noise levels due to aircraft overflights, and the locations of the proposed homes would pose safety concerns associated with airport operations (i.e., potential crashes, crop-dusting hazards). The project would conflict with airport operations and be inconsistent with Policy LU-12.

Policy LU-35: As discussed under Policy LU-12, the project would introduce residences to an area of excessive aircraft noise. Standard home designs would reduce interior noise levels, but residents would still be exposed to aircraft noise in excess of acceptable County and CLUP standards. Because of the project's close proximity to the airport, feasible noise-reducing measures cannot be identified to reduce noise to acceptable levels for the project's uses. For this reason, the project would be inconsistent with Policy LU-35.

The project would be inconsistent with policies LU-12 and LU-35 because of the issues discussed above; therefore, the project's inconsistency with the General Plan would result in a significant impact.

Significance Level Before Mitigation: Significant.

Figure 4.1-3. Existing Land Uses

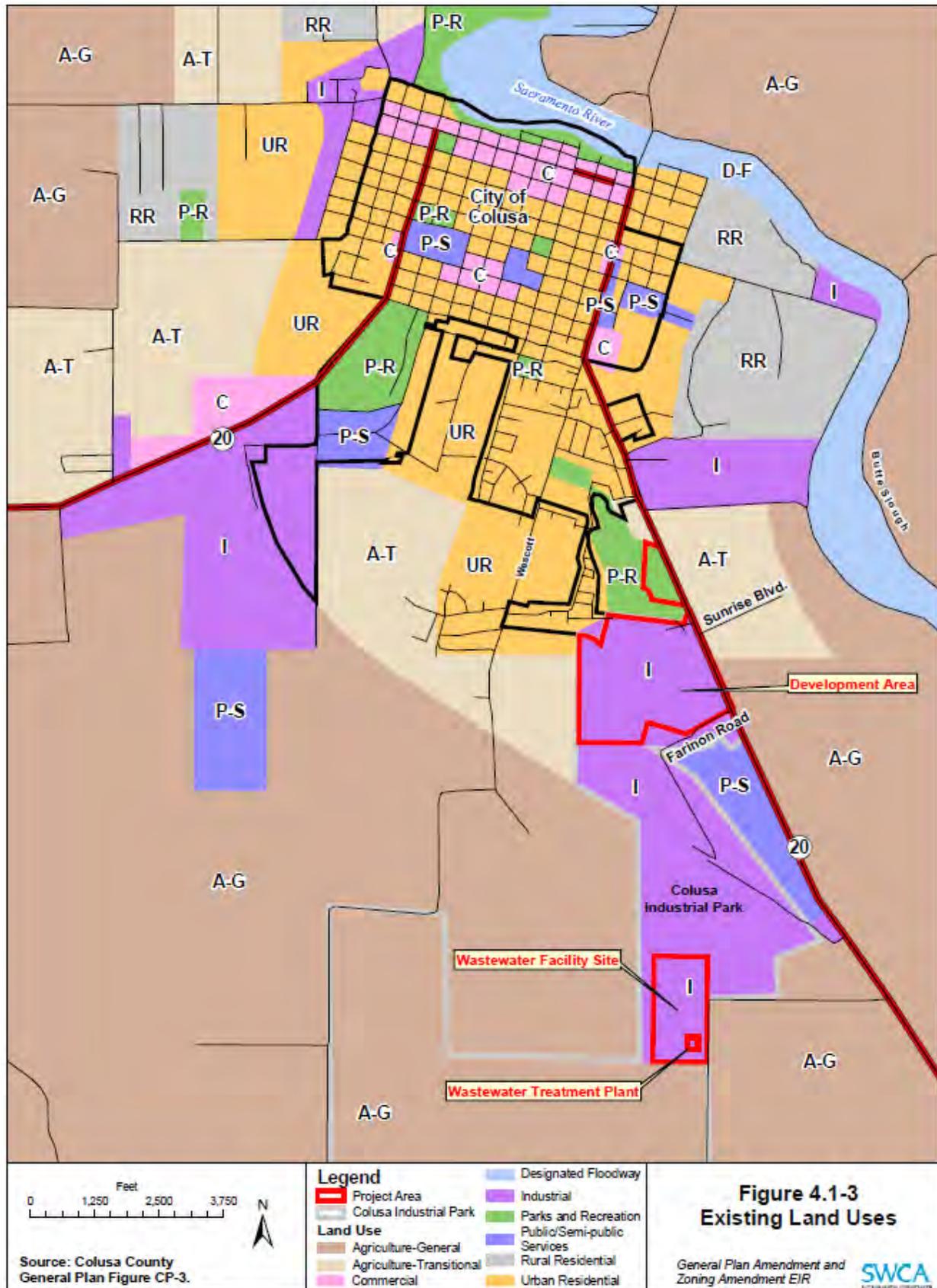
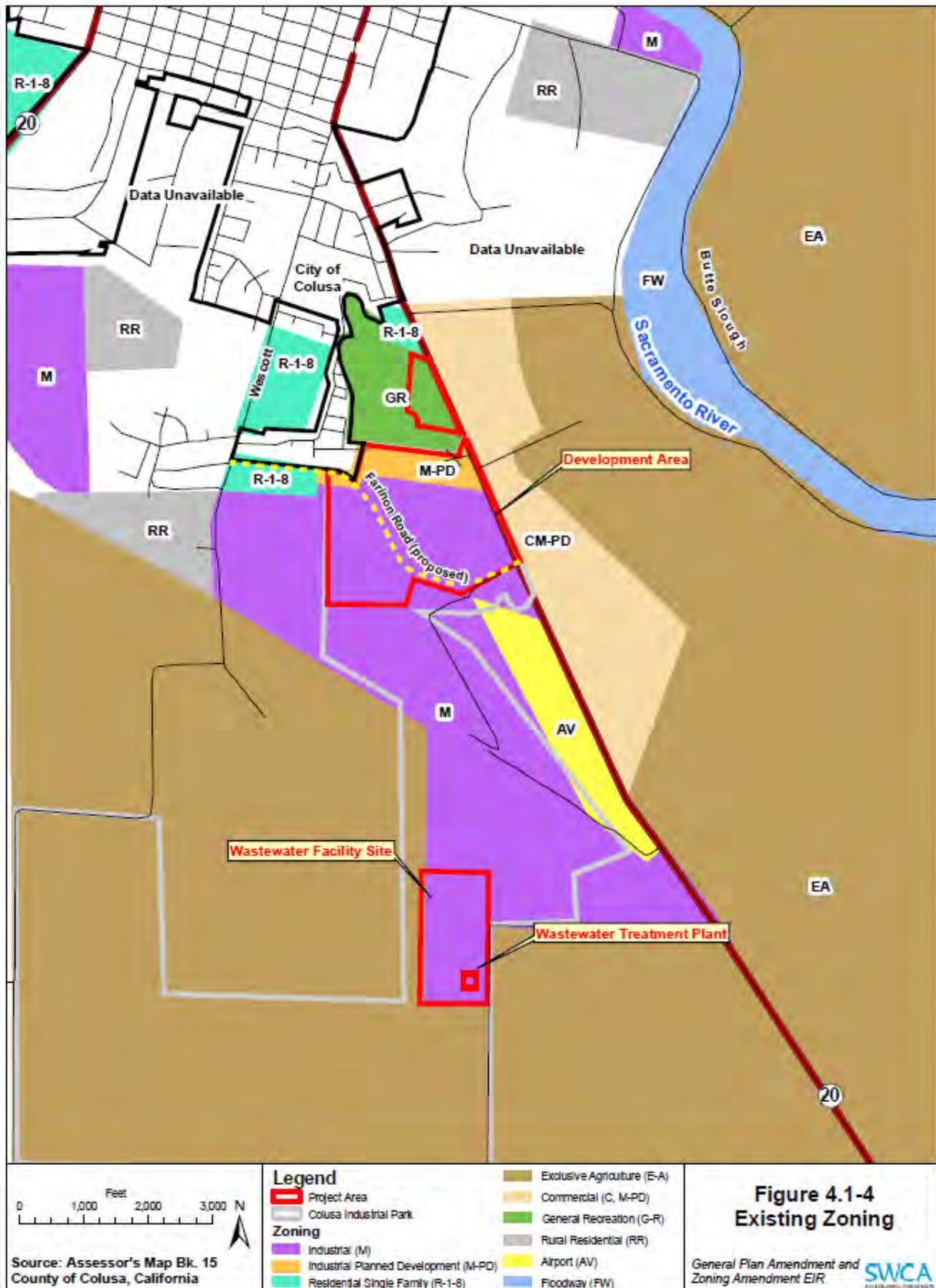


Figure 4.1-4. Existing Zoning



Mitigation Measure LU-1a: Design homes and businesses to reduce interior aircraft-related noise levels by up to 30 dB.

Implement Mitigation Measure N-4a.

Mitigation Measure LU-1b: Encourage aerial application operators to takeoff to the south and land to the north when weather conditions permit.

See Mitigation Measure N-4c. Note that this mitigation measure is not feasible.

Mitigation Measure LU-1c: Encourage aerial application operators to make early turns (left or right) during Runway 31 departures (northbound take-offs).

See Mitigation Measure N-4d. Note that this mitigation measure is not feasible.

Mitigation Measure LU-1d: Encourage straight-out departures for Runway 31 operations (northbound take-offs).

See Mitigation Measure N-4e. Note that this mitigation measure is not feasible.

Mitigation Measure LU-1e: Encourage power reduction during departures for Runway 31 operations (northbound take-offs).

See Mitigation Measure N-4f. Note that this mitigation measure is not feasible.

Mitigation Measure LU-1f: Require aerial application operators to comply with Federal Aviation Administration regulations for operations over congested areas, prohibiting loaded aircraft from overflying the development area at low altitudes.

See Mitigation Measure N-4g. Note that this mitigation measure is not feasible.

Significance Level After Mitigation: Significant and unavoidable because implementation of the mitigation measures would reduce, but not eliminate, conflicts with land use policies LU-12 and LU-35, and some of the measures are infeasible.

Impact LU-2: With adoption of the proposed General Plan amendment, the project would be consistent with the project area's General Plan land use designations.

The current land use designation (I) within the portion of the project area in the Park does not allow for the proposed residential, highway commercial (e.g., gas stations, hotels, restaurants), or golf course development. Similarly, the current land use designation (P-R) for the portion of the project area within the Colusa Golf and Country Club does not allow for high-density residential development. The land use designation (I) for the proposed wastewater facility would allow the proposed facility, and no changes are proposed.

Project approval would include a General Plan amendment to accommodate the proposed land uses (see Figure 3-2 and Table 3-1 in Chapter 3). This amendment would change the Industrial land use designation in the development area to Urban Residential (UR), Parks and Recreation (P-R), and Commercial (C), and the P-R land use designation in the existing golf course to UR. The UR designation allows a range of residential zoning classifications, including the Residential (R-1-8) and High Density Residential (R-4)

land uses proposed by the applicant. The P-R land use designation allows golf courses. The C designation allows highway commercial areas, hotels, offices, and restaurants.

With the proposed General Plan amendment, the project would be consistent with its General Plan land use designations and would result in a less than significant impact.

Significance Level: Less than significant because the project would be consistent with proposed General Plan land use designations.

Impact LU-3: With adoption of the proposed zoning amendment, the proposed land uses would be consistent with the Colusa County Zoning Ordinance.

The current zoning districts (M and M-PD) within the portion of the development area in the Park do not allow for the proposed residential, highway commercial (e.g., gas station, hotel, restaurant), or golf course development. Similarly, the current zoning district (G-R) within the Colusa Golf and Country Club does not allow for high-density residential development.

Project approval would include a zoning amendment to accommodate the proposed land uses. The zoning amendment would change the Industrial (M) and Industrial Planned Development (M-PD) zones to Single Family Residential (R-1-8), High Density Residential (R-4), General Recreation (G-R), Neighborhood Commercial (C-1), Community Commercial (C-2), and Highway Commercial (CH). The zoning amendment would also change the G-R zone within the Golf and Country Club to R-4 (see Figure 3-2).

The R-1-8 zone allows single family dwellings and accessory structures as a principle use. The R-4 zone allows higher density residential uses, including single-family, two-family and multiple dwelling and dwelling groups. The R-4 zone, therefore, would allow the condominiums or townhomes and the high-density residential units proposed for the R-4 zones. The G-R zone allows golf courses. The C-1 zone is intended to provide for neighborhood shopping centers and allows for the professional and business offices currently located in the proposed C-1 zone. The C-2 zone is intended to apply to areas where more complete commercial facilities are necessary for community convenience and allows for a variety of neighborhood and community commercial uses such as restaurants, automobile service stations, food markets, retail stores, and professional and business offices. The CH zone is intended to provide necessary services and conveniences for the traveling public along main roads and highway frontages and allows for restaurants, hotels and motels, and gas stations. Sewage plants are an allowed use within the existing Industrial (M) zone, with a use permit.

With the proposed zoning amendment and a use permit for the wastewater facility, the project would be consistent with County zoning districts and would result in a less than significant impact.

Significance Level: Less than significant because the project would be consistent with the proposed zoning amendment.

Impact LU-4: The project would not be consistent with the Colusa County Airport Comprehensive Land Use Plan with regard to noise standards, safety concerns, and incompatible land uses within the overflight zone.

The project proposes a mixed-use community adjacent to the Colusa County Airport. The project area is subject to conditions of the CLUP, as discussed in the Regulatory Setting, and the project must comply with the height restrictions, noise standards, and safety standards described in the CLUP in order to be approved by the ALUC. Based on the proposed uses, the project would not be fully consistent with the

CLUP. The analysis of CLUP consistency is provided below, with more specific discussions of noise and safety in Sections 4.5 (Noise) and 4.10 (Hazards), respectively.

Height Restrictions

The CLUP identifies height restrictions that increase with increased distance from the runway. These restrictions are in place to ensure aircraft have sufficient room to take-off and land without being obstructed by tall buildings and to protect navigable airspace for aircraft safety. The proposed zoning districts for the project include building height limits for each zone. The height limit for the R-1 zone is 30 feet, and the height limit for all of the other zones is 40 feet. The CLUP airport height restrictions over the project area are greater than 40 feet in most locations (Figure 4.1-1). Zoning requirements, therefore, would ensure building height compatibility with CLUP standards for most of the development. The CLUP height standards over the southernmost portion of the development area (nearest the airport and within the proposed golf course expansion), however, are less than 40 feet tall (Figure 4.1-1). No buildings are proposed for this area of the golf course; therefore, CLUP height restrictions would be adhered to in the project area.

Noise

The CLUP identifies noise standards for various land uses based on current and anticipated future flight patterns. The noise contours generated for the airport provide general guidance for acceptable land uses in order to minimize the number of people exposed to noise from aircraft operations. As discussed in Section 4.5 (Noise), project residences and businesses would be affected by noise levels ranging from 55 dB to more than 70 dB CNEL based on aircraft noise contours (see Figure 4.5-1). These aircraft-related noise levels exceed exterior CLUP noise standards for residential uses, hotels, golf facilities, and most other commercial uses. Standard building designs would include sound dampening measures that can reduce interior noise levels by about 25 dB (Bollard and Brennan 2005), but CLUP noise standards would still be exceeded in the development area. The project's land uses would not be compatible with allowable uses based on the noise contours for the airport; therefore, the project would be inconsistent with the CLUP, which would be a significant impact.

Safety Restriction Areas

The CLUP designates three safety restriction areas around the airport that identify areas that could be exposed to aircraft accidents: the clear zone has the highest potential for accidents; the approach-departure zone has a moderate potential; and the overflight zone has a lower potential. Land uses within these safety restriction areas are regulated by the CLUP in order to minimize the number of people exposed to aircraft hazards. The project proposes realignment of Farinon Road within the clear zone, but no buildings or other uses are proposed. The approach-departure zone encompasses a portion of the proposed G-R zone (golf course) and overlaps small portions of the proposed C-1/C-2 (existing office building) and R-4 (southwest corner of high density residential) zoning districts (Figure 4.1-2). All other uses would be located within the overflight zone.

Golf courses are permitted in the overflight zone and are permitted in the approach-departure zone only if they do not result in a large concentration of people (as defined in CLUP). Golf is a low-density activity that typically does not generate large concentrations of people. Starters regulate tee times to promote a smooth pace of play throughout the course, thereby discouraging a concentration of golfers in any particular area. This results in a low concentration of people per acre. The golf course itself, therefore, would not result in an average density of greater than 25 persons per acre per hour, nor would it exceed

50 persons per acre at any time. The golf course amenities with the highest concentrations of people include clubhouses, bars, restaurants, or banquet facilities. These uses are not allowed within the approach-departure zone, but are allowed in the overflight zone. Preliminary designs show the new clubhouse outside of the approach-departure zone, which would be compatible with the CLUP; however, a small pond associated with one of the holes would be located within this zone. The pond could attract birds, especially if it becomes a permanent water source in the area, which could result in safety concerns for pilots taking off toward and landing from the north.

A narrow section of the proposed C-1 and C-2/CH zones falls within the approach-departure zone (Figure 4.1-2). These parcels are already developed with existing commercial and office buildings, which are setback from the boundaries of the parcel, placing them outside of the approach-departure zone.

All of the proposed residential land uses are located within the overflight zone, and the extreme southwest corner of the proposed R-4 zone is located within the approach-departure zone. Only single-family detached residences with a density of at least five acres per residence are allowed within the overflight zone in order to minimize the number of people exposed to potential hazards with aircraft accidents. None of the project's residential land uses would meet this density requirement, resulting in a large number of people being exposed to potential accidents. Because of the safety concerns with the close proximity of the residential uses and the airport, this would be a significant impact.

The wastewater treatment facility is proposed within the overflight zone. Sewer treatment plants are allowed uses if they do not result in a possibility that a water area may cause ground fog or result in a bird hazard. The treated effluent would be applied to nearby fields currently used for disposal of industrial process wastewater and may be used for irrigation of the golf course in the future, and two existing wastewater disposal ponds would be utilized for temporary and emergency effluent disposal. These areas do not currently generate fog or attract large numbers of birds, according to personal communications with Park staff. Because the fields and ponds are currently being used for similar purposes, the proposed wastewater facility would not increase water areas and, therefore, would not be expected to increase ground fog or alter bird activity in a manner that would pose a hazard for air traffic.

Conclusion

In summary, certain components of the project would be inconsistent with the CLUP. Inconsistencies include compliance with land use restrictions associated with noise contours and safety restriction areas. The project's proposed residential densities would not be compatible with the CLUP's airport noise contours or safety zone restrictions, which would be a significant impact.

Significance Level Before Mitigation: Significant.

Mitigation Measure LU-4a: Design homes and businesses to reduce interior aircraft-related noise levels by up to 30 dB.

Implement Mitigation Measure N-4a.

Mitigation Measure LU-4b: Notify all prospective purchasers and users of property in the project area of inconveniences or discomforts that may accompany airport operations.

Implement Mitigation Measure N-4b.

Mitigation Measure LU-4c: Locate permanent water features associated with the golf course outside of the approach-departure zone.

The applicant will submit specific plans for the golf course to Colusa County for review and approval prior to issuance of grading permits. The plans will ensure that incompatible features are not located within the approach-departure zone. Incompatible uses would include lights, ponds, or other structures that could generate sources of light and glare, smoke, fog, or attract birds.

Mitigation Measure LU-4d: Encourage aerial application operators to takeoff to the south and land to the north when weather conditions permit.

See Mitigation Measure N-4c. Note that this mitigation measure is not feasible.

Mitigation Measure LU-4e: Encourage aerial application operators to make early turns (left or right) during Runway 31 departures (northbound take-offs).

See Mitigation Measure N-4d. Note that this mitigation measure is not feasible.

Mitigation Measure LU-4f: Encourage straight-out departures for Runway 31 operations (northbound take-offs).

See Mitigation Measure N-4e. Note that this mitigation measure is not feasible.

Mitigation Measure LU-4g: Encourage power reduction during departures for Runway 31 operations (northbound take-offs).

See Mitigation Measure N-4f. Note that this mitigation measure is not feasible.

Mitigation Measure LU-4h: Require aerial application operators to comply with Federal Aviation Administration regulations for operations over congested areas, prohibiting loaded aircraft from overflying the development area at low altitudes.

See Mitigation Measure N-4g. Note that this mitigation measure is not feasible.

Significance Level After Mitigation: Significant and unavoidable because the mitigation measures would reduce, but not eliminate, conflicts with the Comprehensive Land Use Plan, and some measures are infeasible.

Impact LU-5: The project would create physical conflicts with existing agricultural uses as well as uses within the City of Colusa.

The project would result in off-site impacts relating to increased traffic and traffic noise, increased agricultural-urban conflicts, and increased light and glare, which would affect adjacent agricultural uses and residential and commercial uses in the City of Colusa. These impacts are fully evaluated in Sections 4.4 (Traffic and Circulation), 4.5 (Noise), 4.12 (Agricultural Resources), and 4.14 (Aesthetics). The project is not expected to conflict with industrial uses within the Park because undeveloped land, the airport, and other uses would separate residential uses in the project area from the industrial facilities. Other than possible odor and noise complaints associated with the industrial uses (see Sections 4.5 and 4.6), the project's uses would not create physical conflicts with industrial operations. Physical conflicts with the adjacent airport are discussed in Impact LU-4.

The project would increase traffic on City and County roads and result in increased traffic congestion on several roadways (Section 4.4). Increased traffic would also expose existing residents in the City to increased noise levels, particularly along SR 20 (Section 4.5). The single-family homes in the western end of the development area and extension of Farinon Road to Wescott Road would cause indirect effects on the adjacent agricultural fields (Section 4.12), and the project would introduce a source of light and glare to a currently undeveloped area (Section 4.14). Additionally, the commercial and residential uses along SR 20 would include nighttime lighting, which could affect vehicles on the highway (Section 4.14).

Based on the analyses presented in other resource sections, these impacts would be considered significant. Mitigation measures have been proposed for each impact; however, traffic-related impacts would not be reduced to less than significant. Other impacts associated with agricultural-urban conflicts and light and glare could be reduced to a less than significant level with mitigation. The physical conflicts with adjacent land uses created by the project would cause a significant impact on nearby uses.

Significance Level Before Mitigation: Significant.

Mitigation Measure LU-5a: Provide funding to install a signal at Bridge Street and Fremont Street intersection when Caltrans approves.

Implement Mitigation Measure TT-1.

Mitigation Measure LU-5b: Construct a wall along western project boundary to provide a barrier between residences and agricultural uses.

Implement Mitigation Measure AR-3a.

Mitigation Measure LU-5c: Implement landscaping and lighting plans for uses along State Route 20.

Implement Mitigation Measures A-3 and A-4.

Significance Level After Mitigation: Significant and unavoidable because the mitigation measures would not sufficiently reduce project impacts associated with traffic noise in the City of Colusa.

Significant and Unavoidable Impacts

Impact LU-1: The project would be inconsistent with Colusa County General Plan land use policies LU-12 and LU-35 because the project would conflict with the adjacent airport and expose residents to excessive noise.

Impact LU-4: The project would not be consistent with the Colusa County Airport Comprehensive Land Use Plan with regard to noise standards, safety concerns, and incompatible land uses within the overflight zone.

Impact LU-5: The project would create physical conflicts with existing agricultural uses as well as uses within the City of Colusa.

4.2 POPULATION, HOUSING, AND EMPLOYMENT

This section describes the existing population, housing, and employment setting of the project area and vicinity. The impact analysis discusses the project's impact on population and housing. Mitigation measures are identified for significant impacts, followed by determinations of the residual impact significance after mitigation measures are implemented.

4.2.1 Setting

Regulatory Setting

The **Colusa County General Plan** (General Plan) was adopted in 1989 with a horizon year of 2010. The General Plan provides the basis for decisions regarding growth and land development; it is the County's official statement of public policy for the use of private and public land. It provides a framework to encourage economic growth while managing growth, conserving agricultural lands, protecting the environment, and preserving the qualities and culture that make Colusa County unique (Colusa County 1989). The General Plan's overall guidance, goals, and policies applicable to social and economic conditions are set forth in the Land Use Element and Housing Element, which are discussed below.

The **Land Use Element** of the General Plan examines current and proposed future land use patterns in the County and sets forth policies to facilitate urban, agricultural, and open space uses planned from 1989 to 2010.

The element presents policies that are intended to maintain the efficient and harmonious use of land in the County, promote a well organized and orderly development pattern, and accommodate the orderly growth of population and employment. Applicable policies are identified below:

LU-1: Colusa County should ensure a supply of developable land sufficient to meet projected growth over the planning period.

LU-31: Sufficient vacant areas should be designated for residential development to meet the housing demand with future development located proportionally to areas of future job growth.

The **Housing Element** of the General Plan was revised and adopted by the Board of Supervisors on December 16, 2003, and was later revised and readopted in November 2004. The Housing Element is intended to provide citizens and public officials with an understanding of the housing needs in the County and to set forth an integrated set of policies and programs aimed at attaining defined goals (Colusa County 2004).

The Housing Element presents goals and policies that encourage an adequate supply of safe, sanitary, and attractive housing in all communities in Colusa County, affordable to a wide range of income groups. Table 6-1 of the Housing Element identifies the County's fair share of housing by income group through June 2008. Housing Element goals and policies applicable to the project are identified below:

Goal 1: Development of sufficient new housing to ensure the availability of safe, affordable housing for all households in the Colusa County unincorporated area.

HO-1: Designate a sufficient amount of residential land in the County General Plan to support the housing needs.

HO-2: Use a range of zoning designations as Urban Residential in the unincorporated area around the City of Colusa to encourage a mixture of residential densities.

Program 1.1: County will pursue development of affordable housing within new subdivisions.

Program 1.4: Allocate a portion of any future redevelopment housing set-aside funds for the purchase of sites in support of assisted housing.

Goal 2: Assurance of choice of housing location for all residents of the Colusa County unincorporated area.

HO-9: Maintain a sufficient inventory of developable land to accommodate timely development of needed new housing.

HO-10: Accommodate and encourage development of a full range of housing types in the County.

Program 2.3: County will permit second housing units (rental housing) where appropriate.

Program 2.5: County will consider designation of Planned Development zoning in part of the residential-zoned areas.

Program 2.6: Modify County land use regulations to permit inclusionary zoning (requiring developers to set aside a percentage of units in their project for affordable housing) and greater density bonuses for projects with low- to moderate-income units.

Goal 4: Equal access to safe and decent housing for all income groups.

Program 4.2: The County shall amend the Zoning Code to provide flexibility and consideration for senior housing, second units, and meeting its affordable housing goals. The County will review its Zoning Code to identify and revise areas that inhibit and discourage providing for affordable housing, provide for Mixed Use classification to encourage construction and location of affordable housing within a combined commercial component, provide for "Density Bonuses," and provide more diversity in housing types in both residential and agricultural zones.

Goal 6: Increased opportunities of special needs groups to obtain adequate housing.

HO-23 Encourage residential developers to provide for the inclusion of dwelling units suitable for sale or rent to low and moderate-income households within their projects.

HO-24: Support measures to eliminate housing discrimination on the basis of race, age, sex, marital status, ancestry, and national origin.

HO-25: Encourage enforcement of fair housing laws throughout the county.

HO-26: Support development of housing plans that maximize housing choice for special needs groups and lower-income households.

HO-27: Promote housing construction close to planned employment centers to reduce gasoline consumption.

Environmental Setting

Colusa County is a rural county that relies on agricultural production as its primary source of revenue. The City of Colusa, which is adjacent to the northwest boundary of the project area, and the City of Williams are the largest population centers in the County.

Population

The population of Colusa County increased from 14,800 persons in 1987 (Colusa County 1989) to 18,804 persons in 2000 (U.S. Census 2000) and 20,880 persons in 2005 (Center for Economic Development [CED] 2006), with an annual increase of 1.2 percent from 1997 to 2002 (Department of Transportation 2004). In Colusa County, the City of Colusa is the largest city, with a population of 5,582, but Williams is the fastest growing city in the County with a population of 4,794 and an average annual increase of four percent growth from 1995 to 2005 (CED 2006).

The 1989 General Plan projected the countywide population would increase to 23,500 persons by 2010 (Table 4.2-1). More recent projections from the Department of Finance (DOF 2000) estimated the countywide population would reach 22,697 persons by 2010 and 23,273 persons by 2015, which are lower than the General Plan's 2010 projection. For the unincorporated portion of the County, the General Plan's Final Housing Element (2004) projected the population would increase from 9,732 to 10,471 persons from 2000 to 2005 and to 11,267 persons by 2010. This population increase would be caused primarily by migration from the Sacramento region and the proximity of development in Colusa County to I-5.

The project area is located in the unincorporated area of Colusa County and does not have a current residential population.

Table 4.2-1. Population Estimates and Projections 2000-2015

Jurisdiction	2000	2005	2010	2015
Unincorporated Colusa County ^a	9,732	10,471	11,267	12,123
Total Colusa County	18,800 ^b	20,880 ^b	22,697 ^c 23,500 ^d	23,273 ^c

Note: Projected figures are italicized; estimates are indicated in standard script.

Sources: ^aColusa County 2004; ^bCED 2006; ^cDOF 2000, ^dColusa County 1989

Housing

In 2002, the CED (2006) estimated Colusa County had approximately 6,852 housing units, and the unincorporated area had approximately 3,819 housing units (Table 4.2-2). Estimates from 2005 indicated an increase to 7,342 total housing units countywide, of which 5,657 were single-family units, 875 were multiple family units, and 810 were mobile homes (CED 2006). Total housing units in the unincorporated portion of the county increased to 4,032 units in 2005, experiencing a five percent housing increase from 2002 to 2005. The County (2004) projected the estimated housing construction need from 2002 to 2008 would be 1,262 units countywide and 631 units in the unincorporated area.

The project area is designated for industrial uses and does not have existing housing units. The closest designated urban residential area is located within Colusa city limits, northwest of the project area.

Table 4.2–2. Housing Estimates and Projections 2002–2008

Jurisdiction	2002 ^a Housing Units	2005 ^a Housing Units	2008 ^b Housing Units
Unincorporated Colusa County	3,819	4,032	<i>4,450</i>
Total Colusa County	6,852	7,342	<i>8,114</i>

Note: Projected figures are italicized; estimates are indicated in standard script.

Sources: ^aCED 2006; ^bColusa County 2004

Employment

According to the CED (2006), labor force is defined as the total number of employed workers and unemployed county residents actively seeking work. In Colusa County, the total labor force was approximately 9,900 in 2005, of which approximately 81 percent was employed and 14 percent was unemployed (CED 2006). Since agriculture is the dominant industry in Colusa County, employing around one-third of its population, employment figures tend to fluctuate during the harvest season (May to October). Historically, the periods of May through October experience the lowest unemployment, while November through April experience the highest (Employment Development Department [EDD] 2006). The 1989 General Plan, however, forecasted that future growth in jobs would tend to shift from direct farming to more stable year-round jobs such as retail and service industry positions. Most of these jobs would, nevertheless, be in agricultural processing and distribution.

Table 4.2-3 shows 2005 employment averages by industry for Colusa County. The agricultural industry employs over 30 percent of the County's total labor force. Government positions provide the second largest industry, employing almost 25 percent of the County.

The project area is zoned for industrial uses. Approximately 36,580 square feet of commercial space and office uses presently occupy the project area. Existing tenants (16 commercial tenants) within Colusa

Industrial Park include the following industries (CIP 2006): Government; Educational and Health Services; Trade and Utilities; Agriculture; Natural Resources; Financial Activities; and Other Services.

Table 4.2-3. Colusa County Employment by Industry 2005 Annual Average

Industry	Percent of Labor Force
Agriculture	31%
Government	24.8%
Trade, Transportation, and Utilities	14.5%
Manufacturing	11.4%
Leisure and Hospitality	7.7%
Educational and Health Services	4.8%
Other Services	2.5%
Financial Activities	1.6%
Natural Resources, Mining, and Construction	1.6%

Source: EDD 2005

4.2.2 Impact Analysis

Methodology

The impact analysis provided in this section is based on the latest population and economic information obtained from Colusa County (2004), Center for Economic Development (2006), U.S. Census Bureau (2000), Department of Finance (2000), and Employment Development Department (2005). The project's added population, housing, and employment were compared with Colusa County's General Plan policies and other projections to determine whether the project would induce unplanned growth.

Criteria for Determining Significance

Adverse impacts related to population, housing, and employment would be considered significant if the project would:

- Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
- Induce substantial unplanned housing growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
- Fail to contribute to the County's fair share requirements for very low, low, and moderate income housing.

Impacts and Mitigation Measures

Impact PHE-1: The project would add 860 persons to the unincorporated Colusa County population, but population projections would not be exceeded.

The project would develop a total of approximately 286 single-family residential and high-density residential housing units. Based on the project's estimated number of housing units and the DOF's (2000) person per household rate of 3.01, the project would result in a permanent population of approximately 860 persons in the development area. This increase falls within the unincorporated Colusa County population projections for 2010 and 2015 (Colusa County 2004), as well as the projections for all of Colusa County (Colusa County 1989, CED 2006). The project's added population is, however, a substantial percentage of the projections for the unincorporated areas, but it is less than 50 percent of the overall County projections.

Because the project's added population would fall within the range of Colusa County's planned growth, direct impacts on population would be less than significant.

Significance Level: Less than significant because the project's population would not exceed future projections and the project would not induce unplanned growth.

Impact PHE-2: The project would add up to 286 dwelling units in unincorporated Colusa County, but housing projections would not be exceeded.

County projections indicate that the countywide total housing need for 2002 to 2008 would be approximately 1,262 units, of which 631 units would be needed for the unincorporated area (Colusa County 2004). Based on the housing estimates for 2005 and projections through 2008, the County is still expected to require another 772 total housing units countywide, with 418 housing units in the unincorporated areas.

The project's addition of up to 286 housing units to the unincorporated area would account for approximately 37 percent of the County's overall projection by 2008 and about 67 percent of the unincorporated County's projection for that same year. Projections for 2010 housing needs are expected to be higher than 2008 projections by at least five percent; therefore, the project's relative contribution to projected year 2010 housing units would be smaller. Because the project's added housing would fall within the range of Colusa County's projected growth, direct impacts on housing would be less than significant.

Significance Level: Less than significant because the project's housing would not exceed future projections and the project would not induce unplanned growth.

Impact PHE-3: The project would not provide affordable housing and would be inconsistent with affordable housing policies and programs in the County General Plan Housing Element.

The project provides up to 286 new housing units in unincorporated Colusa County; none of these units is planned as affordable housing. To be consistent with Housing Element affordable housing policies and programs encouraging affordable housing, the project would need to designate a reasonable percentage (e.g., 10%) of the units as affordable housing. The lack of proposed affordable housing units in the project area make the project inconsistent with the Housing Element and could result in adverse effects on low-income populations, resulting in a significant impact.

Significance Level Before Mitigation: Significant.

Mitigation PHE-3: Identify on subdivision map at least 29 affordable housing units in the high density residential zone in the project area.

The County will require the applicant to designate a reasonable percentage (e.g., 10 percent) of the units as affordable housing. These units will be identified on the tentative subdivision map and will be approved by the County prior to approval of the final subdivision map. The County will specify the appropriate number of affordable units to be designated for different income groups (very low, low, and moderate). Provision of at least 29 affordable housing units would make the project consistent with Housing Element policies and programs.

Significance Level After Mitigation: Less than significant because provision of at least 29 affordable housing units in the project area would avoid adverse effects on low-income populations.

Significant and Unavoidable Impacts

None.

4.3 PUBLIC SERVICES

This section describes existing public services in the project vicinity and the impacts on public service facilities that may occur with implementation of the project. Mitigation measures are identified for significant impacts, followed by determinations of the residual impact significance after mitigation measures are implemented. The public services evaluated in this section include police and fire services, schools, parks and public recreational facilities, libraries, public health and medical services, and court services.

4.3.1 Setting

Regulatory Setting

The **Colusa County General Plan** (1989) identifies goals and policies that promote effective and efficient provision of public services throughout the County. The Community Services Element recommends policies intended to “channel development into areas where community services can either accommodate growth or be expanded most efficiently.” General Plan policies address public services provided in the County, including law enforcement, fire protection, emergency medical services, education, libraries, and health care.

Environmental Setting

Police Protection Services

Colusa County Sheriff

The Colusa County Sheriff’s Department provides law enforcement services to the unincorporated areas of Colusa County. The Sheriff’s Department serves the project area (and the entire County) from its

26,000 square-foot station at 929 Bridge Street in the City of Colusa, approximately one mile north of the project area (Colusa County Sheriff Department 2006).

Average response times to the project area are about 5 minutes. The department does not have a target response time. Rather, the department has a preferred officer-to-population ratio of 1.25 deputies per 1,000 persons, and a support staff ratio of 0.75 staff for every 1,000 residents. This equals an overall staff-to-population ratio of 2 per 1,000. Three Sheriff's deputies are on duty at all times to serve the County (Marshall 2006).

The Sheriff's Department receives relatively few calls from the Park. The department receives more calls from the golf course, most of which include minor crimes such as malicious mischief and theft (Marshall 2006).

The Colusa County Sheriff's Department has a mutual aid agreement with the City of Colusa Police Department. The Sheriff's Department, however, handles most calls on its own. In 2005, about 10 percent of the calls to the Sheriff's Department from the project vicinity required mutual assistance from Colusa Police (Marshall 2006).

The Sheriff's station also includes the County's only jail, constructed in 1962. Inmates in the facility may be awaiting trial or serving a sentence. Jail staff total 13 including one jail commander, one sergeant, three corporals, and eight correctional officers. The jail has 92 beds (Colusa County Sheriff Department 2006). The jail's average daily population for the 18-month period from March 2005 through August 2006 was 45 inmates. The maximum number of inmates during that period was 59 (Austin 2006).

City of Colusa Police Department

The City of Colusa Police Department provides law enforcement services within the city limits from its police station at 260 6th Street, in the Carnegie Library Building, approximately two miles north of the project area. The 3,600 square-foot library building was built in 1906 and is listed on the National Register of Historic Places. The police station is currently operating at capacity. The City is currently investigating potential locations for a new police station, although no plans have been developed (City of Colusa 2007b).

The Police Department is staffed with nine fulltime officers and one non-sworn secretary position. The Police Department is adding a tenth position for a full-time detective. The City's current general plan recommends an officer-to-population ratio of one officer per 1,000 persons (Colusa 1994). The department is two officers short of this standard (City of Colusa 2007b). The Police Department receives occasional requests from the Sheriff's Department for backup assistance on calls from the Park when the Sheriff is unable to respond (Montgomery 2007).

Fire Protection Services

Sacramento River Fire District

The Sacramento River Fire District (SRFD) provides fire protection, emergency medical services, rescue, and hazardous materials response services to the eastern portion of unincorporated Colusa County. SRFD's 207 square-mile service area runs along the Sacramento River from two miles south of Princeton to the Colusa/Yolo County line. The SRFD serves the project area from its fire station at 235 Market Street in the City of Colusa, approximately two miles north of the project area.

The SRFD is staffed by one full time fire chief and 44 volunteers. One firefighter is usually on duty during daytime hours Monday through Friday, with support of volunteer firefighters. Nighttime and weekend staffing is provided by a duty officer and the volunteers. According to the SRFD, the Fire District's equipment is adequate for current demand. The SRFD maintains a mutual aid agreement with all fire agencies within Colusa County, Meridian Fire Department in Sutter County, Sutter County Fire Department, Glenn-Colusa Fire District in Glenn County, and Dunnigan and Knights Landing fire districts in Yolo County.

Average response times to the project area are typically about 7 to 9 minutes during most of the year. Response times are slightly longer during the autumn harvest season (8 to 10 minutes) when many of the volunteer firefighters are tending farming operations. The response times currently exceed SRFD's target response time of 3 to 4 minutes. Response times can vary depending on traffic conditions and weather. SR 20 is currently the only access road to the Park.

During the period between July 1, 2005 and June 30, 2006, SRFD responded to 75 fires, 184 medical emergencies, 42 fire investigations, 31 mutual aid and automatic aid responses, 17 false alarms, one hazardous materials call, and three rescues. During this period SRFD requested mutual aid 23 times mostly from Meridian Fire District and Colusa City Fire Department.

The SRFD receives occasional calls from the Park and the golf course. Most calls from the Park involve medical emergencies, with a few structure fires on the developed parcels and vegetation fires on the undeveloped parcels. The golf course generates fewer calls than the industrial park, and the calls typically involve medical emergencies and dumpster fires. Calls from nearby residences mainly involve medical emergencies (Winters 2007).

City of Colusa Fire Department

The City of Colusa Fire Department provides fire protection and emergency services within the city limits from its fire station located at 750 Market Street, approximately two miles north of the project area. The station currently needs repairs and renovation and is operating at capacity. The fire department maintains a staff of 5 paid and 26 volunteer firefighters. The department maintains a mutual aid agreement with six other fire agencies within Colusa County (City of Colusa 2007b). The department also maintains a mutual aid agreement with the Colusa Casino for fire protection services. The City fire department receives very few calls for mutual aid assistance at the Park (Dunn 2007).

Schools

The Colusa Unified School District (CUSD) serves the northeastern portion of Colusa County with five schools. Burchfield Elementary School, Egling Middle School, Colusa High School, and Colusa Alternative High School are all located in the City of Colusa. The Colusa Alternative Home School is an independent study school where students are taught at home rather than at a CUSD facility.

Table 4.3-1 shows the 2006-2007 school year enrollment for the CUSD. On a district level, CUSD is currently operating at 75 percent capacity. CUSD has experienced a slow, steady decline in enrollment over the past 10 years. The CUSD expects student enrollment to increase substantially over the next 10 years, primarily from a forecasted increase in residential development (SchoolWorks, Inc. 2006).

Table 4.3-1. Colusa Unified School District Enrollment

School Name	Grade Levels	Current Enrollment	Student Capacity	% of Capacity	Remaining Capacity
Burchfield Elementary School	K-3	445	475	97%	30
Egling Middle School	4-8	510	693	74%	183
Colusa High School	9-12	370	675	54%	305
Colusa Alternative High School	9-12	30	40	75%	10
Colusa Alternative Home School ^a	K-12	52	-	-	-
TOTAL		1,407	1,883	75%	528^b

^a At-home study

^b Does not include Colusa Alternative Home School

Source: SchoolWorks, Inc. 2006

Parks and Recreation

Public parks and recreational facilities in the project vicinity include City of Colusa parks, the Colusa-Sacramento River State Recreation Area (SRA), Colusa County Fairgrounds, and the Colusa and Delevan National Wildlife Refuges (NWRs).

The City of Colusa maintains 15.5 acres of parks, open space, and recreational facilities that include picnic areas, ball fields, swimming pools, playgrounds, tot lots, tennis courts, and a levee park along the Sacramento River. The City's parks receive heavy use by its 5,582 residents, plus nearby County residents. According to the City, some of the City's facilities are no longer adequate for their current demand, and some facilities need expansion or renovation. The City is planning on preparing a Parks Master Plan after the City General Plan Update is completed in 2007 (McNulty 2006).

The Colusa-Sacramento SRA is located just outside the City of Colusa along the Sacramento River. SRA facilities include a boat launch, picnic areas, hiking trails, and a campground. The park's service area extends well beyond Colusa County. The SRA receives an average of 67,500 visits per year, and park usage is currently at capacity. Street parking outside the SRA serves as overflow parking. The SRA is planning to expand and redesign the park to accommodate more parking and campsites (Fehling 2006).

The Colusa County Fairgrounds is owned and managed by the California Department of Food and Agriculture. The fairgrounds include a fee-based recreational vehicle park and a fee-based events center featuring several exhibition halls and an outdoor pavilion. The fairgrounds are gated, but the gates are usually kept open to allow public use of the outdoor lawn areas for recreational activities such as dog walking and kite flying. On average, one or two people per day use the fairgrounds for this purpose (Meek 2007).

The Colusa and Delevan NWRs are located 3 miles and 8 miles, respectively, from the project area. These NWRs are managed by the U.S. Fish & Wildlife Service (FWS) and provide hunting and wildlife viewing opportunities. Annual visitation is 21,000 at Colusa NWR and 7,000 at Delevan NWR. The FWS has no user thresholds for these NWRs (Forester 2006).

Library

The Colusa County Library is located at 738 Market Street in Colusa. The library employs six full time staff and up to three part-time staff. The library is open four days a week. The Colusa County Library participates in a consortium with five other libraries, including the Sacramento Public Library. According to library staff, the library has adequate capacity to serve its current users (Rawlins 2006).

Public Health

Colusa County is designated a Health Professional Shortage Area (HPSA) by the U.S. Department of Health and Human Services. The HPSA designation refers to shortages of primary medical care, dental, or mental health providers. Colusa County's only hospital is the Colusa Regional Medical Center located at 199 East Webster Street in Colusa. The medical center has 48 licensed beds, 160 employees, and a current physician-to-population ratio of 1:2,500. According to medical center staff, the medical center is operating at capacity for physicians, but not for administrative staff or licensed beds. Also, the medical center is operating at capacity for office space, and the emergency room is inadequately sized to handle the current population. The medical center is preparing a strategic plan, scheduled for release in 2007. (Parker 2006).

The Colusa County Behavioral Health Center is located at 162 East Carson Street in Colusa. The center provides outpatient substance abuse and mental health services for Colusa County residents on a fee basis. The center operates from a County-owned building and has five County cars with three cars on order. The center maintains 29 staff and has a preferred staff-to-client service ratio of 1:50 for most programs and 2:1 ratio for their intensive program. According to agency staff, the mental health program is currently operating below capacity, but the substance abuse program is at capacity (Joiner 2006).

The Colusa County Department of Health and Human Services consists of three divisions (health services, human services, and public authority) and is located at 251 East Webster Street in Colusa. The Division of Health Services seeks to prevent disease and injury, promote health, evaluates the health of the community, and measures the health outcomes for all residents. The Division of Human Services provides temporary cash assistance for needy families. Programs include Cash Assistance and Welfare to Work Programs (CalWORKs) and non-Cash Assistance Eligibility Programs (i.e. Food Stamps, Medi-Cal, CMSP, General Assistance). The public authority is mandated by state law to work in conjunction with Colusa County's In-Home Supportive Program to help the elderly or disabled adults and disabled children remain in their own homes with support of In-Home care from care providers. The department has multiple staff assigned to the various divisions that are available for emergency and non-emergency situations.

Court Services

The Superior Court of California, Colusa County serves the County from two facilities in the City of Colusa. The main courthouse (547 Market Street) processes criminal, juvenile, family law, and civil cases, as well as probate and adoptions. The courthouse annex (532 Oak Street) processes criminal, traffic, civil, limited jurisdiction, and small claims cases. The Superior Court has 2 judges and 14 staff. The Court does not have a target staff-to-population service ratio, but Court staff has stated that current staffing levels and facilities are at capacity (Pearson 2007).

The Colusa County Probation Department has 11 probation officers, 5 support staff, and 3 community service supervisors. The department does not have a target staff-to-population service ratio, but the department has stated that current staffing levels are not adequate to meet the needs of the county's adult

population. Colusa County does not currently have a juvenile hall, so Colusa County contracts with other counties for juvenile hall services. The Probation Department is currently in the research phase for a juvenile hall, but no plans have been developed (Bordin 2007).

4.3.2 Impact Analysis

Methodology

Information of the public service providers, their facilities, and their capacities was developed through personal communications with representatives of the service providers. The Sheriff's Department website, an enrollment projection report prepared for the Colusa Unified School District, and the City of Colusa Draft General Plan Update were also used to describe the existing services. Project-related effects on public service providers' ability to provide services were evaluated in terms of the potential for environmental impacts, such as those associated with the need to construct new facilities. The following paragraphs explain the methodologies used to analyze impacts on specific types of public service facilities.

Police and Fire Protection Service Providers

Existing levels of staff and facilities, target response times and staffing ratios, existing response times and ratios, and existing demand generated by the project area (as described above) were used as the baseline conditions for these analyses. The proposed changes in land use were then evaluated, in consultation with the service providers, to determine whether the project would generate sufficient new demand to warrant construction of additional or expanded services and facilities.

Schools

CUSD enrollment numbers were compared against the existing capacities of CUSD school facilities to determine how much excess capacity (if any) each facility now has to serve the project. CUSD's student generation rates were used to calculate the expected student increase generated by the project, and whether each CUSD school facility has sufficient capacity to serve the new students.

The CUSD expects student enrollment to increase substantially over the next 10 years, primarily from a forecasted increase in residential development in addition to the CIP project rather than an increase in birth rates. Because environmental changes caused by future projects other than the CIP project are not part of the current environmental setting, they are not included in this analysis. Chapter 5 (Cumulative Impacts) includes an analysis of the combined impacts on CUSD facilities that could result from the project and other reasonably foreseeable future projects.

Parks and Recreation

Current usage levels for the public parks and recreation facilities in the project vicinity were used as the baseline conditions for the following analyses. The expected increase in park usage generated by the proposed residences was used to determine whether the project would cause or accelerate substantial physical deterioration of the facilities.

Library, Public Health Services, and Court Services

The Colusa County Library, the Colusa Regional Medical Center, the Colusa County Behavioral Health Center, the Colusa County Department of Health Services, the Superior Court, and the Colusa County Probation Department were evaluated to determine if their facilities could adequately serve new residents generated by the project.

Criteria for Determining Significance

Adverse impacts related to City, County, or special district public services would be considered significant if the project would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental 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 public services:
 - Fire protection.
 - Police protection.
 - Schools.
 - Parks.
 - Other public facilities.
- Substantially increase public service agency staffing requirements.
- Cause substantial displacement of public recreation opportunities.
- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- Require construction of recreational facilities, which might have an adverse physical effect on the environment.

Impacts and Mitigation Measures

Impact PS-1: The project would increase the demand on the Sheriff's Department, requiring the need for two new staff members and possibly new or expanded facilities.

The Sheriff's Department expects the project to increase the number of calls to the department. The expected increase would mostly include noise and barking dog complaints generated by the residential land uses and minor crimes such as malicious mischief and theft. Response times are expected to remain at approximately 5 minutes (Marshall 2006).

The project would result in an increase of approximately 860 residents in the Colusa County Sheriff's service area. Using the Sheriff's Department's preferred staff-to-population ratio of 2:1,000 persons, the project would generate the demand for two new staff members, including one officer and one support staff. The addition of two new staff could require construction of new or expanded facilities and would require additional funding. Because of the increase in demand on the Colusa County Sheriff's Department and need for new staff, impacts would be significant.

The Colusa Police Department expects the project to increase the number of mutual aid calls from the Sheriff's Department and expects project-generated traffic through the City to increase demand for police

services related to traffic enforcement. The Police Department, however, does not expect the project to substantially increase demand for police services or require expansion of the police force or its facilities (Montgomery 2007). Therefore, impacts on City Police facilities would be less than significant.

Significance Level Before Mitigation: Significant.

Mitigation Measure PS-1: Provide funding for two new Sheriff's Department staff and temporary rent-free office space, if needed.

The County will require the applicant to provide funding for two new Sheriff's Department staff prior to approval of subdivision maps. The amount of funding will be specified in the development agreement between the applicant and County. Additionally, if the Sheriff's Department requires additional facilities to accommodate the increase in staffing, the applicant will provide rent-free office space in the project area until such new facilities can be provided elsewhere. At the discretion of the County, the applicant may also be required to provide fair share funding to construct new facilities for the new staff; details on the additional funding will be specified in the development agreement.

Significance Level After Mitigation: Less than significant because the provision of adequate funding would ensure impacts on the Sheriff's Department are minimal.

Impact PS-2: The project would increase demand for jail services by 4 percent, but existing jail facilities would have adequate capacity to serve the project.

The Sheriff's Department expects the project to increase the need for jail services in proportion to the increase in the County's population generated by the project (Marshall 2006). The project would increase the County's population by approximately 4 percent, thereby increasing the demand for jail services by 4 percent. The jail's average daily population is 45. Because the jail has a capacity of 92 inmates and is currently at less than 50 percent capacity, the expected 4 percent increase would not cause the jail to exceed its capacity and, therefore, would not require construction of new or expanded facilities. Additionally, tax revenue from the project would provide funding through the County General Fund for minor improvements that may be needed for the existing facilities. Distribution of these funds to the appropriate entity is at the discretion of the County. Therefore, impacts on County jail facilities would be less than significant.

Significance Level: Less than significant because the existing jail facilities would have adequate capacity to serve the project.

Impact PS-3: The project would increase the demand for the Sacramento River Fire District by about 10 percent annually, resulting in the need for one new firefighter and improvements to existing facilities.

SRFD expects the project to increase the number of calls by about 10 percent annually. The expected increase would mostly involve emergency medical service calls, false alarms, and some structure fire incidents. To accommodate this increase in calls, the SRFD would hire one new permanent firefighter, thus allowing the fire district to staff their fire station 24 hours a day and reduce response times to 3 to 4 minutes. The project would require SRFD to renovate the interior of the fire station to accommodate full-time paid staff on a 24-hour basis. Renovations would include converting a portion of the bunkroom into an office, and installation of a new dishwasher and sink in the kitchen. These renovations would be confined to the interior of the existing fire station and would not require expansion of the existing fire station or construction of a new station (Winters 2006). The interior renovations are not expected to result in significant environmental impacts. The addition of one new staff and renovations would require

additional funding. Because of the increase in demand on the Sacramento River Fire District and need for new staff, impacts would be significant.

During the EIR public scoping process, SRFD issued a letter listing its concerns about the project (see Appendix A). The letter addressed ingress/egress for the project area, water supply, fire hydrant distribution, staffing, the present fire station location, apparatus, increases in population, fire protective systems, and spacing of the residences [SRFD to County of Colusa, letter, June 16, 2006]. The applicant is actively working with the SRFD and Colusa County to address the SRFD's concerns and to incorporate prudent fire safety measures into the project. These issues are important with respect to project planning and fire safety. They would not, however, require the SRFD to construct new or physically altered facilities.

The City of Colusa Fire Department does not expect the project to generate a substantial number of new calls to the department because the project area is located outside the city limits (Dunn 2007).

Significance Level Before Mitigation: Significant.

Mitigation Measure PS-3: Provide funding for one new firefighter and temporary rent-free office space, if needed.

The County will require the applicant to provide funding for one new Sacramento River Fire District firefighter prior to approval of subdivision maps. The amount of funding will be specified in the development agreement between the applicant and County. Additionally, if the Fire District requires temporary office space for the new staff member prior to completion of renovations, the applicant will provide rent-free office space in the project area until the renovations are complete. At the discretion of the County, the applicant may also be required to provide fair share funding for the renovations; details on the additional funding will be specified in the development agreement.

Significance Level After Mitigation: Less than significant because the provision of adequate funding would ensure impacts on the Sacramento River Fire District are minimal.

Impact PS-4: New students generated by the project would exceed the capacity of Burchfield Elementary School, resulting in the need for a new school in the Colusa Unified School District.

The project would add 286 new residential units to the CUSD service area. The CUSD's student generation rates are 0.323 students per household for the grade range from Kindergarten through 6, 0.084 students per household for the grade range from grades 7 and 8, and 0.208 students per household for the grade range from 9 through 12 for a combined total rate of 0.615 students per household (SchoolWorks, Inc. 2006).

Based on these rates, the project would generate 175 new students by 2010, the estimated year of project completion. Ninety-two (92) new students would attend Burchfield Elementary School, 24 would attend Egling Middle School, and 59 would attend Colusa High School or Colusa Alternative High School. This increase would exceed the capacity of the elementary school, which is near capacity. The middle and high schools would have adequate capacity for the new students generated by the project (refer to Table 4.3-1). Because the existing elementary school would not have sufficient capacity to serve the project, a new elementary school would be required, which could result in adverse environmental impacts. The increased demand on the CUSD would be a significant impact.

Significance Level Before Mitigation: Significant.

Mitigation Measure PS-4: Provide fair share funding for a new elementary school and other facilities deemed necessary by the Colusa Unified School District.

The CUSD can assess developer fees for the project to help pay for additional facilities (i.e., a new elementary school) needed to serve new students generated by the project. The CUSD can assess these fees at a maximum rate of \$2.63 per square foot of assessable space for residential development and \$0.42 for commercial or industrial development as specified in Govt. Code Sec. 65995. These fees constitute the exclusive means of both “considering” and “mitigating” school facilities impacts of projects and are “deemed to provide full and complete school facilities mitigation” [Govt. Code Sec. 65996(a) and (h)]. At the discretion of Colusa County, the County may identify additional fair share funding in the development agreement to help fund new school facilities.

Significance Level After Mitigation: Less than significant because the developer fees would mitigate school facility impacts.

Impact PS-5: The project would increase City park usage by 15 percent and accelerate physical deterioration of the City’s park facilities, resulting in the need for increased maintenance and possibly new facilities.

The project would add 860 residents to the region, increasing usage of the City of Colusa’s parks by approximately 15 percent (860 new residents / 5,582 City residents = 15%). The increased usage would further inhibit the ability of the City’s park system to adequately serve the community and accelerate physical deterioration of the park facilities. The City would be required to increase maintenance of its parks, and new park facilities may be required to accommodate the increase in usage. The increased demand on City parks would result in a significant impact.

Significance Level Before Mitigation: Significant

Mitigation Measure PS-5: Provide fair share funding for park development and City park maintenance, operation, and renovations based on the increased demand of 15 percent.

The County will require the applicant to provide fair share funding to the City for park development, maintenance, operation, and renovations to mitigate the impacts of the project’s new residents. The County will identify specific funding requirements in coordination with the City and will require the payment of the fees prior to approval of subdivision maps. The specific amount of funding will be identified in the development agreement between the applicant and the County.

Significance Level After Mitigation: Less than significant because the provision of fair share funding for park development, maintenance, operation, and renovations would mitigate park impacts.

Impact PS-6: The project would increase visitation at the Colusa-Sacramento River State Recreation Area, Colusa County Fairgrounds, and Colusa or Delevan National Wildlife Refuges, but would not be expected to accelerate substantial physical deterioration of these recreation facilities.

The service area for the Colusa-Sacramento River SRA extends well beyond Colusa County. Project generated usage at the SRA, therefore, would not constitute as large of a percentage of overall users as it would for City parks. Assuming half of the project’s 860 residents would visit the SRA three times a year, the project would increase annual visitation by around 2 percent. This is not considered a substantial

increase and would not be expected to accelerate substantial physical deterioration of the facility. The project, therefore, would result in a less-than-significant impact on the Colusa-Sacramento River SRA.

Public use of the lawns within the Colusa County Fairgrounds is currently low (i.e., one or two users per day). A 15 percent increase generated by the project's residents would not be expected to cause substantial physical deterioration of the facility. The project, therefore, would result in a less-than-significant impact on the Colusa County Fairgrounds facilities.

The FWS does not have user thresholds for the Colusa or Delevan NWRs and has indicated that increased park visitation generated by the project would not adversely affect the NWRs (Forester 2006). The project, therefore, would result in a less-than-significant impact related to increased visitation to the NWRs.

Significance Level: Less than significant because the project would result in minimal impacts to regional parks.

Impact PS-7: The project would result in a minor increase in demand for library services.

According to library staff, the project would increase demand for library services and would require additional staff, but would not generate the need to construct new or expanded facilities (Rawlins 2006). Tax revenue from the project would provide funding through the County General Fund for staff increases. Distribution of these funds to the appropriate entity is at the discretion of the County. The project would result in a minor increase in demand on library services and require new staff, which would be funded through the General Fund; therefore, impacts on library services would be less than significant.

Significance Level: Less than significant because the project would not substantially increase the demand for library services.

Impact PS-8: The project would result in a minor increase in demand on medical and public health services and facilities.

It is reasonable to expect the project to increase the need for public health services in proportion to the increase in the County's population generated by the project. The project would add 860 residents to the County, resulting in an increase of approximately 4 percent based on the 2005 population of 20,880.

The additional population would increase demand on services provided by the Colusa County Behavioral Health Center and Department of Health Services. According to Colusa County Behavioral Health Center staff, the project would increase demand for behavioral health services in the County, but would not generate the need to construct new or expanded facilities (Joiner 2006). Tax revenue from the project would provide funding through the County General Fund for staff increases and minor improvements that may be needed for the existing facilities. Distribution of these funds to the appropriate entity is at the discretion of the County.

The additional population would also increase demand on medical services, thereby increasing demand on the Colusa Regional Medical Center's physicians (already at capacity), administrative staff, and facilities. According to Colusa Regional Medical Center staff, the project would demand about 10 hours a week of additional physician time to serve the new residents. A new physician and a small number of complementary staff would be needed because the medical center is operating at capacity for physicians. These medical professionals would need supplemental office space because the medical center offices are operating at capacity. Also, the medical center's emergency room is inadequately sized to handle the existing population and currently needs expansion without the project. The project would increase

demand on emergency services, contributing to the need for additional emergency room space (Parker 2006). The medical center is preparing a strategic plan, scheduled for release in 2007, but the nature and extent of future plans for medical center expansion are not yet known

Because the project would result in a minimal increase in demand on public health services (4 percent increase), impacts on the public health service providers would be less than significant.

Significance Level: Less than significant because the project would not substantially increase the demand for public health services.

Impact PS-9: The project would result in a minor increase in demand on Superior Court and County Probation Department services.

The project would increase the County's population, thereby increasing Superior Court caseloads. The Superior Court is currently operating at capacity for staffing and facilities, and the increased caseloads would require the Court to hire additional staff and increase the size of their facilities. It is uncertain whether the Superior Court would construct a new facility or renovate existing Court buildings (Pearson 2007).

The project would also increase caseloads for the Colusa County Probation Department, whose staffing levels are not currently adequate to meet the needs of the County's existing adult population. The project would also increase juvenile caseloads, exacerbating the need for a juvenile hall. The Probation Department does not have specific plans for constructing a juvenile hall, although the need for a juvenile hall has been relayed to the County (Bordin 2007).

Funding for improvements to court and probation facilities would likely be provided by tax revenue in the County and would be distributed via the General Fund. The project would contribute taxes to the General Fund, which provides funding for facilities improvements and new staff.

Because the project would result in a minimal increase in demand on court and probation services (4 percent increase), impacts on the court system and Probation Department would be less than significant.

Significance Level: Less than significant because the project would not substantially increase the demand for court and probation services.

Significant and Unavoidable Impacts

None.

4.4 TRANSPORTATION AND TRAFFIC

This section provides a summary of the more detailed traffic study prepared by KD Anderson and Associates (Appendix C). The section identifies applicable regulations and describes current and projected traffic volume levels and accompanying traffic operations on the roadways and intersections within the project vicinity. The impact analysis discusses three scenarios presented in the traffic study:

- Existing Conditions Plus Project
- Existing Plus Approved/Pending Projects Plus Project (Year 2010)
- Cumulative Impacts of Buildout of the City of Colusa Draft General Plan Update (Colusa GPU; Year 2025)

The analysis discusses the effects of the project on roadways and intersections within the Park as well as select roadways and intersections in the project vicinity, including within the City of Colusa. Mitigation measures are identified for significant impacts to reduce significant traffic impacts.

4.4.1 Setting

Regulatory Setting

California Department of Transportation (Caltrans) **Guide for the Preparation of Traffic Impact Studies** identifies methodologies to use when evaluating traffic impacts (Caltrans 2002). According to this guide, the Level of Service (LOS) for state highways should be at LOS “C.” For facilities operating at a lower existing LOS, the current LOS should be maintained.

The **Colusa County General Plan Circulation Element** describes transportation and traffic conditions in Colusa County with projections through the year 2010 (Colusa County 1989). The goals and policies of the Circulation Element discuss improvements to the circulation system in the County, including roadways, intersections, public transit, railroads, air traffic, pedestrians and bicycles, pipeline and transmission lines, waterways, and scenic highway designations. Policy CIRC-2 identifies the LOS “C” as the point where major new capitol improvements should be made. Colusa County’s minimum standard is LOS “C” on County roads.

The project area is currently within the sphere of influence of the City of Colusa, and the project’s proposed residential and commercial uses are discussed in the **City’s Draft GPU** (City of Colusa 2007b). Although the project is within the County, the goals and policies of the Colusa GPU are applied to the circulation system because many of the affected roadways and intersections occur within the City. The Colusa GPU identifies a LOS of “C” as the accepted roadway standard for streets and intersections. Where a LOS of “D” or worse is already present, the Colusa GPU identifies appropriate mitigation measures to minimize additional impacts from new development.

Environmental Setting

Existing Street System

Regional access to the project area is from SR 20 to the east and west of Colusa. Access from the project vicinity to the developed areas of Colusa is via existing roads, such as Wescott Road, Bridge Street, Sioc Street, and Fremont Street (Figure 4.4-1). Access to the Park is via Sunrise Boulevard and Farinon Road.

SR 20 is the primary regional access to the Colusa area. SR 20 originates at an intersection on SR 1 in Mendocino County and continues easterly across northern California to its junction with Interstate 80 in Nevada County. In Colusa County SR 20 provides access to Interstate 80 at Williams and links the County with the Yuba City-Marysville area to the east. Locally, SR 20 is the main route through the City of Colusa as it enters the east end of the community as 10th Street, continues easterly as Market Street, then turns south as Bridge Street before passing the east boundary of the project area.

In the vicinity of the project area, SR 20 is a two-lane rural highway with auxiliary turn lanes at major intersections. Caltrans reported in 2005 that SR 20 carries an Average Daily Traffic (ADT) volume of 9,700 vehicles per day in the area south of Moonbend Road, with the volume reported by Caltrans to be 25,000 vehicles per day on SR 20/Market Street. Trucks comprise seven percent of the daily traffic on SR 20 through Colusa. While the reported volume south of Moonbend Road is consistent with spot traffic counts conducted for the Colusa GPU, daily volumes north of Moonbend Road in 2006 were lower.

Wescott Road is a collector road that links southern Colusa with SR 20 at the southern edge of the downtown area. Wescott Road also extends southerly into rural Colusa County. This two lane road varies in width, with limited shoulders available on the south end of the road, but more urban features (i.e., wider shoulder and sidewalks) available near the intersection with SR 20. Traffic counts conducted in 2006 by KD Anderson and Associates revealed that Wescott Road carried approximately 1,750 vehicles per day (ADT) in the area south of Cynthia Drive, with the volume rising to 4,550 vehicles per day (ADT) between SR 20 and Florimond Drive.

Cynthia Drive, Country Club Drive, and Butte Vista Way. Several local streets link SR 20 with Wescott Road in the area north of the project area. Three local streets intersect SR 20 in this area: Cynthia Drive, Country Club Drive, and Butte Vista Drive. These streets are connected to Wescott Road via other local streets such as Tara Drive and Florimond Drive. The 2006 volume of traffic on these local connections is in the range of 1,000 vehicles per day (ADT).

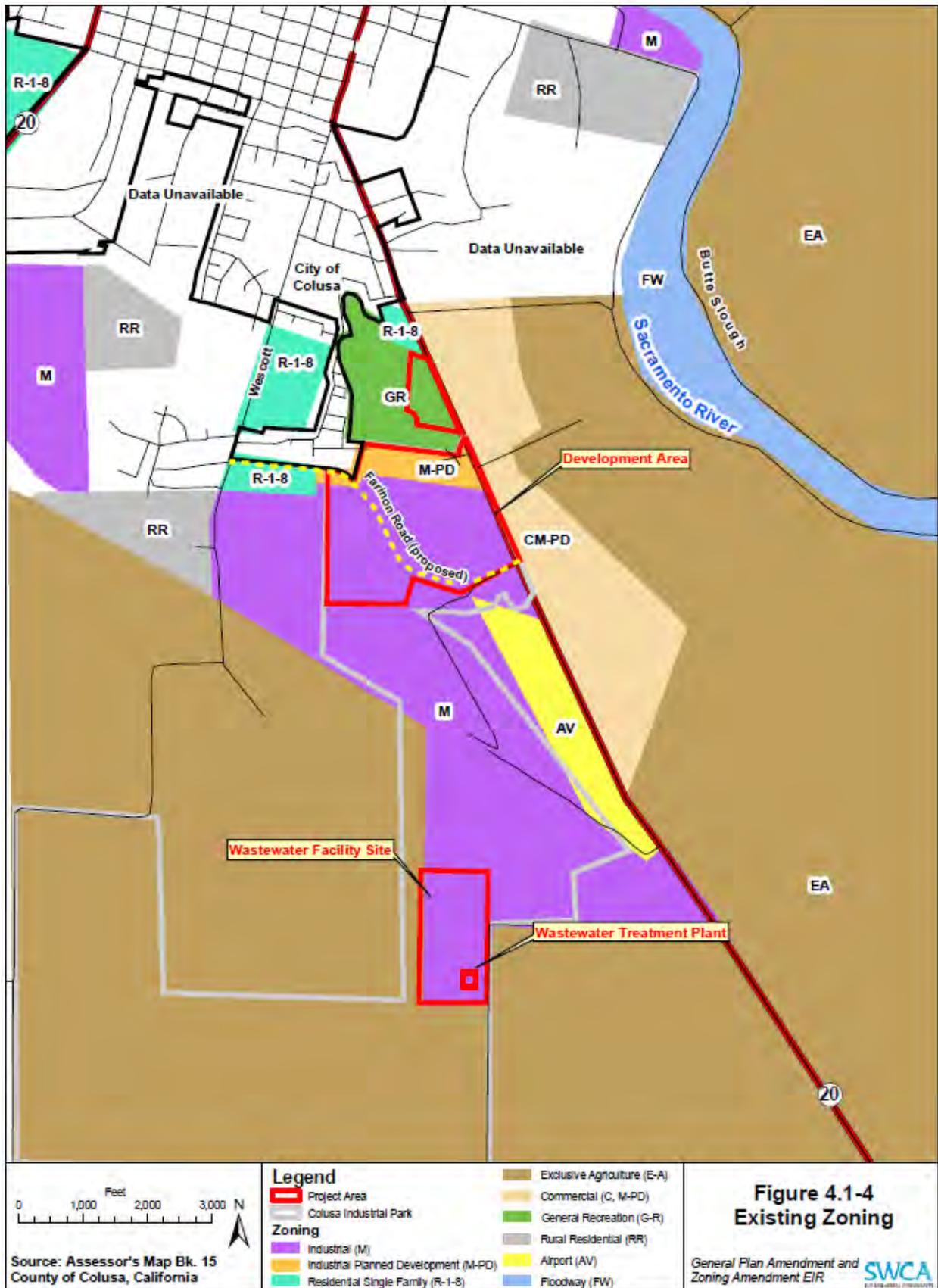
Fremont Street and Sioc Street. Fremont Street and Sioc Street are east-west collectors that link 10th Street (SR 20) and Bridge Street (SR 20) in the area north of the project area. Both are wide two-lane roads that accommodate on-street parking and have direct residential frontage. Both streets carry approximately 5,000 vehicles per day (ADT) in the area west of Bridge Street, based on 2006 estimates.

Sunrise Boulevard is a collector street that provides access to the existing office-commercial development in the Park via Davison Court. The existing portion of Sunrise Boulevard is a four lane road that extends westerly from SR 20 for one block. Traffic estimates for Sunrise Boulevard in 2006 identified a volume of approximately 750 vehicles per day (ADT).

Farinon Road is a collector street that extends west from an intersection on SR 20 to serve Colusa County Airport as well as the existing industrial development along the west side of the airport via Niagra Avenue. This two lane road is relatively wide near SR 20, but narrows to two travel lanes and limited

shoulders in the area of Niagra Avenue. Traffic estimates for Farinon Road in 2006 identified a volume of fewer than 250 vehicles per day (ADT).

Figure 4.4-1. Roads and Intersections in the Project Vicinity



Key intersections in the vicinity of the project area include the following five existing intersections and one future intersection:

1. SR 20 (Bridge Street) / Fremont Street (EB/WB Stop)
2. SR 20 (Bridge Street) / Sioc Street (Signal)
3. SR 20 (Bridge Street) / Wescott Road (EB Stop)
4. SR 20 / Sunrise Boulevard (EB Stop)
5. SR 20 / Farinon Road (EB Stop)
6. Wescott Road / Farinon Road Extension (future)

Existing Traffic

Peak hour LOS for a.m. and p.m. traffic were calculated along the roadways and at the key intersections using 2005 and 2006 data (Table 4.4-1 and Table 4.4-2). Current LOS were compared to adopted standards to determine whether existing conditions are satisfactory. As shown in Table 4.4-1, recent traffic counts for roadways conducted for the Colusa GPU are indicative of LOS D or better conditions at all locations, with all city streets operating at LOS C or better. However, the Annual Average Daily Traffic (AADT) reported by Caltrans in 2005 is much higher in some locations and indicates LOS F.

As shown in Table 4.4-2, one intersection experiences LOS in excess of the adopted standards. Motorists waiting to turn onto northbound SR 20 at the Wescott Road intersection experience delays that are indicative of LOS E. While this individual LOS exceeds the LOS D minimum, current traffic volumes do not reach the level that satisfy peak hour volume warrants for signalization.

Table 4.4-1. Existing Average Daily Traffic Volumes and Resulting Level of Service

Location	Classification	ADT	Lanes	Level of Service
3 rd St between W. Florimond Dr and Larson Ln	Collector	2,380	2	A
3 rd St between Sioc St and Carson St	Collector	1,770	2	A
3 rd St between Jay St and Oak St	Collector	320	2	A
Fremont St between 3 rd St and 4 th St	Collector	5,050	2	B
SR 20 between Wescott Rd and Cynthia Dr	Arterial	9,430 / 18,300*	2	C / F
SR 20 between Cynthia Dr and Moonbend Rd	Arterial	8,370 / 18,300*	2	B / F
SR 20 between Moonbend Rd and east City limit	Arterial	9,700*	2	C
Bridge St (SR 20) between Carson St and Fremont St	Arterial	13,470 / 18,300*	2	D / F
Bridge St (SR 20) between Jay St and Oak St	Arterial	10,570 / 21,600*	2	B / F
Wescott Rd between Bridge St and Florimond Dr	Collector	4,550	2	B
Wescott Rd between Florimond Dr and Future Farinon Rd	Collector	1,750	2	A
Sioc St between 1 st and 2 nd St	Collector	3,880	2	B
Fremont Street between 1 st and 2 nd St	Collector	4,560	2	A

* Caltrans 2005 AADT

BOLD is condition in excess of minimum standard

Note: Refer to Figure 4.4-1 for roadway segment locations; SR=State Route.

Table 4.4-2. Existing Levels of Service at Key Intersections

Location	Control	Peak Hour Level of Service				Traffic Signal Warranted?
		A.M. Peak Hour		P.M. Peak Hour		
		Average Delay	LOS	Average Delay	LOS	
Bridge Street / Fremont St	EB/WB Stop					No
NB left turn		8.0 sec	A	9.4 sec	A	
SB left turn		8.1 sec	A	8.3 sec	A	
EB left+thru+right turn		13.9 sec	B	23.7 sec	C	
WB left+thru+right turn		18.2 sec	C	27.3 sec	D	
Bridge Street / Sioc Street	Signal	17.7 sec	B	25.5 sec	C	n.a.
Bridge Street / Wescott Rd	EB Stop					No
NB left turn		8.1 sec	A	9.8 sec	A	
EB left+right turn		21.3 sec	C	39.3 sec	E	
SR 20 / Sunrise Blvd	EB Stop					No
NB left turn		7.9 sec	A	-	-	
EB left turn		13.2 sec	B	18.2 sec	C	
EB right turn		9.6 sec	A	10.7 sec	B	
SR 20 / Farinon Road	EB Stop					No
NB left turn		7.8 sec	A	8.2 sec	A	
EB left+right turn		12.9 sec	B	14.6 sec	B	

Bold is LOS in excess of standard

Note: Refer to Figure 4.4-1 for key intersection locations. Direction of travel is indicated for vehicles approaching the intersection and turning in either a left or right-turn direction. LOS=Level of Service; SR=State Route; NB=northbound; SB=southbound; EB=eastbound; WB=westbound; n.a.=not applicable.

Other Forms of Transportation

Colusa County Transit provides dial-a-ride service for residents in Colusa (City of Colusa 2007a). The transit system includes four routes originating in Colusa that travel to William, Arbuckle, and Grimes, with occasional service to Maxwell, Princeton, and Stonyford. Medical escort transit is provided as needed to Yuba City, Chico, Woodland, and Sacramento.

The City of Colusa does not currently have any designated bike paths or lanes, although most city streets can accommodate bicycle travel (City of Colusa 2007a). A shared bike route is designated along a portion

of Wescott Road, and a path along a levee near downtown Colusa is used by bicyclists, as well as pedestrians. Most city streets have sidewalks and offer greater connectivity for pedestrian access.

The Colusa County Airport, located immediately south of the development area, provides limited general aviation services, with no scheduled commercial flights. The airport has approximately 28,000 flights annually, of which 40 percent of the operations result from general aviation (Krug 2007). Much of the air traffic is associated with agricultural operations and consists of crop-dusting planes or other small aircraft.

Existing Plus Approved/Pending Projects Traffic Conditions

Three projects within the City of Colusa have either been approved or are pending approval and are anticipated to be constructed by the time the project is built out (by 2010) (see Figure 4.4-1). These projects include:

- Riverbend Estates: A residential subdivision on 442 acres north of Moonbend Road, east of Bridge Street and SR 20/45, approximately 1.5 miles north of the project area. This project includes 2,235 low-density residential units and 295 medium-density residential and is pending approval by the City. It is being included in the Master EIR for the Colusa GPU (City of Colusa 2007a).
- Tennant Estates: A residential subdivision consisting of 101 units on 40 acres between 3rd Street and Wescott Road, north of Walnut Tree Drive in south Colusa. This project has been approved by the City.
- Hoblit Subdivision: A residential subdivision consisting of 12 single-family units just west of the Colusa Golf and Country Club off of Country Club Drive. This project is under construction, and homes are being sold.

Based on the proposed number of dwelling units for each project, trip generation is estimated at 25,373 vehicles per day (ADT) with approximately 1,900 a.m. and 2,600 p.m. peak hour trips total. These trips were added to existing traffic conditions along the roadways and at the key intersections in the project vicinity (Table 4.4-3 and Table 4.4-4). Existing plus approved/pending projects LOS were compared to adopted standards to determine whether existing conditions plus the three City projects are satisfactory. As shown in Table 4.4-3, traffic conditions on most roadways would be LOS D or better conditions, with most city streets operating at LOS C or better. Bridge Street between Carson Street and Fremont Street and Fremont Street between 1st and 2nd Streets would operate at unacceptable LOS F. Additionally, four other roadway segments would operate at unacceptable LOS F based on the AADT reported by Caltrans in 2005.

As shown in Table 4.4-4, three intersections would experience LOS in excess of the adopted standards. Motorists waiting to turn onto Bridge Street from Fremont Street and Wescott Road and waiting to turn onto SR 20 from Sunrise Boulevard would experience delays that are indicative of LOS D (a.m. peak hour at Bridge Street/Wescott Road) and LOS F (a.m. and p.m. peak hours Bridge Street/Fremont Street; p.m. peak hour Bridge Street/Wescott Road; and p.m. peak hour SR 20/Sunrise Boulevard). Projected traffic volumes at these three intersections would reach the level that satisfies peak hour volume warrants for signalization.

Table 4.4-3. Existing Plus Approved/Pending Projects Average Daily Traffic Volumes and Resulting Level of Service

Location	Classification	ADT	Lanes	Level of Service
3 rd St between W. Florimond Dr and Larson Ln	Collector	2,500	2	A
SR 20 between Wescott Rd and Cynthia Dr	Arterial	10,705 / 19,575*	2	C / F*
SR 20 between Cynthia Dr and Moonbend Rd	Arterial	10,940 / 20,870*	2	B / F*
SR 20 between Moonbend Rd and Sunrise Blvd	Arterial	15,975*	2	E
Bridge St (SR 20) between Carson St and Fremont St	Arterial	19,640 / 24,470*	2	F / F
Bridge St (SR 20) between Jay St and Oak St	Arterial	13,395 / 24,425*	2	D / F
Wescott Rd between Bridge St and Florimond Dr	Collector	4,820	2	B
Wescott Rd between Florimond Dr and Future Farinon Rd	Collector	1,920	2	A
Sioc St between 1 st and 2 nd St	Collector	4,955	2	B
Fremont Street between 1 st and 2 nd St	Collector	13,270	2	F

* Caltrans 2005 AADT

BOLD is condition in excess of minimum standard

Note: ADT=Average Daily Traffic; SR=State Route.

Table 4.4-4. Existing Plus Approved/Pending Projects
Levels of Service at Key Intersections

Location	Control	Peak Hour Level of Service				Traffic Signal Warranted?
		A.M. Peak Hour		P.M. Peak Hour		
		Average Delay	LOS	Average Delay	LOS	
Bridge Street / Fremont St	EB/WB Stop	9.0 sec	A	11.1 sec	B	Yes
NB left turn		8.5 sec	A	9.3 sec	A	
SB left turn		<999 sec	F	<999 sec	F	
EB left+thru+right turn		<999 sec	F	<999 sec	F	
WB left+thru+right turn						
Bridge Street / Sioc Street	Signal	16.8 sec	B	28.2 sec	C	n.a.
Bridge Street / Wescott Rd	EB Stop	8.3 sec	A	10.2 sec	A	Yes
NB left turn		29.8 sec	D	72.0 sec	F	
EB left+right turn						
SR 20 / Sunrise Blvd	EB Stop	9.1 sec	A	-	-	Yes
NB left turn		23.7 sec	C	68.0 sec	F	
EB left turn						

Table 4.4-4. Existing Plus Approved/Pending Projects
Levels of Service at Key Intersections

Location	Control	Peak Hour Level of Service				Traffic Signal Warranted?
		A.M. Peak Hour		P.M. Peak Hour		
		Average Delay	LOS	Average Delay	LOS	
EB right turn		13.1 sec	A	13.2 sec	B	
SR 20 / Farinon Road	EB Stop					No
NB left turn		9.0 sec	A	9.1 sec	A	
EB left+right turn		22.7 sec	B	32.4 sec	D	

Bold is LOS in excess of standard

Note: Refer to Figure 4.4-1 for locations of intersections. Direction of travel is indicated for vehicles approaching the intersection and turning in either a left or right-turn direction. LOS=Level of Service; SR=State Route; NB=northbound; SB=southbound; EB=eastbound; WB=westbound; n.a.=not applicable.

Cumulative Traffic Conditions

The City of Colusa is in the process of updating its General Plan. According to the Draft General Plan Update (City of Colusa 2007b), the 3,751-acre proposed sphere of influence would be built out within the 20-year life of the GPU (by 2025). The amount of new development anticipated at buildout includes development in “reserve” areas under current Colusa County designations, including the project area. As noted in Table 4.4-5, under “mid-range” assumptions for density, implementing the Colusa GPU could result in more than 7,000 new dwelling units in Colusa. Another 5.9 million square feet of non-residential development is also anticipated.

Trip generation under the Colusa GPU land uses is estimated at 145,115 vehicles per day (ADT) with more than 10,000 a.m. and p.m. peak hour trips each. The project’s land uses are included in these trip estimates because the project area is within the City’s sphere of influence.

Table 4.4-5. Colusa Draft General Plan Update Trip Generation (2025 Buildout)

Land Use	Units/Square Feet	Trip Generation		
		Daily	A.M. Peak Hour	P.M. Peak Hour
Single Family Residences	6,916 du	66,186	5,187	6,985
Multiple Family Residences	172 du	1,156	88	107
Subtotal Residential	7,088	67,342	5,275	7,092
Commercial / Professional	786,000 sf	38,396	1,423	3,804
Office Professional / Light Industrial	1,697,000 sf	20,005	2,375	2,291

Industrial	3,409,000 sf	12,034	2,011	2,318
Golf Course	9 Holes	306	25	25
Casino Expansion	Phase I and II	7,032	382	513
Subtotal Non-Residential	5,892,000 sf	77,773	6,216	8,951
	Total Trips	145,115	11,491	16,043

Note: du=dwelling units; sf=square feet.

In addition to the projected land uses and trip generation, various roadway improvements are identified in the Colusa GPU. The Colusa GPU's implementation measures include the creation of a Streets and Roadways Master Plan that would identify improvements needed to accommodate growth and be the basis for an updated traffic mitigation fee program. The Colusa GPU circulation diagram identifies several new streets to carry traffic through the community and provide access to new growth areas. Brief descriptions of the new streets are provided below, based on the Colusa GPU (City of Colusa 2007b).

Farinon-Railroad Collector. New development in southern Colusa would create the need for a collector street that provides access to SR 20. The Colusa GPU circulation diagram indicates that the Farinon Road – Railroad Collector would generally follow the alignment of the abandoned railroad right-of-way (ROW) from an intersection on SR 20 west of Will S Green Street to Wescott Road. The eastern portion of the route would follow the existing Farinon Road from SR 20, directly west to Wescott Road in eastern Colusa. Note that this alignment is identified along the southern project boundary in the Colusa GPU and is not the same as the project's proposed Farinon Road extension, which would be located north of the proposed single-family residential area. The intent of the Colusa GPU is to provide access to new development while avoiding creation of a "bypass" that would divert through traffic away from downtown Colusa.

East Side Collector. New development east of SR 20 would be served by a new collector that extends north from the SR 20 / Sunrise Boulevard intersection to the extension of Market Street.

Will S Green Street extension. Development in the western portion of the City would be served by creating a collector that links Wilson Avenue with SR 20 at the Will S Green intersection.

3rd Street, 5th Street, and 8th Street Extensions. The existing downtown grid street system would be extended south into new growth areas.

Colusa Avenue Extension. Colusa Avenue would be extended easterly from Will S Green Street to 3rd Street.

Tenant Drive. Tenant Drive would be extended westerly from Wescott Road to Will S Green Street to serve new south Colusa development.

4.4.2 Impact Analysis

Methodology

KD Anderson and Associates conducted traffic counts in the project vicinity in 2005 and 2006 and calculated the project's expected trip generation based on proposed land uses (see Appendix C for the traffic study). To quantitatively evaluate traffic conditions and to provide a basis for comparison of

operating conditions with and without project generated traffic, Levels of Service were determined at study area intersections and on individual roadway segments. LOS is a quantitative measure of traffic operating conditions whereby a letter grade “A” through “F” is assigned to an intersection. LOS “A” through “F” represents progressively worsening traffic conditions and increased traffic congestion and delays at intersections. For each unsignalized intersection, KD Anderson and Associates also evaluated the need for a traffic signal to reduce impacts. Traffic signals are warranted under specific conditions based on traffic delays and operating conditions as described in the California Manual of Uniform Traffic Control Devices (Caltrans 2006), and the need for a traffic signal indicates unacceptable operating conditions. Cumulative impacts are based on the Colusa GPU land uses, which include the project. Additional methodology for calculating LOS and evaluating impacts is described in the traffic study (Appendix C).

Criteria for Determining Significance

Adverse impacts to transportation and traffic would be considered significant if the project would:

- Exceed, either individually or cumulatively, LOS of “C” on County roads based on the County service level thresholds.
- Exceed, either individually or cumulatively, LOS of “C” along City roads and LOS of “D” for state highways based on the Colusa GPU service level thresholds.
- Cumulatively exceed LOS of “D” for roads with an existing LOS of “D” or worse and contribute to five percent or more of the roadway volumes based on the Colusa GPU service level thresholds.
- Exceed, either individually or cumulatively, LOS of “C” at intersections based on Caltrans and the 2000 Highway Capacity Manual service level thresholds.
- Require construction of transportation facilities, which could have an adverse physical effect on the environment.
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).
- Result in unsafe conditions for bicyclists or pedestrians, including unsafe bicycle/pedestrian, bicycle/motor vehicle, or pedestrian/motor vehicle conflict.

Impacts and Mitigation Measures

Impact TT-1 (Project): The project would generate 10,497 daily trips, which would increase traffic congestion on State Route 20 (Bridge Street) in the area between Sioc Street and Fremont Street, resulting in a reduction in level of service from D to F.

The project is expected to generate a gross total of 10,497 daily trip ends. Of this total, 3,480 daily trips would be “pass-by” trips drawn to retail uses from passing traffic along SR 20. A total of 7,017 new daily trips are forecast, with 506 trips expected during the a.m. peak hour and 531 trips expected to occur during the p.m. peak hour.

The relative impact of the project on study area roads can be understood from comparison of daily traffic volumes with and without the project. As shown in Table 4.4-6, the addition of project trips alone would reduce the LOS on SR 20 (Bridge Street) in the area between Sioc Street and Fremont Street from LOS D (acceptable) to LOS F (unacceptable). The amount of traffic added by the project on this roadway segment represents a 23 percent increase over existing volumes. This exceeds the 5 percent threshold of significance identified in the Colusa GPU and would be a significant impact.

Traffic conditions on other roadways would be within the acceptable limits, and the roads would operate at acceptable LOS. SR 20 segments within the City of Colusa and between the project area and City limits would be reduced to LOS D with the addition of project trips (based on KD Anderson traffic counts). The LOS on 3rd Street and Wescott Road would be comparable to existing conditions, with minimal increases in traffic. The LOS for Sioc Street and Fremont Street would be reduced to LOS C, which is acceptable to the City and County. Increased trips on most of the roadways in the project vicinity would be within acceptable LOS and would result in less than significant impacts.

Table 4.4-6. Levels of Service on Roadways (Existing Plus Project)

Location	Existing LOS	Existing Plus Project LOS	Project's Percent of Traffic ^a
3 rd St between W. Florimond Dr and Larson Ln	A	A	15%
SR 20 between Wescott Rd and Cynthia Dr	C / F*	D / F*	33%
SR 20 between Cynthia Dr and Moonbend Rd	B / F*	D / F*	35%
SR 20 between Moonbend Rd and Project Access (high density residential along highway)	C*	D*	32%
SR 20 between HDR Access and Sunrise Blvd	C*	D*	29%
Bridge St (SR 20) between Carson St and Fremont St	D / F*	F / F*	19%
Bridge St (SR 20) between Jay St and Oak St	B / F*	D / F*	11%
Wescott Rd between Bridge St and Florimond Dr	B	B	10%
Wescott Rd between Florimond Drive and Farinon Rd	A	A	35%
Sioc St between 1 st and 2 nd St	B	C	34%
Fremont Street between 1 st and 2 nd St	A	C	28%

Notes: LOS=Level of Service; HDR=High Density Residential; SR=State Route

^a Project percent of total traffic is based on daily traffic estimates of the project versus the total projected traffic volumes on each roadway segment under the Existing Plus Project conditions (Appendix C).

* Based on Caltrans 2005 ADT; LOS without * are based on KD Anderson and Associates 2006 traffic counts.

BOLD is condition in excess of minimum standard.

Significance Level Before Mitigation: Significant.

Mitigation Measure TT-1: Provide funding to install a signal at Bridge Street and Fremont Street intersection when Caltrans approves.

The County should require the applicant to provide sufficient funding to cover the costs of installing a traffic signal at the Bridge Street (SR 20) / Fremont Street intersection, which would allow the intersection to operate at acceptable LOS standards (LOS D), but the roadway segment would continue to operate at unacceptable LOS F. Payment of the costs should be included in the project development agreement. In order for this to happen, the costs of this roadway improvement would need to be determined, and the project's fair share calculated for reimbursement purposes, prior to executing the development agreement. The payments would be held in escrow until the signal is approved by Caltrans. The development agreement would enforce payment of the applicant's fair share costs (full funding for this improvement, with reimbursement by other sources) prior to issuance of building permits.

However, this mitigation measure is not considered feasible for the following reasons. First, this improvement is not currently planned or programmed and is not warranted based on traffic conditions (existing or existing plus project); there is no current program for estimating the costs of this improvement; and the timing of these cost estimates is uncertain. Second, a funding mechanism (e.g., city and county traffic impact fee) is not in place to collect fair share costs from other future projects, so there is no assurance this improvement would be implemented. Third, Caltrans would need to approve the improvement, which is unlikely because a signal warrant has not been met. Finally, the City would be responsible for implementing the improvement, and the County has no control over whether or when it would be constructed.

Significance Level After Mitigation: Significant and unavoidable; although the traffic signal would sufficiently mitigate the project's traffic impacts at the intersection, no feasible mitigation is available to mitigate roadway impacts (see Appendix C), and the signal is not currently approved and may not be implemented.

Impact TT-2 (Project): The addition of 10,497 daily project trips would have an incremental impact on traffic operations at key intersections in the project vicinity.

The length of minor street approach delays would increase at Bridge Street / Fremont Street intersection, and the LOS for motorists waiting to turn onto SR 20 would exceed the LOS D threshold (Table 4.4-7). Similarly, very long delays would be expected at the Bridge Street / Wescott Road intersection, and the LOS for motorists waiting to turn north onto Bridge Street would exceed the LOS D minimum. Motorists waiting to turn left onto SR 20 at the SR 20 / Sunrise Boulevard intersection would experience delays that are indicative of LOS E. LOS at all other intersections would remain at LOS D or better conditions.

An increase in traffic at the Bridge Street / Fremont Street intersection, the Bridge Street / Wescott Road intersection, and the SR 20 / Sunrise Boulevard intersection would exceed the LOS D threshold and would result in significant impacts. Development of the project would result in LOS in excess of the LOS D minimum at some key intersections; however, traffic signal warrants are not projected to be met at any intersection based on the anticipated trip generation.

Table 4.4-7. Peak Hour Intersection Levels of Service (Existing Plus Project)

Location	Existing LOS		Existing Plus Project LOS		Traffic Signal Warranted?
	A.M. Peak Hour	P.M. Peak Hour	A.M. Peak Hour	P.M. Peak Hour	
Bridge Street / Fremont St					
NB left turn	A	A	A	B	No
SB left turn	A	A	A	A	
EB left+thru+right turn	B	C	C	E	
WB left+thru+right turn	C	D	D	F	
Bridge Street / Sioc Street	B	C	C	D	n.a.
Bridge Street / Wescott Rd					
NB left turn	A	A	A	B	No
EB left+right turn	C	E	F	F	
SR 20 / Sunrise Blvd					
NB left turn	A	-	A	A	No
EB left turn	B	C	C	E	
EB right turn	A	B	B	B	
SR 20 / Farinon Road					
NB left turn	A	A	A	A	No
EB left+right turn	B	B	C	D	
Proposed right turn lane			B	B	
Wescott Road / Farinon Rd	n/a	n/a			No
SB left turn			A	A	
WB left+right turn			A	A	

Note: Direction of travel is indicated for vehicles approaching the intersection and turning in either a left or right-turn direction. EB=eastbound; NB=northbound; WB=westbound; SB=southbound; SR=State Route; n.a.=not applicable.

Bold is LOS in excess of standard

Significance Level Before Mitigation: Significant.

Mitigation Measure TT-2: Provide funding to install a signal at Bridge Street and Fremont Street intersection when Caltrans approves.

Implement Mitigation Measure TT-1.

Significance Level After Mitigation: Significant and unavoidable; although the traffic signal would sufficiently mitigate the project's traffic impacts, the signal is not currently funded or approved and may not be implemented.

Impact TT-3: Construction of project roads would have a minor physical effect on the environment.

The project would involve construction of Farinon Road through the development area to Wescott Road, approximately 1,500 feet to the west. Internal project roads would be constructed within the residential developments and commercial area. These roads would result in a minor loss of agricultural fields and disturbed habitat, as discussed in Sections 4.11 Biological Resources and 4.12 Agricultural Resources. The roads would improve circulation within and to the project area, including emergency access from police, fire, and ambulance services (see Section 4.10 Hazards and Hazardous Materials). Road construction is not expected to affect cultural resources (see Section 4.13). Adverse physical effects associated with road construction would be minimal and less than significant.

Significance Level: Less than significant because road construction would have minimal impacts on the environment.

Impact TT-4: Project implementation may result in minor increases in airport traffic and could adversely affect air traffic patterns, resulting in increased safety concerns for aircraft operators.

The project is adjacent to the Colusa County Airport, and airplanes would fly over the project area during take off and landing. Some crop-dusting planes take off to the north, over the project area, and turn either west or east to access agricultural fields in those directions. These planes carry heavy loads and are not capable of making quick or sharp turns or maneuver excessively during departure (Appendix I); therefore, any turning or maneuver occurs when the planes have reached an acceptable altitude, and the operator is capable of making the turn. Generally, aircraft currently turn about midway into the development area (roughly the middle of the proposed golf course expansion area) and would fly over the proposed location for low density residential uses to the west and commercial/business uses to the east.

The project proposes an overflight corridor at the southern end of the single-family homes in the western portion of the project area (two locations contemplated, as shown in Figure 3-2) to reduce safety concerns with overflights (see Section 4.10 for a further discussion of safety concerns associated with the airport). As designed, the project would result in a modification to current air traffic patterns for crop-dusting planes turning west over the development area. These planes would be encouraged to make an earlier turn and fly along the southern boundary of the low density residential area. However, crop-dusting planes would not likely be capable of making such a quick turn from departure without compromising flight safety (see Appendix I). Use of the overflight corridor, either as proposed or the alternative option, could compromise flight safety and result in a significant impact.

The project is not expected to substantially increase airport traffic, although some project residents may utilize the airport for business or commercial uses. Hangar access may be provided via the overflight corridor, so residents along the corridor may utilize the airport.

Because the project could compromise flight safety through modifications to air traffic patterns, impacts would be significant.

Significance Level Before Mitigation: Significant.

Mitigation Measure: None feasible. Although several alternative measures were considered to ensure flight safety is not compromised, none of these measures is considered feasible because of a lack of an enforcement mechanism and other issues, as discussed in Sections 4.5 and 4.10 and Appendix I.

Significance Level After Mitigation: Significant and unavoidable because no feasible mitigation exists to reduce concerns with flight safety over a congested area in close proximity to the airport.

Impact TT-5: Agricultural vehicle traffic and road designs may cause minor hazards to drivers in the project vicinity, but the project would not substantially increase driver hazards.

The project area is located adjacent to agricultural land and a primary access route to the City of Colusa (SR 20). Farm equipment or slow vehicles on access roads could pose hazards to drivers in agricultural areas. Current road improvements on SR 20 and the proposed extension of Farinon Road would improve project access and minimize these adverse effects.

As depicted in Figure 3-2, roadway improvements would consist of expanding Farinon Road through the project area to Wescott Road, realigning Farinon Road out of the airport property, extending Davison Drive from the existing office buildings to the proposed highway commercial uses, and terminating Sunrise Boulevard at a cul-de-sac west of the commercial/office space. Farinon Road through the development area would have slight curves and intersect other project roads at right angles. Sunrise Boulevard would end in a cul-de-sac and would have sufficient room for turning around. Roads within the residential areas would be designed when tentative subdivision maps are submitted to the County; however, a preliminary lotting study identifies roads with subtle curves and wider roads where curves are steeper to facilitate turning.

The extension of Farinon Road to Wescott Road would provide alternate access to and from Colusa. This road extension would also serve City traffic by providing an alternate means to accessing southbound SR 20 east of the project area. This extension could increase safety concerns for project traffic due to the volume of traffic that would use the road. Road design, however, with slight curves and adequate visibility at intersections in the project area, would ensure minimal hazards for project traffic.

The realignment of Farinon Road to be further north of the end of the airport runway would reduce safety concerns with traffic being affected by airplanes. The current alignment of Farinon Road poses a safety concern for Park traffic when airplanes take off from or land to the north. Occasionally, traffic is required to wait out of the path of the airplane to avoid creating an accident. With project traffic, this could pose a concern for congestion on SR 20 and an increased potential for airplane-automobile accidents. The realignment would locate Farinon Road 560 feet north of the end of the runway (a 100-foot difference from existing), which would reduce the concern for traffic backing up on the highway and the potential for accidents.

Davison Drive would provide primary access for highway commercial and office uses in the project area, which would avoid potential traffic delays and hazards that would otherwise be a result of providing direct access from SR 20. With interior access to these uses, project traffic would utilize established turn lanes on SR 20 and be able to easily access the uses at lower speeds, reducing the potential for accidents.

Project roads would create minimal hazards for residents and visitors to the project area; therefore, this impact is less than significant.

Significance Level: Less than significant because the project's road network would not create substantial hazards for drivers.

Impact TT-6: The project would incrementally increase demand for the area's bicycle and pedestrian facilities.

Pedestrian / Bicycle Activity. Project implementation would result in new pedestrian and bicycle activity between the project area and schools, shopping, recreation, and work in Colusa. Non-automotive travel would be expected along SR 20 and along Wescott Road in locations where sidewalks or improved shoulders are not uniformly available. The mix of automobiles, pedestrians, and cyclists sharing the travel corridors could create safety conflicts. Therefore, impacts from increased pedestrian and bicycle activities would be significant.

Transit Services. The project would incrementally create additional demand for the Colusa County Transit “dial-a-ride” services and other transit services in the Colusa area. However, it is unlikely that development of the project would, by itself, create the need to modify existing routes or expand current services. Impacts to transit services would be less than significant.

Significance Level Before Mitigation: Significant.

Mitigation Measure TT-6: Provide sidewalks and bike routes on all project roads and establish opportunities for transit.

The applicant will encourage alternative forms of transportation for residents in the project area. The tentative subdivision map will identify a safe pedestrian walkway and bicycle path between the project’s land uses and Wescott Road (i.e., along Farinon Road extension), along Wescott Road to the limits of existing sidewalks, and the provision of sidewalks and bike routes on all internal project roads. These facilities will be approved by Colusa County prior to approval of the final subdivision map. The applicant will coordinate with Colusa County Transit to identify opportunities for residents to utilize their service and provide a local pick-up/drop-off spot in the project area, if necessary.

Significance Level After Mitigation: Less than significant because the provision of opportunities for alternative transportation would reduce safety conflicts on roadways.

Impact TT-7 (Approved/Pending Projects): The project would exacerbate traffic congestion on State Route 20 between Wescott Road and Sunrise Boulevard at project buildout in 2010.

The project’s addition of 10,497 daily trips on roads in the project vicinity would exacerbate traffic congestion on SR 20 in combination with the three approved/pending projects in the City of Colusa. Traffic conditions would become worse on SR 20 between Wescott Road and Sunrise Boulevard, resulting in a reduction in LOS.

The relative impact of the project on roads in the vicinity can be understood from comparison of near-term (2010) daily traffic volumes with and without the project. As shown in Table 4.4-8, without the project, SR 20 and Fremont Street would operate at unacceptable LOS. The addition of project trips alone would reduce the LOS on SR 20 in the area between Wescott Road and Sunrise Boulevard from LOS B-E to LOS E-F. The amount of traffic added by the project on this roadway segment represents about a 30 percent increase over volumes without the project. This exceeds the 5 percent threshold of significance identified in the City of Colusa GPU and would be a significant impact.

The project would increase traffic on Fremont Street, as well, and would contribute about 12 percent of the total traffic volumes, which would be significant increase in traffic. Although LOS on Bridge Street would be reduced in the near-term, the project would not contribute substantial traffic to these roadway segments. The LOS for other roadways (3rd Street, Wescott Road, and Sioc Street) would be within the acceptable limits.

Table 4.4-8. Levels of Service on Roadways
(Existing Plus Approved/Pending Projects Plus Project)

Location	Existing Plus Approved/Pending Projects LOS	Existing Plus Approved/Pending Projects Plus Project LOS	Project Percent of Total Traffic ^a
3 rd St between W. Florimond Dr and Larson Ln	A	A	15%
SR 20 between Wescott Rd and Cynthia Dr	C / F*	D- E / F*	30%
SR 20 between Cynthia Dr and Moonbend Rd	B / F*	E / F*	30%
SR 20 between Moonbend Rd and Project Access (high density residential along highway)	E*	F*	30%
SR 20 between HDR Access and Sunrise Blvd	E*	F*	22%
Bridge St (SR 20) between Carson St and Fremont St	F / F*	F / F*	14%
Bridge St (SR 20) between Jay St and Oak St	D / F*	D / F*	9%
Wescott Rd between Bridge St and Florimond Dr	B	B	9%
Wescott Rd between Florimond Drive and Farinon Rd	A	A	33%
Sioc St between 1 st and 2 nd St	B	C	29%
Fremont Street between 1 st and 2 nd St	F	F	12%

Notes: LOS=Level of Service; HDR=High Density Residential; SR=State Route.

^a Project percent of total traffic is based on daily traffic estimates of the project versus the total projected traffic volumes on each roadway segment under the Existing Plus Approved/Pending Projects Plus Project conditions (Appendix C).

* Based on Caltrans 2005 ADT; LOS without * are based on KD Anderson and Associates 2006 traffic counts.

BOLD is condition in excess of minimum standard.

Significance Level Before Mitigation: Significant.

Mitigation Measure TT-7a: Contribute fair share costs for widening State Route 20/Bridge Street from Market Street to Farinon Road to a four-lane road (31-43% depending on the roadway segment).

The County should require the applicant to contribute its fair share to the cost of widening SR 20/Bridge Street from Market Street to Farinon Road to a four-lane road to meet LOS D standards. The project's contribution should be equal to 31 to 43 percent of the improvement to correspond with the project's contribution to new traffic along SR 20 (Appendix C). Payment of the project's fair share costs should be included in the project development agreement. In order for this to happen, the costs of this roadway improvement would need to be determined, and the project's fair share calculated, prior to executing the development agreement. The payments would be held in escrow pending full funding by other developer fees or other sources. The development agreement would enforce payment of the applicant's fair share costs prior to issuance of building permits.

The applicant would also identify the ROW needed to accommodate future traffic conditions along SR 20 and make an irrevocable offer of dedication for that ROW adjacent to the project area.

However, this mitigation measure is not considered feasible for the following reasons. First, this improvement is not currently planned or programmed; there is no current program for estimating the costs of this improvement; and the timing of these cost estimates is uncertain. Second, a funding mechanism (e.g., city and county traffic impact fee) is not in place to collect fair share costs from other future projects, so there is no assurance this improvement would be implemented. Third, Caltrans would need to approve the improvement, so implementation and timing are uncertain. Fourth, the County would have no control over implementation of the improvement within City limits. Lastly, this roadway improvement may not be feasible to construct due to existing development in the City and lack of available ROW.

Mitigation Measure TT-7b: Contribute fair share costs (16%) for modifying Fremont Street.

The County should require the applicant to contribute its fair share to the cost of either widening Fremont Street to a four-lane road (re-striping) or converting Fremont Street and Sioc Street to one-way roads to meet acceptable LOS standards. The project's contribution should be equal to 16 percent of the improvement to correspond with the project's contribution to new traffic along Fremont Street (Appendix C). Payment of the project's fair share costs should be included in the project development agreement. In order for this to happen, the costs of this roadway improvement would need to be determined, and the project's fair share calculated, prior to executing the development agreement. The payments would be held in escrow pending full funding by other developer fees or other sources. The development agreement would enforce payment of the applicant's fair share costs prior to issuance of building permits.

However, this mitigation measure is not considered feasible for the following reasons. First, although this improvement is identified as an option in the Colusa GPU, it is not currently planned or programmed; there is no current program for estimating the costs of this improvement; and the timing of these cost estimates is uncertain. Second, a funding mechanism (e.g., city and county traffic impact fee) is not in place to collect fair share costs from other future projects, so there is no assurance this improvement would be implemented. Lastly, the County would have no control over implementation of the improvement because it is within City limits.

Significance Level After Mitigation: Significant and unavoidable; although these improvements would improve the project's traffic impacts to acceptable levels, the improvements are not currently funded or approved and may not be implemented.

Impact TT-8 (Approved/Pending Projects): The project would exacerbate degraded traffic operations at key intersections in the project vicinity at project buildout in 2010.

The project would add 10,497 daily trips to traffic conditions in the project vicinity in addition to the trips generated by the three approved/pending projects. The length of minor street approach delays would increase at each of the key intersections (Table 4.4-9). Although conditions without the project would be adverse at Bridge Street / Fremont Street; Bridge Street / Wescott Road; and SR 20 / Sunrise Boulevard, the project would further exacerbate long delays and poor conditions. Traffic conditions at these three intersections would warrant traffic signals (with and without the project).

Traffic delays at Bridge Street / Sioc Street and SR 20 / Farinon Road (eastbound traffic turning onto SR 20) would be reduced to unacceptable conditions with the addition of project traffic. An increase in traffic at this intersection would exceed the LOS D threshold and would result in significant impacts. However, a traffic signal warrant is not projected to be met at this intersection based on the anticipated traffic conditions.

Table 4.4-9. Peak Hour Intersection Levels of Service
(Existing Plus Approved/Pending Projects Plus Project)

Location	Existing Plus Approved/Pending Projects LOS		Existing Plus Approved/Pending Projects Plus Project LOS		Traffic Signal Warranted?
	A.M. Peak Hour	P.M. Peak Hour	A.M. Peak Hour	P.M. Peak Hour	
Bridge Street / Fremont St					
NB left turn	A	B	A	B	Yes
SB left turn	A	A	A	A	
EB left+thru+right turn	F	F	F	F	
WB left+thru+right turn	F	F	F	F	
Bridge Street / Sioc Street	B	C	C	E	n.a.
Bridge Street / Wescott Rd					
NB left turn	A	A	A	B	Yes
EB left+right turn	D	F	F	F	
SR 20 / Sunrise Blvd					
NB left turn	A	-	A	A	Yes
EB left turn	C	F	C	F	
EB right turn	A	B	B	B	
SR 20 / Farinon Road					
NB left turn	A	A	A	A	No
EB left+right turn	B	D	D	F	
Wescott Road / Farinon Rd	n/a	n/a			No
SB left turn			A	A	
WB left+right turn			A	A	

Note: Direction of travel is indicated for vehicles approaching the intersection and turning in either a left or right-turn direction. EB=eastbound; NB=northbound; WB=westbound; SB=southbound; SR=State Route; n.a.=not applicable; LOS=Level of Service.

Bold is LOS in excess of standard

Significance Level Before Mitigation: Significant.

Note: The below mitigation measures are in addition to those required for project-only impacts.

Mitigation Measure TT-8a: Contribute fair share costs for road improvements on State Route 20 between Fremont Street and Wescott Road (14-59% depending on the improvement).

The County should require the applicant to contribute its fair share to the cost of the following road improvements on SR 20/Bridge Street from Fremont Street to Wescott Road to meet acceptable LOS standards:

- **Widen the SR 20/Fremont Street intersection** to provide left turn lanes and right turn lanes on each leg of the intersection (fair share costs are 14%).
- **Improve the SR 20/Sioc Street intersection** by adding an overlapping eastbound right-turn lane and adjusting the grade differential to accommodate the improvement (fair share costs are 50%). This improvement may require acquisition of additional right-of-way.
- **Improve the SR 20 / Wescott Road intersection** by installing a traffic signal and widening the intersection to provide a northbound left turn lane (fair share costs are 59%).

Payment of the project's fair share costs should be included in the project development agreement. In order for this to happen, the costs of these roadway improvements would need to be determined, and the project's fair share calculated, prior to executing the development agreement. The payments would be held in escrow pending full funding by other developer fees or other sources. The development agreement would enforce payment of the applicant's fair share costs prior to issuance of building permits.

However, this mitigation measure is not considered feasible for the following reasons. First, these improvements are not currently planned or programmed; there is no current program for estimating the costs of these improvements; and the timing of these cost estimates is uncertain. Second, a funding mechanism (e.g., city and county traffic impact fee) is not in place to collect fair share costs from other future projects, so there is no assurance these improvements would be implemented. Third, Caltrans would need to approve the improvements, so implementation and timing are uncertain. Lastly, the County would have no control over implementation of the improvements because they are within City limits.

Mitigation Measure TT-8b: Contribute fair share costs for installing traffic signals on State Route 20 at Sunrise Boulevard and Farinon Road (30-36% depending on the improvement).

The County should require the applicant to contribute its fair share to the cost of installing traffic signals on SR 20 at Sunrise Boulevard and Farinon Road to meet acceptable LOS standards. The project contributes 36 percent of new traffic at the SR 20 / Sunrise Boulevard intersection and 30 percent of new traffic at the SR 20 / Farinon Boulevard intersection, thus the project's fair share would be 36 percent for the Sunrise signal and 30 percent for the Farinon signal. Payment of the project's fair share costs should be included in the project development agreement. In order for this to happen, the costs of these roadway improvements would need to be determined, and the project's fair share calculated, prior to executing the development agreement. The payments would be held in escrow pending full funding by other developer fees or other sources. The development agreement would enforce payment of the applicant's fair share costs prior to issuance of building permits.

However, this mitigation measure is not considered feasible for the following reasons. First, these improvements are not currently planned or programmed; there is no current program for estimating the costs of these improvements; and the timing of these cost estimates is uncertain. Second, a funding mechanism (e.g., city and county traffic impact fee) is not in place to collect fair share costs from other future projects, so there is no assurance these improvements would be implemented. Third, Caltrans would need to approve the improvements, so implementation and timing are uncertain, especially since a traffic signal warrant is not met at the SR 20 / Farinon Road intersection.

Significance Level After Mitigation: Significant and unavoidable because the traffic signals and road improvements are not currently funded or approved and may not be implemented.

Impact TT-9 (Cumulative): Cumulative development would result in a substantial increase in traffic volumes along roads in the project vicinity in 2025, exceeding acceptable Level of Service in several locations.

Cumulative impacts based on the land uses identified in the Colusa GPU would result in a substantial increase in traffic within the City as well as on roads leading into the City, causing increased congestion, traffic delays, and safety concerns. As depicted in Table 4.4-10, several road segments would result in unsatisfactory LOS of “D” and “F”. Several segments would continue to operate at acceptable LOS and are not further discussed.

The volume of traffic forecast for SR 20 through Colusa would exceed the LOS D threshold for a two-lane arterial. The amount of project traffic added to SR 20 represents more than five percent of the current volume at locations on Bridge Street and along the project’s frontage, which is a significant impact. In addition, the volume of traffic forecast on eastern SR 20 north of the project area would approach or exceed the LOS D threshold for a four-lane facility. Traffic volumes on SR 20 east and west of the City of Colusa sphere of influence are indicative of LOS F conditions. Regionally, development in and near to Colusa would contribute to substantial increases in traffic along the highway.

The volume of traffic expected on Fremont Street, Sioc Street, Wescott Road, and the proposed Farinon Road expansion would exceed the LOS C threshold for collector streets. Traffic volumes on Sioc Street would create LOS F conditions. Traffic volumes on Wescott Road between the SR 20 intersection and Cynthia Avenue would create LOS F conditions, and traffic volumes on Wescott Road between Cynthia Avenue and the Railroad Collector would create LOS D conditions. Traffic volumes on the proposed Farinon Road extension between SR 20 and Wescott Road would create LOS D conditions and would be a result of project traffic, existing City traffic, and new traffic from other cumulative projects. The project’s traffic would contribute to approximately 7.5 percent of daily traffic on the extension of Farinon Road (Appendix C). The amount of traffic added by the project would exceed five percent of the current volume on Fremont Street, Sioc Street, and Wescott Road; therefore, these impacts are significant.

Table 4.4-10. Levels of Service on Roadways (Cumulative Conditions in 2025)

Location	Total Average Traffic Volumes	Cumulative LOS
Fremont St (Bridge to 5 th)	10,308	D
Fremont St (10 th to 11 th)	5,590	B
Sioc St (Bridge to 10 th)	14,120	F
Moonbend Dr (East of SR 20)	4,350	B
Sunrise Blvd (SR 20 to Davison Ct)	4,825	B
Sunrise Blvd (SR 20 to East Connector)	7,500	C
Farinon Rd (SR 20 to Niagra)	9,850	D
Farinon Rd (Wescott to Niagra)	13,500	D
Railroad Connector (SR 20 to Will S Green)	6,150	B
Railroad Connector (Will S Green to Wescott)	8,825	C

Table 4.4-10. Levels of Service on Roadways (Cumulative Conditions in 2025)

Location	Total Average Traffic Volumes	Cumulative LOS
Wescott Rd (SR 20 to Cynthia)	16,600	F
Wescott Rd (Cynthia to Farinon)	9,608	D
SR 20 (Bridge Street)	26,892	F
3 rd St (Sioc to Carson)	4,025	B
5 th St (Tuttle to Ware)	3,000	A
8 th St (Fremont to Carson)	1,925	A
13 th (Clay to Fremont)	1,585	A
East Collector (Market to Fremont)	5,500	B
East Collector (Fremont to Sunrise)	9,875	D

BOLD is condition in excess of minimum standard.

Note: Total average traffic volumes are based on KD Anderson and Associates 2007; Appendix C. Averages for road segments with the same LOS were calculated based on the numbers presented in the appendix. LOS=Level of Service; SR=State Route.

Significance Level Before Mitigation: Significant.

Note: The below mitigation measures are in addition to those required for project-only and approved/pending projects impacts.

Mitigation Measure TT-9a: Contribute fair share costs for road improvements on Sioc Street and Wescott Road within the City of Colusa (1.4-2.3% depending on the improvement).

The County should require the applicant to contribute its fair share to the cost of the following road improvements on Sioc Street and Wescott Road to meet acceptable LOS standards:

- **Modify Sioc Street** to provide either four-lane striping (eliminate on-street parking) or a Sioc/Fremont one-way couplet (fair share costs are 1.6%).
- **Widen Wescott Road to four lanes** from Cynthia Drive to SR 20, including acquiring additional ROW (fair share costs are 2.3%). This level of improvement does not appear to be feasible in this area due to limited ROW and the location of existing development.
- **Improve Wescott Road to arterial standards** from Cynthia Drive to the City limits, including acquiring additional ROW (fair share costs are 1.4%).

Payment of the project's fair share costs should be included in the project development agreement. In order for this to happen, the costs of these roadway improvements would need to be determined, and the project's fair share calculated, prior to executing the development agreement. The payments would be held in escrow pending full funding by other developer fees or other sources. The development agreement would enforce payment of the applicant's fair share costs prior to issuance of building permits.

However, this mitigation measure is not considered feasible for the following reasons. First, these improvements are not currently planned or programmed; there is no current program for estimating the

costs of these improvements; and the timing of these cost estimates is uncertain. Second, a funding mechanism (e.g., city and county traffic impact fee) is not in place to collect fair share costs from other future projects, so there is no assurance these improvements would be implemented. Lastly, the County would have no control over implementation of the improvements because they are within City limits.

Mitigation Measure TT-9b: Contribute fair share costs for road improvements on Wescott Road and Farinon Road in the County (1.4-3.2% depending on the improvement).

The County should require the applicant to contribute its fair share to the cost of the following road improvements on Wescott Road and Farinon Road to meet acceptable LOS standards:

- **Construct Farinon Road extension as a four-lane road** and dedicate the ROW to accommodate four lanes (fair share costs are 3.2%).
- **Improve Wescott Road to arterial standards** from the City limits to the Railroad Connector, including acquiring additional ROW (fair share costs are 1.4%).

Payment of the project's fair share costs should be included in the project development agreement. In order for this to happen, the costs of these roadway improvements would need to be determined, and the project's fair share calculated, prior to executing the development agreement. The payments would be held in escrow pending full funding by other developer fees or other sources. The development agreement would enforce payment of the applicant's fair share costs prior to issuance of building permits.

However, this mitigation measure is not considered feasible for the following reasons. First, these improvements are not currently planned or programmed; there is no current program for estimating the costs of these improvements; and the timing of these cost estimates is uncertain. Second, a funding mechanism (e.g., city and county traffic impact fee) is not in place to collect fair share costs from other future projects, so there is no assurance these improvements would be implemented.

Mitigation Measure TT-9c: Contribute fair share costs for widening State Route 20 to four lanes from SR 99 to Interstate 5 (2.0-2.1% depending on the improvement).

The County should require the applicant to contribute its fair share to the cost of widening SR 20 to four lanes from SR 99 to Interstate 5 to meet acceptable LOS standards. The project contributes 2.0 percent of new traffic on SR 20 west of Colusa and 2.1 percent of new traffic on SR 20 east of Colusa, thus the project's fair share would be 2.0 percent for the western segment and 2.1 percent for the eastern segment. Payment of the project's fair share costs should be included in the project development agreement. In order for this to happen, the costs of these roadway improvements would need to be determined, and the project's fair share calculated, prior to executing the development agreement. The payments would be held in escrow pending full funding by other developer fees or other sources. The development agreement would enforce payment of the applicant's fair share costs prior to issuance of building permits.

However, this mitigation measure is not considered feasible for the following reasons. First, these improvements are not currently planned or programmed; there is no current program for estimating the costs of these improvements; and the timing of these cost estimates is uncertain. Second, a funding mechanism (e.g., city and county traffic impact fee) is not in place to collect fair share costs from other future projects, so there is no assurance these improvements would be implemented. Lastly, Caltrans would need to approve the improvements, so implementation and timing are uncertain.

Significance Level After Mitigation: Significant and unavoidable because road improvements are not currently funded or approved and some improvements may not be technically feasible.

Impact TT-10 (Cumulative): Cumulative development would result in a substantial increase in traffic volumes at intersections in the project vicinity in 2025, exceeding acceptable Level of Service at several intersections.

Cumulative impacts based on the land uses identified in the Colusa GPU would result in a substantial increase in traffic within the City and result in substantial delays at several intersections. As depicted in Table 4.4-11, several intersections would result in unsatisfactory LOS of “F”, and traffic signal warrants would be met at some intersections. A few intersections would continue to operate at acceptable LOS and are not further discussed.

Table 4.4-11. Peak Hour Intersection Levels of Service (Cumulative Conditions in 2025)

Location	Existing LOS		Cumulative LOS		Traffic Signal Warranted?
	A.M. Peak Hour	P.M. Peak Hour	A.M. Peak Hour	P.M. Peak Hour	
Bridge Street / Fremont St					
NB left turn	A	A	B	C	Yes
SB left turn	A	A	A	B	
EB left+thru+right turn	B	C	F	F	
WB left+thru+right turn	C	D	F	F	
Bridge Street / Sioc Street	B	C	F	F	n.a.
Bridge Street / Wescott Rd					
NB left turn	A	A	B	A	Yes
EB left+right turn	C	E	F	F	
SR 20 / Sunrise Blvd					
NB left turn	A	-	B	B	Yes
SB left turn	-	-	B	C	
EB left turn	B	C	F	F	
EB thru+right turn	A	B	F	F	
WB left turn	-	-	F	F	
WB thru+right turn	-	-	F	F	
SR 20 / Farinon Road					
NB left turn	A	A	F	F	Yes
EB left+right turn	B	B	F	F	
Wescott Road / Farinon Rd	n/a	n/a			Yes
SB left turn			C	B	
WB left turn			F	F	
WB right turn			C	F	

Table 4.4-11. Peak Hour Intersection Levels of Service (Cumulative Conditions in 2025)

Location	Existing LOS		Cumulative LOS		Traffic Signal Warranted?
	A.M. Peak Hour	P.M. Peak Hour	A.M. Peak Hour	P.M. Peak Hour	

Note: Direction of travel is indicated for vehicles approaching the intersection and turning in either a left or right-turn direction. EB=eastbound; NB=northbound; WB=westbound; SB=southbound; SR=State Route; n.a.=not applicable; LOS=Level of Service.

Bold is LOS in excess of standard.

The following intersections would operate at a cumulative LOS of “F”: Bridge Street (SR 20) / Fremont Street; Bridge Street / Sioc Street; Bridge Street / Wescott Road; SR 20 / Sunrise Blvd; SR 20 / Farinon Road; and Wescott Road / Farinon Road. Based on the increased delays, traffic signals are warranted at each intersection except Bridge Street / Sioc Street. The amount of project traffic added to each intersection represents more than five percent of the current volume at the intersections; therefore, these impacts are significant.

Significance Level Before Mitigation: Significant

Note: The below mitigation measures are in addition to those required for project-only and approved/pending projects impacts.

Mitigation Measure TT-10a: Contribute fair share costs for road improvements on State Route 20, Sioc Street, and Wescott Road within the City of Colusa (3.4-4.3% depending on the improvement).

The County should require the applicant to contribute its fair share to the cost of the following road improvements on SR 20, Sioc Street, and Wescott Road to meet acceptable LOS standards:

- **Widen SR 20/Bridge Street to have two through lanes** in each direction approaching the Sioc Street intersection (fair share costs are 3.4%). Bridge Street improvements at the Sioc Street intersection may not be feasible because of the lack of ROW.
- **Widen and reconfigure Sioc Street** (fair share costs are 3.4%).
- **Widen SR 20 approaching the Wescott Road intersection** to create a northbound left turn lane, a second northbound through lane, and a separate southbound right turn lane (with overlap), as an alternative to widening SR 20 to four lanes (Mitigation Measure TT-7a). Alternatively, a roundabout intersection could be installed at this intersection (fair share costs are 4.3%).

Payment of the project’s fair share costs should be included in the project development agreement. In order for this to happen, the costs of these roadway improvements would need to be determined, and the project’s fair share calculated, prior to executing the development agreement. The payments would be held in escrow pending full funding by other developer fees or other sources. The development agreement would enforce payment of the applicant’s fair share costs prior to issuance of building permits.

However, this mitigation measure is not considered feasible for the following reasons. First, these improvements are not currently planned or programmed; there is no current program for estimating the costs of these improvements; and the timing of these cost estimates is uncertain. Second, a funding

mechanism (e.g., city and county traffic impact fee) is not in place to collect fair share costs from other future projects, so there is no assurance these improvements would be implemented. Third, Caltrans would need to approve improvements on SR 20, so implementation and timing are uncertain. Lastly, the County would have no control over implementation of the improvements because they are within City limits.

Mitigation Measure TT-10b: Contribute fair share costs for road improvements on State Route 20, Wescott Road, and Farinon Road in the County (3.0-6.3% depending on the improvement).

The County should require the applicant to contribute its fair share to the cost of the following road improvements on SR 20, Wescott Road, and Farinon Road to meet acceptable LOS standards:

- **Widen SR 20 at Sunrise Boulevard** to add separate right turn lanes (fair share costs are 6.3%).
- **Widen SR 20 at Farinon Road** to add separate right turn lanes and dual northbound left turn lanes (fair share costs are 3.3%).
- **Add separate left turn and right turn lanes on Wescott Road and Farinon Road** approaching their intersection (fair share costs are 3.0%).
- **Install a traffic signal at Wescott Road/Farinon Road** (fair share costs are 3.0%).

Payment of the project's fair share costs should be included in the project development agreement. In order for this to happen, the costs of these roadway improvements would need to be determined, and the project's fair share calculated, prior to executing the development agreement. The payments would be held in escrow pending full funding by other developer fees or other sources. The development agreement would enforce payment of the applicant's fair share costs prior to issuance of building permits.

However, this mitigation measure is not considered feasible for the following reasons. First, these improvements are not currently planned or programmed; there is no current program for estimating the costs of these improvements; and the timing of these cost estimates is uncertain. Second, a funding mechanism (e.g., city and county traffic impact fee) is not in place to collect fair share costs from other future projects, so there is no assurance these improvements would be implemented. Lastly, Caltrans would need to approve improvements on SR 20, so implementation and timing are uncertain.

Significance Level After Mitigation: Significant and unavoidable because road improvements and traffic signals are not currently funded or approved and some improvements may not be technically feasible.

Significant and Unavoidable Impacts

Impact TT-1: The project would generate 10,497 daily trips, which would increase traffic congestion on SR 20 (Bridge Street) in the area between Sioc Street and Fremont Street, resulting in a reduction in Level of Service from D to F.

Impact TT-2: The addition of 10,497 daily project trips would have an incremental impact on traffic operations at key intersections in the project vicinity.

Impact TT-4: Project implementation may result in minor increases in airport traffic and could adversely affect air traffic patterns, resulting in increased safety concerns for aircraft operators.

Impact TT-7 (Approved/Pending Projects): The project would exacerbate traffic congestion on State Route 20 between Wescott Road and Sunrise Boulevard at project buildout in 2010.

Impact TT-8 (Approved/Pending Projects): The project would exacerbate degraded traffic operations at key intersections in the project vicinity at project buildout in 2010.

Impact TT-9 (Cumulative): Cumulative development would result in a substantial increase in traffic volumes along roads in the project vicinity in 2025, exceeding acceptable Level of Service in several locations.

Impact TT-10 (Cumulative): Cumulative development would result in a substantial increase in traffic volumes at intersections in the project vicinity in 2025, exceeding acceptable Level of Service at several intersections.

4.5 NOISE

This section provides a summary of a noise analysis prepared for the project by Brown-Buntin Associates (Appendix D). It describes the regulatory and environmental settings for noise in the project area. The impact analysis evaluates the effects of traffic and airport noise on project uses as well as the effects of the project on noise in the area. Mitigation measures are identified to reduce significant impacts.

4.5.1 Setting

Regulatory Setting

The **Safety Element of the Colusa County General Plan** contains noise standards to be applied to new projects. Specifically, Policy SAFE-14 states that:

New projects should be conditioned, improved, or denied according to the standards of Table SAFE-3. When necessary, environmental impact reports should be used to gauge the existing and projected noise environments for proposed projects. All projects in areas above the “conditionally acceptable” noise level shall provide the county with proof from a professional acoustical consultant that occupants of the project will be protected from excessive noise.

Table 4.5-1 provides a summary of the noise standards from Table SAFE-3.

Table 4.5–1. Noise Standards for Colusa County

Land Use	Normally Acceptable Exterior Range (dB Ldn) ^a	Conditionally Acceptable Exterior Range (dB Ldn)	Maximum Interior Level (dB Ldn)
Low Density Residential	<60	<70	45
Medium to High Density Residential	<60	<75	45
Hotel	<60	<75	50

Office	<65	<80	55
Restaurant or Retail	<70	<80	60
Open Space	<70	<80	-

^a Normally acceptable exterior range is used as the threshold for acceptable exterior noise in this section.

Adapted from Table SAFE-3 in the Colusa County General Plan, Safety Element.

Note: dB Ldn=day-night sound levels in decibels

Source: Colusa County 1989

The **Noise Element of the Colusa County Airport CLUP** adopts Compatibility Guidelines for Noise (Colusa County ALUC 1995). These guidelines indicate that single-family detached and multi-family dwellings are compatible with aircraft noise exposures of 55 dB or less at the community noise equivalent level (CNEL), which is a daily measurement of noise exposure for a community. Hotels, motels, inns, and bed and breakfasts are considered compatible up to 80 dB CNEL, provided that: “Measures to achieve an interior noise level of 50 dB CNEL must be incorporated in the design and construction of portions of buildings where the public is received, office areas, and other areas where people work or congregate.”

Furthermore, the CLUP guidelines require that measures to achieve an interior noise level of 45 dB CNEL must be incorporated into the design and construction of all noise sensitive areas, including sleeping rooms. It is assumed that this standard would apply to residential units and hotels/motels.

The CLUP guidelines included CNEL contours for the Colusa County Airport for the year 1981. Those CNEL contours were subsequently updated in March 2004 by Aries Consultants LTD. The Aries study identified projected CNEL contours for the year 2015 (Appendix D). Bollard Acoustical Consultants evaluated the noise contours in 2005 for purposes of evaluating noise impacts in the project area (Appendix D). The noise contours produced for the June 2005 Bollard Acoustical Consultants report (shown in Figure 4.5-1) appear to validate the general location and shape of the CNEL contours projected by Aries Consultants LTD for the year 2015.

Environmental Setting

With the exception of aircraft noise due to Colusa County Airport operations, the noise environment within the Park is that of a quiet rural area. Traffic noise from SR 20 and aircraft noise and overflights from Colusa County Airport are the dominant noise sources.

Existing Ambient Noise

The existing noise environment in the project area primarily results from vehicular traffic on SR 20 and airplane operations associated with the nearby Colusa County Airport. Occasional noise from industrial operations within the Park can be heard at various locations within the project area, but airport and vehicular noise generally dominate the noise setting, especially during periods of high airport activity and peak hour traffic. Existing average ambient noise level measurements in the project area in 2006 varied from 57.5 dB in the northwest corner of the project area to 62.9 dB at the northwest boundary of the Colusa County Airport (Table 4.5-2; Appendix D). Average noise levels along SR 20 at the golf course were 74.1 dB (Appendix D). The highest measured noise average was adjacent to SR 20 with considerably lower noise measurements in the northwest corner of the project area.

Table 4.5-2. Five-Day Noise Level Measurements

Site Location	Average Ldn, dB	Hourly Leq, dB		
		Highest Hour	Daytime Average	Nighttime Average
Northwest corner of project area (Site 1)	57.5	61.1	54.3	50.1
Northwest boundary of airport (Site 2)	62.9	68.8	61.6	51.9
Adjacent to SR 20 at golf course (Site 3)	74.1	73.0	71.4	66.6

Source: Noise measurements recorded from May 17 to May 22, 2006 by Brown-Buntin Associates; Appendix D.

Note: dB=decibel; Ldn=day-night sound levels; Leq=average sound level during 1 hour period.

Noise measurements were conducted in terms of the equivalent sound level (Leq) and other statistical descriptors, which describe trends in ambient noise levels throughout the day and nighttime periods (see Appendix D for a description of common noise terms). During the one-week measurement period, a total of 266 presumed aircraft noise events (noise events exceeding 65 dB for more than 5 seconds) were recorded at Site 1. The average measured sound level that people would be exposed to (also called the sound exposure level or SEL) for these events was 84.4 dB, and the average of the maximum noise levels was 73.7 dB. At Site 2, 495 presumed aircraft noise events were recorded during the one-week period. The average measured SEL for these events was 93.9 dB, and the average of the maximum noise levels for aircraft-caused events was 74.4 dB. Several of these measurements exceed the acceptable exterior noise levels for various land uses in Colusa County (see Table 4.5-1).

Existing Traffic Noise

Based on short-term traffic noise level measurements in the project area, existing noise levels at the northeast corner of the existing offices (at SR 20) are approximately 69.3 dB and 71.2 dB, from two microphone heights, which generally correspond to first and second stories in a building (Table 4.5-3; Appendix D).

Table 4.5-3. SR 20 Traffic Noise Measurement Summary

Microphone Height, feet	Vehicles per Hour			Posted Speed, mph	Distance, feet	Measured Leq, dB
	Autos	Medium Trucks	Heavy Trucks			
5						
15	532	12	32	55	50	69.3
						71.2

Note: mph=miles per hour; dB=decibels; Leq=average sound level during period of measurement.

Colusa County Airport Noise

Approximately 28,000 flights take off annually from the Colusa County Airport. Based on a continuous 24-hour noise measurement at a site located to the north-northwest of the departure end of Runway 31

(approximately mid-distance to the southeast corner of the existing single-family residences in the City of Colusa), the cumulative aircraft noise level was approximately 69 dB CNEL in 2005. This measurement was consistent with the CY2015 noise exposure contour map for the Colusa County Airport, which indicates the measurement site was near the 70 dB CNEL noise contour. The northern portion of the Park and portions of the Colusa Golf and Country Club are currently exposed to aircraft noise levels greater than 55 dB CNEL, according to the CY2015 noise contours (Figure 4.5-1).

The majority of the aircraft noise exposure at the project area is generated by crop duster aircraft departing Runway 31 (to the north) and turning left (west) over the project area. Crop duster activity is typically concentrated in spring and summer months, during the morning hours of the day, beginning at first light. This means that, during the crop-dusting season, aircraft fly over the project area beginning as early as 5:30 a.m.

4.5.2 Impact Analysis

Methodology

The impact analysis is based on a noise analysis prepared by Brown and Buntin (Appendix D) and an analysis of aerial application operations at the Colusa County Airport prepared by Mead and Hunt (Appendix I). The environmental setting is based on noise measurements in the project area in 2006 and previous noise measurements conducted by Bollard Acoustical Consultants in 2005 (Appendix D). Noise impacts were analyzed in terms of the potential effects of construction, traffic, and aircraft noise on project residents and commercial tenants and nearby sensitive uses.

Criteria for Determining Significance

Adverse impacts related to noise would be considered significant if the project would:

- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- Expose persons to or generate excessive groundborne vibration (>100 velocity level in decibels (VdB), according to Federal Transit Administration 1995) or excessive groundborne noise levels.
- Expose persons to or generate noise levels in excess of standards established in the Colusa County General Plan (1989) as depicted in Table 4.5-1.
- Result in a substantial increase in off-site traffic noise levels in the project vicinity above levels existing without the project (for existing levels >65 dB Ldn, a median increase in 1.5 dB is considered substantial).
- Expose people residing or working in the project area to excessive aircraft noise levels due to the project's close proximity to a public use airport:
 - <55 dB CNEL exterior noise level for residential uses, <80 dB CNEL exterior noise level for motels, and <45 dB CNEL interior noise level for noise sensitive areas, based on the CLUP (Colusa County 1995);

Impacts and Mitigation Measures

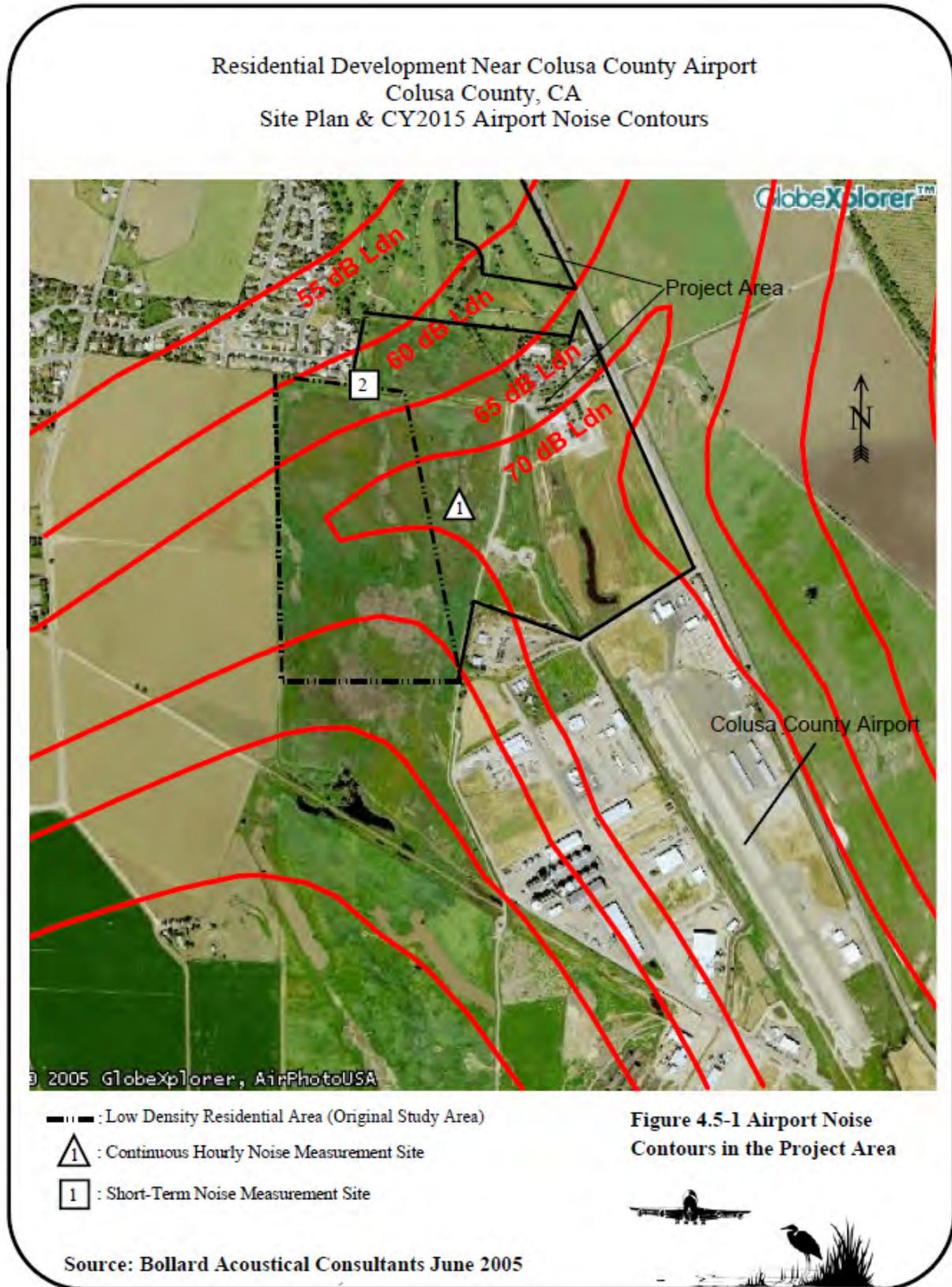
Impact N-1: Short-term construction would increase noise levels and create perceptible groundborne vibrations, affecting nearby residents.

During construction activities, construction-related noise would dominate the noise environment in the immediate area. Maximum noise levels from different types of equipment could range from 70 dB to 90 dB and generate a substantial amount of groundborne vibrations at a distance of 50 feet, which would correspond to the locations of the nearest existing houses. Depending on the construction equipment used during project construction, groundborne vibrations could range from approximately 52 VdB to 81 VdB. Vibration levels associated with construction of the project would at times be perceptible at neighboring residences when construction activities occur near the northwestern corner of the project area, but they would not be high enough to result in cosmetic or structural damage to buildings. Impacts from groundborne vibrations would be less than significant.

The total time of exposure to heavy construction noise and vibration would be limited to the construction phases of the project. Noise due to framing and construction of houses would typically be spread over a longer period, depending on market demands and the schedule for building each home. In addition, nighttime operations may occur and result in annoyance or sleep disruption for nearby residents. Because short-term construction activities would produce noise levels substantially above ambient noise levels on a temporary basis and could affect nearby residents, construction-related noise impacts would be significant.

Significance Level Before Mitigation: Significant.

Figure 4.5-1. Airport Noise Contours in the Project Area



Mitigation Measure N-1a: Limit construction activities to daytime hours and no more than 8 hours in a 24-hour period.

The applicant will identify on all grading plans and construction contracts that construction activities shall occur only during daytime hours (approximately 7 a.m. to 7 p.m.), and mass grading activities and equipment operation shall be limited to no more than 8 hours during any 24-hour period. These measures will be conditions of project approval and grading permits.

Mitigation Measure N-1b: Provide a minimum six-foot high temporary noise barrier along the northwest corner of the project area during grading activities.

The applicant will identify on all grading plans and construction contracts the provision of a temporary noise barrier along the northwest corner to reduce noise exposure from grading activities at the adjacent homes. The barrier will be at least six feet tall and will be installed by the construction contractor prior to initial grading. The temporary barrier could be constructed of minimum 3/4-inch thick plywood and should have no gaps between the panels or ground. Alternatively, temporary portable barriers made from a variety of materials can be used. Upon completion of major grading operations (including rough grading), the temporary walls would be removed by the contractor. This measure will be a condition of project approval and grading permits.

Mitigation Measure N-1c: Minimize noisy construction activities in the northwest corner of the project area.

The applicant will identify applicable measures on grading plans and construction contracts to reduce construction-related noise, especially in the northwest corner. General measures to reduce noise would include, but are not limited to, maintaining all manufacturer-installed engine mufflers and enclosures on powered construction equipment; fitting impact tools with adequate mufflers and shrouding; and providing shielding or enclosures for fixed equipment to reduce noise exposures to sensitive receivers. To minimize construction noise exposure at adjacent residences, the construction contractor will be responsible for locating construction staging areas and repairing construction equipment as far as possible from the northeast corner of the project area. These measures will be conditions of project approval and grading permits.

Significance Level After Mitigation: Less than significant because mitigation measures would reduce construction noise levels to acceptable levels at adjacent residences.

Impact N-2: Existing and project-related traffic noise levels along State Route 20 would expose certain project residents and commercial tenants to significant noise levels.

Traffic noise along SR 20 currently ranges from 66 dB to 71 dB Ldn at 50 feet from the center line, with highest noise levels between Sioc Street and Farinon Road (Appendix D). Existing traffic noise levels along SR 20 would currently exceed the County's normally accepted exterior noise levels for residential uses (60 dB Ldn), hotel (60 dB Ldn), office (65 dB Ldn), and restaurant or retail (70 dB Ldn) if these uses are located 50 feet from the center line. The project design calls for further setbacks from SR 20, which would ensure some facilities are not significantly affected by exterior traffic-related noise levels. Interior noise levels would be reduced by about 25 dB through standard building designs (Bollard and Brennan 2005); therefore, interior noise levels from traffic noise would be acceptable for uses within the 60-70 dB traffic noise contours. Residences in the extreme eastern portion of the project area may be exposed to substantial interior noise levels, depending on building locations and setbacks from SR 20.

Traffic volumes along SR 20 would increase as a result of project implementation (see Section 4.4 Transportation and Traffic), increasing noise levels up to 1.7 dB adjacent to the project area (Appendix D). Traffic noise contours based on existing plus project conditions are depicted in Figure 4.5-2. Residences, the motel/hotel, and other highway commercial uses in the extreme eastern portion of the project area (within about 400 feet of the centerline of SR 20) would be exposed to traffic noise levels greater than 60 dB. Traffic noise levels would exceed accepted County exterior noise levels, resulting in a significant noise impact on residents, workers, and visitors.

Significance Level Before Mitigation: Significant.

Mitigation Measure N-2: Provide appropriate barriers, setbacks, and insulation for homes and businesses along State Route 20 in the project area to reduce traffic noise levels by 5-10 dB.

For structures significantly affected by traffic noise, the County will require the applicant to obtain an acoustical professional to conduct an acoustical investigation of traffic noise and to recommend measures necessary to achieve acceptable interior and exterior noise levels for the motel/hotel and multi-family residences along SR 20 based on the Colusa County General Plan Safety Element's normally acceptable noise levels (see Table 4.5-1). Measures to be employed may include, but are not limited to, a sound wall along SR 20, appropriate setbacks for buildings along SR 20, construction of stucco walls for the exterior, attic vents that are acoustically baffled, buildings with adequate and appropriately designed mechanical ventilation systems, roof insulation, and acoustically-rated windows and doors. Specific designs for buildings, a sound wall, and setbacks along SR 20 will be identified on the tentative subdivision map and approved by Colusa County prior to approval of the final subdivision map to ensure a reduction in noise levels by at least 5 to 10 dB in order to comply with noise standards.

Significance Level After Mitigation: Less than significant because mitigation measures would reduce traffic noise to acceptable levels at residences and businesses along State Route 20 in the project area.

Impact N-3: Project-related traffic would significantly increase off-site noise levels along State Route 20 between Sioc Street and Sunrise Boulevard.

Traffic noise levels at receivers along SR 20 currently range from 66 dB to 71 dB Ldn, with highest noise levels between Sioc Street and Farinon Road (Appendix D). Traffic noise on other major streets (Fremont, Sioc, Will S. Green, and Wescott) ranges from 55 to 64 dB Ldn. Existing traffic noise levels 50 feet from the center line of several roadways currently exceed the County's and City's (City of Colusa 2007b) accepted exterior noise levels of 60 dB Ldn for residential uses.

Traffic volumes along City and County streets would increase as a result of project implementation (see Section 4.4 Transportation and Traffic), increasing noise levels up to 2.2 dB (Appendix D). Project-related traffic would result in an increase in noise that would be noticeable along SR 20 between Sioc Street and Sunrise Boulevard (a 1.7 dB increase is considered noticeable because existing noise levels are greater than 65 dB). The increase in noise along other roadways would not be noticeable because existing noise levels are lower and the increase would not be substantial in comparison (Appendix D).

Because the increase in traffic noise levels along SR 20 between Sioc Street and Sunrise Boulevard would be noticeable, the effects of additional traffic-related noise from the project would be significant. The number of structures affected by the increased noise levels is unknown, but homes within approximately 400 feet of the highway would be exposed to unacceptable exterior noise levels greater than 60 dB (Figure 4.5-2).

Figure 4.5-2. Traffic Noise Contours: Existing Plus Project Conditions



Figure 4.5-2
Traffic Noise Contours:
Existing Plus Project

General Plan Amendment and
Zoning Amendment EIR **SWCA**

Mitigation Measure N-3: None available.

Significance Level After Mitigation: Significant and unavoidable because it is infeasible to retrofit existing homes that would be affected by increased traffic noise and because no financing mechanism exists for construction of a sound wall to address existing traffic noise impacts on existing residences.

Impact N-4: Ongoing aircraft overflights would expose project residences and businesses to excessive noise levels.

The project would introduce sensitive land uses to a generally undeveloped area north of the Colusa County Airport. Project residences and businesses would be affected by aircraft noise levels ranging from 84 dB SEL to 94 dB SEL during single event aircraft overflights and noise levels from 55 dB to 70 dB CNEL based on aircraft noise contours prepared by Bollard Acoustical Consultants (Figure 4.5-1). Although the project may result in a slight increase in air traffic, noise levels are not expected to substantially increase as a result of the project. Based on the existing noise levels and predicted CY2015 noise contours, the entire development area would be exposed to aircraft noise levels of 55 dB CNEL or greater. Existing aircraft-related noise levels in the entire development area exceed the County (1989) and ALUC (Colusa County 1995) accepted exterior noise levels for residential uses (55-60 dB), hotels (60 dB), and other uses (restaurants, offices, and open space per Colusa County General Plan (65-70 dB). Interior noise levels would be reduced by about 25 dB through standard building designs (Bollard and Brennan 2005); however, project residences and businesses in the 70 dB or greater CNEL noise contour would still be exposed to unacceptable interior noise levels (above 45 dB).

Heavy air traffic during the spring and summer months would create the most disturbances on project residents, especially during the early morning hours when crop-dusting planes take off to the north. Specific concerns relate to the departing aircraft's noise levels as it lifts off from the runway and engine power settings are modified to make the departure (Appendix I). Also, crop-dusting planes typically depart and land at the airport from virtually any direction and fly at lower altitudes than general aviation aircraft, which would result in louder noise levels and greater noise exposure for residents and other sensitive receptors in the development area. Based on the range of 84-94 dB SEL for single event noise levels, six to nine percent of residents in the project area would be expected to behaviorally awaken as a result of aircraft noise (Federal Interagency Committee on Aviation Noise 1997; see Appendix D). Higher noise levels would increase the percentage of residents being affected by aircraft noise. Because aircraft noise would adversely affect project residents, workers, and visitors and would exceed County standards and ALUC guidelines for the proposed land uses, the effects of aircraft-related noise would be significant.

Significance Level Before Mitigation: Significant.

Mitigation Measure N-4a: Design homes and businesses to reduce interior aircraft-related noise levels by up to 30 dB.

For structures significantly affected by aircraft noise, the County will require the applicant to obtain an acoustical professional to conduct an acoustical investigation and to recommend measures necessary to achieve acceptable interior noise levels consistent with CLUP and County standards. Measures to be employed may include, but are not limited to, construction of stucco walls for the exterior, attic vents that are acoustically baffled, buildings with adequate and appropriately designed mechanical ventilation systems, roof insulation, and acoustically-rated windows and doors. Specific designs for buildings will be submitted to Colusa County for approval prior to issuance of building permits to ensure compliance with noise standards.

Mitigation Measure N-4b: Notify all prospective purchasers and users of property in the project area of inconveniences or discomforts that may accompany airport operations.

Prior to the selling, purchasing, transferring, or leasing of real property, full disclosure of inconveniences or discomforts arising from airport operations would be made by the seller in accordance with AB 2776 because of the project's location within an airport influence area. Inconveniences or annoyances may include, but are not limited to, noise, health and safety concerns, and vibration. Full disclosure would be made to the buyer and in County documents (building permits, etc.). Seller and County Clerk would obtain and keep copies of the buyer-signed disclosure statement. Although this would not reduce impacts, the measure would inform prospective buyers or renters of the inconveniences and allow them to use the knowledge in their decision of buying or renting a home.

Mitigation Measure N-4c: Encourage aerial application operators to takeoff to the south and land to the north when weather conditions permit.

As a "Good Neighbor" effort, the County and airport manager could encourage aircraft to takeoff to the south (depart on Runway 13) and land to the north (on Runway 31), whenever winds, weather, air traffic, and safety considerations permit, to avoid flying over the project area and reduce aircraft noise levels in sensitive areas (see Appendix I).

However, this mitigation measure is not considered feasible for the following reasons. First, the procedure is currently being implemented by some crop-dusting planes when weather conditions permit; however, it is not a desirable operational scenario because aircraft seek to takeoff and land into the wind as much as possible, and weather conditions would not permit the procedure all the time. Second, the procedure creates a flight safety issue because it introduces counter-flow traffic patterns, which could result in aircraft operating head-to-head and having to maneuver to avoid crashes while approaching or departing. Third, the procedure is inefficient in terms of aircraft operating time and fuel consumption. Finally, the County would have no means to enforce the measure, and FAA would be unlikely to approve it.

Mitigation Measure N-4d: Encourage aerial application operators to make early turns (left or right) during Runway 31 departures (northbound take-offs).

As a "Good Neighbor" effort, the County and airport manager could encourage aircraft to make early turns (left or right) during northbound departures (using Runway 31), to avoid flying over sensitive areas within the project area (see Appendix I).

However, this mitigation measure is not considered feasible or effective for the following reasons. First, the procedure is not a desirable operational scenario because aircraft cannot make sharp turns during departure without compromise flight safety. Second, the procedure would result in planes flying over residential and commercial/office areas at low altitudes and high engine power, increasing safety and noise concerns. Finally, the County would have no means to enforce the measure, and FAA would be unlikely to approve it.

Mitigation Measure N-4e: Encourage straight-out departures for Runway 31 operations (northbound take-offs).

As a "Good Neighbor" effort, the County and airport manager could encourage straight-out departures for aircraft departing to the north (on Runway 31) over the project area (see Appendix I). This would reduce departure noise levels and safety concerns of aircraft turning at low altitudes near the end of the runway and avoid direct overflight of the residential and commercial areas in the project area.

However, this mitigation measure is not considered effective for the following reasons. First, the flight path modification would still result in substantial noise levels from departing aircraft. Second, the extended straight-out departure would likely result in exposing existing residential areas in the City of Colusa to increased aircraft noise. Finally, the County would have no means to enforce the measure, and FAA would be unlikely to approve it.

Mitigation Measure N-4f: Encourage power reduction during departures for Runway 31 operations (northbound take-offs).

As a “Good Neighbor” effort, the County and airport manager could encourage northbound departing aircraft (on Runway 31) to reduce power by altering propeller and engine activity (see Appendix I). This would reduce departure noise levels, but would also decrease the climb rate, altitude, and speed of departing aircraft, resulting in increased time of overflights of the project area.

However, this mitigation measure is not considered feasible or effective for the following reasons. First, the reduction in power would compromise flight safety because it would reduce the aircraft manufacturer’s specified takeoff power, which specifies the use of full engine power for the initial take-off roll and climb-out. Second, the reduction in engine power could exacerbate noise and safety concerns over sensitive uses in the project area. Finally, the County would have no means to enforce the measure, and FAA would be unlikely to approve it.

Mitigation Measure N-4g: Require aerial application operators to comply with Federal Aviation Administration regulations for operations over congested areas, prohibiting loaded aircraft from overflying the development area at low altitudes.

The County and airport manager could require aerial application operators to comply with FAA regulations for operations over congested areas (CFR 137.5); however, this could prohibit loaded aircraft from overflying the development area at low altitudes. The FAA regulations would require the County, airport manager, and aerial application operators to develop operational procedures and submit the procedures to FAA for approval. The procedures would likely prohibit crop-dusting planes, or aerial application operators, from flying over the development area at low altitudes when heavily loaded with agricultural chemicals. To implement such procedures, aerial application operators would likely be required to depart on Runway 13 (southbound) when loaded with chemicals, regardless of wind conditions or air traffic patterns.

However, this mitigation measure is not considered feasible for the following reasons. First, the prohibition on northbound take offs for crop-dusting planes would degrade airport operations and compromise flight safety. Second, the procedures would create a nonstandard operational procedures that could result in counter-flow aircraft traffic and increased flight safety concerns. Finally, the County would have no means to enforce the measure, and FAA would be unlikely to approve it.

Significance Level After Mitigation: Significant and unavoidable because aircraft noise would still expose residences and businesses to unacceptable exterior (and possibly interior) noise levels. Although implementation of the mitigation measures would reduce interior noise levels and notify prospective buyers, these measures are not enough to reduce the impact to less than significant. Additionally, not all of the measures are feasible.

Impact N-5: Nearby industrial operations may generate periodic loud noises, but project residents would not be exposed to unacceptable noise levels from these operations.

The project's residential uses would be located more than 700 feet from the nearest industrial building in the Park. Other uses, such as office buildings, agricultural facilities, and the airport, as well as roads and the proposed overflight corridor, would separate the project's residential uses from industrial operations in the Park. Although the industrial operations periodically generate noise that may be noticeable by some residents, the industrial noise levels would not likely exceed acceptable standards for residential uses because of the distance to the residences. Additionally, airport-related noise would be more noticeable than the industrial noise, especially during periods of the year with high air traffic. Therefore, noise impacts on project residents from industrial operations would be less than significant.

Significance Level: Less than significant because noise from industrial operations would not expose residents to unacceptable noise levels.

Impact N-6: The wastewater treatment facility would generate some operational noise, but the facility's design and location would minimize the effects of noise on project residents.

The wastewater treatment facility would be surrounded by industrial and agricultural land uses, about 1.2 miles south of the nearest proposed residential unit. The wastewater facility would be housed in a block building with pumps, blowers, and emergency generator and would be fitted with equipment silencers. Additionally, airport noise would be more noticeable to residents in the project area than occasional loud noises from the wastewater treatment facility. Because the wastewater facility design and location would minimize the effects of noise on project residents and commercial tenants, the facility's noise impact would be less than significant.

Significance Level: Less than significant because noise from the wastewater treatment facility would not expose residents to unacceptable noise levels.

Significant and Unavoidable Impacts

Impact N-3: Project-related traffic would significantly increase off-site noise levels along State Route 20 between Sioc Street and Sunrise Boulevard.

Impact N-4: Ongoing aircraft overflights would expose project residences and businesses to excessive noise levels.

4.6 AIR QUALITY

This section describes current air quality conditions in the project vicinity and identifies sensitive land uses that could be affected by air pollution. The impact analysis discusses the expected emissions associated with the project and evaluates potential effects on project residents, tenants, and sensitive receptors in the vicinity. Mitigation measures are identified for significant effects, followed by the residual impact significance after mitigation measures are implemented.

4.6.1 Setting

Regulatory Setting

Federal

The **Federal Clean Air Act** (FCAA, 42 USC 7401 et seq.) requires the U.S. Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, respirable particulate matter (PM10 and PM2.5), and lead. Two types of NAAQS have been established: primary standards, which protect public health, and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction. These pollutants are called “criteria” air pollutants because standards have been established for each of them to meet specific public health and welfare criteria set forth in the FCAA. The primary NAAQS are intended to protect, with an adequate margin of safety, those persons most susceptible to respiratory distress, such as people suffering from asthma or other illness, the elderly, very young children, or others engaged in strenuous work or exercise.

Pursuant to the 1990 **Federal Clean Air Act Amendments** (FCAAA), the EPA classifies air basins (or portions thereof) as “attainment” or “non-attainment” for each criteria air pollutant, based on whether or not the NAAQS are achieved. The FCAA required each state to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The FCAAA added requirements for states containing areas that violate the NAAQS to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The EPA has responsibility to review all state SIPs to determine if they conform to the mandates of the FCAAA and will achieve air quality goals when implemented. If the EPA determines a SIP to be inadequate, it may prepare a Federal Implementation Plan (FIP) for the non-attainment area and may impose additional control measures. Failure to submit an approvable SIP or to implement the plan within mandated timeframes can result in sanctions being applied to transportation funding and stationary air pollution sources in the air basin.

State

Under the **California Clean Air Act** (CCAA; Chapter 1568 of the Statutes of 1988), patterned after the FCAA, areas have been designated as attainment or non-attainment with respect to the California Ambient Air Quality Standards (CAAQS). The CAAQS are more stringent than the national standards and include air quality standards for some pollutants for which there is no corresponding national standard. The California Air Resources Board (CARB) manages air quality, regulates mobile emissions sources, and oversees the activities of county and regional Air Pollution Control Districts (APCDs) and Air Quality Management Districts (AQMDs). CARB regulates local air quality indirectly by establishing

state ambient air quality standards and vehicle emissions and fuel standards, and by conducting research, planning, and coordinating activities.

In April 2005, the California Air Resources Board (CARB) published *Air Quality and Land Use Handbook: A Community Health Perspective*. This handbook is intended to give guidance to local governments in the siting of sensitive land uses, such as residences, schools, daycare centers, playgrounds, or medical facilities, near sources of air pollution. Recent studies have shown that public exposure to air pollution can be substantially elevated near freeways and certain other facilities. Recommendations from the *Handbook* include:

- Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.
- Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50 foot separation is recommended for typical gas dispensing facilities.

The current attainment status for the project area is shown in Table 4.6-1.

Table 4.6-1 Project Area Attainment Status

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone – one hour	No Federal Standard ^a	Non-attainment/ Transitional
Ozone – eight hour	Unclassified/Attainment	Non- attainment/Transitional
PM10	Unclassified	Non-attainment
PM2.5	Unclassified/Attainment	Unclassified
CO	Unclassified/Attainment	Unclassified
Nitrogen Dioxide	Unclassified/Attainment	Attainment
Sulfur Dioxide	Unclassified	Attainment
Lead (particulate)	Attainment	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility-Reducing Particles	No Federal Standard	Unclassified

^a Federal One Hour Ozone National Ambient Air Quality Standard was revoked on June 15, 2005

Note: PM=particulate matter; CO=carbon monoxide

Source: California Air Resources Board, web site at www.arb.ca.gov/desig/adm/adm.htm.

Local

The **Northern Sacramento Valley Air Basin 2003 Air Quality Attainment Plan** (NSVAB 2003) identifies strategies to achieve and maintain healthful air quality in the northern Sacramento Valley and attain the CAAQS. The attainment plan focuses on the adoption and implementation of control measures for stationary sources, areawide sources, indirect sources, and addresses public education and information

programs (NSVAB 2003). This plan is a joint effort between the air districts in the northern Sacramento Valley. As one of these districts, the Colusa County Air Pollution Control District (CCAPCD) is charged with regulating sources of air pollution in Colusa County to maintain clean air and protect the health of the public and the environment. The County does not currently have a PM10 plan, and one is not currently required under state air quality planning law.

The **CCAPCD Rule 2.26** regarding architectural coatings establishes a limit of the quantity of Volatile Organic Compounds (VOCs) in architectural coatings supplied, sold, offered for sale, applied, solicited for application, or manufactured for use within the CCAPCD.

The **CCAPCD Rule 2.27** identifies benzene airborne toxic control measures associated with retail service stations. It states that no owner or operator shall transfer, permit the transfer, or provide equipment for the transfer of gasoline, and no other person shall transfer gasoline from a delivery tank equipped with a vapor recovery system into a stationary storage tank at a retail service station unless a CARB-certified Phase I vapor recovery system is installed on the stationary storage tank and used during the transfer and from a stationary storage tank at a retail service station into a motor vehicle fuel tank unless a CARB-certified Phase II vapor recovery system is installed and used during the transfer.

The **Colusa County General Plan** encourages a compact development pattern to reduce auto trips and promote alternate means of transportation (Colusa County 1989).

Environmental Setting

Air pollution is directly related to a region's topography, climate, and meteorology. These attributes for the project area are described below.

Topography

The NSVAB is defined by the Coastal Mountain Range to the north and west and the southern portion of the Cascade Mountain Range and the northern portion of the Sierra Nevada Mountains to the east. These mountain ranges reach heights in excess of 6,000 feet, providing a substantial physical barrier to locally created pollution and pollution transported from the Sacramento Metropolitan area during northward prevailing winds. The valley has a high potential for air pollution problems due to the geographic and meteorological conditions (NSVAB 2003).

Climate and Meteorology

In general, the climate in the project area includes hot, dry summers and cool, rainy winters. During the year the temperature may range from 15 to 113 degrees Fahrenheit with average summer highs usually in the 90s and average winter lows in the 40s. Average annual rainfall is about 12 inches with snowfall being very rare. The prevailing winds are moderate in strength and generally originate from the south.

Local Air Quality

Colusa County is designated as non-attainment/transitional with state ozone standards and unclassified/attainment with federal ozone standards (Table 4.6-1). An area designated non-attainment/transitional signifies that the area is close to attaining the standard for that pollutant, and an unclassified designation means that available data are insufficient to support designation as attainment or

nonattainment. Ozone violations within the NSVAB are generally due to the use of internal combustion engine and occasionally due to smoke from nearby wildfires and transport of pollutants from the Sacramento Metropolitan area. Colusa County is also in non-attainment for the state 24-hour and annual average PM10 standards, unclassified for the federal PM10 standards and state annual PM2.5 standard, and unclassified/attainment with federal PM2.5 standards.

Air quality in the project area is representative of data recorded at the Colusa-Sunrise Boulevard station, located about 0.1-mile southwest of the project area. Table 4.6-2 summarizes the highest average ozone and particulate concentrations from 2004 through 2006 and compares them with the federal and state standards. No ozone standards were exceeded. The state standard for highest 24-hour PM10 average was exceeded at least twice during 2004 and 2005 but was not exceeded in 2006. The state standard for annual average PM10 for 2005 was also exceeded. Lastly, the state standard for annual average PM2.5 was not exceeded for the years data were available, and the national daily PM2.5 standard was not exceeded during the three years. Descriptions of the various pollutants and their effects on the environment are provided in Appendix E.

Table 4.6-2. Summary of Air Quality Monitoring Data for the
Project Area, 2004-2006

Pollutant	State Standard	National Standard	Pollutant Concentration by Year ^a		
			2004	2005	2006
<i>Ozone</i>					
Highest 1-hour average, ppm ^b	0.09	0.12 ^c	0.084	0.085	0.084
Days over State Standard			0	0	0
Days over National Standard			0	0	0
Highest 8-hour average, ppm	0.07	0.08	0.073	0.074	0.076
Days over National Standard			0	0	0
<i>PM10</i>					
Highest 24-hour average, µg/m ^{3b}	50	150	81	92	32
Days over State Standard			2	4	0
Days over National Standard			0	0	0
Annual average, µg/m ³	20	50	NA	25.5	NA
<i>PM2.5</i>					
Highest 24-hour average, µg/m ^{3b}			44.6	47.2	31.6
Days over State Standard			NA	NA	NA
Days over National Standard		65	0	0	0
Annual average, µg/m ³	12	15	7.3	11.2	NA

NOTE: **Bold** values are in excess of applicable standard. NA = Not Applicable or Not Available.

^a Data were collected at the Colusa-Sunrise Boulevard monitoring station approximately 0.1 mile southwest of the project area.

^b ppm = parts per million; $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter.

^c Federal One Hour Ozone National Ambient Air Quality Standard was revoked on June 15, 2005

Source: California Air Resources Board (CARB), *Summary of Air Quality Data, Gaseous and Particulate Pollutants*, 2004, 2005, and 2006 data are from the CARB web site at www.arb.ca.gov/adam.

Odors

Odors rarely cause any physical harm, but can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and the CCAPCD. The CCAPCD has no rules or standards specifically related to odor emissions, other than its nuisance rules, Rules 2.10 and 2.11 (CCAPCD 1998). In such cases, it is appropriate that a qualitative assessment should be used to determine if odor impacts may reasonably be expected to be generated by the project.

Facilities that often result in odor complaints include wastewater treatment plants, chemical manufacturing plants, painting and coating businesses, feed lots and dairies, composting facilities, solid waste landfills and solid waste transfer stations.

There have been recent odor complaints in the area due to operations of a mushroom facility located one mile southeast of the project area. The facility has been shut down due to the odor problem and has been transferred to a new owner. The new owner will operate the mushroom facility using appropriate air pollution control devices (CCAPCD 2007). Industrial odors are not expected to be a major concern for project residents because of the programs in place to address complaints.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others. Sensitive receptors are facilities that house or attract children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Examples of sensitive receptors include hospitals, schools, convalescent facilities, and residential areas. The closest existing residential areas are located 50 feet to the north and west of the project's northwestern boundary.

4.6.2 Impact Analysis

Methodology

The impact analysis for this section was prepared using CCAPCD requirements and air quality issues identified in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. The impact analysis involves a qualitative discussion of emissions likely to be generated during construction and a quantitative discussion of the types of emission sources associated with the project, including emissions related to motor vehicle traffic. Daily increases in emissions associated with the project were estimated using the CARB-approved URBEMIS 2002 (version 8.7) computer program based on default assumptions contained in the model (Appendix E).

Criteria for Determining Significance

Adverse impacts to air quality would be considered significant if the project would:

- Conflict with or obstruct implementation of the Northern Sacramento Valley Air Basin's 2003 Air Quality Attainment Plan.
- Violate CAAQS or contribute substantially to an existing or projected violation of CAAQS. A project is considered to contribute substantially to an existing or projected violation of CAAQS if it emits pollutants at a level equal to or greater than five percent of the CAAQS.
- Exceed ROG, NO_x, and PM₁₀ thresholds of significance established by neighboring air districts.
- Exceed the CAAQS CO standards:
 - CAAQS 1-hour standard of 20 ppm
 - CAAQS 8-hour standard of 9 ppm
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors that would affect a substantial number of people.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors).

Impacts and Mitigation Measures

Impact AQ-1: Construction activities would generate dust and produce vehicle emissions that would exceed established emissions thresholds for ROG, NO_x, and PM₁₀.

Short-term air quality impacts would occur during grading and other construction operations. Temporary impacts include:

- Clearing, grading, excavating, and using heavy equipment or trucks that create large quantities of fugitive dust, and thus PM₁₀ and PM_{2.5};
- Heavy-duty construction equipment that generates diesel particulate matter (DPM);
- Emissions from commute vehicles for construction workers and trucks hauling equipment and materials; and
- Emissions from stationary construction equipment used on-site.

Short-term fugitive dust may be a nuisance to those working in the project area or living in the vicinity. Fugitive dust emissions are associated with land clearing, ground excavation, cut-and-fill operations, and truck travel on unpaved roadways. Dust emissions also vary substantially from day to day, depending on the level of activity, the specific operations, and weather. Fugitive dust from grading and construction is expected to be short-term and would cease following project completion. Dust (larger than 10 microns) generated by construction activities usually becomes more of a local nuisance than a serious health problem. Of particular health concern is the amount of PM₁₀ generated as a part of fugitive dust emissions.

Construction activities include emissions associated with the transport of machinery, supplies, materials, and workers to and from the project area and emissions produced on-site as the equipment is used. Emitted pollutants would include CO, VOCs, NO_x, and PM₁₀.

The emissions presented in Table 4.6-3 are the anticipated highest daily emissions modeled by URBEMIS 2002 for the construction phase of this project based on the amount of land that would be developed. As indicated in Table 4.6-3, construction emissions associated with the project would exceed the construction emission thresholds; therefore, air quality impacts from construction emissions would be significant.

Table 4.6-3. Construction Emissions^a

Emissions	Pollutant (Pounds Per Day)			
	ROG	CO	NOx	PM10
Project Construction Emissions ^b	376	671	712	707
Significance Thresholds ^c	25	NA ^d	25	80
Are Thresholds Exceeded?	Yes	NA ^d	Yes	Yes

^a Emissions were calculated using the URBEMIS 2002 emissions model and project-specific data provided in the project description.

^b Calculations include emissions from numerous sources, including site grading, construction worker trips, stationary equipment, diesel and gas mobile equipment, off-site haul import, asphalt off-gassing, and painting.

^c The CCAQMD has not established emission threshold levels for comparison with project emission levels. For a project of this size, it is a general practice to compare the emissions to limits that are used by other air districts to determine the significance of the emission levels. Since CCAQMD has no emission thresholds, this analysis uses the thresholds from the neighboring Feather River Air Quality Management District. Air districts to the north of the project area (Butte County and Shasta County) have higher emission thresholds with limits of 137 pounds per day for ROGs and NOx, but the construction emissions of the project would still be significant using those higher thresholds.

^d Not Applicable. Colusa County is considered unclassified/attainment to CO.

Note: ROG=reactive organic gas; CO=carbon monoxide; NOx=nitrogen oxides; PM10=particulate matter less than 10 microns in diameter.

Significance Level Before Mitigation: Significant.

Mitigation Measure AQ-1: Reduce construction emissions through water application, covering loads, periodic cleaning of paved areas, and establishing speed limits.

The applicant will identify appropriate pollutant control measures on grading plans and construction contracts and ensure implementation of the measures by the construction contractor during all construction activities. These measures would be a condition of grading permits and would include, but not be limited to, the following:

- Water all active construction areas at least twice daily.
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard.
- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
- Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites.
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.
- Limit traffic speeds on unpaved road to 15 mph.

- Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- Replant vegetation in disturbed areas as quickly as possible.

Significance Level After Mitigation: Significant and unavoidable because with implementation of these measures, project construction emissions would be reduced but no feasible mitigation measures have been identified that would reduce the construction emissions on all days to levels that would not substantially contribute to potential air quality violations of PM10 or ozone standards in the project vicinity.

Impact AQ-2: Project traffic and residential and commercial operations would result in long-term stationary and mobile emissions that would exceed air quality thresholds for ROG, NOx, and PM10.

Long-term air quality impacts would consist of mobile source emissions generated by project-related traffic and stationary source emissions generated directly and indirectly by the natural gas consumed. Long-term emissions would be generated from vehicle trips to and from the project area, fuel combustion related to natural gas, wood stoves, fireplaces and landscape maintenance, and to a lesser extent, use of consumer products such as hair sprays and deodorants.

Project operational emissions (stationary and mobile) have been estimated using the URBEMIS 2002 computer model (Appendix E). This model predicts ROG, NOx, PM10 and CO emissions based on the project land uses and an estimate that the project could be completed by 2010. Operational emissions would be expected to decrease over time as new technology and emission-reducing practices are developed and implemented. Project trip generation rates used URBEMIS 2002 default setting, as modified in some cases by the proposed acreage for this project. As shown in Table 4.6-4, project operations emissions would exceed the significance thresholds used for ROG, NOx, and PM10, resulting in significant air quality impacts.

Table 4.6-4. Daily Operational Emissions – 2010^a

Emissions	Criteria Air Pollutants (Pounds Per Day)			
	ROG	CO	NOx	PM10
Project Operational Emissions - Phase I and II (Year 2010)	249	1,055	118	142
Significance Thresholds ^b	25	NA ^c	25	80
Are Thresholds Exceeded?	Yes	NA ^c	Yes	Yes

^a Emissions were calculated using the URBEMIS 2002 emissions model and project-specific data provided in the project description.

^b The CCAQMD has not established emission threshold levels for comparison with project emission levels. For a project of this size, it is a general practice to compare the emissions to limits that are used by other air districts to determine the significance of the emission levels. Since CCAQMD has no emission thresholds, this analysis uses the thresholds from the neighboring Feather River Air Quality Management District.

^c Not Applicable. Colusa County is considered unclassified/attainment to CO.

Note: ROG=reactive organic gas; CO=carbon monoxide; NOx=nitrogen oxides; PM10=particulate matter less than 10 microns in diameter.

The emissions due to the operations of the project would contribute to the amount of ROG and NO_x (precursors to ozone) and PM₁₀ in the area and could lead to additional violations of ozone and PM₁₀ standards. Given the dense urban nature of the proposed residential units in this development and occasional existing air quality violations of PM₁₀ in the area, PM₁₀ in wood smoke from fireplaces and wood stoves could be a health concern to existing and project residents. Studies have indicated that wood smoke can account for 30–80 percent of the PM₁₀ in a residential area depending on use and meteorological conditions. In addition, wood burning generates carbon monoxide and toxic air pollutants such as benzene and dioxin (Bay Area Air Quality Management District 2007). PM₁₀ in wood smoke from fireplaces would be a significant impact.

Significance Level Before Mitigation: Significant.

Mitigation Measure AQ-2a: Design homes to include certified woodstoves and outdoor electrical outlets.

The applicant will ensure only EPA Phase II certified stoves are installed in each home. All woodstoves manufactured since 1988 must be EPA certified, which means they use one-third less wood to produce the same heat and emit 50 to 60 percent less air pollution than older stoves.

All residential structures will also be equipped with electric outlets in the front and rear of the structure to facilitate use of electrical lawn and garden equipment.

These measures will be a condition of approval of the final subdivision map by the County.

Mitigation Measure AQ-2b: Provide sidewalks and bike routes on all project roads and establish opportunities for transit.

Implement Mitigation Measure TT-6.

Significance Level After Mitigation: Significant and unavoidable because no feasible mitigation measures have been identified that would reduce the operational emissions on all days to levels that would not substantially contribute to potential air quality violations of PM₁₀ or ozone in the project vicinity. Although implementation of the mitigation measures would reduce localized operational emissions, the emissions would not be reduced to acceptable levels.

Impact AQ-3: Project traffic would increase CO concentrations at intersections, but would not expose sensitive receptors to substantial CO concentrations.

Traffic volumes along SR 20 are currently less than 30,000 vehicles/day. The project would add approximately 10,497 daily trips to roads in the project vicinity, including SR 20.

Local CO concentrations were estimated using Caltrans' CALINE4 air dispersion model and the results of the traffic study (Appendix C). Although the area is designated as unclassified with state CO standards, and CO levels are declining due to improvements in vehicle engines, CO concentrations were modeled to identify any localized hot spot areas with high CO concentrations. CO concentrations were modeled at a total of five sensitive receptors along the most congested roadway (SR 20) identified in the traffic study.

The sensitive receptors included in the model range from 14 to 35 meters from the centerline of SR 20 between Carson and Jay Streets. Worst-case meteorological assumptions and EMFAC2002 vehicle emission factors were used to analyze existing, existing with project, and cumulative conditions.

As can be seen in Table 4.6-5, the emissions from the project would not exceed the CO standards and thus would be considered less than significant. The project would not expose sensitive receptors to substantial pollutant concentrations and does not include siting of sensitive receptors that would be considered inconsistent with the *Air Quality and Land Use Handbook* (CARB 2005); therefore, this impact would be less than significant.

Table 4.6-5. Estimated CO Concentrations at Selected Sensitive Receptors during the Peak Hour

Sensitive Receptor ^b	Averaging Time (hrs.)	Concentrations (ppm) ^a			
		State Standard	Existing (2006)	Existing Plus Project (2010)	Cumulative (2025)
R-1W	1	20	3.5	2.7	2.4
N of Carson Street	8	9	2.5	1.9	1.7
R-2E	1	20	3.5	2.7	2.4
N of Fremont Street	8	9	2.5	1.9	1.7
R-3W	1	20	3.4	2.7	2.3
N of Fremont Street	8	9	2.4	1.9	1.6
R-4E	1	20	3.1	2.5	2.3
N of Oak Street	8	9	2.2	1.8	1.6
R-5W	1	20	3.3	2.6	2.3
N of Oak Street	8	9	2.3	1.8	1.6

^a The one-hour and eight-hour CO analysis focuses on peak-hour traffic, calculated as 10% of the average daily traffic, because the project's effects on traffic congestion and related CO concentrations are greatest during that period. CO estimates shown above include background concentrations for 1-hour and 8-hour as calculated according to the *Guide to Air Quality Assessment in Sacramento County*, the nearest county with the available information; ppm=parts per million.

^b Other receptors farther from the project vicinity would experience lower CO concentrations, and the impact would also be less than significant.

Significance Level: Less than significant because the project would not expose sensitive receptors to substantial CO concentrations.

Impact AQ-4: The proposed wastewater treatment facilities could create objectionable odors and create a nuisance for project residents.

As a general matter, the types of land use development that pose potential odor problems include refineries, chemical plants, wastewater treatment plants, landfills, composting facilities, and transfer stations. As proposed, wastewater treatment facilities would occupy a 34-acre site south of the development area that is currently used for industrial process wastewater disposal (land application). The treatment plant would maintain a 150-foot buffer on all sides and would be one mile southeast of the

nearest proposed residential unit. Existing residential units are further north and northwest. The facility would include passive and active odor control systems.

The wastewater treatment facilities could create objectionable odors and result in complaints from project residents. Although the facilities would be located more than one mile south of the nearest residential units, residents may notice odors when the wind blows to the north. Although odors do not generally create safety concerns, they could pose a nuisance to project residents. Also, if operations are not efficient or upset conditions occur, odors could have an adverse impact on non-residential and residential land uses in the project area, which would be a significant impact.

Significance Level Before Mitigation: Significant.

Mitigation Measure AQ-4: Implement an Odor Management Plan to identify procedures for reducing odors.

The County will require the applicant to prepare an Odor Management Plan prior to issuance of building permits for the wastewater facility. The plan should be submitted to CCAQMD for review and comment in addition to being approved by the County. This plan will provide an adaptive approach for the operator to respond to odor complaints and revise operations as necessary. The operator will coordinate with the CCAQMD to ensure that the operator is notified of all odor complaints received regarding the facility. The plan will discuss this complaint response protocol and include progressive measures to be made in the event of repeated, verified complaints. The plan will describe the location of odor-sensitive receptors within two miles of the site, meteorological conditions affecting migration of odors from the site, and preventive procedures being implemented to minimize odors. When the operator or CCAQMD staff verifies strong odors at off-site receptors, the operator will make changes in site operations to reduce the potential for odors. Odors may be reduced by installing additional odor control equipment, removal and disposal of odiferous compounds, making process/treatment modifications, or other activities.

Significance Level After Mitigation: Less than significant because implementation of an Odor Management Plan would ensure minimal odor impacts on nearby residents.

Significant and Unavoidable Impacts

Impact AQ-1: Construction activities would generate dust and produce vehicle emissions that would exceed established emissions thresholds for ROG, NO_x, and PM₁₀.

Impact AQ-2: Project traffic and residential and commercial operations would result in long-term stationary and mobile emissions that would exceed air quality thresholds for ROG, NO_x, and PM₁₀.

4.7 UTILITIES AND SERVICE SYSTEMS

This section describes the existing water supply, sewer, wastewater treatment, and drainage facilities in the project area and evaluates the capacities of the service systems to serve the project. The section includes a summary of applicable regulations and policies; a description of the existing service systems in the area; an impact analysis; and mitigation measures, as necessary, to reduce significant effects.

4.7.1 Setting

Regulatory Setting

Federal

The **Safe Drinking Water Act** (SDWA, 43 USC 300) protects public health by regulating the nation's public drinking water supply. It requires many actions to protect drinking water and its sources: rivers, lakes, reservoirs, springs, and groundwater wells. The EPA sets national health-based standards for drinking water to protect against both naturally-occurring and man-made contaminants that may be found in drinking water. EPA has delegated its authority for enforcement of the SDWA to the Department of Health Service (DHS) in California.

DHS adopts and enforces primary and secondary drinking water standards consistent with drinking water standards established by the EPA under the SDWA and the DHS Drinking Water Program. This program regulates public drinking water systems, oversees water recycling projects, permits water treatment devices, and certifies drinking water treatment and distribution operators.

State

Senate Bill (SB) 610 (Chapter 643, Statutes of 2001) requires urban water suppliers that obtain water from a public water system to prepare a water supply assessment (WSA) for large projects, including residential subdivisions of 500 or more dwelling units and commercial office buildings having more than 250,000 square feet. The bill requires that additional information be provided in the area's urban water management plan if groundwater is identified as a source available to the supplier. This information includes a copy of any groundwater management plan adopted by the supplier, a copy of the adjudication order or decree for adjudicated basins, and if non-adjudicated, whether the basin has been identified as being overdrafted or projected to be overdrafted in the most current DWR publication on that basin. If the basin is in overdraft, that plan must include current efforts to eliminate any long-term overdraft. Although the proposed project is too small to be subject to SB 610's requirements, a water sufficiency study similar to a WSA was prepared for the project to analyze the ability of the existing groundwater wells to serve the project and the project's effects on ground water (Appendix F).

In compliance with the **Porter-Cologne Water Quality Control Act** (California Water Code Sec. 13000 et seq.; see Section 4.8 Hydrology and Water Quality), RWQCBs issue a Waste Discharge Requirements (WDR) permit for pollutant discharges to waters of the state. Pollutant discharges to high quality waters are subject to the SWRCB non-degradation policy (Resolution 68-16) for high quality waters.

The **California Integrated Waste Management Act** (AB 939) provides that every county must divert (reduce, reuse, or recycle) at least 50 percent of solid waste generated each year (California AB 939). AB 939 was designed to increase landfill life by diverting solid waste from landfills within the state and conserving other resources through increasing recycling programs and incentives. AB 939 requires that counties prepare Integrated Waste Management Plans to implement landfill diversion goals and requires that cities and counties prepare and adopt Source Reduction and Recycling Elements (SRRE). The Colusa Countywide Siting Element (CSE) describes current disposal options for County residents. The CSE identifies the existing solid waste disposal facilities, their location, the owner/operator, maximum permitted daily and yearly disposal rates quantified in both tons and cubic yards, estimated remaining life, permitted waste types, and average daily waste received.

Local

The Community Services Element of the **Colusa County General Plan** (Colusa County 1989) provides policies for water supply, wastewater, drainage, and solid waste. It identifies policies to protect and obtain information on groundwater in the County because it is used as a source for water supply. Policies regarding service districts encourage existing districts to expand or merge to provide service for new development areas. It also provides policies that encourage use of sewer systems as opposed to septic tanks in urban areas and that ensure economically feasible and environmentally sound wastewater treatment service. The Community Services Element provides policies for flood control and drainage improvement projects that encourage County-wide planning and minimizing adverse effects on natural creeks and riparian vegetation. Development is also discouraged in the 100-year floodplain to minimize the need for new flood control structures and drainage improvements. It provides policies to evaluate the need for new or modified solid waste facilities and encourage recycling and proper disposal of solid waste.

Environmental Setting

Water Supply Service

Most communities in Colusa County utilize groundwater wells for their water supply. The nearby City of Colusa provides water supply for its residents via five groundwater wells, which produce approximately 3.17 million gallons of water per day (City of Colusa 2007b). A sixth well provides emergency water supply, as needed. The wells are located throughout the City; the closest well to the project area is approximately 1.5 miles to the northwest. Groundwater is pumped to two storage tanks in the northern portion of the City, near the Sacramento River, using a single diesel generator, and the chlorine-treated water is distributed via pipelines to residents within the city limits. The wells provide sufficient capacity for the City's current population.

CIP operates a non-community water system, the Colusa Industrial Properties Water System, under a Domestic Water Supply Permit, issued by the California Department of Health Services on September 19, 2003 (Permit No. 01-21-03(P)06001). The system provides domestic water supply to the existing commercial and industrial tenants in the Park and the adjacent golf course. The system includes two permitted groundwater wells and provides chlorination treatment. The system also includes a 50,000-gallon fire-water storage tank. In compliance with the permit, CIP monitors the two wells on a quarterly basis and submits water quality reports to the DHS.

The well site containing the two groundwater wells is located in the southern portion of the development area, just west of the drainage ditch (see Figure 3-3). Well 1 is the current active source and is equipped to produce 650 gallons per minute (gpm). Well 2 is a stand-by source that is equipped to produce 1,100 gpm. The wells work in conjunction with a 5,000-gallon pressure tank to provide adequate pressure in the system for the existing users. Both wells have capacity to produce a total of 1,750 gpm or 2.5 mgd. The current estimated use of the wells by the existing customers is approximately 132,150 gpd (average day demand) for office and industrial users (California Engineering Company 2006).

Pipelines connect the well site to the offices in the northeast corner of the Park via Sunrise Boulevard and to the industrial facilities from the western sides of the buildings. The pipes range in diameter from 8 to 14 inches within the Park. A 2-inch pipeline connects the clubhouse within the Colusa Golf and Country Club to an 8-inch pipeline under Davison Court.

Wastewater and Sewer Service

Colusa County does not provide wastewater collection or treatment services to the unincorporated areas. Most communities utilize septic tanks. Maxwell, Princeton, and Arbuckle have Public Utilities Departments that provide sewer and water services to their respective communities.

Industrial tenants within the Park generate wastewater as a result of industrial processing activities. This wastewater is disposed of on land in the southern portion of the Park and used to grow rice straw and other crops. The total available acreage for land application is 627 acres. Domestic wastewater generated by the existing tenants (offices and industrial buildings) is discharged to septic tanks or septic tank/leachfield systems, which are permitted by the County. Grey water from the septic tanks is disposed of in a lined evaporation/percolation pond in the southern portion of the Park (Pond 1 on Figure 3-3), southwest of the airport. Wastewater treatment service is not currently provided within the Park.

Portions of the project area are within the City of Colusa's Sphere of Influence (City of Colusa 1994). The City operates a wastewater treatment facility to provide sewer collection and treatment service for the City residents. The plant is located southwest of the City (approximately 1.5 miles west of the project area). The plant currently has capacity to treat 0.9 mgd, of which the current flow is 0.5 mgd (City of Colusa 2007b). The City is planning improvements to the facility to upgrade the facility to a tertiary treatment level, but reduce its capacity to 0.7 mgd by the end of 2008 (City of Colusa 2007a). The upgrades would bring the facility into compliance with the Clean Water Act, effluent discharge requirements, and Central Valley RWQCB requirements.

Drainage Service

The unnamed ditch in the Park conveys flows from the northeast portion of the City of Colusa as well as flows from the Park. The ditch, also referred to as a conveyance lateral, originates in the City and runs through the Colusa Golf and Country Club, the Park, and adjacent private property (California Engineering Company 2006). At the west end of the Park, flows in the ditch are conveyed through a 36-inch pipe under a levee at Wescott Road (during low flows) or pumped through the levee (during high flows) to a borrow ditch that empties into the Colusa Trough (2047 drain), which conveys flows south and east to the Sacramento River. CIP operates the pump station at the levee. During periods of high flow, they close the 36-inch pipe with a slide-gate. When the pipe is closed off, the land immediately upstream serves as a detention basin to store water. The pump is typically operated when the water level in the basin reaches an elevation of approximately 42 feet (California Engineering Company 2006).

The portion of the ditch north of Farinon Road (within the proposed development area) has an estimated capacity to drain approximately 105 cubic feet per second (cfs) (California Engineering Company 2006). Flows from the City are reduced to 7 cfs where the ditch crosses under SR 20 upstream of the Park because of twin 24-inch culvert pipes. The golf course and Country Club Estates (a residential community between SR 20 and Wescott Road, north of the Park) contribute flows of approximately 33 cfs. Runoff from the existing office and commercial buildings in the north end of the Park is estimated at 8 cfs. The existing offices drain into 8- to 24-inch storm drains, which discharge into the ditch.

In 2006, CIP constructed a small detention basin to collect runoff from SR 20 and from a future 36-inch pipe designed to redirect some flows from the City (California Engineering Company 2006). The detention basin was designed in conjunction with Caltrans and has a capacity of approximately 1.1 million cubic feet, or about 25 acre-feet, and a design flow of about 150 cfs. The basin has an outlet pipe that regulates the quantity of flows being discharged into the ditch upstream of Farinon Road.

Solid Waste Service

Colusa County does not provide solid waste collection services to the unincorporated areas. NorCal Waste Systems currently provides collection services for the Park. The City of Colusa provides these services for its residents within the city limits.

The County has one operating landfill and one transfer station. The Stonyford Disposal Site landfill is located south of Stonyford in northwestern Colusa County and serves communities west of the Tehama-Colusa Canal. Communities east of the canal are served by the Ostrom Road Landfill in Yuba County. The Maxwell Transfer Station is located about 15 to 20 miles northwest of the project area, south of the community of Maxwell. Solid waste collection services transport waste to the transfer station from communities in eastern Colusa County, where the waste is processed and transported for final disposal at the appropriate landfill. The transfer station is operated by NorCal Waste Systems and is located on 3 acres of land and has a permitted capacity to receive up to 150 tons of waste per day (Colusa County 2006). The Ostrom Road Landfill encompasses 261 acres, with 225 acres permitted as a Class II Landfill. The permitted capacity of the landfill is more than 41 million cubic yards, and approximately 40 million cubic yards were estimated as remaining in 2004 (CIWMB 2006). The landfill can receive up to 3,000 tons of solid waste per day and has an expected closure date of 2066 (Norcal Waste Systems 2006).

The CIWMB provides solid waste generation rates which estimate the approximate range of waste created by residences or businesses over a certain amount of time. Waste generation includes all materials discarded, whether or not they are later recycled or disposed in a landfill (CIWMB 2007). There are about 36,580 square feet of existing office buildings in the project area, which produce approximately 1.0 ton/day of solid waste.

4.7.2 Impact Analysis

Methodology

The environmental setting characterizes the existing water supply, wastewater, drainage, and solid waste services in the area and identifies providers for the project. The impact analysis evaluates potential adverse environmental effects of new facilities needed to serve the project. The ability of each utility system to service the project's residential, commercial, and office uses was assessed based on the system's available or planned capacity. A water sufficiency analysis was prepared for the project to assess the ability of the existing groundwater wells to serve the project's proposed uses (Appendix F).

Criteria for Determining Significance

Adverse impacts related to utilities and service systems would be considered significant if the project would:

- Create a substantial demand for water supplies that cannot be met by existing or planned water supply entitlements or facilities.
- Create a substantial demand for wastewater collection and treatment services that cannot be met by existing or planned wastewater facilities.
- Result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Exceed wastewater treatment requirements of the Central Valley RWQCB.

- Result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Generate a substantial amount of solid waste that exceeds the permitted capacity of a landfill identified to serve the project.
- Not comply with federal, state, and local statutes and regulations related to solid waste.

Impacts and Mitigation Measures

Impact U-1: The project would increase water supply demand by 290 gallons per minute, but capacity of existing groundwater wells in the Park (1,750 gallons per minute) would not be exceeded.

Current uses in the project area utilize a water supply of approximately 90 gpm. The addition of residential homes, commercial uses, and new offices would require an additional water supply of 290 gpm. The project's water supply would be provided by the Park's existing, permitted groundwater wells. The two wells have capacity to supply up to approximately 1,750 gpm. Available capacity of the wells is more than sufficient to supply the estimated demands associated with the project (Appendix F); therefore, impacts would be less than significant.

Significance Level: Less than significant because existing groundwater wells would be capable of serving the project.

Impact U-2: The project would increase wastewater volumes by 90,000 gallons per day, but the planned wastewater facilities will accommodate this demand, and the facilities would not cause significant environmental effects.

The existing wastewater system in the Park is not permitted to serve residential uses. Septic tanks are also not a viable option for the project because they would be difficult to maintain and would not treat wastewater to regulatory standards.

Wastewater treatment for the project would be provided by the proposed wastewater treatment facility. The facility would be operated by either a newly formed county service area or the City of Colusa; either alternative would require LAFCO approval. This facility has been designed to provide domestic wastewater treatment services for the existing industrial and office customers within the Park in addition to the project's proposed residential and commercial uses. The facility would have a permitted capacity to treat a maximum peak day flow of 200,000 gpd and maximum month day flow of 100,000 gpd. Based on the proposed land uses, the project would generate about 90,000 gpd of wastewater (average dry weather flow).

The new wastewater facility would be located on one acre of land in an area currently used for agricultural fields and disposal of industrial process wastewater. The facility would include a 1,526-square foot building, 532-square foot filtration yard, and land disposal area (approximately 34 acres). Wastewater would be treated to tertiary standards, and the treated effluent would be discharged to agricultural fields adjacent to the building for land disposal. Specific details of the facility's impacts on the environment are discussed in other sections of the EIR. RWQCB permits would be needed to ensure compliance with waste discharge requirements and water quality objectives for the region. Based on conclusions from other sections, the facility would result in less than significant impacts on the environment.

Significance Level: Less than significant because the proposed wastewater facilities would be capable of serving the project and would not result in substantial adverse effects on the environment.

Impact U-3: Project drainage facilities would accommodate additional stormwater runoff, but the downstream drainage ditch may exceed capacity during major storm events and result in significant environmental effects.

The project proposes to construct new facilities and expand existing facilities to drain stormwater and runoff from the development area. Surface flows from the development would be directed into underground storm drains designed to accommodate the 100-year storm event. Each drain has been individually sized to convey the 100-year storm event from the drainage area (California Engineering Company 2006). Pipelines would range from 15 to 54 inches in diameter with capacity to convey up to 28.4 mgd in the largest drains.

Ground disturbance from the drainage facilities would affect approximately 10,771 linear feet of soils, which could affect biological and cultural resources and could facilitate erosion in the disturbed areas. The amount of ground disturbance associated with the drainage facilities would be minimal and would be followed by development of the project area, which would result in greater impacts. Based on the analyses in other sections of this EIR, environmental effects from drainage facilities would be less than significant.

During periods of the year when storms cause downstream drainages to reach or exceed capacity, the project's runoff may exceed capacity of the unnamed drainage ditch, resulting in flooding along the ditch and on adjacent land (see Sections 4.8 Hydrology and Water Quality and 4.10 Hazards and Hazardous Materials). Although project drainage facilities would be able to accommodate project runoff during storm events, the capacity of downstream drainages could be exceeded and cause flooding and increased erosion, which would result in a significant impact.

Significance Level Before Mitigation: Significant.

Mitigation Measure U-3a: Maintain, and widen as necessary, the unnamed ditch from the southern end of the development to the Park boundary.

Implement Mitigation Measure HWQ-2a.

Mitigation Measure U-3b: Implement a Master Drainage Plan to assure downstream drainages will accommodate project runoff.

The County will require the applicant to submit a Master Drainage Plan to the Department of Public Works for review and approval prior to approval of subdivision maps. The Master Drainage Plan may be an update to the existing Draft Storm Drain Master Plan Report, within the Wet Utility Master Plan for the project (California Engineering Company 2006). The Plan should identify downstream improvements such as channel widening needed to accommodate project runoff. It should include details on funding, maintenance, and operation of the improvements and measures to assure their construction would not cause significant environmental effects.

Significance Level After Mitigation: Less than significant because improvements to the unnamed ditch and the Master Drainage Plan would reduce the potential for flooding while avoiding significant environmental effects.

Impact U-4: The project would generate 5.2 tons/day of solid waste, but transfer station and landfill capacity is sufficient to accommodate this increase.

Based on rates from the CIWMB, the proposed residential, commercial, and office uses in the project area would generate approximately 5.2 tons/day of solid waste. Although the project would increase the demand for solid waste services, the project's solid waste would not exceed the Ostrom Road Landfill or Maxwell Transfer Station's maximum daily capacities. Because existing solid waste services and facilities would be adequate to serve the development area, impacts would be less than significant.

Significance Level: Less than significant because existing solid waste facilities would be capable of serving the project.

Significant and Unavoidable Impacts

None.

4.8 HYDROLOGY AND WATER QUALITY

This section describes surface and groundwater resources in the project vicinity. The discussion of ground water is based on a water sufficiency study prepared for the project (Appendix F). The impact analysis discusses the potential for the project to affect surface and ground water quantity and quality. Mitigation measures are identified for significant impacts, followed by determinations of the residual impact significance after mitigation measures are implemented.

4.8.1 Setting

Regulatory Setting

Federal

The **Clean Water Act (CWA)** (33 USC 1251–1376), as amended by the Water Quality Act of 1987, is the major federal legislation governing water quality. The objective of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” Important sections of the CWA are as follows:

- Sections 303 and 304 provide for water quality standards, criteria, and guidelines.
- Section 401 (Water Quality Certification) requires an applicant for any federal permit that proposes an activity that may result in a discharge to waters of the United States to obtain certification from the state that the discharge will comply with other provisions of the Act.
- Section 402 establishes the **National Pollutant Discharge Elimination System (NPDES)**, a permitting system for the discharge of any pollutant (except for dredged or fill material) into waters of the United States.
- Section 404 establishes a permit program for the discharge of dredged or fill material into waters of the United States. This permit program is jointly administered by the U.S. Army Corps of Engineers (USACE) and the EPA.

In California the NPDES program is administered by the State Water Resources Control Board (SWRCB). The SWRCB or Regional Water Quality Control Board (RWQCB) issues permits on behalf of the EPA for activities that could cause impacts to surface and ground water sources, including construction activities. The SWRCB also administers water rights, water pollution control programs, and water quality functions throughout the state. Regional authority for planning, permitting, and enforcement is delegated to nine RWQCBs. The RWQCBs are required to formulate and adopt water quality control plans for all areas within their respective regions and establish water quality objectives in the water quality control plans, issue WDRs, take enforcement action against violators, and monitor water quality. The project area lies within the jurisdiction of the Central Valley RWQCB.

As mandated by the **Safe Drinking Water Act** (SDWA, Public Law 93-523) passed in 1974, the EPA regulates contaminants of concern to domestic water supply. Contaminants of concern relevant to domestic water supply are defined as those that pose a public health threat or that alter the aesthetic acceptability of the water. EPA regulates these types of contaminants through the development of national primary and secondary maximum contaminant levels (MCLs) for finished water. In California, the DHS administers the SDWA.

State

The **Porter-Cologne Water Quality Control Act** (Act) is California's statutory authority for the protection of water quality (California Water Code Sec. 13000 et seq.). Under the Act, the state must adopt water quality policies, plans, and objectives that will provide protection to the state's waters for the use and enjoyment of the people of California. The Act sets forth the obligations of the RWQCBs pertaining to the adoption of water quality control plans (Basin Plans) and establishment of water quality objectives, and authorizes the SWRCB and RWQCBs to issue and enforce permits containing WDRs. Basin Plans are the regional water quality control plans required by both the Clean Water Act and the Porter-Cologne Act in which beneficial uses, water quality objectives, and implementation programs are established for each of the nine regions in California. The Act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or otherwise) to land or surface waters that may impair a beneficial use of surface or ground water of the state.

The SWRCB and RWQCB enforce the NPDES program under the Clean Water Act. As part of this program, projects that would disturb more than one acre of land are required to obtain coverage under the **General Permit for Discharges of Storm Water Associated with Construction Activity** (Construction General Permit, 99-08-DWQ). Construction activity subject to this permit includes clearing, grading, and disturbances to the ground such as stockpiling or excavation. For the project area, this permit would be issued by the Central Valley RWQCB.

As part of project implementation, a **Stormwater Pollution Prevention Plan** (SWPPP) must be developed and implemented to comply with conditions of the General Permit. The SWPPP must include site-specific information on erosion and sediment controls and must list best management practices (BMPs) that will be installed to reduce pollutants and meet water quality standards. As part of the SWPPP, the applicant must implement Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) to reduce or eliminate stormwater pollution. Dischargers must also comply with water quality objectives as defined in the Basin Plan (RWQCB 1998).

In 1994, the **Water Quality Control Plan – Central Valley Region Sacramento and San Joaquin River Basins** (the Basin Plan) was adopted by the Central Valley RWQCB (amended in 1998). The Basin Plan lists general beneficial uses for water bodies in the Sacramento River Basin. Adverse effects to these beneficial uses should be carefully considered during the review of a proposed project. Beneficial uses are

the desired resources, services, and qualities of the aquatic system that are supported by achieving and protecting high water quality. Beneficial uses are specific to the water body and can vary from water body to water body. Where beneficial uses have not been assigned to a specific water body, the tributary rule applies. The tributary rule applies the beneficial uses of the nearest downstream water body to the specified water body.

Primary issues for waters in the Central Valley region are associated with construction impacts of erosion and sedimentation from the project, stormwater management (including detention and treatment), groundwater contamination, wetlands disturbance, and compliance with prohibitions on waste discharges due to land development. The discharge prohibitions and limitations in permits are designed to ensure the maintenance of public health and safety, protection of receiving water resources, and safeguarding of the designated beneficial uses (RWQCB 1998).

Local

The **Colusa County General Plan** identifies goals and objectives to “encourage a balanced mix of conservation, utilization, and development of Colusa County’s natural resources.” The Conservation Element recommends policies intended for the preservation, management, and utilization of the County’s water resources. Applicable policies include CO-13, which prohibits the placement of waste disposal sites and other sources of hazardous or polluting materials in close proximity to waterways, and Policy CO-14, which calls for the minimization of sedimentation and erosion through the control of construction, recreational, and agricultural activities (Colusa County 1989).

Environmental Setting

Regional Hydrology

With respect to surface water, the project area is located within the Sacramento River Hydrologic Region, which encompasses approximately 26,500 square miles. The Sacramento River Basin is bounded by the Sierra Nevada to the east, the Coast Range to the west, the Cascade Range and Trinity Mountains to the north, and the Delta area to the south. The average runoff from the basin is estimated to be 21.3 million acre-feet per year. The project area is situated within the Sycamore-Sutter hydrologic subarea, which straddles the Sacramento River (Figure 4.8-1). The subarea is approximately 30 miles long and encompasses about 380 square miles within the Sacramento River Basin.

The Sacramento River is the principal stream in the basin and is located a little over ½-mile to the east of the project area. The melting snow pack in the Sierra Nevada, in combination with the operation of numerous reservoirs within the system, maintains flow in the Sacramento River year round. Major tributaries to the Sacramento River are the Pit and McCloud Rivers, which join the river from the north, and the Feather, Yuba, and American Rivers, which are tributaries from the east. Numerous tributary creeks flow from the east and west. Beneficial uses for surface waters of the region include municipal, agricultural, industrial, and recreational uses, freshwater habitat, migration and spawning, navigation, and wildlife habitat (RWQCB 1998).

The climate in the region is semi-arid with hot, dry summers and wet, mild winters. Surface runoff from the project area results mainly from precipitation, which occurs principally from November through March with an average annual precipitation for the area of 15.8 inches. Extreme precipitation events are characterized by relatively long periods of intense rainfall resulting from ascending airflow caused by the terrain (orographic lifting). The 100-year storm event, or an event having a return period of once every

hundred years (one percent probability of occurring in any given year), generates rainfall of seven inches in a 24-hour period in the project area.

Figure 4.8-1. Regional Hydrology



With respect to groundwater resources, the project area is situated within the Colusa Subbasin of the Sacramento Valley Groundwater Basin. The Colusa Subbasin ranges from 3 to 9 miles in width and is bordered on the east by the Sacramento River and on the northwest, west, and south by the low alluvial plains and fans of the Coast Ranges (Appendix F). The prominent non-marine water-bearing stratigraphic units that underlie the Colusa Subbasin are (from youngest to oldest): the present-day stream channel and basin deposits and the Tehama Formation.

Surface Water Resources

Hydrology. Several rivers, streams, drainages, and lakes occur within 10 miles of the project area and include the Sacramento River, Powell Slough, Hopkins Slough, Colusa Drain, and Butte Creek (Figure 4.8-2). Hydrology for the Basin is generally straight forward, with the surface water features receiving recharge via precipitation or irrigation return flows. The Basin contains 13 significant watersheds that drain winter storm runoff and agricultural return flow into the region's main drainage facility, the Colusa Basin Drain. The drain is a man-made feature that collects and conveys irrigation return flows and storm runoff to the Knights Landing outfall gates in Yolo County, where drain waters discharge into the Sacramento River (Turek 1990). Occasionally the drain floods as a result of downstream drainages reaching capacity and forcing flows back into the drain (Hackney 2007). Flooding hazards in the project area and vicinity are discussed in more detail in Section 4.10 (Hazards and Hazardous Materials).

Elevations on the project area range from approximately 40 feet to approximately 50 feet above mean sea level. A small, unnamed drainage ditch, originating near the northern boundary of the Colusa Golf and Country Club, runs in a north to south direction through the project area. It is roughly six to eight feet deep, six feet across, and about four miles long (from the golf course to the boundary of the Park). This ditch collects and conveys stormwater from the eastern portion of the city of Colusa and the golf course. North of Farinon Road, the ditch has capacity to convey approximately 105 cfs or 67.9 mgd, based on its cross-section and physical properties (California Engineering Company 2006).

Runoff from the existing buildings and the highway (SR 20) flows into a 5.3-acre detention pond, which empties into the ditch. The detention pond has capacity to temporarily detain 100-year flows until the ditch drains downstream or can be pumped. A pumping system operated by CIP is located near the ditch's exit point from the Park (at the southeast end of the Park at Wescott Road). This pumping system provides the means to drain the ditch during or following major storm events or when the ditch is near capacity (see Section 4.7 Utilities and Service Systems). The ditch is unlined and heavily vegetated in some areas, although vegetation is removed from the ditch on a regular basis (Bolen 2006). The drain water that enters the ditch is eventually delivered into the much larger Colusa Drain approximately 3.5 miles southwest of the project boundary.

Water Quality. Considerable erosion and sediment production occurs within the Sacramento River Basin and is an increasing problem associated with residential and commercial development as well as farming and silvicultural operations (RWQCB 1998). A significant area of concern that has been identified as a source of suspended sediment is bare soil that is associated with construction sites.

The Basin Plan (RWQCB 1998) establishes beneficial uses of waters with the Central Valley and water quality objectives to achieve or maintain those uses. Table 4.8-1 is an inventory of beneficial uses for the Colusa Drain and Sacramento River.

Table 4.8-1. Beneficial Uses and Support Characteristics of the Sacramento River and Colusa Drain

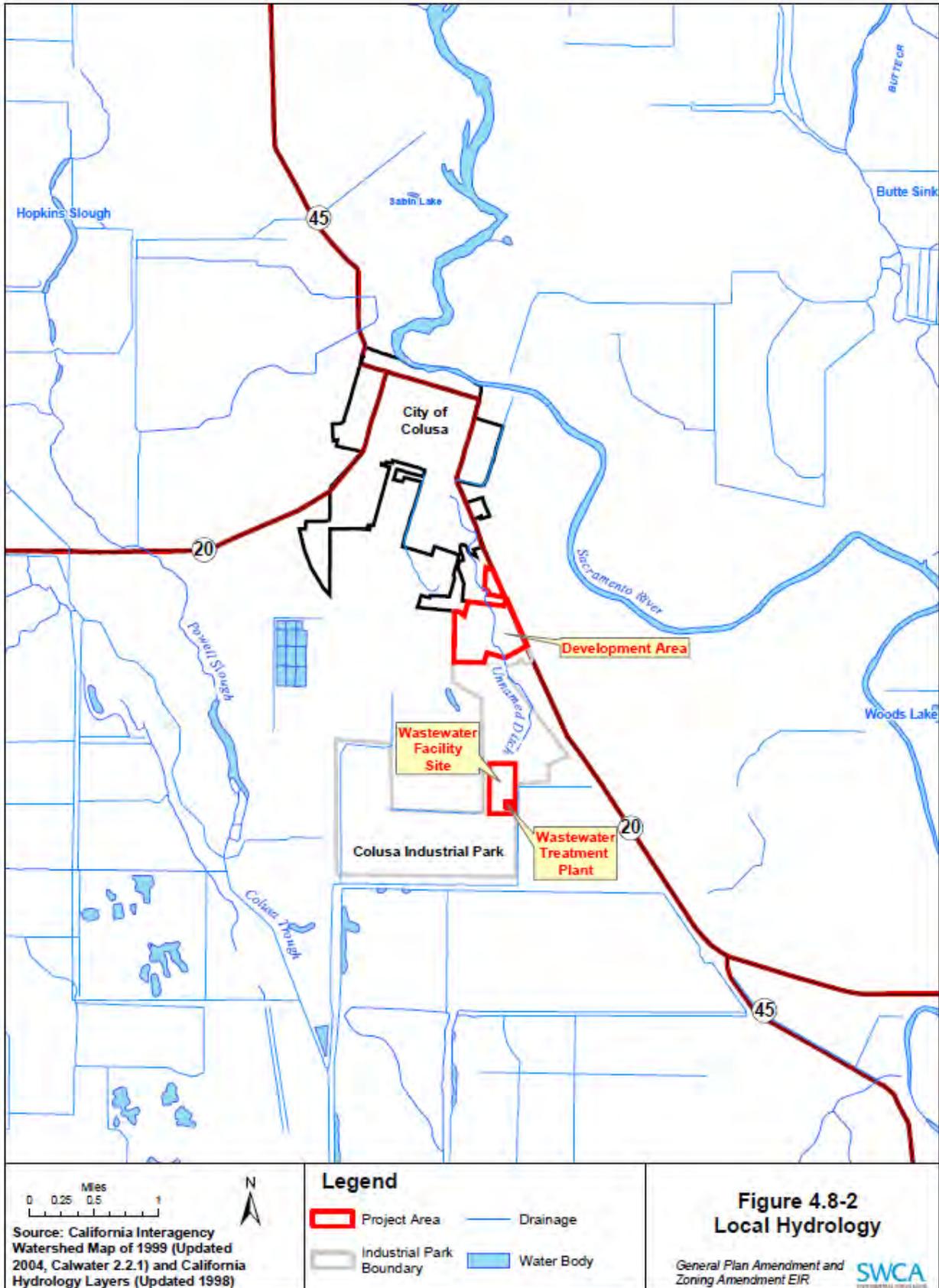
Surface Water	Beneficial Use	Type of Use	Support
Colusa Drain	Agriculture	Irrigation	Existing
		Stock Watering	Existing
	Recreation	Contact	Existing
		Canoeing & Rafting	Existing
	Freshwater Habitat	Warm	Existing
		Cold	Potential
	Migration	Warm	Existing
	Wildlife	Habitat	Existing
Sacramento River – Below Colusa Drain	Municipal	Municipal & Domestic Supply	Existing
	Agriculture	Irrigation	Existing
	Recreation	Contact	Existing
		Canoeing & Rafting	Existing
		Non-Contact	Existing
	Freshwater Habitat	Warm	Existing
		Cold	Existing
	Migration	Warm	Existing
		Cold	Existing
	Spawning	Warm	Existing
		Cold	Existing
Wildlife	Habitat	Existing	
Navigation	Navigation	Existing	

Source: RWQCB 1998

Groundwater Resources

Hydrology. The Sacramento Valley is a large geological trough filled with sediments having variable permeabilities. In the vicinity of the project area, basin deposits extend from ground surface to a depth of approximately 150 feet below ground surface (bgs). These deposits consist of brown clays with a few isolated gravel beds with approximate thicknesses ranging from 1 to 2 feet. The Tehama Formation extends from a depth of approximately 150 feet bgs to a depth of approximately 1,700 feet bgs. The existing Park wells are both believed to extract water from the Tehama Formation.

Figure 4.8-2. Local Hydrology



In the vicinity of the project area, groundwater levels within the Colusa Subbasin have been fairly stable since the 1930's, with no notable increasing or decreasing trend over time. Static water levels range from at ground surface to approximately 20 to 30 feet bgs. Depth to ground water in the project area is very shallow, ranging from 2 to 8 feet bgs (CH2MHill 2006). Groundwater extraction for the entire subbasin in the 1990s was estimated at 112,703 million gallons (346,000 acre-feet), with the primary sources being agriculture, municipal or industrial, and wetlands (California Department of Water Resources 2006). In 2000, the most recent year with available data, approximately 105,000 million gallons per year (mgy) of groundwater and 229,000 mgy of surface water were used within Colusa County (California Department of Water Resources 2006). The vast majority of groundwater pumped within the County (nearly 99%) was used for irrigation. The other major uses of groundwater were public supply (1,175 mgy) and self-supplied domestic use (175 mgy). Despite the amount of ground water used in the County, there have been no indications of overdraft within the Colusa Subbasin or in the region of the project area (City of Colusa 2007a). In fact, when groundwater levels are at ground surface and there is no remaining storage space for ground water, recharge will likely be refused.

Groundwater flow direction below the project area is variable with season and land disposal of industrial process wastewater, most recently flowing from northwest to southeast (CH2MHill 2006). Because of the characteristics of the groundwater aquifer and distance of the Park well site to domestic groundwater wells in the City (see Section 4.7 Utilities and Service Systems), pumping from the Park's wells does not likely affect other domestic water supply wells in the area (see Appendix F).

Water Quality. Groundwater sources in the Colusa Basin are of good quality and are considered Class I for agricultural use (Turek 1990). Ground water, however, is generally of lesser quality than that of Sacramento River water delivered to the basin via irrigation canals.

In the vicinity of the project area, iron and manganese are frequently present in elevated concentrations, sometimes exceeding the DHS Maximum Contaminant Levels (MCL) for these constituents. These MCLs are secondary, or aesthetic, rather than health-based. Arsenic can be encountered in concentrations that approach the primary, health-based MCL. Groundwater quality in the project area exhibits relatively high concentrations of total dissolved solids (TDS) (1,647 mg/L), low concentrations of nitrates (1.67 mg/L), and relatively high concentrations of total coliform (2,164 MPN/100 mL) (CH2MHill 2006). Neither well exceeded the MCL for iron, manganese, or arsenic during sampling in 2006 (Appendix F). Water from both wells, however, has a notable sulfur odor. Slightly increased nitrate concentrations in one well have resulted in installation of a pond liner (Pond 1) to control releases from domestic grey water (CH2MHill 2006).

4.8.2 Impact Analysis

Methodology

The environmental setting is based on a review of available literature, including the Sacramento River and San Joaquin River Basin Plan (RWQCB 1998) and 2005 Groundwater Technical Assessment Report (CH2MHill 2006), and results of groundwater well sampling in the project area during 2006 (Appendix F). The impact analysis evaluated the proposed land uses and construction activities to determine potential effects on existing surface and groundwater resources in the project vicinity. The significance of each impact was evaluated using the thresholds identified below, and mitigation measures were identified to reduce significant impacts.

Criteria for Determining Significance

Adverse impacts to hydrology and water quality would be considered significant if the project would:

- Violate any water quality standards or WDRs.
- Substantially degrade surface or groundwater quality through the discharge of point or non-point source pollutants, resulting in the loss of beneficial use of receiving waters.
- Substantially alter the existing drainage pattern of the site or area, including 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, erosion, or siltation on- or off-site.
- Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
- Otherwise substantially degrade water quality.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.

Impacts and Mitigation Measures

Impact HWQ-1: Project construction would result in a temporary discharge of pollutants into the unnamed drainage ditch running through the project area.

During construction of the project, land would be cleared and graded. Exposure of surface soils during construction activities would result in increased surface runoff and erosion. Soil disturbances associated with construction would be temporary because the disturbed ground surface would be paved in the residential and commercial areas and would be covered with sod or vegetation in the golf course area. Construction activities near the ditch would result in discharge of sediments into surface water in the ditch due to exposed soil and possibly soil erosion.

The sewer system would be constructed within existing road rights-of-way; however, some of the roads occur adjacent to the ditch. Construction activities along the roads adjacent to the ditch would cause an increase in erosion from the exposed soils and could result in increased sediment delivery into surface water in the ditch.

Increased soil erosion during construction activities could substantially degrade surface water quality of the ditch in the project area and downstream surface water features, including the Colusa Drain and the Sacramento River, which could affect the listed beneficial uses of these waters (Table 4.8-1) and cause a significant impact.

Significance Level Before Mitigation: Significant.

Mitigation Measure HWQ-1: Implement best management practices to control construction-related stormwater runoff, erosion, and sedimentation.

The County will require compliance with the Stormwater General Permit process prior to project implementation and issuance of grading permits. The applicant will file a Notice of Intent (NOI) for coverage under the Stormwater General Permit and prepare and submit a SWPPP to the Central Valley RWQCB. The SWPPP must contain a detailed mitigation plan for erosion and sediment control, including

plans for implementing BMPs for the control of stormwater runoff, erosion, and sedimentation. Typical BMPs include the following:

- Temporary erosion control measures (such as silt fences, staked straw bales, and temporary revegetation) shall be employed for disturbed areas. No disturbed surfaces would be left without erosion control measures in place during the winter and spring months.
- Sediment shall be retained onsite by a system of sediment basins, traps, or other appropriate measures.
- A spill prevention and countermeasure plan shall be developed which would identify proper storage, collection, and disposal measures for potential pollutants (such as fuel, fertilizers, pesticides, etc.) used onsite.
- Construction activities shall be scheduled to minimize land disturbance during peak runoff periods and restricted to the immediate area required for construction. Soil conservation practices shall be completed during the fall or late winter to reduce erosion during spring runoff. Existing vegetation would be retained where possible.
- Surface water runoff shall be controlled by directing flowing water away from critical areas and by reducing runoff velocity. Diversion structures such as terraces, dikes, and ditches shall collect and direct runoff water around vulnerable areas to prepared drainage outlets. Surface roughening, berms, check dams, hay bales, or similar devices shall be used to reduce runoff velocity and erosion.
- Sediment shall be contained when conditions are too extreme for treatment by surface protection. Temporary sediment traps, filter fabric fences, inlet protectors, vegetative filters and buffers, or settling basins shall be used to detain runoff water long enough for sediment particles to settle out. Store, cover, and isolate construction materials, including topsoil and chemicals, to prevent runoff losses and contamination of ground water.
- Topsoil removed during construction shall be carefully stored and treated as an important resource. Berms shall be placed around topsoil stockpiles to prevent runoff during storm events.
- Establish fuel and vehicle maintenance areas away from all drainage courses and design these areas to control runoff.
- Disturbed areas would be revegetated after completion of construction activities.
- All necessary permits and approvals shall be obtained.

Significance Level After Mitigation: Less than significant because implementation of best management practices would reduce impacts to surface water quality and minimize impacts to downstream beneficial uses.

Impact HWQ-2: Development in the project area would result in increased stormwater flows, which could affect water quality of downstream drainages.

Surface runoff from the project area drains into the unnamed ditch and is conveyed to the Colusa Drain and eventually the Sacramento River. Development of the project area would increase the volume of surface flows being discharged into the ditch and into downstream surface waters by approximately 85 cfs, or 54.9 mgd, during a 100-year storm event. During 10-year storm events, this volume would be approximately 58 cfs, or 37.5 mgd (California Engineering Company 2006). The unnamed ditch has capacity to convey up to 105 cfs and would be capable of receiving increased flows from the development area. However, during periods of the year when major storms cause downstream drainages to reach capacity, surface runoff may exceed capacity of the unnamed drainage ditch, resulting in flooding along the ditch and on adjacent land, such as the airport. The exposure of project residents to flooding is discussed in Section 4.10 (Hazards and Hazardous Materials). Flood events could affect water quality of

surface water in the drainage ditch by increasing sedimentation and pollutants in the surface water, resulting in adverse effects on water quality of downstream drainages.

Additionally, stormwater runoff from the development would contain nonpoint source contaminants and could adversely affect surface water quality. Contamination sources include chemical use (e.g., fertilizers, herbicides), oil drippings, and car wash soap and dirt. Pollutants would accumulate on paved areas (impermeable surfaces) until stormwater transports them off the site. The increase in impermeable surfaces would increase surface runoff. As a result of increased runoff, the unlined ditch would be subject to increased erosion, resulting in increased sediment in downstream surface waters.

When CIP operates the pumping station at the downstream end of the Park (during high flows), some of the sediment and pollutants would settle as the water floods the land upstream of the pump, and it would not be pumped through the levee into downstream surface waters. However, when the pump is not operating or when substantial amounts of sediment and pollutants are present in the water during major flooding, the increased volume of runoff could convey increased sediment and pollutants to downstream surface waters, resulting in a significant impact on water quality.

Significance Level Before Mitigation: Significant.

Mitigation Measure HWQ-2a: Maintain, and widen as necessary, the unnamed ditch from the southern end of the development to the Park boundary.

The applicant will continue to maintain the unnamed ditch within the Park boundaries by periodically removing invasive vegetation and cleaning debris out of the ditch. Additionally, the applicant will coordinate with Colusa County and a qualified engineer to identify segments of the ditch that should be widened between the development area and the Park boundary to be more uniform throughout and be capable of receiving increased flows during periods of flooding. As necessary, the applicant will relocate portions of the ditch that are currently on other private property into the Park's boundaries. As part of this effort, the new ditch would be sized and configured to be uniform with other ditch improvements. Detailed plans for ditch widening will be submitted to the County for review and approval prior to issuance of grading permits and would be subject to subsequent environmental reviews. Ditch modifications will be subject to permitting under the Clean Water Act or Fish and Game Code Secs. 1600 et seq. Regular maintenance and widening the ditch will improve its capacity and allow it to receive increased runoff from the project with reduced erosion and flooding.

Mitigation Measure HWQ-2b: Implement and enforce a stormwater quality management plan and stormwater best management practices to manage urban runoff in the developed area.

The County will require the applicant to prepare a stormwater quality management plan and implement BMPs to reduce pollutants in urban runoff, in compliance with the County's stormwater quality control measures. The stormwater quality management plan will be prepared by a registered civil engineer or a registered professional hydrologist in coordination with the Central Valley RWQCB and Colusa County and will be approved prior to issuance of grading permits. Project-specific stormwater BMPs will be incorporated into project design plans and approved by the County prior to issuance of grading permits.

A variety of stormwater BMPs are available for managing urban runoff. Stormwater BMPs are most effective when implemented as part of a comprehensive stormwater management program that includes proper selection, design, construction, inspection, and maintenance measures. Stormwater BMPs can be grouped into two broad categories: structural and non-structural. Structural BMPs are used to treat the stormwater at either the point of generation or the point of discharge to the storm sewer system or to receiving waters. Non-structural BMPs include a range of pollution prevention, education, institutional,

management, and development practices designed to limit the conversion of rainfall to runoff and to prevent pollutants from entering runoff at the source of runoff generation. Table 4.8-2 provides a summary of a variety of commonly used structural and nonstructural stormwater BMPs (EPA 1999 and California Stormwater Quality Association 2004).

Table 4.8–2. Typical Best Management Practices for Managing Post–Construction Urban Runoff

Best Management Practice	Purpose
General community outreach	Increase public awareness of the need to and how to control nonpoint source pollution
Catch basin cleaning	Capture and remove sediment and debris such as trash and leaf litter
Commercial and retail space: good housekeeping	Reduce pollutants in runoff by using porous pavement or modular paving systems for vehicle parking lots, limiting exposure of materials and equipment to rainfall, spill cleanup, using dry cleanup techniques instead of wet techniques, and limiting direct runoff of rooftops to storm drains
Pesticide/herbicide use	Reduce the amount of pesticides that are carried by urban runoff through education and using alternatives to pesticides, such as an integrated pest management program and insecticide soap or natural bacteria
Street cleaning program	Remove a significant portion of pollutants contributed from streets and parking lots
Filtration systems	Remove constituents found in runoff
Vegetated systems (biofilters)	Convey and treat either shallow flow (swales) or sheetflow (filter strips) runoff
Minimizing directly connected impervious surfaces	Reduce the amount of surface area directly connected to the storm drainage system by minimizing or eliminating traditional curbs and gutters

Mitigation Measure HWQ-2c: Implement a Master Drainage Plan to assure downstream drainages will accommodate project runoff.

Implement Mitigation Measure U-3b.

Significance Level After Mitigation: Less than significant because maintaining and widening the ditch would ensure its capability to convey increased flows and implementation of post-construction stormwater BMPs would reduce the amount and types of contaminants discharged into surface waters and would minimize impacts to downstream beneficial uses.

Impact HWQ-3: Development of the project area would result in a minor reduction in groundwater recharge in the Colusa Subbasin.

Development of the project area would result in an increase in impervious surfaces, which would increase surface runoff and decrease groundwater recharge in the project area. Surface runoff downstream of the

development area in the unlined detention basin and the unlined drainage ditch would result in some percolation into the ground water. The reduction in groundwater recharge would be minimal because the deposits that underlie the area are typically fine grained and less permeable, consisting mainly of clays, and do not allow significant recharge (Appendix F). The majority of recharge within the Colusa Subbasin occurs within the foothills where more coarse grained sediments are exposed at the surface and along streams and rivers, such as the nearby Sacramento River. Impacts to the Colusa Subbasin would be less than significant because of the minimal reduction in groundwater recharge.

Significance Level: Less than significant because the project would result in a minimal reduction in groundwater recharge.

Impact HWQ-4: Groundwater pumping for the project's water supply would increase groundwater use in Colusa County by 0.15 percent, and the effect on groundwater levels within the Colusa Subbasin would be minimal.

Groundwater pumping within the project area would increase by approximately 153 mgd based on the water sufficiency analysis for the project (Appendix F). The increased pumping could increase impacts to the aquifer beneath the project area, reduce available groundwater resources in the area, and potentially change aquifer flow directions. An analysis of water sufficiency found that groundwater resources in the project area are not in overdraft and that a 0.15 percent increase (153 mgd pumped by the project out of 105,000 total mgd pumped in the County) to pumpage within the county would likely have an insignificant effect on long-term groundwater conditions (Appendix F). Based on the small increase in groundwater pumping for the project, the additional groundwater use associated with the project would cause a less than significant reduction in available groundwater.

Significance Level: Less than significant because the project's groundwater use would have a minor effect on the groundwater aquifer.

Impact HWQ-5: Land application of treated effluent could affect ground water quality.

Land application of treated effluent could result in pollutant discharge to ground water and possible migration to surface water. In addition to possible migration into ground water, land discharge of tertiary-treated effluent could result in the deposition of contaminants within the soil on the site. Crop rotation as part of the effluent discharge process would ensure salt and contaminant build-up is minimal on the surface.

The primary water quality concern for discharge by domestic water treatment is nitrogen loading, Biological Oxygen Demand (BOD), total suspended solids (TSS), and coliform. After primary and secondary treatment, the effluent would receive tertiary treatment using a sand filtration system, followed by disinfection with chlorine prior to discharge. The resulting water quality would meet Title 22 Recycled Water Standards. Specifically, the design parameters call for the tertiary-treated effluent to contain total nitrates less than 10 mg/L, BOD less than 10 mg/L, TSS less than 10 mg/L, turbidity less than 5 NTU, and coliform less than 2.2 CFU/100mL. Tertiary-treated effluent meeting these design parameters would comply with the Water Quality Objectives for Groundwater detailed in the Basin Plan (RWQCB 1998).

Although the treated effluent would meet recycled water quality standards (Title 22), discharge of the effluent to land could result in increased contaminants in the groundwater aquifer and increased salt build-up on the surface. This could adversely affect groundwater quality and exceed acceptable levels established by the Regional Water Quality Control Board, resulting in a significant impact.

Significance Level before Mitigation: Significant.

Mitigation Measure HWQ-5: Comply with Waste Discharge Requirements issued by the Central Valley Regional Water Quality Control Board.

The County will require the applicant to revise the existing industrial wastewater WDRs issued by the Central Valley RWQCB for the Park (Order No. 5-01-250) prior to issuance of a grading permit for construction of the wastewater treatment facilities. The new wastewater treatment facilities will be required to comply with the revised WDRs. These requirements would likely be similar to those in place for the current land disposal activities for industrial process wastewater and would ensure groundwater quality is not adversely affected. For the current system, the WDRs include daily measurement of effluent pH, weekly effluent sampling to monitor BOD, TSS, and nitrogen loading, as well as monthly effluent sampling for coliform. In addition to effluent sampling, the WDRs require annual soil sampling for nitrogen, chlorine, iron, manganese, pH, alkalinity, and solids, and quarterly monitoring of groundwater for pH, chlorine, nitrogen, iron, manganese, solids, coliform, and standard inorganic minerals. In addition to water quality sampling, the depth to ground water, groundwater elevation, and groundwater flow direction are determined on a quarterly basis (CH2MHill 2006). CIP would be responsible for implementing appropriate actions to ensure groundwater quality is protected if monitoring identifies that WDR limits for any pollutants are exceeded.

Significance Level After Mitigation: Less than significant because compliance with WDRs would ensure land application of treated wastewater does not adversely affect groundwater quality.

Significant and Unavoidable Impacts

None.

4.9 GEOLOGY AND SOILS

This section describes the existing geological setting of the project area and identifies geological hazards in the project vicinity. The impact analysis discusses the potential for soils and geologic hazards to affect project facilities. Mitigation measures are identified for significant impacts, followed by determinations of the residual impact significance after mitigation measures are implemented.

4.9.1 Setting

Regulatory Setting

The **Alquist-Priolo Earthquake Fault Zoning Act** (formerly the Alquist-Priolo Special Studies Zones Act), signed into law in December 1972, requires the delineation of zones along active faults in California (Public Resources Code Secs. 2621 et seq.). Cities and counties must regulate development within active fault zones to protect development from future surface displacement.

The **Seismic Hazards Mapping Act of 1990** was developed to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and from other hazards caused by earthquakes (Public Resources Code Secs. 2690 et seq.). This Act requires the State Geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones.

The **Uniform Building Code** (UBC) is a widely adopted model building code in the United States. The California Building Standards Code (Title 24, Code of California Regulations) incorporates the UBC by reference and includes necessary criteria for seismic design. Chapter 16 identifies seismic factors that must be considered in structural design. Appendix Chapter A33 regulates grading activities, including erosion control and construction on expansive soils and areas subject to liquefaction.

The **Colusa County General Plan**, Safety Element, addresses aspects of the County's natural environment and man-made environment, which may pose threats to human life or property. Applicable goals and objectives include maintaining a high level of public health and safety for all residents of Colusa County, while minimizing threats to life and property from seismic and geologic hazards. Policy SAFE-7 calls for investigations for any development proposal in an area with highly expansive soils in order to eliminate or mitigate adverse impacts (Colusa County 1989).

Environmental Setting

The project area is situated on the northern portion of the Great Valley Geomorphic Province, which includes the Sacramento and San Joaquin Valleys. The ground composition of this province is characterized by alluvial deposition (deposited by water), which includes silt and cobbles deposited on the valley floor as a result of erosive processes in the Sierra Nevada Mountains to the east. Although several large faults occur throughout California, the Sacramento Valley has not historically been a region of significant seismic activity.

Based on historic seismic data (Colusa County 1992) and soils data (Natural Resources Conservation Service 2006) for the project area, geologic hazards such as lateral spreading resulting from liquefaction and subsidence would not be anticipated. Also, landslides would not be expected because of the project area's flat topography. Since these hazards are not expected to occur in the project area, they will not be further discussed in this section.

Seismicity and Seismic Hazards

The entire state of California is subject to groundshaking from several fault systems throughout the state. The project area is closest to the Willows fault zone, which generally runs parallel to the Sacramento River in the Colusa area. The Willows fault is a northwest trending fault that follows the Sutter Buttes east of Colusa and continues northward toward Willows and connects to a series of faults that extends to the Oroville area (Harwood and Helley 1987). Seismic events generated from part of the Willows fault zone were documented near Oroville, California (approximately 25 miles northeast of Colusa) in 1975-1976. The project area is also approximately 75 miles to the east and 75 miles northwest of the Melones Fault System and the Coast Ranges Fault Zone, respectively.

According to the County (1992), a maximum credible earthquake for Colusa County could register at approximately 5.7 on the Richter scale from the Willows fault at the Sutter Buttes. Earthquake occurrences, however, in Colusa County have been relatively few (Colusa County 1989). The project area is not located within an earthquake fault zone as designated by the Alquist-Priolo Earthquake Fault Zone Act (California Geological Survey 2006a). Because the project area is not located on a known fault zone, seismic events are not considered to be a significant hazard to the project area (California Office of Emergency Services [OES] 2003), and surface rupture is not anticipated.

USGS has conducted probabilistic mapping for the area; Colusa County has been determined to have a maximum peak horizontal ground acceleration of 0.15g in a given 50-year period. Compared to the

Modified Mercalli Intensity Scale (MMIS), a scale used by U.S. seismologists, 0.15g corresponds with a MMIS value of VII to VIII, on a scale of I to XII, with XII being the most intense (Colusa County 1992). Earthquakes of this intensity would cause alarm to the population and light to moderate damage to structures depending on method of construction (Federal Emergency Management Agency [FEMA] No Date).

Soils

Three soil types have been mapped in the project area by the Natural Resources Conservation Service (2006). As shown on Table 4.9-1 and on Figure 4.9-1, the soils in the area include Colusa loam (map unit 136), Grandbend loam (map unit 160), and Willows silty clay (map unit 106).

Table 4.9-1. Soils in the Project Area

Soils Identified in the Development Area	Expansivity	Erosion	Percentage in Project Area
Colusa loam (136), 0 to 2% slopes	High	Slight	83%
Grandbend loam (160), 0 to 2% slopes	High	Slight	17%
Willows silty clay (106), 0 to 1% slopes	High	Moderate	Less than 1%

As a result of high expansivity and clay content, these soil types may be subject to seasonal expansion and contraction, which can pose safety hazards and create structural damage to buildings. In general the expansivity of a soil is the result of its clay content.

Soil erosion is described as the loss of soil material from a specific land area through the actions of wind and water. The dominant soil types in the project area have a slight erosion potential. According to the County (1989), erosion in Colusa County is not significant due to the general lack of topographical relief. Nevertheless, erosion is a naturally occurring process, and some erosion is expected within the project area.

4.9.2 Impact Analysis

Methodology

The impact analysis is based on geological information obtained from Colusa County (1989 and 1992), Natural Resources Conservation Service (2006), United States Geological Survey (2000), and California Geological Survey (2006a and 2006b). The project was analyzed in terms of its compatibility with Colusa County General Plan policies and potential for geologic or soils-related hazards to people or property in the project area.

Criteria for Determining Significance

Adverse impacts related to geology and soils would be considered significant if the project would:

- Expose people or structures to potential 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. Refer to Division of Mines and Geology Special Publication 42.
 - Strong seismic ground shaking.
- Be located on expansive soil, as defined in Table 18-1-B of the UBC (1994), creating substantial risks to life or property.
- Result in substantial soil erosion or the loss of topsoil.

Impacts and Mitigation Measures

Impact GS-1: Earthquakes could result in damage to the project's residences, commercial and office buildings, wastewater treatment facility, and utility lines, or personal injuries.

The project area is closest to the Willows fault and is located in a region of moderate to moderately high earthquake intensity, ranging from a VII to VIII on the Modified Mercalli Scale (OES 2003). Earthquakes in this region could cause light to moderate damage to structures depending on construction methods. Earthquake activity could also result in personal injuries. Because of the potential for building and infrastructure damage and personal injuries, earthquakes could result in a significant impact.

Significance Level Before Mitigation: Significant

Mitigation Measure GS-1: Design project buildings and infrastructure to withstand earthquake activity.

The County will require the applicant to design all project buildings and infrastructure to comply with the California Building Code (Chapter 16) to ensure minimal damage from earthquake activity. Building and infrastructure design will be approved by the County prior to approval of subdivision maps.

Significance Level After Mitigation: Less than significant because project buildings and infrastructure would be adequately designed to insure minimal damage from earthquakes.

Impact GS-2: Development on expansive soils could cause structural damage and personal injury.

The majority of the County, including the project area, contains soils that are considered to be highly expansive. Rainy and dry seasons could influence the soils' shrink-swell properties and cause differential and cyclical foundation movements. If untreated, the soils' expansive properties could result in damages, which may include post-construction heave and cracking of foundation footings; warping and cracking of roads and sidewalks; compromising infrastructure with the rupturing of utility lines; and personal injuries resulting from the above. Because the proposed development and wastewater facility would be located on expansive soils, impacts associated with expansive soils would be significant.

Significance Level Before Mitigation: Significant.

Figure 4.9-1. Project Area Soils

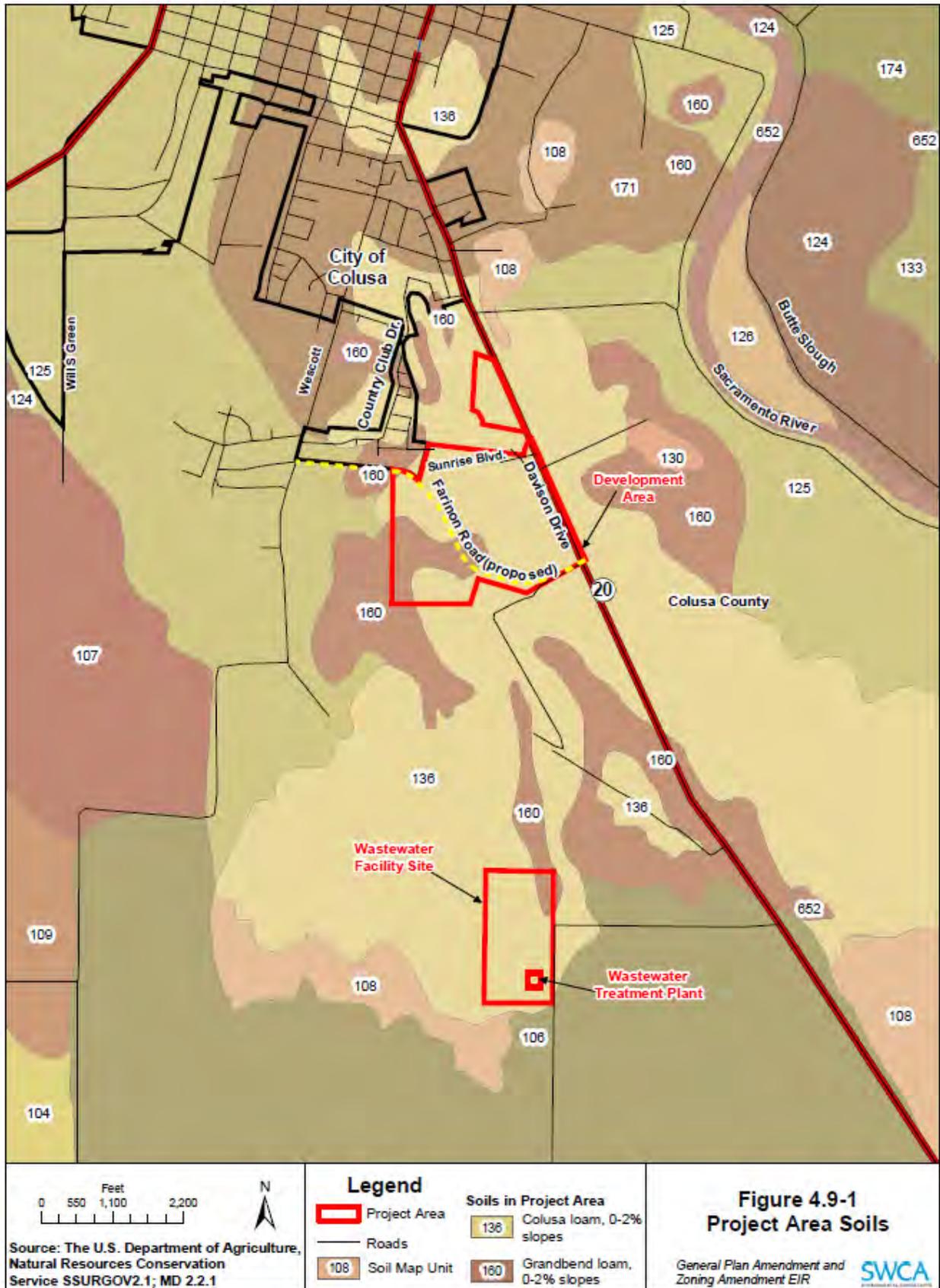


Figure 4.9-1
Project Area Soils

General Plan Amendment and Zoning Amendment EIR **SWCA**

Mitigation Measure GS-2: Design project buildings and infrastructure to withstand expansive soil conditions based on geotechnical investigation.

Prior to development, the applicant will retain a qualified soil engineer to conduct a geotechnical investigation and recommend treatment measures deemed necessary to reduce impacts of expansive soils. The study will be submitted to the County for review and approval prior to issuance of grading permits. Specific design measures will be approved by the County and may include the use of reinforced steel in foundations; use of drainage control devices; and overexcavating and backfilling with nonexpansive soil during construction activities to minimize adverse effects. Proposed areas of development could also be supported on post-tensioned slab foundations designed to resist or span the expansive soil.

Significance Level After Mitigation: Less than significant because buildings and infrastructure would be designed to minimize impacts from expansive soils.

Impact GS-3: Construction activities would expose soils in disturbed areas to wind and water erosion.

Construction activities leading to the disturbance of soils, such as excavating, cutting/filling, and grading, could expose bare soils to water and wind and facilitate erosion in the project area. The entire project area contains soils that are considered to have slight and moderate levels of erosion. The dominant soil types in the project area are slightly erosive soils (Natural Resources Conservation Service 2006), with no construction planned on soils with moderate erosion potential. Nevertheless, eroded soils could reach receiving waters and cause significant water quality impacts (see Impact HWQ-1).

Significance Level Before Mitigation: Significant.

Mitigation Measure GS-3: Implement best management practices to control construction-related stormwater runoff, erosion, and sedimentation.

Implement Mitigation Measure HWQ-1.

Significance Level After Mitigation: Less than significant because best management practices would reduce the effects of soil erosion to a less-than-significant level.

Significant and Unavoidable Impacts

None.

4.10 HAZARDS AND HAZARDOUS MATERIALS

This section describes the existing hazards and hazardous materials in the project area and evaluates the potential effects of these hazards on the project's land uses. Potential hazards that could affect project area residents include crop-dusting, truck transport, flooding, and chemical uses. Mitigation measures are identified for significant impacts, followed by determinations of the residual impact significance after mitigation measures are implemented.

4.10.1 Setting

Regulatory Setting

Federal

The **Federal Aviation Administration (FAA)** regulates all civilian aviation activity in the United States. Regulations specific to aerial application operations are described in Code of Federal Regulations (CFR) Part 137, Agricultural Aircraft Operations. The regulations allow aerial application aircraft to approach an airport from virtually any direction and at lower altitudes than the altitudes used by other general aviation aircraft. Aerial application operations have different requirements depending on the surrounding uses and presence of "congested areas". The FAA does not specifically define congested areas, but it can be assumed that a residential or commercial area that accommodates a group of people would be considered a "congested area" (Appendix I). For aerial application aircraft flying over a congested area, the operator must obtain written approval from the appropriate official or governing body to be allowed to fly over the area.

CFR Title 14 is administered at the state level by California Department of Transportation (Caltrans) Division of Aeronautics and requires the FAA to be notified when there is a change in land use that would involve the development of structures and roadways adjacent to an airport. The criterion for notification depends on the height of structures relative to the location of the runway. The FAA conducts an airspace safety review to ensure that building height to distance from airstrip runway ratios comply with FAA safety requirements.

CFR Title 49 prohibits the release of hazardous substances into the environment and requires all containers to meet strict standards for impact resistance, strength, and packing compatibility. Also, CFR Title 49 contains requirements for the training of drivers in inspection, vehicle operation, loading and unloading of cargo, knowledge of materials transported, and use of vehicle controls and equipment.

The **Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA; 40 CFR 50 et seq.)** regulates the distribution, sale, and use of pesticides. FIFRA requires pesticide applicators to pass a licensing examination for status as "qualified applicators," creates a review and registration process for new pesticide products, and requires thorough and understandable labeling that includes instructions for use.

State

California Code of Regulations (CCR) Title 3 states that before applying pesticides or other chemicals, and throughout the application process, applicators are responsible for evaluating their equipment, weather conditions, the property to be treated, and surrounding properties to determine the likelihood of harm or damage. No application may be made or continued when there is a reasonable possibility of

substantial drift to non-target areas or (1) contamination of the bodies or clothing of persons not involved in the application process; (2) damage to non-target crops, animals, or other public or private property; or (3) contamination of public or private property, including the creation of a health hazard that prevents normal use of that property.

CCR Title 22 defines hazardous materials in order to protect public health and the environment. Hazardous materials are defined as: a substance or combination of substances which, because of their quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, or disposed of or otherwise managed.

CCR Title 26 identifies management criteria for the identification, packaging, and disposal of hazardous waste and materials. Title 26 contains requirements for hazardous materials transport, containment design, treatment standards, disposal facilities, and staff training.

California Food and Agricultural Code (CFAC) Division 6 defines specific requirements for pesticide application within the State of California. CFAC Division 6 requires training for aircraft pilots conducting pest control and requires their possession of a valid permit and certificate.

Local

The **Colusa County General Plan** Safety Element addresses aspects of the County's natural and man-made environment which may pose threats to human life or property. Applicable goals and objectives include maintaining a high level of public health and safety for all residents of Colusa County through land use constraints in community development.

The **Colusa County Airport CLUP** was adopted in 1995 (Colusa County 1995). The CLUP includes policies that establish land use compatibility standards for height restrictions, noise compatibility, and safety of persons on the ground. These standards are applied primarily to proposed new land uses in the airport vicinity, and not to existing development that may be inconsistent with the standards. Proposed new land uses must be compatible with each of the CLUP's height, noise, and safety standards to be considered consistent with the CLUP (see Section 4.1 Land Use for a description of the CLUP).

Colusa County adopted **Ordinance No. 510** (right to farm ordinance) in February 1990. The ordinance promotes the general health, safety, and welfare of the County, establishes goals to preserve and protect lands zoned for agricultural use, and encourages continued agricultural operations. Disclosure statements identifying that the property may be subject to inconvenience or discomfort from agricultural uses will be required in any County document (evidencing the sale, purchase, transfer, or lease of real property) and by the seller of the property. The ordinance is intended to limit nuisance litigation regarding agriculture or affecting agriculture activities; however, such ordinances have limited effectiveness in eliminating conflicts.

Environmental Setting

The project area is located in close proximity to active agricultural land, industrial uses, a state highway (SR 20), the Sacramento River, and a small airport. Each of these uses creates different potential hazards to the project's land uses.

Industrial Uses

Industrial uses within the Park include tomato and rice straw processing facilities and other agricultural-related services. Specific facilities within the Park include East Colusa Farms and Monitoring Station, located on Sunrise Boulevard, John Taylor Fertilizers Colusa Facility on Farinon Road, Miller's Flying Service, Colusa Bean Growers, and Simplot Soilbuilders south of Farinon Road.

Available Federal, State, and local databases were searched to evaluate environmental risks associated with current uses in the Park (Environmental Data Resources, Inc. [EDR] 2006). No mapped sites indicating toxic releases or hazardous materials were identified in EDR's search of government records (EDR 2006). Due to this information, hazardous materials associated with industrial uses in the Park are not further discussed in this section.

Truck Transport

Highways in Colusa County provide major thoroughfares for commuter traffic and truck transports. Three highways (SR 20, SR 45, and Interstate 5) are located in the vicinity of the project area. SR 20 is the closet highway to the project area, directly adjacent the project's eastern boundary. According to the traffic study for the project, SR 20 carries 7 percent of the daily traffic on SR 20 through Colusa (Appendix C). Trucks traveling through Colusa County commonly carry a variety of hazardous materials, including gasoline and various crude oil derivatives. When properly contained, these materials do not typically present a hazard to the nearby communities. In the event of an accident, these materials may be released in either liquid or gas form.

Airport

The Colusa County Airport extends to the southern boundary of the project area at Farinon Road. The project area boundary is located approximately 250 ft north of the end of the runway. Colusa County Airport is classified as a Basic Utility Stage II airport, with a landing strip that can serve single-engine and multi-engine airplanes used for personal and business purposes (Colusa County 1995). As identified by the airport manager (Krug 2007), current uses of the airport include general aviation and agricultural activities.

There are approximately 28,000 flights annually from the Colusa County Airport, of which 40 percent of the operations result from general aviation. According to the National Transportation Safety Board's (NTSB) accident database and FAA's Aviation Safety Information Analysis and Sharing database, one general aviation accident occurred in 1995 in a flooded rice field near the Colusa County Airport. The cause of the accident was reported as engine failure and lack of experience of the pilot (NTSB 1995). Also, a crop-dusting plane that took off from the Colusa County Airport was recently involved in an accident just west of the project area on Wescott Road on May 13, 2007; the pilot was killed in the accident (Colusa County Sun-Herald 2007).

The majority of the airport's operations result from agricultural crop-dusting activities. Approximately 90 percent of all agricultural activities occur between the months of April and August, with heaviest crop-dusting in April and June. Crop-dusting planes operate during daylight hours and result in about 250 take-offs and landings per day during the heaviest period (Krug 2007). Airplanes take off and land to the north over the project area, and many crop-dusting planes turn west or east at the end of the runway to access agricultural lands in those directions. Approximately half of the crop-dusting traffic takes off and lands over the project area (Appendix I).

The crop-dusting airplanes using the airport apply mainly herbicides on the agricultural lands throughout the County, including on lands directly west and adjacent to the project area. Chemicals including Ordram, Bolero, Clincher, Abolish, Propanil, Cerano, and Regiment are highly used applicants in crop-dusting operations and are stored at the airport prior to being applied (Krug 2007). According to the California Department of Pesticide Regulations (CDPR 2003), the chemicals used for crop-dusting have been identified as being potentially toxic to humans. Between 2000 and 2005, two chemical exposure incidents have been recorded by the CDPR in the County; incidences were the result of direct contact (spill, leakage, or emersion) and other/unknown (ingestion, residue from spill, or unknown) exposure to the chemical. No documented incidences caused by chemical drift or residue were filed (CDPR 2000 and 2005).

Flooding

The Sacramento River is the closest natural channel subject to flooding. It is located approximately one mile northeast of the project area. The river follows the northern border of the City of Colusa and travels east-southeast through the County. Butte Sink, located in Butte County northeast of the City of Colusa, is used as a flood basin to carry overflow from the Sacramento River prior to reaching the City. Water is diverted to Butte Sink from the river through a weir located north of the City of Colusa (Colusa County 1989). A levee system along the southern and western boundaries of the river protects City residents from flooding. This system is part of the Sacramento River Flood Control System and was designed to protect downstream areas from a 100-year flood event. Sites located near the City of Colusa (River Mile 154.5 and 145.9) are currently undergoing emergency repairs (Ayres 2005).

The Colusa Basin Drain is a man-made channel that conveys surface runoff and irrigation return flows from the project area and vicinity to the Sacramento River. The Colusa Basin Drain is located approximately 2.5 miles west of the project area, and the unnamed ditch in the project area drains into the drain. Occasionally, the Sutter Bypass, a downstream channel that serves a similar purpose as the Colusa Basin Drain, becomes too full and can force water into the Colusa Drain and upstream channels. During large storm events, this can result in flooding in the Park and on the nearby airport property (Hackney 2007).

According to the Federal Emergency Management Agency flood maps (Flood Maps 06011C0535, 06011C0550, 06011C0555, 06011C0575 2003; FEMA 2003), the project area is located within FEMA classification Zone X, which is defined as having a 0.2-percent annual chance (or 500-year) of a significant storm event. FEMA is currently remapping floodplains in the Sacramento Valley. This remapping effort takes into account changes in hydrology due to recent development, as well as new information on the condition of levees.

There are five dams (Lake Oroville, Lake Shasta, Whiskeytown Lake, Black Butte Lake, and East Park Reservoir) of various jurisdictions (DWR, BOR, and USACE) that retain water from tributaries of the Sacramento River. According to the County (1989), earthquakes centered close to the dams would be the greatest concern for dam failure. However, because earthquake occurrences have been relatively few from 1985 to present, seismic events causing dam failure are not considered to be a significant hazard to the project area and will not be further discussed in this section.

4.10.2 Impact Analysis

Methodology

The environmental setting is based on natural and man-made hazards obtained from various sources, including CDPR (2003), Colusa County General Plan (1989), EDR's (2006) identification of known hazardous materials sites, and personal communications with airport personnel and others. The impact analysis evaluates the project's potential to expose people and property in the project area to significant hazards. An analysis of airport operations was conducted by Mead and Hunt to address potential noise and safety concerns associated with the nearby airport (Appendix I).

Criteria for Determining Significance

Adverse impacts related to hazards and hazardous materials would be considered significant if the project would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Expose people residing or working in the project area to health and safety risks due to the project's close proximity to a public use airport.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures to a significant risk of loss, injury or death involving on-site or off-site flooding, including flooding as a result of the failure of a levee or dam or due to increased rates and amounts of surface runoff.

Impacts and Mitigation Measures

Impact HHM-1: Releases of hazardous materials from truck traffic along State Route 20 would pose minimal risks to project residents.

Trucks traveling through Colusa County along SR 20 carry a variety of hazardous materials, including gasoline and various chemicals. When properly contained, these materials would not present a hazard to the public or the environment. Hazardous materials recovery procedures are enforced by the State and adhered to by private transportation companies. Primary respondents to a truck accident would be the Colusa County Sheriff's Office and Sacramento River Fire District (see Section 4.3 Public Services). Because of the proximity of SR 20 to the high-density residential and commercial areas, residents and properties adjacent to the highway would be at greatest risk of the effects of truck accidents and the release of hazardous materials.

Although there are risks of truck accidents on SR 20, and project traffic could increase these risks, truck transports account for only seven percent of total daily traffic on SR 20 going through Colusa County, and the transportation of hazardous materials by truck is strictly regulated by federal regulations (CFR 49). Given the low percentage of daily truck traffic on SR 20 and compliance with federal regulations, impacts to residents and properties from truck accidents or hazardous materials spills along the highway would be less than significant.

Significance Level: Less than significant because truck accidents along State Route 20 would pose minimal risks to project residents.

Impact HHM-2: Hazards associated with routine use of the project gas station would pose minimal risks to project residents or the environment.

The project includes a gas station in the commercial zone at the corner of SR 20 and Farinon Road. The gas station's storage tank would be refilled on a regular basis. Refilling storage tanks could create an additional risk of release of fuel into the environment from fueling truck accidents or spills. Even though there are risks associated with the use and maintenance of fueling stations, the use of these fuels is highly regulated. Federal (CFR 49) and state (CCR 22) regulations impose safety and operational guidelines in order to reduce the risk to human health and the environment from the use of hazardous substances. Project residences would be located more than one-quarter mile west and north of the gas station, so exposure to hazards and hazardous materials associated with routine use of the gas station would be minimal. Because the gas station would comply with federal and state regulations and project residences would be located away from the gas station, risks to project residents or the environment would be minimal and represent a less than significant impact.

Significance Level: Less than significant because gas station operation would pose minimal risks to project residents and the environment.

Impact HHM-3: Airport operations would expose project residents, visitors, and workers to health and safety risks associated with routine crop-dusting.

The immediate proximity of residential and commercial uses to the Colusa County Airport would expose residents, visitors, and workers to excessive noise from airplanes, potential hazards from aircraft accidents, health risks associated with crop-dusting chemicals, and a general concern for resident safety. Noise impacts are discussed in Section 4.5; airport traffic would expose residents, visitors, and workers to excessive noise that could cause sleep disruptions and general disturbances during daily routines.

Although airplane accidents are fairly rare, a recent accident occurred just west of the project area on Wescott Road (Colusa County Sun-Herald 2007). The potential for accidents is expected to be higher during the high traffic periods when crop-dusting planes average about 250 trips per day (between April and August). Crop-dusting planes routinely fly over the project area during take-offs and landing; about half of crop-dusting traffic flies over the project area (Appendix I). Construction of residences and other buildings in a currently undeveloped area would increase the potential for airplane accidents in the project area because these buildings could affect normal take off and landing routines. As discussed in Section 4.1 (Land Use), the project's buildings would meet height restrictions established by the airport CLUP; therefore, the buildings would conform with take off and landing paths and would not create barriers in flight paths that could cause an accident. However, the presence of a relatively high density of residences in close proximity to the airport (within the overflight zone) would expose a large number of people to potential accidents. Although the project identifies an overflight corridor along the southern boundary of the low density residential area, crop-dusting planes would not be capable of making the quick turn needed to utilize this corridor without compromising flight safety (Appendix I). Thus the corridor would not reduce concerns with safety and potential hazards from routine crop-dusting operations. Because of the potential for airplane accidents in the project area, project residents, visitors, and workers would be exposed to substantial hazards.

In addition to potential crashes, crop-dusting planes flying over the project area carry heavy loads of crop-dusting chemicals (herbicides, fungicides, pesticides, and other potentially harmful chemicals) when taking off and have potential to accidentally release chemicals over the project's residences and

commercial/office buildings. Additionally, the spraying of crop-dusting chemicals on nearby fields may create health hazards to project residences if the chemicals drift into the project area. The chemicals sprayed are strictly regulated by federal and state regulations and used in accordance with FIFRA label restrictions by qualified personnel. According to the Colusa County Airport Commissioner (Krug 2007), crop-dusting does not occur when wind velocity exceeds 10 miles per hour, to minimize drift to populated areas. Standard crop-dusting practices have not resulted in any reported instances of illnesses or injuries related to chemical drift in the County (CDPR 2000 and 2005). Even though crop-dusting activities would be confined to the targeted areas, with minimal chemical drift, in accordance with regulations and airport procedures, the proximity of residents, visitors, and workers to crop-dusting activities and agricultural lands could still expose people to unacceptable levels of chemicals during applications.

Airport operations, particularly those associated with crop-dusting activities, would expose project residents, visitors, and workers to unacceptable health and safety risks from airport noise, potential accidents, and exposure to crop-dusting chemicals. These impacts would be significant.

Significance Level Before Mitigation: Significant.

Mitigation Measure HHM-3a: Notify all prospective purchasers and users of property near or adjacent to agricultural operations of inconveniences or discomforts that may accompany agricultural operations.

Prior to the selling, purchasing, transferring, or leasing of real property, full disclosure of inconveniences or discomforts arising from agriculture operations would be made by the seller in accordance with Ordinance No. 510 (right to farm ordinance). Inconveniences or discomforts may include, but are not limited to, exposure to herbicides, insecticides, fungicides, rodenticides, and fertilizers, and generation of dust, smoke, noise, and odor. Full disclosure would be made to the buyer and in County documents (building permits, etc.). Seller and County Clerk would obtain and keep copies of the buyer-signed disclosure statement. The notice would allow purchasers to take steps to minimize outdoor activities during crop-dusting periods. Although this would not reduce impacts, the measure would inform prospective buyers or renters of the inconveniences and allow them to use the knowledge in their decision of buying or renting a home.

Mitigation Measure HHM-3b: Encourage aerial application operators to takeoff to the south and land to the north when weather conditions permit.

See Mitigation Measure N-4c. This measure would reduce direct overflights of the sensitive uses in the project area; however, it would not be feasible for the reasons identified under Mitigation Measure N-4c.

Mitigation Measure HHM-3c: Encourage aerial application operators to make early turns (left or right) during Runway 31 departures (northbound take-offs).

See Mitigation Measure N-4d. This measure could reduce overflights of sensitive areas, depending on the specific turn locations; however, it would not be feasible for the reasons identified under Mitigation Measure N-4d.

Mitigation Measure HHM-3d: Encourage straight-out departures for Runway 31 operations (northbound take-offs).

See Mitigation Measure N-4e. This measure would reduce direct overflights of the sensitive uses in the project area; however, it would not be feasible for the reasons identified under Mitigation Measure N-4e.

Mitigation Measure HHM-3e: Require aerial application operators to comply with Federal Aviation Administration regulations for operations over congested areas, prohibiting loaded aircraft from overflying the development area at low altitudes.

See Mitigation Measure N-4g. This measure would reduce direct overflights of the sensitive uses in the project area; however, it would not be feasible for the reasons identified under Mitigation Measure N-4g.

Significance Level After Mitigation: Significant and unavoidable because the mitigation measures would not reduce safety concerns associated with routine crop-dusting operations.

Impact HHM-4: Road improvements associated with the project would have a minimal effect on emergency access.

Roadway improvements would consist of expanding Farinon Road through the project area to Wescott Road, realigning Farinon Road out of the airport property, extending Davison Drive from the existing office buildings to the proposed highway commercial uses, and terminating Sunrise Boulevard at a cul-de-sac west of the commercial/office space. These road improvements would improve access to the project area and facilitate increased project traffic as well as improve response times of emergency service vehicles.

The extension of Farinon Road to Wescott Road would provide alternate access to and from Colusa for emergency purposes as well as for project traffic. The Sacramento River Fire District would be the first to respond to emergencies in the project area, including rescue, hazardous material spills, EMS, and fire protection. The improvements do not appear to conflict with the current adopted emergency response plans, according to a personal communication with the Fire Chief (Winters 2007). With a current average response time of seven to nine minutes to the project area, these road extensions would likely improve the Fire District's response time to be closer to the target response time of three to four minutes (Winters 2007).

The project's road improvements would improve access to and through the project area and would not interfere with emergency response, resulting in a less than significant impact.

Significance Level: Less than significant because the project's road improvements would improve emergency response to the project area.

Impact HHM-5: Project residents and structures may be exposed to flooding from increased flows in the unnamed ditch during major storm events.

Although the project area is not located in a 100-year flood zone as identified by FEMA flood maps (2006), major storm events can cause the unnamed ditch in the project area to overflow and flood adjacent lands (Hackney 2007). Development of the project area would increase impervious surfaces and increase surface runoff, resulting in increased flows in the ditch. The ditch would have capacity to receive these additional flows during normal storm events, as discussed in Section 4.8 (Hydrology and Water Quality). However, occasional flooding may occur in portions of the development area as a result of stormwater exceeding the capacity of downstream facilities, such as the Colusa Basin Drain, and forcing flows back into the unnamed ditch. Flooding in the development area would expose project residents, visitors, and workers to safety concerns, and buildings could be damaged. This would be a significant impact.

Significance Level Before Mitigation: Significant.

Mitigation Measure HHM-5: Maintain, and widen as necessary, the unnamed ditch from the southern end of the development to the Park boundary.

Implement Mitigation Measure HWQ-2a.

Significance Level After Mitigation: Less than significant because improvements to the unnamed ditch would reduce the potential for flooding in the development area.

Significant and Unavoidable Impacts

Impact HHM-3: Airport operations would expose project residents, visitors, and workers to health and safety risks associated with routine crop-dusting.

4.11 BIOLOGICAL RESOURCES

This section describes the biological resources of the project area and identifies the potential for special status species to occur in the project area. The section is based on the biological resources assessment prepared for the project (Appendix G). The impact analysis discusses the potential for the project to affect biological resources, particularly sensitive resources.

4.11.1 Setting

Regulatory Setting

Federal

The **Federal Endangered Species Act** (ESA, 16 United States Code (USC) 1531 et seq.) protects threatened and endangered plants and animals and their critical habitat. Procedures for addressing impacts to federally listed species follow two principal pathways, both of which require consultation with the U.S. Fish and Wildlife Service (FWS), which administers the Act for all terrestrial species. The first pathway, Section 10(a) incidental take permit, applies when a private landowner's actions result in take of a listed species, but do not require a federal permit or approval. The second pathway, Section 7 consultation, applies to projects directly undertaken by a federal agency or private projects requiring a federal permit or approval, when these projects may adversely affect a listed species or modify critical habitat.

The **Migratory Bird Treaty Act** (16 USC 703 et seq.) implements international treaties between the United States and other nations devised to protect migratory birds, their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the Fish and Game Code (FGC).

All raptors and their nests are protected from take or disturbance under the Migratory Bird Treaty Act and California statute (FGC Sec. 3503.5). The golden eagle is also afforded additional protection under the Eagle Protection Act, amended in 1973 (16 USC 669 et seq.).

Section 404 of the **Clean Water Act** (33 USC 1344 et seq.) prohibits the discharge of dredged or fill material into "waters of the United States" without a permit from the USACE. The USACE and the EPA

administer the Act. In addition to streams with a defined bed and bank, the definition of waters of the U.S. includes wetland areas in or adjacent to jurisdictional waters “that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3 7b).

Projects with substantial impacts to waters of the U.S. may require an individual permit. Small-scale projects with minimal impacts may be authorized by nationwide permits, which have an expedited process compared to the individual permit process. Mitigation of wetland impacts is required as a condition of the Section 404 permit and may include on-site preservation, restoration, or enhancement or offsite restoration or enhancement. The characteristics of the restored or enhanced wetlands must be equal to or better than those of the affected wetlands to achieve no net loss of wetlands.

State

The **California Endangered Species Act** (CESA, FGC 2050 et seq.) provides protection to California’s endangered and threatened species. Section 2080 of the FGC prohibits the taking of plants and animals listed under the California Endangered Species Act. Section 2081 established an incidental take permit program for state-listed species. In addition, the **Native Plant Protection Act** of 1977 (FGC 1900 et seq.) gives the California Department of Fish and Game (CDFG) authority to designate state endangered, threatened, and rare plants and provides specific protection measures for designated populations.

The CDFG has also identified many “**species of special concern.**” Species with this status have limited distribution or the extent of their habitats has been reduced substantially, such that their populations may be threatened. While they do not have statutory protection, impacts to these species are typically considered significant in the CEQA review process, requiring mitigation when feasible.

Also, sensitive species that would qualify for listing but are not currently listed are afforded protection under CEQA. The CEQA Guidelines Section 15065 (“Mandatory Findings of Significance”) requires that a substantial reduction in numbers of a rare or endangered species be considered a significant effect. CEQA Guidelines Section 15380 (“Rare or Endangered Species”) provides for assessment of unlisted species as rare or endangered under CEQA if the species can be shown to meet the criteria for listing.

FGC Secs. 1601 to 1606 require that a Notification of Lake or Streambed Alteration be submitted to the CDFG for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.” The CDFG reviews the proposed actions and, if necessary, submits to the applicant a proposal for measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by the CDFG and the applicant is the Lake or Streambed Alteration Agreement. Projects that require a Lake or Streambed Alteration Agreement may also require a permit from the USACE under Section 404 of the Clean Water Act.

FGC Secs. 3500 to 5500 outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these Sections may not be taken or possessed at any time. The CDFG cannot issue Sec. 2081 permits that would authorize the incidental take of a fully protected species. Specific sections of the FGC pertinent to the current project include:

- Section 3503 (which prohibits the taking, possession, or needless destruction of the nest or eggs of any bird);

- Section 3503.5 (which prohibits the taking, possession, or destruction of any bird in the order Falconiformes or Strigiformes (birds-of-prey) or the taking, possession, or destruction of the nest or eggs of any such bird); and
- Section 3513 (which prohibits the taking or possession of any migratory non-game bird as designated in the Migratory Bird Treaty Act).

Local

The **Colusa County General Plan** (1989) identifies goals and policies to protect and preserve the county’s open space character and natural resources. The Open Space and Conservation Elements discuss goals to preserve lands as open space and maintain their quality for future generations. Several areas of the County have been preserved for resource protection, including National Wildlife Refuges, National Forest lands, and riparian communities. These lands provide high quality habitat for a variety of wildlife species, particularly waterfowl and geese during the migration seasons.

Environmental Setting

The project area is located in the Central Valley and historically contained annual grasslands and possibly freshwater marshes and seasonal wetlands or vernal pools. Much of this habitat has been converted for agricultural use in Colusa County, as is evident in the project area. Wildlife is not abundant in the project area, possibly due to the nearby developed areas and the low quality of the habitats. Limited foraging habitat is available on the fallow agricultural fields, but little to no nesting habitat is present.

Vegetation and Habitats

The dominant habitat in the project area is weed-infested fields previously used for agricultural production (approximately 93 acres). The remainder of the project area is generally disturbed and includes developed areas, habitat consisting primarily of weedy or invasive plant species (i.e., ruderal), a detention pond (under construction at the time of the field survey), two wastewater ponds, agricultural fields, and a ditch. Adjacent lands include agricultural fields, residential development, industrial development, and a golf course. Table 4.11-1 provides a breakdown of the acreage of each habitat type in the project area. Figure 4.11-1 shows the locations of each habitat type within the project area.

Table 4.11-1. Habitat Types in the Project Area

Habitat Type	Acreage	Percent
Agriculture	29.86	16.53
Fields	92.84	51.39
Ruderal (Disturbed)	22.78	12.61
Developed	20.82	11.52
Detention Pond	5.31	2.94
Wastewater Ponds	6.17	3.42
Ditch	2.18	1.21
Oak Trees	0.70	0.38

Total	180.66	100%
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Source: Figure 4.11-1, digitized data

Figure 4.11-1. Habitat Map



The development area consists of developed land and unused agricultural fields, which have not been in production since before the Park was established in the early 1980s. The project area was historically valley grassland habitat before being used for agriculture and development (Colusa County 1981). Species documented on site in the early 1980s and in the unused agriculture fields in 2005 (ECO-ANALYSTS 2005) include non-native, invasive plants, such as Russian thistle (*Salsola* sp.), mustard (*Brassica* sp.), yellow star thistle (*Centaurea solstitialis*), dock (*Rumex* sp.), filaree (*Erodium* sp.), and foxtail barley (*Hordeum jubatum*). These species continue to dominate the fields in the development area, and the fields are regularly disked to control the invasive plants. Native trees, such as oaks (*Quercus* spp.) and cottonwoods (*Populus* sp.), have been planted in the office complex area and are present on the golf course.

An unnamed ditch traverses the central portion of the project area from north to south. It conveys runoff from the eastern portion of the City of Colusa and the adjacent golf course and directs it to the Colusa Drain, about 3.5 miles southwest of the project area. Site runoff during storm events and drainage from the existing offices also flow into the ditch via a system of storm drains. Water was present in the upper portion of the ditch (north of Sunrise Boulevard) during the field visit in September 2006. Vegetation in and around the ditch includes cattails (*Typha* sp.), bulrush (*Scirpus* sp.), and various invasive plants, such as those identified above. A few valley oaks (*Quercus lobata*) are present along the ditch north of the project area and near Farinon Road. The vegetation along the ditch is of low quality to wildlife because it consists primarily of weedy species and is not very dense. Although habitat in the ditch may be suitable for some wildlife species, the ditch is cleared of vegetation every few years to regulate flows and control invasive plants (Bolen 2006).

The detention pond consists of an unlined basin, about 5.3 acres in size, just east of the ditch. This basin was cleared of vegetation and did not contain water at the time of the field survey in 2006.

Two wastewater ponds are located in the southern portion of the project area. One pond is lined and is used as an evaporation pond for domestic grey water. This pond does not support vegetation, but it contained a small amount of water at the time of the field survey in 2007. The second pond is unlined and used for emergency storage of industrial process wastewater. It was dry at the time of the field survey in 2007 and contained some weedy plants around the edges. The ditch conveys flows to the south, just east of the ponds, but the ponds do not contribute water to the ditch.

Land to the south of the wastewater ponds contains agricultural fields used for rice crops and sudan grass. The 34-acre site is used for land application of industrial process wastewater and is supplemented with flows from the Park's groundwater wells, when crop production is needed. Another 500+ acres of land to the south of the project area, within the Park, is also used for rice production. The fields provide forage for a variety of wildlife.

Wildlife

Wildlife in the project area is scarce. Songbirds were observed in the trees around the office complex, but no wildlife species were encountered in the old fields or ditch. A variety of water birds, including egrets, ducks, and geese, utilize the rice fields south and west of the project area. Migratory birds and other species may pass over or through the project area in search of food, habitat, or other resources. A variety of wildlife likely utilizes the habitats along the nearby Sacramento River; however, the project area does not provide similar types of habitat favored by riparian or wetland species. Species would be expected to stop briefly in the project area in search of food and then continue on to more suitable habitat.

The ditch, fields, and nearby golf course may provide resting habitat for waterfowl or other migratory birds during spring and fall migrations. Permanent and intermittent water sources are often utilized by waterfowl for brief periods, as they pass over an area. The ditch in the project area, however, does not contain sufficient vegetative cover suitable for nesting. The detention pond east of the ditch is not expected to attract wildlife because it will only hold water for short periods of time (during and after major storm events). The detention pond serves as a temporary facility to detain large amounts of run-off until the ditch can drain downstream or be pumped.

Special Status Biological Resources

Twenty-one special status species and five sensitive habitats have documented occurrences within 10 miles of the project area. Another five federally listed wildlife have documented occurrences in the project vicinity (within the Meridian or Colusa quadrangles, Appendix G). Of the 26 special status species (8 plants; 18 wildlife), four wildlife species have marginally suitable habitat in the project area. Suitable habitat for the other wildlife species and for each of the plant species is not present in the project area. Also, none of the sensitive habitats occurs in the project area based on habitat descriptions and the low quality of the habitats in the project area. Brief descriptions of the species with moderate potential to occur in the project area are provided below. Although the species have potential to occur, high quality habitat is not present in the project area and may preclude the species from being present. Appendix G provides additional information on the special status species and sensitive habitats with nearby occurrences.

The **giant garter snake** (*Thamnophis gigas*) is listed as threatened under the ESA and CESA. Habitat requirements for this species include adequate water during its activity season that supports its prey base (small fishes, tadpoles, and frogs); emergent, herbaceous wetland vegetation (such as cattails and bulrushes); grassy banks and openings in waterside vegetation for basking; and upland habitat for cover and refuge during inactivity in the winter. The giant garter snake inhabits agricultural wetlands and other waterways such as irrigation and drainage canals, sloughs, ponds, small lakes, low gradient streams, and adjacent uplands in the Central Valley. The nearest occurrence of giant garter snake is 7 miles to the south of the project area, along Colusa Trough (CDFG 2006). This species may utilize the ditch in the project area in search of other suitable habitat, but it is not expected to breed or spend long periods of time in the project area due to the low quality of the habitat in and around the ditch.

Tricolored blackbird (*Agelaius tricolor*) is a species of special concern in California. Colony locations are tracked in the California Natural Diversity Database (CNDDB) because they are essential to protecting the species. Tricolored blackbirds nest in colonies that can range from several pairs to several thousand pairs, which may be dependant upon prey availability, predators, or human disturbance. Nesting habitat consists of emergent marsh, riparian thickets, and brambles with saturated soils nearby. These species are often observed foraging in agricultural fields and ditches. The nearest CNDDB occurrence is in the rice fields in the extreme southwest corner of the industrial park. This species could utilize the fields in the project area for foraging, but it is not expected to nest on-site due to a lack of marsh and riparian habitats.

Aleutian Canada goose (*Branta canadensis leucopareia*) was federally delisted in 2001 after being listed as endangered in 1967 and downlisted to threatened in 1990. This goose is a subspecies of the Canada goose that nests in the Aleutian Islands. They spend the winter in the Central Valley before traveling to the islands in the spring. The nearest CNDDB occurrence is approximately 2 miles to the northeast along the Sacramento River. This species may utilize the agricultural fields in the project area and vicinity for foraging during the winter.

Swainson's hawk (*Buteo swainsoni*) is listed as threatened under CESA. The preferred breeding habitat of this raptor consists of large trees near extensive areas of grassland or open fields. The trees serve as nesting sites, and the grasslands and open fields provide foraging habitat. Grasslands and agricultural lands (with the exception of orchards and vineyards) provide suitable foraging habitat for this species. The nearest occurrence of Swainson's hawk is 2 miles to the north of the project area, along the Sacramento River (CDFG 2006). Several nesting occurrences have been documented along the Sacramento River from the early 2000s, but the most recent nest site recorded by the CNDDDB is from 2003 (CDFG 2006). Swainson's hawks were observed flying over nearby agricultural fields in September 2006 during the field visit. This species could utilize the fields in the project area for foraging, but it is not expected to nest on-site due to a lack of large trees.

4.11.2 Impact Analysis

Methodology

Biological resources in the project area were described based on available literature, a database search, site visits, and habitat mapping. Literature reviewed during preparation of the section included previous EIRs prepared for the Park (Colusa County 1981 and 1992) and the Colusa County General Plan (Colusa County 1989). The California Natural Diversity Database (last updated September 5, 2006) was queried to develop a list of special-status species and sensitive habitats with potential to occur in the project area (species with known occurrences within 10 miles). A field reconnaissance was conducted on September 19, 2006 and again on January 23, 2007 to collect information on biological resources in the project area. Habitats in the project area were mapped using data digitized from the field visit.

The impact analysis focused on those special status species with potential to occur in the project area and be affected by project activities. The loss of habitat was quantified using the habitat maps, and the effects of this loss were determined based on the species that could occur in the project area.

Criteria for Determining Significance

Adverse impacts to biological resources would be considered significant if the project would:

- Substantially reduce the habitat of a fish or wildlife species.
- Cause a fish or wildlife population to drop below self-sustaining levels.
- Threaten to eliminate a plant or animal community.
- Substantially reduce the number or restrict the range of an endangered, rare, or threatened species.
- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or FWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFG or FWS.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including vernal pool, seasonal wetlands and ponds) through direct removal, filling, hydrological interruption, or other means.

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources.

Impacts and Mitigation Measures

Impact BR-1: Development of the project area would result in a loss of low quality foraging habitat, including 93 acres of former agricultural fields, 23 acres of disturbed habitat, two acres of active agricultural fields, and 0.7 acre of oak trees.

The habitats in the project area provide low quality foraging habitat for wildlife species; none of the habitats are suitable for nesting. Former agricultural fields and disturbed habitat (consisting mostly of weedy species) would be converted to residential, commercial, and recreational uses as part of the project, affecting approximately 93 acres of fields and 23 acres of disturbed habitat. Less than two acres of active agricultural fields would be affected by expansion of Farinon Road from the development area to Wescott Road. A few oak trees would be removed to accommodate single-family homes. The loss of old fields, disturbed habitat, a small amount of agricultural fields, and a few trees would be less than significant because these habitats are low quality and do not support a diversity of wildlife species or native plant species.

Significance Level: Less than significant because the loss of low quality foraging habitat would have a minimal impact on biological resources.

Impact BR-2: Construction of the wastewater treatment plant would result in the loss of one acre of agricultural fields.

The agricultural fields in the project area provide foraging habitat for a variety of wildlife species, including migratory birds and possibly sensitive species. The wastewater treatment plant would be located within a 34-acre active agricultural field currently used for rice straw and sudan grass crops. Construction of the plant would disturb less than one acre of the field and would not result in a substantial loss of foraging habitat or agricultural fields. This impact would be less than significant.

Significance Level: Less than significant because the loss of one acre of foraging habitat would have a minimal impact on biological resources.

Impact BR-3: Construction activities may result in discharge of sediment into the unnamed ditch and could adversely affect low quality habitat within the ditch.

Construction activities would not result in direct impacts to the ditch, such as placement of dredge or fill material or modification of the ditch. The ditch and wetland habitat (some cattails and bulrush) would not be developed or altered as part of the project, and the ditch would continue to be used to drain run-off from the project area. Access to the land west of the ditch would be obtained using existing roads that cross over the ditch. Indirect impacts from soil erosion and runoff could result in discharge of sediments into the surface water in the ditch (see Section 4.8 Hydrology and Water Quality). This could affect water quality and the small amount of habitat in the ditch. Because of the low quality of habitat in the ditch, impacts from construction activities would be less than significant.

Significance Level Before Mitigation: Less than significant.

Mitigation Measure BR-3: Implement best management practices to control construction-related stormwater runoff, erosion, and sedimentation.

Implement Mitigation Measure HWQ-1.

Significance Level After Mitigation: Less than significant because water quality impacts in the unnamed ditch would have minimal effects on biological resources.

Impact BR-4: Construction activities may temporarily disturb wildlife in the project vicinity, but impacts would not be substantial.

The use of heavy equipment during construction activities would produce noise and ground vibrations that could disturb wildlife in the immediate area (project area and adjacent agricultural fields/grazing lands). Wildlife utilizing the Sacramento River would not be affected by construction activities due to the distance of the river from the project area. Common species, such as rodents, lizards and snakes, may be present in the fields at the time of construction and could be harmed by equipment and ground disturbance. Migratory or sensitive birds, such as the Aleutian Canada goose and tricolored blackbird, may be present in the agricultural fields during construction and could be adversely affected by noise and human disturbances. Impacts to wildlife would be temporary and less than significant because sensitive species populations would not be affected (see Impacts BR-5 and BR-6).

Significance Level: Less than significant because temporary construction disturbances would not be substantial.

Impact BR-5: Construction activities would have minimal impacts on the giant garter snake, if it is present in the ditch, and other species utilizing the unnamed ditch.

Although the project would not involve direct impacts to the ditch, construction on the adjacent land would produce noise and ground vibrations that could disturb species utilizing the ditch, such as the giant garter snake. If present, the garter snake would likely be using the ditch as a travel corridor and not for breeding, and construction disturbance would have a minimal impact on the species. The disturbance would force species to move further upstream or downstream along the ditch. Development of the adjacent lands would also remove low quality habitat for the giant garter snake; however, the golf course expansion could create additional water or wetland habitat for the snake if it passes through the area. Because of the low quality of habitat in and around the ditch, impacts to the giant garter snake would be less than significant.

Significance Level: Less than significant because construction activities would have minimal effects on species utilizing the unnamed ditch.

Impact BR-6: Construction activities would have a minimal effect on Swainson's hawk, and development of the project area would remove low quality foraging habitat.

The project would not result in a loss of nesting habitat for the Swainson's hawk; however, it would result in the loss of foraging habitat within five miles of known nest sites along the Sacramento River. Use of heavy equipment, as discussed under Impact BR-4, would result in ground disturbance and noise that could adversely affect Swainson's hawk if it is present at the time of the activities. Construction impacts are considered minimal, however, because hawks would likely avoid the area and utilize nearby suitable habitat, such as the agricultural fields to the east of the project area across SR 20, if they are in the area at the time of construction. Development of the site would result in the loss of disturbed (ruderal) fields that could provide foraging habitat and a prey base for nearby nesting pairs. However, the fields are

surrounded on three sides by development (golf course and residential homes to the north; offices to the east; and industrial and airport uses to the south) and likely provide low quality foraging habitat for Swainson's hawks in comparison to the agricultural fields west of the project area and east of SR 20. Due to the low quality of the habitats in the project area and ability of the Swainson's hawk to use other nearby fields and open space for foraging, impacts would be less than significant.

Significance Level: Less than significant because the loss of low quality foraging habitat would have a minimal effect on Swainson's hawk.

Significant and Unavoidable Impacts

None.

4.12 AGRICULTURAL RESOURCES

This section describes the existing agricultural setting of the project area and vicinity. The impact analysis discusses the potential for direct and indirect impacts to agricultural resources. Mitigation measures are identified for significant impacts, followed by determinations of the residual impact significance after mitigation measures are implemented.

4.12.1 Setting

Regulatory Setting

The California Department of Conservation's (CDC's) **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; the best quality land is called Prime Farmland. The maps are updated every two years with the use of aerial photographs, a computer mapping system, public review, and field reconnaissance. Colusa County's agricultural lands were last reviewed in 2004.

The FMMP uses seven categories to classify land based on its physical and chemical characteristics for the production of crops, including water capacity, soil temperature, acid-alkali balance, water table, soil sodium content, flooding, erodibility, permeability, rock fragment content, and rooting depth (CDC 2006). Descriptions of the important farmland are provided below:

- **Prime Farmland:** Irrigated land with the best combination of physical and chemical characteristics for the production of crops. It has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops when treated and managed, including water management, according to current farming methods. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Prime Farmland must have been used for production of irrigated crops at some time during the four years prior to the mapping date. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use.
- **Unique Farmland:** Lesser quality soils used for the production of the state's leading agricultural crops. It has the special combination of soil quality, location, growing season, and moisture supply needed to produce sustained high quality or high yields of a specific crop when treated and

managed according to current farming methods. Examples of such crops may include oranges, olives, avocados, rice, grapes, and cut flowers. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been used for production at some time during the four years prior to the mapping date. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use.

- **Farmland of Statewide Importance:** Land other than Prime Farmland that has a good combination of physical and chemical characteristics for the production of crops. This land has minor shortcomings, such as greater slopes or less ability to store soil moisture than Prime Farmland. Land must have been used for production of irrigated crops at some time during the four years prior to the mapping date. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use.
- **Farmland of Local Importance:** Farmlands that have physical characteristics that would qualify for Prime or Statewide except for the lack of irrigation water. This land includes soils that qualify for Prime Farmland or Farmland of Statewide Importance, but generally are not cultivated or irrigated. Farmland of Local Importance is either currently producing crops, has the capability of production, or is used for the production of confined livestock. This land may be important to the local economy due to its productivity or value. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use. Also, farmlands that produce crops are not listed under Unique but are important to the economy of the county or city. Farmland of Local Importance was initially identified by a local advisory committee set up by the Soil Conservation Service in each county. Authority to recommend changes to the category now rests with the County Board of Supervisors.

The **Colusa County General Plan** (1989) contains several policies to protect and preserve agricultural lands, including prime soils. The County classifies agricultural lands into three categories:

- Lands capable of supporting grazing based on resource characteristics (soils, climate, and access to water)
- Lands capable of supporting crop production (in current production, based on resource characteristics listed above, or with prime soils)
- Agricultural lands within a community's sphere of influence or ultimate growth area

The Land Use, Community Plan, Resource Conservation, and Open Space and Recreation Elements of the General Plan provide measures to protect the integrity of agriculture and preserve agricultural areas outside of designated communities. Agriculture is the County's most distinguishing feature because it establishes the rural environment and character enjoyed by the residents. Policies established in the General Plan are designed to preserve and protect agricultural lands and ensure continued agricultural production while allowing development in and adjacent to established communities and service district areas.

Colusa County LAFCO seeks to preserve open space and agricultural lands through its **Policies, Standards, and Procedures** (LAFCO Resolution 2004-1, adopted February 5, 2004). Development projects must demonstrate planned, orderly, and efficient development if conversion of open space or agricultural lands is required. Effects on adjacent agricultural lands is also considered. As part of LAFCO review, the consideration of conservation easements and agricultural buffers should be evaluated to reduce or avoid impacts on agricultural lands. Agricultural buffers normally include open space areas between a development and agricultural lands. This buffer may be up to 300 feet wide and should include additional features, such as walls, fencing, or landscaping, for smaller buffers to reduce conflicts with the adjacent land (Benoit 2007).

LAFCO policies use the definition of prime agricultural land provided in the **California Government Code, Section 56064**. The code defines “prime agricultural land” as:

an area of land, whether a single parcel or contiguous parcels, that has not been developed for a use other than an agricultural use and that meets any of the following qualifications:

(a) Land that qualifies, if irrigated, for rating as class I or class II in the USDA Natural Resources Conservation Service land use capability classification, whether or not land is actually irrigated, provided that irrigation is feasible.

(b) Land that qualifies for rating 80 through 100 Storie Index Rating.

(c) Land that supports livestock used for the production of food and fiber and that has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture in the National Handbook on Range and Related Grazing Lands, July, 1967, developed pursuant to Public Law 46, December 1935.

(d) Land planted with fruit or nut-bearing trees, vines, bushes, or crops that have a nonbearing period of less than five years and that will return during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than four hundred dollars (\$400) per acre.

(e) Land that has returned from the production of unprocessed agricultural plant products an annual gross value of not less than four hundred dollars (\$400) per acre for three of the previous five calendar years.

Colusa County adopted **Ordinance No. 510** (right to farm ordinance) in February 1990. The ordinance promotes the general health, safety, and welfare of the County, establishes goals to preserve and protect lands zoned for agricultural use, and encourages continued agricultural operations. Disclosure statements identifying that the property may be subject to inconvenience or discomfort from agricultural uses will be required in any County document (evidencing the sale, purchase, transfer, or lease of real property) and by the seller of the property. The ordinance is intended to limit nuisance litigation regarding agriculture or affecting agriculture activities; however, such ordinances have limited effectiveness in eliminating conflicts.

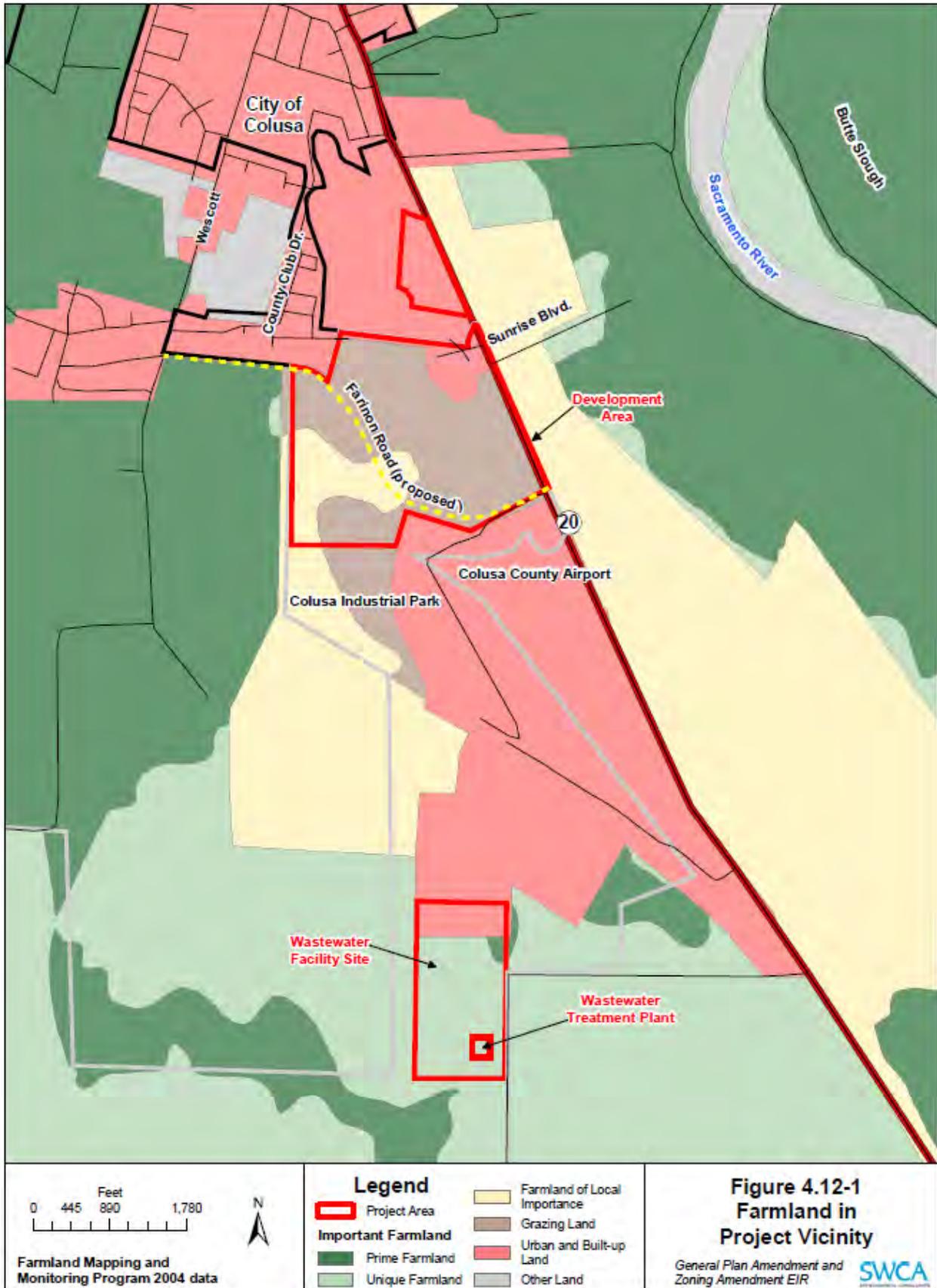
Environmental Setting

Colusa County is a rural county dependent on agriculture as its primary source of revenue. In 2004, the County was ranked 21st in the state based on the value of its agricultural production, which was more than \$351 million (California Farm Bureau Federation 2006). Rice is the primary agricultural crop; other types of crops include wheat, almonds, processing tomatoes, and rice seed.

Land surrounding the project area and the Park consists of active farmland and grazing land as well as developed or built-up land (Figure 4.12-1). Lands to the west have been classified as Prime and Unique Farmland by the FMMP (CDC 2004); these lands are used for rotation crops, including onions, wheat, cotton, and other crops. An approximate 500-foot-wide strip of land adjacent to the western project

boundary has not been used for row crops, based on aerial photographs dating back to 1998 (see Figure 4.11-1). This land may be capable of agricultural production, but currently serves as a buffer between the project area and the agricultural crops further west. Lands to the east have been classified as Farmland of Local Importance (adjacent to the project area) and as Prime and Unique Farmland (along the Sacramento River) according to the FMMP (CDC 2004). Adjacent land to the east is part of the Dolan Preserve, which is used for grazing cattle. Other nearby lands are used for rice and seed rice production.

Figure 4.12-1. Farmland in Project Vicinity



Land within the Park was previously used for rice and wheat production; however, most of the land has been unused since the early 1980s. According to the FMMP, the land within the project area is classified as Prime Farmland, Unique Farmland, Farmland of Local Importance, Grazing Land, and developed or Urban and Built-up Land (Figure 4.12-1; CDC 2004). Most of the development area is considered suitable for grazing (97.6 acres, Table 4.12-1), and a small portion (27.4 acres) is considered suitable for agricultural production, except for the lack of irrigation water.

The development area contains old fields that have become dominated by invasive plants and are regularly disked to control weeds. The site is not currently used for grazing or other agriculture-related uses. Based on the soils in the development area (Colusa loam and Grandbend loam) and the land's past uses, the land is not considered prime agricultural land using LAFCO's definition. Colusa loam has an estimated Storie Index rating of 8 and is considered a class IV soil based on the NRCS land use capability classification, which means it is not suitable for agriculture (NRCS 2006). Grandbend loam has a Storie Index rating of 70 and is considered a class II soil if irrigated (NRCS 2006), which would have moderate limitations for agricultural productivity; however, the soil is not currently irrigated (no infrastructure in place) and has not been used for agricultural production for more than 20 years.

The wastewater facilities site contains mostly Unique Farmland (30 acres), with a small amount of Prime Farmland (1 acre) and some Built-up Land (9 acres where the disposal ponds occur) according to the FMMP (CDC 2004). Thirty acres of the land are reserved for disposal of industrial process wastewater for agricultural crops (sudan grass), although less than 5 acres were used in 2006 (Hulbert 2006). The primary soil at the wastewater facilities site is Colusa loam, which is not considered suitable for agricultural production; however, portions of the land have been used for crop production. Based on the soil characteristics, crop type, and small amount of land under production, the site would not likely meet the LAFCO definition of prime agricultural land.

Table 4.12-1. Agricultural Classifications in the Project Area

FMMP Classification	Acreage
Prime Farmland (P)	1.20
Unique Farmland (U)	29.80
Farmland of Local Importance (L)	27.24
Grazing Land (G)	97.56
Urban and Built-up Land (D)	34.86
Total	180.66

Source: CDC 2004

4.12.2 Impact Analysis

Methodology

The impact analysis involved a review of FMMP data and maps showing the agricultural classifications of the project area and surrounding lands and a site visit to identify existing conditions and uses in the project vicinity. The ability of the undeveloped land to be capable of agricultural production was reviewed to assess the significance of impacts.

Criteria for Determining Significance

Adverse impacts to agricultural resources would be considered significant if the project would:

- Convert a substantial amount of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, or convert prime agricultural land, as defined by Section 56064 of the Government Code, to non-agricultural use.
- Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland to non-agricultural use.
- Impair agricultural productivity or use of neighboring areas.
- Result in cumulative loss of farmland, as defined above, on neighboring lands.

Impacts and Mitigation Measures

Impact AR-1: Development of the project area would result in the conversion of less than two acres of Prime Farmland, 27 acres of Farmland of Local Importance, and 98 acres of Grazing Land to non-agricultural uses, but would not result in a loss of agricultural productivity in the project area.

Development of the mixed use community would result in the conversion of approximately 27 acres of Farmland of Local Importance and 98 acres of Grazing Land (CDC 2004) to non-agricultural uses (residential, commercial, and recreational). The locations of these farmland classifications are shown on Figure 4.12-1. Conversion of these lands would prevent them from being used for agricultural production in the future; however, the lands are considered of low value for agricultural use based on their classifications and current conditions (lack of irrigation, presence of invasive or weedy plants, and lack of use for agriculture for more than 20 years). The Farinon Road extension from the development area to Wescott Road would result in the loss of less than two acres of Prime Farmland. This impact would result in a minor loss of active farmland; however, the road corridor is currently owned by CIP and was acquired for the purpose of constructing a road. The project would have a minimal effect on agricultural productivity in the County as a result of the loss of Prime Farmland, Farmland of Local Importance, and Grazing Land; therefore direct impacts to agricultural lands in the development area would be less than significant.

Significance Level: Less than significant because the loss of agricultural lands in the project area would have a minimal effect on agricultural productivity in Colusa County.

Impact AR-2: Construction of the wastewater treatment plant would result in the conversion of one acre of Unique Farmland to non-agricultural uses and would result in a minimal loss of agricultural productivity in the project area.

The wastewater treatment plant would be located on land classified as Unique Farmland by the FMMP (CDC 2004). Construction of the plant would result in the loss of one acre of Unique Farmland. The remaining land at the wastewater facilities site would be used for disposal of tertiary effluent (treated domestic wastewater) and would be used to irrigate sudan grass or other similar crops. This land would not be removed from agricultural production. Because of the small amount of agricultural land that would be converted, impacts from the wastewater treatment facilities on Important Farmland and agricultural productivity in Colusa County would be less than significant.

Significance Level: Less than significant because the wastewater treatment plant would result in a minimal loss of agricultural productivity in Colusa County.

Impact AR-3: Development in the project area would increase agricultural-residential conflicts and could reduce productivity of adjacent agricultural lands.

Development of the project area would result in a residential population and a commercial center that attracts visitors and provides employment opportunities for residents. Indirect effects of the development may include:

- Unauthorized access on adjacent agricultural lands, which could adversely affect crop production, disturb cattle, or result in vandalism;
- Limits on aerial spraying of pesticides;
- Modifications to flight paths of crop-dusting planes;
- Limitations on using equipment, such as night harvesting or early morning use only;
- Conflicts between project vehicles and slow-moving farm vehicles and equipment.

The project would include a 100-foot open space buffer between the low-density residential homes and the land to the west (zoned for agriculture) to provide a transition between the two uses. The existing non-agricultural strip of land between the proposed residential uses and row crops on the adjacent parcel to the west would also serve as a buffer between the two uses, which would reduce conflicts. Residential uses adjacent to agricultural uses may result in resident complaints related to aerial spraying and harvesting activities (health concerns, odor, noise), which could place limitations on these activities and reduce productivity. The project's overflight corridor would require some crop-dusting planes to slightly modify their flight path (turn west further south of current path). Although this may cause safety concerns for the planes (see Section 4.4), crop-dusting activities would continue.

Grazing lands to the east of the development area are separated by the highway (SR 20), so land use conflicts with these lands are not anticipated.

Project traffic on nearby local roads may also create conflicts with agricultural traffic, which could result in accidents. As discussed in Section 4.4 (Transportation and Traffic), the project's road improvements would improve access and circulation and minimize conflicts.

Because of the potential for conflicts between agricultural lands to the west and the project's residential land uses, the project could reduce agricultural productivity of adjacent lands, resulting in a significant impact

Significance Level Before Mitigation: Significant.

Mitigation Measure AR-3a: Construct a wall along western project boundary to provide a barrier between residences and agricultural uses.

The County will require the applicant to construct a minimum 6-foot tall wall along the western border of the low density residential uses to minimize conflicts with adjacent agricultural lands. The wall will be constructed along the border of the residential properties, between the homes and the open space buffer. The open space buffer will incorporate landscaping along the wall and be regularly maintained to minimize invasive plant growth. The wall will be identified on the subdivision map and will be approved by the County prior to approval of the final subdivision map.

Mitigation Measure AR-3b: Notify all prospective purchasers and users of property near or adjacent to agricultural operations of inconveniences or discomforts that may accompany agricultural operations.

Implement Mitigation Measure N-4b.

Significance Level After Mitigation: Less than significant because provision of a physical barrier would ensure minimal conflicts between agricultural and residential uses and minimize impacts on agricultural productivity.

Impact AR-4: Project implementation could encourage the conversion of adjacent farmland to non-agricultural uses.

Development of residential and commercial uses in the project area could encourage conversion of adjacent or nearby agricultural lands to non-agricultural uses. The extension of Farinon Road and potential conflicts between project activities and agricultural activities on adjacent agricultural land could make it more attractive for agricultural landowners to consider selling their land for development. The conversion of Prime or Unique Farmland on nearby lands would be a significant effect and would require separate environmental analyses prior to project implementation.

Significance Level Before Mitigation: Significant.

Mitigation Measure AR-4: Construct a wall along western project boundary to provide a barrier between residences and agricultural uses.

Implement Mitigation Measure AR-3a.

Significance Level After Mitigation: Significant and unavoidable because development of the project area to urban uses could encourage conversion of adjacent or nearby agricultural lands to non-agricultural uses

Significant and Unavoidable Impacts

Impact AR-4: Project implementation could encourage the conversion of adjacent farmland to non-agricultural uses.

4.13 CULTURAL RESOURCES

This section describes the cultural resources setting for the project area and identifies the potential for such resources to occur within the project area. The impact analysis discusses the potential for the project to affect cultural resources. The information is summarized from the cultural resources inventory for the project (Appendix H).

4.13.1 Setting

Regulatory Setting

CEQA Guidelines Section 15064.5 requires evaluation of historical resources to determine their eligibility for listing on the California Register of Historical Resources (CRHR). The purposes of the

register are to maintain listings of the state's historical resources and to indicate which properties are to be protected from substantial adverse change (California Office of Historic Preservation 1997). According to **Public Resources Code (PRC) Section 5024.1**, a resource is considered historically significant if it meets at least one of the following criteria:

- (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 installation, or represents the work of an important creative individual, or possesses high artistic values; or
- (4) Has yielded, or may be likely to yield, information important in prehistory or history.

California Senate Bill 18 (SB 18) requires consultation with California Native American tribes prior to adoption of a general plan, specific plan, amendment to such plans, or designation of open space land. SB 18 places responsibility of initiating consultation on local governments for tribal input early in the planning process to preserve or mitigate impacts to Native American places of prehistoric, archaeological, cultural, spiritual, and ceremonial importance ("cultural places" as defined in PRC Sections 5097.9 and 5097.993). SB 18 incorporates increased protection of California Native American cultural places into land use planning for cities, counties, and agencies. Colusa County has complied with SB 18, as documented in Appendix H.

The **Colusa County General Plan** (1989) Conservation Element addresses preservation, management, and utilization of the County's natural, cultural and historic resources. Applicable policies include CO-24: the County shall encourage and cooperate with cities, special districts, state and federal agencies, and private landowners in acknowledging and preserving the County's cultural heritage, historical and archaeological structures, sites and landmarks; and CO-25: an archaeological survey should be required prior to approval of any project which would require excavation in an area known to contain cultural resources.

Environmental Setting

The project area is situated on a level plain in the Sacramento Valley, within an area that was occupied by different prehistoric cultures dating to at least 4,500 years ago (Moratto 1984). It is also within the ethnohistoric territory of the Patwin, linguistically of the Wintuan family (Kroeber 1925). Both prehistoric peoples and ethnographic Patwin established villages or base camps along the banks of the Sacramento River, located only 0.6-mile east of the project area (Johnson 1978). Like the majority of Native Californians, the Patwin relied on acorns as a staple food, collected in the fall and then stored before processing with bedrock or portable mortars and pestles (Moratto 1984). In terms of seasonal resources, the Sacramento River drainage system associated with the project area would have been a very productive environment during prehistoric and ethnohistoric times. A wide variety of tools, implements, and enclosures were used for hunting, collecting, or processing resources (e.g., bows and arrows, traps, nets, seed beaters, burden baskets, digging sticks, anvils, knives, and twined basketry) (Johnson 1978).

Early historic land use in the project vicinity focused on agriculture, a pattern that continues to the present day. The town of Colusa, part of which lies within the Jimeno Rancho land grant, was initially settled in 1850 (Gudde 1998). With the coming of the Southern Pacific Railroad (later Central Pacific, now Southern Pacific Railroad) to the area in the 1860s, Colusa grew and prospered as an agricultural shipping center (Southern Pacific Company 2006). By 1907 maps show the predecessor of SR 20, and in 1913, the Colusa branch of the electric Sacramento Northern Railway connected the town to the main Sacramento to Chico line (Trimble 2005).

Because prehistoric peoples and ethnographic Patwin established villages or base camps along the banks of the Sacramento River, the area is considered highly sensitive for the potential presence of prehistoric or ethnohistoric resources. The area is considered to be low to moderately sensitive for the discovery of historic-era cultural resources because of its proximity to Euro-American settlement and agricultural production in the vicinity. Although the project area has been highly disturbed by agricultural activities, artifacts previously disturbed by the plow zone may now be on the ground surface. Prehistoric materials might include flaked stone tools, toolmaking debris, stone milling tools, fire-affected rock, or soil darkened by cultural activities (midden). Historic materials might include metal, glass, or ceramic artifacts or debris.

Within the project area, no historic-era buildings or structures and no sites of traditional Native American value, sacred sites, or contemporary use areas have been identified. Within a 2-acre intensive of the wastewater facilities site, no prehistoric or historic-era cultural resources were identified.

4.13.2 Impact Analysis

Methodology

The environmental setting is based on the following: a literature search by the Northwest Information Center at Sonoma State University; Sacred Lands file search by the Native American Heritage Commission and related communication with local Native American groups and individuals; reconnaissance-level visual inspection conducted in September 2006 and January 2007 to view the general vicinity and provide information on the presence/absence of historic-era buildings or structures within the project boundaries; and an intensive pedestrian survey in January 2007 of two acres in the project area. This impact analysis is based on the cultural resources inventory (Appendix H) and relevant regulations. The project was analyzed in terms of its potential to impact undocumented and potentially significant cultural resources, including buried human remains, in the project area.

Criteria for Determining Significance

Adverse impacts to cultural resources would be considered significant if the project would:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5.
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.
- Disturb any human remains, including those interred outside of formal cemeteries.

Impacts and Mitigation Measures

Impact CR-1: Ground disturbance could affect undocumented cultural resources, including human remains.

Although no prehistoric, ethnohistoric, or historic-era cultural resources have been recorded within the project area, likely because the project area has not been intensively surveyed, it is possible that undocumented cultural resources, including human remains, may be affected during construction or ground-disturbing activities. Due to the possible presence of undocumented cultural resources within the project area, construction-related impacts on cultural resources would be significant.

Significance Level Before Mitigation: Significant

Mitigation Measure CR-1a: Conduct a pre-construction survey for cultural resources and ensure adequate recordation, protection, or recovery of any significant resources.

Prior to initiation of ground-disturbing activities, the applicant will obtain a qualified professional archaeologist to complete an intensive level pedestrian survey of the project area, with the exception of the two-acre area within the wastewater facilities site surveyed by SWCA in January 2007. This requirement will be identified on grading plans and construction contracts and will include a list of measures (see below) that would be implemented if significant resources are discovered. The County will approve the measures prior to issuance of grading permits.

The pedestrian survey will be conducted in compliance with CEQA requirements (14 CCR 15064.5 and PRC 21083.2) and in accordance with the standards set by the Secretary of the Interior. After completion of the survey, the qualified archaeologist will complete a technical report documenting the results of all work, and any cultural resources identified during the survey will be formally recorded on Department of Parks and Recreation series 523 forms. The report is to meet the Secretary of Interior's Standards and Guidelines and follow the Office of Historic Preservation's ARMR guidelines (Archaeological Resource Management Reports: Recommended Contents and Format) (1990). The report will include assessment of the significance of any newly identified resources, and recommend appropriate procedures to either further investigate or mitigate adverse impacts in conformance with the protocols set forth in PRC Section 5097.98. The applicant will be required to ensure the locations of cultural resources or human remains are not disturbed and may be required to implement the following measures, depending on the resources identified and the agency or Native American providing the recommendation:

- The nondestructive removal and analysis of human remains and items associated with Native American human remains.
- Preservation of Native American human remains and associated items in place.
- Relinquishment of Native American human remains and associated items to the descendents for treatment.
- Other culturally appropriate treatment.

Mitigation Measure CR-1b: Ensure adequate recordation, protection, or recovery of inadvertent resource discoveries (prehistoric or historic cultural resources, including human remains) during construction activities.

If cultural resources, including human remains, are discovered during construction, the applicant will halt all activities within 100 feet of the find until a qualified professional archaeologist can evaluate it. The archaeologist will examine the resources, assess their significance, and recommend appropriate

procedures to either further investigate or mitigate adverse impacts on the resources encountered in conformance with the protocols set forth in PRC Section 5097.98 (see Mitigation Measure CR-1a). Any human remains encountered during construction will be treated in accordance with the California Health and Safety Code Section 7050.5. All measures will be identified on grading plans and construction contracts and will be approved by the County prior to issuance of grading permits.

Significance Level After Mitigation: Less than significant because implementation of mitigation measures would ensure that any undocumented cultural resources or inadvertent discoveries of cultural resources during construction or ground-disturbing activities would be properly recorded and the historical significance of the resources documented.

Significant and Unavoidable Impacts

None.

4.14 AESTHETICS

This section evaluates changes to the visual character of the project area and vicinity caused by project implementation. The information presented in this section is based on field observations, photographs, and aerial photography interpretation.

4.14.1 Setting

Regulatory Setting

The **Colusa County General Plan** (1989) identifies goals and policies that seek to protect the scenic values of Colusa County by promoting design standards intended to encourage visually attractive development and by preserving views of regional focal points, including the Sutter Buttes, the Sacramento River, and prominent peaks in the Coast Range (e.g., Snow Mountain and St. John Mountain), wherever possible.

The **Colusa County zoning ordinance** (County Ordinance No. 534) includes development standards that apply to all buildings and land uses within the County, and includes measures to minimize annoyance and hazards caused by light sources. Section 8.01(e) of the zoning ordinance requires light fixtures and all other sources of illumination to

...be equipped with lenses or other devices which concentrate the illumination upon such buildings, landscaping, signs, and parking and loading areas. No unshielded lights, reflectors, or spotlights shall be so located and directed that they shine toward or are directly visible from adjacent properties or streets.

Environmental Setting

The visual character of the project area is consistent with its location on the edge of an agricultural city in the Sacramento Valley. Panoramic views from any given location can include homes, light industrial and manufacturing facilities, offices, farms, fallow fields, grain silos, highways, trees, canals, overhead utility lines, and expansive views across the valley floor to the Coast Range and Sierra Nevada. The Sutter Buttes are located ten miles east of Colusa. The region's flat topography allows views of the Sutter Buttes from many locations. Buildings in the project vicinity are typically low (two stories or less) and often have yards or undeveloped land between them. Consequently, views of the Sutter Buttes and the surrounding area are also available between and over buildings in many locations.

Along SR 20 north of the project area, the visual setting of the City of Colusa is characterized by residential and commercial land uses including single-family homes, apartments, a mobile home park, restaurants, shops, commercial and government buildings, retail centers, and gas stations.

No scenic resources are located on-site, and no designated state scenic highways or eligible highways are located in the project vicinity. These resources are not discussed further in this EIR.

Views From the Project Area

Close range views from the project area are characterized by homes, trees, farms, vacant fields, light industrial and manufacturing buildings, Colusa Rice Company's storage silos, SR 20, the Colusa County Airport, and the golf course. Distant views include the Sutter Buttes 10 miles east (Photograph 4.14-1, see Figure 14.4-1 for photograph locations and directions), the Sierra Nevada to the east, and the Coast Range (including Snow Mountain and St. John Mountain) to the west. These features are visible from some locations within the project area, but are less prominent because of their distance from the Park and because haze and intervening trees can obscure or obstruct views.

Views to the east include SR 20 in the foreground and farmland and trees in the middle distance. The Sacramento River is less than a mile east of the project area, but is not visible from the project area. The Sutter Buttes and the Sierra Nevada can be seen from some locations. Views to the west include farmland and fields in the foreground and middle distance and views of the Coast Range in the distance. Views to the north feature the golf course. Some of the homes surrounding the golf course are also visible from the project area. Trees within the golf course and the nearby residential neighborhoods obstruct distant views to the north. Views to the south of the development area include the Colusa County Airport, light industrial and manufacturing buildings, and Colusa Rice Company's storage silos in the foreground and middle distance. The flat topography of the valley floor and the long distance to any mountains or visible topography to the south offers no long-range views in that direction.

Views of the Project Area

Distant views of the project area would be available only from the Sutter Buttes; however, the project would be indistinct in the overall landscape when viewed from that distance. Close range views from the east are available from SR 20. No landscape screening separates SR 20 from the Park. Views of the portion of the project area in the Park from SR 20 include offices, vacant fields, and undeveloped parcels (Photographs 4.14-2 and 4.14-3). Views of the golf course (and the golf course portion of the project area) are available along the southernmost 400 feet of the golf course/highway interface (Photograph 4.14-4).

A row of tall trees along the eastern edge of the golf course screens most of the golf course from SR 20. Views of the clubhouse and parking lot are also readily available from SR 20. Close range views from the west are available from some of the residences northwest of the project area. Unobstructed views from the west are only available from a few residences at the eastern end of Birchwood Place.

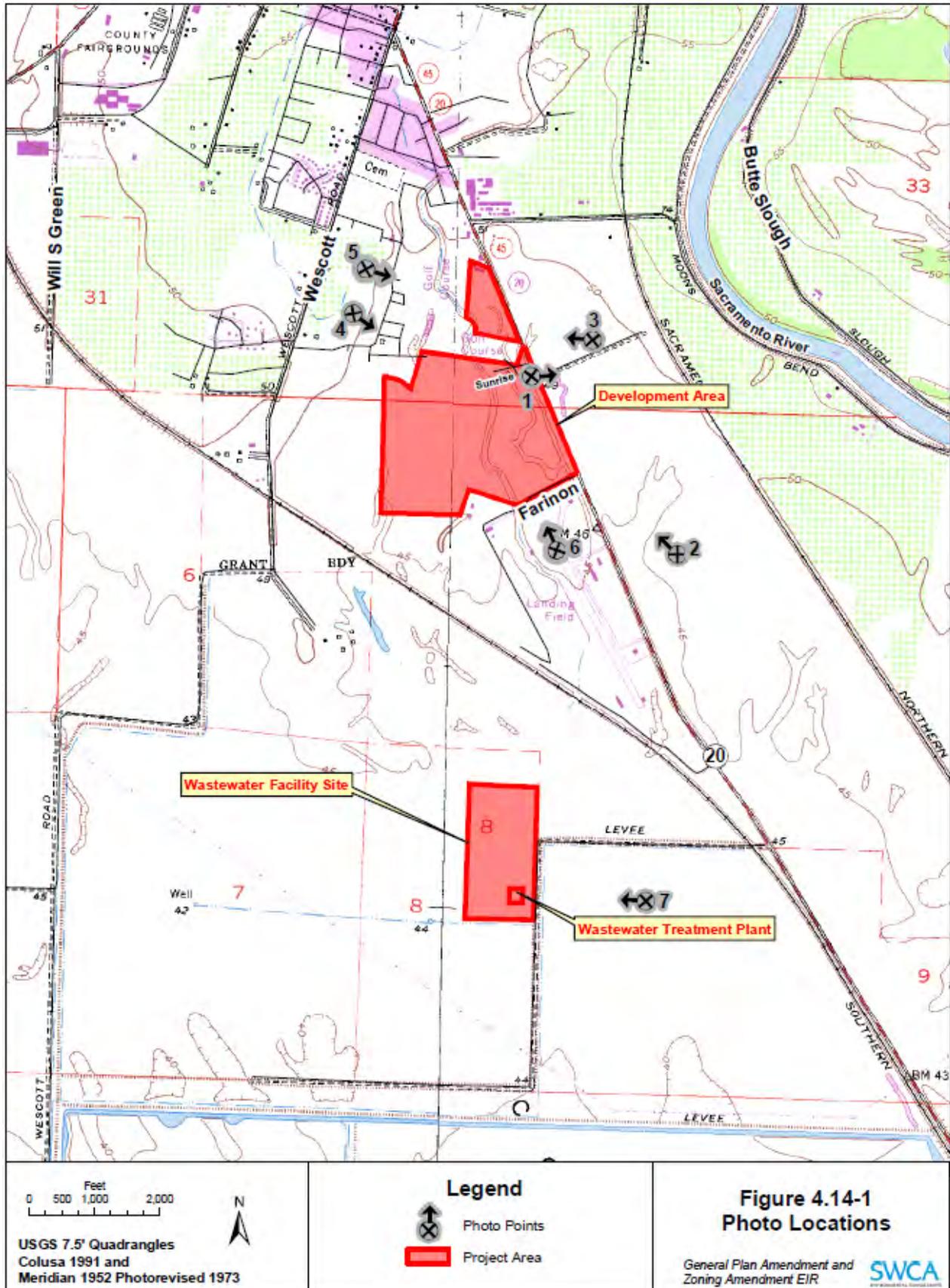
Views from residences further north are screened or obstructed by golf course trees. Views of the Park portion of the project area from these homes are nearly entirely obstructed, whereas views of the golf course portion of the project area are intermittently obstructed (Photographs 4.14-5 and 4.14-6). Golf course trees also screen or intermittently obstruct views of the Sutter Buttes from these residences. The peaks of the Sutter Buttes are intermittently visible above distant trees (see Photograph 4.14-5). Close range views from the north are available from the golf course. Close range views from the south are available from the airport and from other portions of the Park (Photograph 4.14-6).

The wastewater facility site is located on fallow rice land a mile south of the development area and surrounded by large tracts of farmland and heavy industrial uses (Photograph 4.14-7). Close range public views of this site are not readily available.



Photograph 4.14-1. View east of Sutter Buttes from the existing office complex

Figure 4.14-1. Photograph Locations





Photograph 4.14-2. View northwest from SR 20 and Farinon Road



Photograph 4.14-3. View of golf course from SR 20.



Photograph 4.14-4. View southeast toward the Park from residences bordering the golf course.



Photograph 4.14-5. View east from residences bordering the golf course.



Photograph 4.14-6. View north to the Park from the airport.



Photograph 4.14-7. View east to the wastewater treatment facility site.

Nighttime Views of the Project Area and Vicinity

Nighttime views in the project vicinity include lights from the City of Colusa to the north; unlit fields and farmland to the east, west, and south; vehicle lights on SR 20; and lighting fixtures within the Park and the airport. On clear nights, individual light sources are most apparent, versus an overall nighttime “skyglow.”

Most of the project area is undeveloped and does not produce any nighttime lighting. The dominant source of night light within the project area is the Park office complex. Light sources include overhead parking lights and exterior security lights fixed to the office buildings. Because the office complex is well lit and sits adjacent to SR 20, it is quite noticeable to motorists on SR 20. The golf course is not lit at night. Night light sources within the golf course are limited to a single overhead parking light and interior light visible through the clubhouse windows.

The primary sources of night light south of the development area include the heavy industrial portion of the Park and the airport. Lighting in this area of the Park includes security and perimeter lights and individual light fixtures secured to the industrial buildings. Flood lighting and vehicle and equipment lights are visible when the industrial facilities perform seasonal nighttime operations. Airport lighting includes a green and white rotating beacon and lighting fixtures secured to buildings. Runway and taxi lights are only lit when needed by pilots.

4.14.2 Impact Analysis

Methodology

Visual impacts were evaluated by comparing expected visual changes the project would generate against the existing visual character of the project area and vicinity. This analysis also considers whether the project would affect scenic vistas, especially views of the Sutter Buttes, from public viewing areas.

Criteria for Determining Significance

Adverse impacts to aesthetics would be considered significant if the project would:

- Have a substantial adverse effect on a scenic vista, such as by blocking public views to a public resource from designated open space areas or public roads or by substantially altering the natural landform.
- Substantially damage scenic resources, e.g., features of a state scenic highway.
- Substantially degrade the existing visual character or quality of the site and its surroundings.
- Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

Impacts and Mitigation Measures

Impact A-1: Nighttime construction lighting could adversely affect adjacent residences and could interfere with the nighttime vision of drivers on State Route 20.

Construction can involve numerous potential sources of nighttime lighting, including earth-moving and other construction equipment, temporary construction trailers, employee vehicles, and flood and security lighting. Project buildout would involve sporadic construction over several years. Nighttime construction lighting could adversely affect adjacent residences and could interfere with nighttime vision of drivers on SR 20. This would be a significant impact.

Significance Level Before Mitigation: Significant.

Mitigation Measure A-1: Restrict construction to daytime hours (7 a.m. to 7 p.m.).

The County will require the applicant to limit construction to daytime hours (7 a.m. to 7 p.m.). Any nighttime lighting from construction trailers will be located and directed to shine away from adjacent residences and streets and will not be directly visible from adjacent properties or streets. The applicant will identify these measures on grading plans and construction contracts and ensure implementation of the measures by the construction contractor during all construction activities.

Significance Level After Mitigation: Less than significant because the restriction of nighttime construction would minimize adverse effects from nighttime construction lighting.

Impact A-2: The project would have no effect on views of Sutter Buttes from public viewpoints and a minor effect on views from non-public viewpoints.

Public viewpoints near the project area are primarily limited to public roads, and the nearby road with the best views of the Sutter Buttes is SR 20. Because SR 20 is east of the project area, the project would not affect views of the Sutter Buttes from the highway.

The Colusa Golf and Country Club is a public golf course. Golf course trees, including the row of tall trees along SR 20, screen and intermittently obstruct views of the Sutter Buttes from the golf course. The proposed residences near SR 20 would block views of the Sutter Buttes from certain spots on the golf course that now have intermittent views. Intermittent views would remain available in other sections of the course. Because of their scarcity, views of the Sutter Buttes are not a dominant feature of the Colusa golf course experience. The project, therefore, would not have a substantial adverse effect on Sutter Butte views from the golf course.

Golf course trees also screen or intermittently obstruct views of the Sutter Buttes from the private residences west of the golf course. The peaks of the Sutter Buttes are intermittently visible above distant trees. The proposed residences near SR 20 would be about 900 feet from these homes at their closest point and would not be visible above the tops of the trees that currently hinder views. The project, therefore, would not obstruct views of the Sutter Buttes from these residences.

In summary, the proposed project would not block views of the Sutter Buttes from public viewpoints and would not substantially affect views from non-public viewpoints, such as existing residences. The project, therefore, would result in a less-than-significant impact related to effects on scenic vistas.

Significance Level: Less than significant because views of the Sutter Buttes would not be obstructed.

Impact A-3: The project would change the visual character of the project area and proposed uses along State Route 20 may be inconsistent with the visual character of nearby residential, commercial, and industrial uses.

With project implementation, views of the project area would include highway commercial uses along SR 20, a golf course near the center of the project area, and residences in the western portion of the Park and along SR 20 in the golf course portion of the project area.

Views of the project area from SR 20 would include a hotel or motel, family restaurant, gas station, and convenience commercial and landscaping associated with these highway commercial uses. These views may be inconsistent with the uses to the south (airport and industrial) and the office park to the north within the Park. Views from the residences to the northwest would include obstructed views of residences and the expanded golf course, consistent with the visual character of the land north and northwest of the project area. Eastward views from these residences would continue to be dominated by the existing golf course and would include intermittent views of the proposed residences along SR 20, screened by golf course trees. Views of the project area from the existing golf course would include the golf course expansion to the south and the proposed high-density residences to the east. Residences currently border much of the golf course; therefore, additional residences to the east would not adversely affect the visual character of the golf course. Views from the south would include highway commercial uses, the golf course, and residences. These views would be consistent with the residences in the City to the northwest, the existing golf course to the north, and the existing office buildings in the Park along SR 20.

The visual character of the project area would be changed from open land with some office buildings to a residential community with commercial and office buildings along SR 20. The northern portion of the Park currently provides a transition area between the City of Colusa and the Park's industrial uses, and this buffer would be maintained by the proposed golf course expansion, highway commercial uses, and office and commercial uses. Additionally, the western portion of the project area currently provides a transition area between the office park and other buildings along SR 20 and the agricultural lands to the west. This transition area would be converted to a residential community, which would include an open space buffer along the western boundary. The buffer would provide a transition area between the residential and agricultural uses, and the residential community would be consistent with the residential community in the City to the northwest; this would ensure the project has a minimal impact on the visual character of the adjacent agricultural land.

The proposed wastewater treatment facility would be a self-contained package plant enclosed within a 59-foot by 36-foot, one-story building that would be visually consistent with small agricultural and industrial buildings in the project vicinity.

In summary, the visual character of the project would generally be consistent with the visual character of the residential and commercial uses in the project vicinity; however, the highway commercial uses may be inconsistent with the nearby office, airport, and industrial uses. The project, therefore, could substantially degrade the existing visual character or quality of the project area and its surrounding, and impacts would be significant.

Significance Level Before Mitigation: Significant.

Mitigation Measure A-3: Implement a landscaping plan for uses along State Route 20.

The County will require the applicant to prepare and implement a landscaping plan for highway commercial uses along SR 20. The landscaping plan will identify measures to blend the uses into the existing setting and screen views of the buildings to minimize adverse views of the project from SR 20. Landscaping similar to that used in the existing office park would be required, and adequate landscaped buffer areas along the highway will be identified. The landscaping plan should be prepared by a qualified landscape architect and will be submitted to the County for review and approval prior to approval of subdivision maps.

Significance Level After Mitigation: Less than significant because implementation of a landscaping plan will ensure minimal adverse effects on views from State Route 20.

Impact A-4: The project would increase nighttime lighting and could affect visibility of drivers on State Route 20.

Nighttime light from the project could have two adverse impacts. First, light can affect light-sensitive land uses (e.g., residences) by interfering with sleep and views of the nighttime sky. Second, light can adversely affect drivers of motor vehicles by interfering with nighttime vision. Views of unshielded light sources can temporarily blind drivers and cause hazardous driving conditions, especially at highway speeds.

The project includes highway commercial uses along SR 20, including a hotel or motel, family restaurant, gas station, and convenience commercial. These uses typically require night lighting because they must attract customers and operate at night. Night light sources for highway commercial uses include signage, parking and walkway lights, overhead lighting at gas pumps, security and perimeter lighting, and interior lighting visible through business windows. All project lighting would be required to comply with Colusa County lighting standards, prohibiting lights from shining toward or directly at adjacent properties or streets. However, the project would create new sources of night light and glare along SR 20 and could adversely affect drivers along the highway because of the close proximity of the uses to the highway.

The golf course would sit at the center of the project area and would remain relatively dark, similar to the existing golf course. Nighttime lighting is not proposed for the golf course. Light sources would be limited to the new clubhouse and might include parking and walkway lights and security and perimeter lights. These lights would be minimal and would not affect surrounding uses.

Nighttime views of the remainder of the project area would include light sources from the proposed residential land uses, including streetlights, vehicle lights, landscape and security lighting, and interior lighting visible through windows. This lighting could adversely affect nighttime views from existing residential neighborhoods to the northwest and adjacent land to the west and south. The residential uses in the project area would block views of new commercial light sources along SR 20 from existing residential neighborhoods to the northwest and from the adjacent agricultural lands because of the flat topography. Lighting from residential uses along SR 20 would be partially shielded by landscaping, which would minimize effects of nighttime lighting and glare on travelers. Drivers on SR 20 would have minimal views of lighting from the low density residences in the western portion of the project area because views would be blocked by the highway commercial uses and existing structures along the highway.

The project would create a new source of light and glare adjacent to existing development and agricultural lands. Commercial buildings along the highway could adversely affect visibility of nighttime drivers, resulting in a significant impact.

Significance Level Before Mitigation: Significant.

Mitigation Measure A-4a: Implement a landscaping plan for uses along State Route 20.

Implement Mitigation Measure A-3.

Mitigation Measure A-4b: Implement a lighting plan for uses along State Route 20.

The County will require the applicant to prepare and implement a lighting plan for highway commercial uses along SR 20. The lighting plan may be prepared in conjunction with the landscaping plan. It will

identify measures to avoid directing light at drivers along the highway and minimize bright light sources that could affect driver visibility. Lighting similar to that used in the existing office park would be required. The lighting plan should be prepared by a qualified landscape architect and will be submitted to the County for review and approval prior to approval of subdivision maps.

Significance Level After Mitigation: Less than significant because use of landscaping and control of light sources along State Route 20 would ensure minimal impacts to drivers.

Significant and Unavoidable Impacts

None.

5. CUMULATIVE IMPACTS

5.1 CEQA REQUIREMENTS FOR CUMULATIVE IMPACT ANALYSIS

This EIR provides an analysis of cumulative impacts of the proposed project, as required by CEQA Guidelines Section 15130. Cumulative Impacts are defined in CEQA Guidelines Section 15355 as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” A cumulative impact occurs from “the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time” (CEQA Guidelines Section 15355[b]).

Consistent with CEQA Guidelines Section 15130(a), the discussion of cumulative impacts in this EIR focuses on significant or potentially significant cumulative impacts. CEQA Guidelines Section 15130(b) provides, in pertinent part:

The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.

This cumulative impact analysis is based on a list of present and reasonably foreseeable probable future projects producing cumulative impacts. The significance thresholds presented in Chapter 4 were used to assess cumulative impacts of the project and related projects. Impacts of past projects are already built into the baseline for the project’s impact analysis (see Chapter 4).

5.2 RELATED PROJECTS

5.2.1 Buildout of Colusa Industrial Park

Approximately 310 acres of the Colusa Industrial Park (Park) outside the limits of the project area are currently zoned for industrial uses. Some of this area has already been developed. Eventual buildout of the remainder of the industrial park is reasonably foreseeable and is considered a related project. The development schedule would be based on market conditions.

5.2.2 City of Colusa General Plan Update

The City of Colusa is in the process of updating its 1990 General Plan. The City’s Public Draft General Plan Update (Colusa GPU) was released in January 2007; it was revised and re-released in May 2007. It is intended to serve as the primary planning document for the City through 2025. Assuming a mid-range density scenario, the Draft General Plan Update estimates that buildout of the City’s sphere of influence (SOI) could yield up to 9,089 dwelling units that will house a population of about 25,000 residents, including existing development and residents (City of Colusa 2007b). This would represent a 400 percent

population increase within the City, and a 200-percent population increase in the County. General Plan buildout is not expected to be completed before 2025, but is reasonably foreseeable and is considered a related project. The northern portion of the Park, including the proposed development area, is located within the City's SOI.

5.2.3 Colusa Casino

The Cachil Dehe Band of Wintun Indians is currently implementing a two-phase expansion of its Colusa Casino. The Phase I expansion is nearly complete, and includes a three-story hotel with 62 rooms; a 10,000-square foot warehouse; a buffet room, restaurant, and new main kitchen; a casino/hotel lobby; a new asphalt parking lot; three new domestic wells; expansion and renovation of an existing wastewater treatment plant and subsurface effluent disposal facilities; a new 100-year storm water detention basin; and a new cogeneration facility. Phase II will include 14,000 square feet of additional space for gaming operations; a 20,000-square foot expansion of the hotel, including 38 rooms and conference space; and parking for 500 additional vehicles (Analytical Environmental Services 2004).

5.3 CUMULATIVE IMPACT ANALYSIS

The following section discusses cumulative impacts expected to result from implementation of the proposed and related projects. Some of the projects' environmental effects would not contribute to significant cumulative impacts because they would clearly not result in cumulatively considerable impacts when considered with the effects of the related projects. Examples include environmental effects related to geology and soils; cultural resources; and aesthetics. These topics are not discussed further in the cumulative impact analysis. Cumulative land use impacts are not separately assessed; instead, this section addresses cumulative land use impacts by evaluating the cumulative physical effects that would result from land use changes associated with the proposed and related projects.

5.3.1 Population, Housing, and Employment

Cumulative Impact PHE-1: The proposed and related projects would increase population within the County by 2010, but County population projections would not be exceeded.

The Colusa GPU expects the City's SOI, including the proposed development area within the Park, will grow at 3–4 percent annually for the next 20 years, and that the growth rate might be higher than 3–4 percent initially (City of Colusa 2007b). Assuming a 3.5 percent annual growth rate, the City's SOI would grow to about 6,630 persons by 2010 (the estimated project completion date), thereby adding about 1,048 residents to the County's overall population by that time.

Buildout of the Colusa GPU would bring the County's overall population to about 21,928 by 2010, which would be 1,572 persons less than the County's projections from their 1989 General Plan of 23,500. Buildout of the project and reasonably foreseeable projects within the Colusa GPU by 2010 would increase the overall population of the County, but population projections would not be exceeded. Cumulative impacts of the project and related projects would not induce unplanned growth, and cumulative impacts would be less than significant.

Significance Level: Less than significant because cumulative growth would not exceed County population projections.

Cumulative Impact PHE-2: The proposed and related projects would add more than 300 dwelling units to the housing stock within Colusa County by 2010, but County housing projections would not be exceeded.

Based on the Colusa GPU's anticipated growth rate of 3-4 percent annually (City of Colusa 2007b), the number of residences within the City's SOI would grow from about 2,000 housing units to about 2,217 units by 2010, thereby adding about 217 units to the County's overall housing stock by 2010.

Buildout of the Colusa GPU would add approximately 217 units to the County, bringing the overall number of housing units in the County to about 7,559 in 2010, which would account for approximately 28 percent of the County's overall housing growth projection of 772 units by that time. The proposed project would add 286 residences to the County, a portion of which are contemplated in the Colusa GPU. Buildout of the project and reasonably foreseeable projects within the Colusa GPU by 2010 would increase the overall number of housing units in the County, but housing projections would not be exceeded. Cumulative impacts of the project and related projects would not induce unplanned growth, and cumulative impacts would be less than significant.

Significance Level: Less than significant because cumulative growth would not exceed County housing projections.

Cumulative Impact PHE-3: The proposed and related projects may not include adequate affordable housing to be consistent with affordable housing policies and programs.

The Colusa GPU provides for a variety of land use designations and a mixture of housing units, including medium and high density housing that could provide affordable housing within the plan area. According to the City's Housing Element (City of Colusa 2004), the City should provide 290 new affordable housing units by 2008. The Colusa GPU Draft Master EIR concludes that the City has adequate sites to meet this goal (City of Colusa 2007a). Additionally, the proposed project does not include provision of affordable housing within the project area to be consistent with County Housing Element policies. If County and City affordable housing policies are not implemented, cumulative impacts would be significant.

Significance Level Before Mitigation: Significant

Mitigation Measure Cumulative PHE-3: Implement County and City affordable housing policies to provide new affordable housing units.

The project will implement Mitigation Measure PHE-3 to provide at least 29 affordable housing units in the project area (10 percent of the total unit count). The County will enforce this measure and ensure other development within the County provides adequate affordable housing for low-income populations. The City should implement affordable housing policies in the City's Housing Element.

Significance Level After Mitigation: If this mitigation measure is implemented, less than significant because sufficient affordable housing would be provided in the County and City as part of future project approvals.

5.3.2 Public Services

Cumulative Impact PS-1: The proposed and related projects would increase demand for law enforcement services, resulting in a need for new staff members and possibly new or expanded facilities.

The Park and the Colusa Casino are located in unincorporated Colusa County, where law enforcement services are provided by the Colusa County Sheriff. The Sheriff's Department receives relatively few calls from the Park. Prior to the Colusa Casino expansion, the Sheriff's Department responded to about three calls per month from the casino (Analytical Environmental Services 2004). The Colusa County Sheriff's Department has a mutual aid agreement with the City of Colusa Police Department. The City Police, therefore, respond to occasional calls from the Park and the Casino.

The proposed and related projects would increase demand on the County Sheriff and the City Police. Buildout of the Park would increase employment and visitation at the Park; the casino expansion would increase visitation and commerce at the casino and increase traffic volumes through the City; and both the proposed project and buildout of the Colusa GPU would increase the local population, thereby increasing the need for police services within the City and surrounding unincorporated areas. The Sheriff's station is operating near capacity and the police station is operating at capacity. Cumulative demands would result in the need for additional Sheriff and police staffing and facilities, the construction of which could have adverse environmental impacts. Increased demand for police services would, therefore, result in a significant cumulative impact.

Significance Level Before Mitigation: Significant

Mitigation Measure Cumulative PS-1: Provide fair share funding for new or expanded facilities and staffing for the Sheriff and City Police.

The County will require all new development projects in the unincorporated County to provide fair share funding, proportionate to the increased demand based on population increases, for new Sheriff facilities and staffing. The project will implement Mitigation Measure PS-1 to provide funding for two new Sheriff Department staff.

The City and Cachil Dehe Band of Wintun Indians should be responsible for requiring new projects to provide fair share funding for new facilities and staffing for the Sheriff and City Police, as appropriate. The proportion of fair share funding should be coordinated with the Sheriff and Police and should be based on the increased demand each project causes. Specific projects within the Colusa GPU should be required to provide adequate funding to meet their fair share requirements. The City should implement applicable policies in its GPU to ensure adequate police services are provided for its residents (Policy SAF-6.1; Policy SAF-6.2; Policy MFS-1.1; Policy MFS-3.2). Note that this is beyond the County's legal ability to implement.

Significance Level After Mitigation: If fair share funding is implemented, impacts on law enforcement services would be less than significant.

Cumulative Impact PS-2: The proposed and related projects would substantially increase demand for County jail services, resulting in a need for new staff members and possibly new or expanded facilities.

The Sheriff's station includes the County's only jail. The jail has 92 beds and the jail's average daily population from March 2005 through August 2006 was 45 inmates. The jail serves City and County residents as well as non-residents.

The proposed and related projects would increase demand for jail services, which increases proportionally with the County's population. The jail currently operates at about half capacity. Buildout of the Colusa GPU would double the County's current population, causing the jail to reach or exceed its capacity. The casino expansion would increase visitation and commerce at the casino and therefore would be expected to increase demand for jail services. The proposed project would increase the County's population and would generate demand for about two jail beds, which could be met by the existing facilities. Cumulative demands, however, would result in the need for additional jail staffing and facilities, the construction of which could have adverse environmental impacts. Increased demand for jail services would, therefore, result in a significant cumulative impact.

Significance Level Before Mitigation: Significant

Mitigation Measure Cumulative PS-2: Provide fair share funding for new or expanded facilities and staffing for the County jail.

The County will require new development projects in the unincorporated County that contribute substantially to the demand on jail services to provide fair share funding, proportionate to the increased demand based on population increases, for new jail facilities and staffing.

The City and Cachil Dehe Band of Wintun Indians should be responsible for requiring new projects to provide fair share funding for new facilities and staffing for the County jail, as appropriate. Note that this measure is beyond the County's legal ability to implement.

Significance Level After Mitigation: If fair share funding is implemented, impacts on the County jail would be less than significant.

Cumulative Impact PS-3: The proposed and related projects would substantially increase demand for fire protection services, resulting in a need for new staff members and possibly new or expanded facilities.

The Park and the Colusa Casino are located in unincorporated Colusa County, where fire protection services are provided by the Sacramento River Fire District (SRFD). The SRFD receives occasional calls from the Park, mostly involving medical emergencies, with a few structure fires on the developed parcels, and vegetation fires on the undeveloped parcels. Prior to the Colusa Casino expansion, the SRFD responded to about eight calls per month from the casino, mostly involving medical emergencies (Analytical Environmental Services 2004).

The City of Colusa Fire Department responds to fire emergencies at the casino because it has trucks equipped to fight hotel fires, if needed. The City Fire Department receives very few calls for mutual aid assistance at the Park (Randy Dunn, personal communication 2007).

Buildout of the Colusa GPU would substantially increase demand on the City Fire Department. Buildout of the Park, the casino expansion, and the proposed project would contribute to new demand on the SRFD

and the City Fire Department that would result in a significant cumulative impact when combined with increased demand from Colusa GPU buildout. Cumulative demands would result in the need for additional fire staffing and facilities, the construction of which could have adverse environmental impacts. Increased demand for fire services would, therefore, result in a significant cumulative impact.

Significance Level Before Mitigation: Significant

Mitigation Measure Cumulative PS-3: Provide fair share funding for new or expanded facilities and staffing for the Sacramento River Fire District and City Fire Department.

The County will require all new development projects in the unincorporated County to provide fair share funding, proportionate to the increased demand based on population increases, for new SRFD facilities and staffing. The project will implement Mitigation Measure PS-3 to provide funding for one new firefighter.

The City and Cachil Dehe Band of Wintun Indians should be responsible for requiring new projects to provide fair share funding for new facilities and staffing for the SRFD and City Fire Department, as appropriate. The proportion of fair share funding should be coordinated with the SRFD and Fire Department and should be based on the increased demand each project causes. Specific projects within the Colusa GPU should be required to provide adequate funding to meet their fair share requirements. The City should implement applicable policies in its GPU to ensure adequate fire protection services are provided for its residents (Policy SAF-3.4; Policy MFS-1.1; Policy MFS-3.1; Policy MFS-3.3). Note that this is beyond the County's legal ability to implement.

Significance Level After Mitigation: If fair share funding is implemented, impacts on fire protection services would be less than significant.

Cumulative Impact PS-4: Growth expected within the Colusa Unified School District would exceed the capacity of its schools by the year 2015.

The proposed and related residential projects are all located in the Colusa Unified School District (CUSD). The CUSD expects student enrollment to increase substantially over the next 10 years, primarily from a forecasted increase in residential development. The CUSD expects that Burchfield Elementary School will reach capacity in the next two years, and the remaining schools will reach capacity by the year 2015 (SchoolWorks, Inc. 2006). Cumulative demands would result in the need for additional school facilities, the construction of which could have adverse environmental impacts. This would be a significant cumulative impact.

Significance Level Before Mitigation: Significant

Mitigation Measure Cumulative PS-4: Provide fair share funding for new facilities for the Colusa Unified School District.

The CUSD will assess developer fees for the proposed and related projects to help pay for additional facilities needed to serve new students generated by the project. The CUSD can assess these fees at a maximum rate of \$2.63 per square foot of assessable space for residential development and \$0.42 for commercial or industrial development as specified in Government Code Section 65995. These fees constitute the exclusive means of both "considering" and "mitigating" school facilities impacts of projects and are "deemed to provide full and complete school facilities mitigation" (Government Code Section 65996[a] and [h]). Additionally, Colusa County may require fair share funding through development agreements with all new projects in the County. The City should implement applicable policies from the

GPU to ensure adequate school facilities are available for its residents (Policy MFS-5.1; Policy MFS-5.2). Note that this is beyond the County's legal ability to implement.

Significance Level After Mitigation: If this measure is implemented, impacts on the Colusa Unified School District would be less than significant.

Cumulative Impact PS-5: The proposed and related projects would substantially increase City park usage and accelerate physical deterioration of the City's park facilities.

Buildout of the Colusa GPU would substantially increase the City's population. As part of the Colusa GPU, approximately 71 acres of new parks, recreational lands, and open space would be provided for City residents. Within this acreage is a 50-acre community park and expansion of recreational opportunities along the Sacramento River to benefit the residents. The proposed project includes expansion of the Colusa Golf and Country Club and provision of walking trails around the golf course to provide some recreation opportunities for project residents. Despite the provision of new or expanded recreational opportunities, use of the City parks would increase substantially. This increase would inhibit the ability of the City's park system to adequately serve the community and would accelerate physical deterioration of the park facilities. This is a significant cumulative impact.

Significance Level Before Mitigation: Significant

Mitigation Measure Cumulative PS-5: Provide fair share funding for park development, maintenance, operation, and renovations in the City of Colusa or provide adequate park facilities to meet the increased demand within new development projects.

The County will require all new development projects in the unincorporated County near Colusa to provide fair share funding, proportionate to the increased demand based on population increases, for City park operation and maintenance, or alternatively providing adequate park facilities as part of the development to meet the specific project's demand. The project will implement Mitigation Measure PS-5 to provide fair share funding based on an increased demand of 15 percent.

The City should be responsible for requiring new development projects to provide fair share funding to the Parks and Community Development Department or provide new facilities to support the added population. The proportion of fair share funding should be coordinated with the Department and should be based on the increased demand each project causes. Specific projects within the Colusa GPU should be required to provide adequate funding or park facilities to meet their fair share requirements. The City should implement applicable policies in its GPU to ensure adequate park facilities are provided for its residents (Policy PRC-2.1; Policy PRC-2.2; Policy PRC-2.3; Policy PRC-3.2; Policy MFS-1.1). Note that this is beyond the County's legal ability to implement.

Significance Level After Mitigation: If fair share funding is implemented, impacts on the City park system would be less than significant.

Cumulative Impact PS-6: The proposed and related projects would substantially increase demand for library, behavioral health, medical, and court facilities and services, resulting in the need for new or expanded facilities and staffing.

Buildout of the Colusa GPU would substantially increase the City's population. When combined with the projected population increase generated by the proposed project, demand for Colusa County Library, behavioral health, public health and medical services, and court services would increase substantially. The casino expansion would increase visitation and commerce in Colusa County and would contribute to

increased demand on medical and court services. Some of these services and facilities are already operating at capacity (see Section 4.3). Cumulative demands would result in the need for additional library, behavioral health, public health, medical, and court facilities, the construction of which could have adverse environmental impacts. This would be a significant cumulative impact.

Significance Level Before Mitigation: Significant

Mitigation Measure Cumulative PS-6: Provide fair share funding for new or expanded facilities and staffing for the library, behavioral health, medical, and court services.

The County will require new development projects in the unincorporated County that contribute substantially to the demand on other community services to provide fair share funding, proportionate to the increased demand based on population increases, for new facilities and staffing.

The City and Cachil Dehe Band of Wintun Indians should be responsible for requiring new projects to provide fair share funding for new facilities and staffing for other community services, as appropriate. Note that this measure is beyond the County's legal ability to implement.

Significance Level After Mitigation: If fair share funding is implemented, impacts on library, medical, health, and court services would be less than significant.

5.3.3 Transportation and Traffic

Cumulative traffic impacts and mitigation are discussed in Section 4.4 (Transportation and Traffic).

5.3.4 Noise

Cumulative Impact N-1: The proposed and related projects would increase traffic noise levels along State Route 20 and would expose existing and new residents and commercial tenants to significant noise levels.

Existing traffic noise levels in the project area along SR 20 exceed the County's accepted exterior noise levels for residential (60 dB), hotel (60 dB), office (65 dB), and restaurant (70 dB) uses. The proposed and related projects would increase traffic on SR 20, causing a further increase in SR 20 noise levels and adversely affecting existing and proposed residential and commercial uses along SR 20.

As shown in Figure 5-1, cumulative traffic noise levels based on buildout of the Colusa GPU in 2025 (City of Colusa 2007b) would exceed 60 dB at existing and proposed uses within approximately 600 feet of SR 20. Because cumulative traffic noise would exceed County noise standards and adversely affect receptors at sensitive land uses along SR 20, traffic-related noise would be a significant cumulative impact.

Significance Level Before Mitigation: Significant.

Figure 5-1. Traffic Noise Contours: Cumulative Conditions



Mitigation Measure Cumulative N-1: Provide appropriate barriers, setbacks, and insulation for new homes and businesses along State Route 20, east of Colusa, to reduce traffic noise levels by 5-10 dB.

The County will ensure new development within the unincorporated County along SR 20 (east of Colusa) provides appropriate barriers, setbacks, and insulation to reduce traffic noise levels by 5-10 dB for sensitive receptors. The project will implement Mitigation Measure N-2 to reduce traffic noise levels in the high density residential area and commercial areas along SR 20.

The City should be responsible for ensuring new development projects along SR 20 are designed to reduce traffic noise levels by 5-10 dB, as appropriate to meet acceptable noise levels. The City should implement applicable policies in its GPU to ensure new development meets acceptable traffic noise levels (Policy N-1.1; Policy N-1.2; Policy N-1.3; Policy N-1.4; Policy N-1.5; Policy N-1.6). Note that this is beyond the County's legal ability to implement.

Significance Level After Mitigation: Significant and unavoidable because it is not feasible to retrofit existing homes, and exterior traffic noise levels would not be reduced to acceptable levels for all uses along State Route 20.

Cumulative Impact N-2: The proposed and related projects in close proximity to the Colusa County Airport would expose sensitive receptors to excessive noise levels from aircraft overflights.

The Colusa GPU and proposed project include residential and commercial uses in close proximity to the Colusa County Airport. Ongoing aircraft noise levels would expose future residents and tenants to excessive noise levels, exceeding the airport's Comprehensive Land Use Plan (CLUP) standard of 55 dB community noise exposure level (CNEL) for these uses, depending on their specific locations near the airport. Noise exposure in some locations (particularly within the proposed project) would range from 55 to more than 75 dB CNEL, according to noise contours prepared for the airport (see Appendix D). The exposure of proposed uses associated with the proposed and related projects to excessive noise levels would be a significant cumulative impact.

Significance Level Before Mitigation: Significant.

Mitigation Measure Cumulative N-2: Design new homes and businesses near the airport to reduce interior aircraft-related noise levels by up to 30 dB.

The County will ensure new development within the unincorporated County and in close proximity to the Colusa County Airport provides appropriate design measures to reduce interior noise levels associated with aircraft overflights by up to 30 dB. The project will implement Mitigation Measure N-4a to reduce interior aircraft-related noise levels throughout the project area by up to 30 dB.

The City should be responsible for ensuring new development projects in close proximity to the airport are designed to reduce aircraft-related, interior noise levels by up to 30 dB, as appropriate to meet acceptable noise levels. The City should implement applicable policies in its GPU to ensure new development meets acceptable interior noise levels (Policy N-1.1; Policy N-1.2; Policy N-1.3). Note that this is beyond the County's legal ability to implement.

Significance Level After Mitigation: Significant and unavoidable because the proximity of sensitive uses to the airport would still expose sensitive receptors to excessive aircraft noise.

5.3.5 Air Quality

Cumulative Impact AQ-1: The proposed and related projects would generate short-term construction-related dust and vehicle emissions that would exceed established emissions thresholds for ROG, NO_x, and PM₁₀, resulting in adverse effects on local air quality.

Short-term air quality impacts can occur during grading and other construction operations. As discussed in Section 4.6 (Air Quality), construction emissions associated with the proposed project would exceed the construction emission thresholds. Specifically, the project could generate up to 376 pounds per day of ROG, 712 pounds per day of NO_x, and 707 pounds per day of PM₁₀, thereby exceeding the significance thresholds of 25, 25, and 80 pounds per day, respectively, for each of these pollutants.

The related projects would also include grading and other construction activities that would generate ROG, NO_x, and PM₁₀. Cumulatively, construction activities for the proposed and related projects would exceed the significance thresholds, resulting in a significant cumulative impact.

Significance Level Before Mitigation: Significant

Mitigation Measure Cumulative AQ-1: Reduce construction emissions through water application, covering loads, periodic cleaning of paved areas, and establishing speed limits.

The County will ensure new development in the unincorporated County implements measures, such as those described in Mitigation Measure AQ-1, during construction to reduce construction pollutants. The project will implement Mitigation Measure AQ-1 to reduce construction pollutants and emissions.

The City and the Cachil Dehe Band of Wintun Indians should be responsible for implementing similar measures during construction activities to reduce construction-related pollutants and emissions. The City should implement applicable policies in its GPU to reduce construction pollutants and emissions (Policy PRC-5.1). Note that this is beyond the County's legal ability to implement.

Significance Level After Mitigation: Significant and unavoidable because although the mitigation would reduce construction emissions, it would not reduce the construction emissions on all days to levels that would not substantially contribute to potential air quality violations of PM₁₀ or ozone standards in the project vicinity.

Cumulative Impact AQ-2: The proposed and related projects would result in long-term stationary and mobile emissions that exceed air quality thresholds for ROG, NO_x, and PM₁₀.

Long-term air quality impacts can be generated by increased vehicle trips, fuel combustion related to natural gas, wood stoves, fireplaces and landscape maintenance, and to a lesser extent, use of consumer products such as hair sprays and deodorants.

As discussed in Section 4.6 (Air Quality), operational emissions associated with the proposed project would exceed the emission thresholds. Specifically, the project could generate up to 249 pounds per day of ROG, 118 pounds per day of NO_x, and 142 pounds per day of PM₁₀, thereby exceeding the significance thresholds of 25, 25, and 80 pounds per day, respectively, for each of these pollutants.

The related projects would generate new vehicle trips, increase fuel combustion, or increase use of consumer products, thereby generating ROG, NO_x, and PM₁₀. Cumulative emissions would exceed the significance thresholds, resulting in a significant cumulative impact.

Significance Level Before Mitigation: Significant.

Mitigation Measure Cumulative AQ-2a: Design new homes to include certified woodstoves and outdoor electrical outlets.

The County will ensure new housing development in the unincorporated County incorporates measures to design homes with certified woodstoves and outdoor electrical outlets. The project will implement Mitigation Measure AQ-2a to reduce operational pollutants.

The City should be responsible for incorporating similar design requirements in new housing development to reduce operational pollutants. Note that this is beyond the County's legal ability to implement.

Mitigation Measure Cumulative AQ-2b: Provide sidewalks, bike routes, and other opportunities for alternative forms of transportation within the City of Colusa and adjacent unincorporated County.

The County will ensure new development in the unincorporated County implements measures, such as those described in Mitigation Measure AQ-2b, to provide opportunities for alternative forms of transportation. The project will implement Mitigation Measure AQ-2b to provide sidewalks and bike paths in the project area.

The City should be responsible for incorporating similar measures in designing new development projects to provide alternative forms of transportation. The City should implement applicable policies in its GPU to provide alternative transportation and reduce operational emissions (Policy PRC-5.1; Policy PRC-5.2; Policy PRC-5.3; Policy PRC-5.4; Policy PRC-5.5). Note that this is beyond the County's legal ability to implement.

Significance Level After Mitigation: Significant and unavoidable because with implementation of these measures, localized operational emissions would be reduced, but no feasible mitigation measures have been identified that would reduce the operational emissions on all days to levels that would not substantially contribute to potential air quality violations of PM10 or ozone in the project vicinity.

Cumulative Impact AQ-3: The proposed and related projects would increase CO concentrations at intersections, but would not expose sensitive receptors to substantial CO concentrations.

Vehicle exhaust emissions include CO, a chemical harmful to human health. Localized concentrations (i.e., hot spots) of CO can occur along congested sections of roadways and at intersections where vehicles idle while waiting to proceed. As discussed in Section 4.6 (Air Quality), CO concentrations were modeled at five sensitive receptors along the most congested sections of roadway identified in the traffic study. The modeling included an analysis of cumulative conditions in the year 2025, including the proposed project. As shown in Table 4.6-5, cumulative CO emissions would not exceed the significance thresholds. Cumulative CO impacts, therefore, would be less than significant.

Significance Level: Less than significant because cumulative CO emissions would not expose sensitive receptors to substantial pollutant concentrations.

5.3.6 Utilities and Service Systems

Cumulative Impact U-1: The proposed and related projects would increase demand for water supply, wastewater service, and solid waste disposal services, but existing and proposed facilities would be capable of serving the demand.

The proposed and related projects would cumulatively increase demand for water supply, wastewater treatment and disposal, and solid waste disposal. This EIR evaluates cumulative water supply impacts in terms of effects on the Colusa Subbasin (groundwater aquifer) from increased pumpage (see Cumulative Impact HWQ-5 below) and evaluates cumulative impacts on stormwater drainage systems in terms of the capacity of the drainage ditch running through the Park (see Cumulative Impact HWQ-3 below).

The project's wastewater treatment facility has been designed to have adequate capacity to serve the proposed project and all existing industrial and office uses within the Park and can be expected to accommodate flows from buildout of the Park. The City and the Cachil Dehe Band of Wintun Indians wastewater facilities will be designed to accommodate projected flows in their service areas. Therefore, cumulative impacts related to wastewater services would be less than significant.

The Ostrom Road Landfill has a permitted capacity of more than 41 million cubic yards, and approximately 40 million cubic yards were estimated as remaining in 2004 (CIWMB 2006). The landfill can receive up to 3,000 tons of solid waste per day and has an expected closure date of 2066 (Norcal Waste Systems 2006). The landfill is, therefore, expected to have sufficient capacity to serve the proposed and related projects, resulting in a less than significant cumulative impact with respect to solid waste services.

Significance Level: Less than significant because existing and proposed service systems would be capable of serving the increased cumulative demand.

5.3.7 Hydrology and Water Quality

Cumulative Impact HWQ-1: The proposed and related projects could impair surface water quality and alter beneficial uses of the Sacramento River.

The proposed and related projects could adversely affect Sacramento River water quality and alter beneficial uses. Construction activities would expose surface soils during construction activities that could result in increased surface runoff and erosion. Construction activities would also increase the likelihood for inadvertent spills of construction-related chemicals. After construction, stormwater runoff carrying urban pollutants from parking lots and roadways and fertilizers and pesticides from landscaped areas could reach the Sacramento River. Impairment of surface water quality and alteration of beneficial uses of the Sacramento River would be a significant cumulative impact.

Significance Level Before Mitigation: Significant

Mitigation Measure Cumulative HWQ-1a: Implement best management practices during construction to control construction-related stormwater runoff, erosion, and sedimentation.

The County will ensure new development in the unincorporated County implements best management practices (BMPs), such as those described in Mitigation Measure HWQ-1, to minimize construction-related pollutants during construction activities. The project will implement Mitigation Measure HWQ-1 to implement BMPs during construction activities.

The City and Cachil Dehe Band of Wintun Indians should be responsible for incorporating similar BMPs in construction phases of their projects. The City should implement applicable policies in its GPU to reduce construction-related pollutants (Policy PRC-7.1). Note that this is beyond the County's legal ability to implement.

Mitigation Measure Cumulative HWQ-1b: Implement and enforce stormwater quality management plans and stormwater best management practices to manage urban runoff in developed areas.

The County will ensure new development in the unincorporated County prepares a stormwater quality management plan and implements BMPs, such as those described in Mitigation Measure HWQ-2b, to minimize urban-related pollutants following construction. The project will implement Mitigation Measure HWQ-2b to prepare a stormwater quality management plan and incorporate urban BMPs into the project design.

The City and Cachil Dehe Band of Wintun Indians should be responsible for preparing stormwater quality management plans and incorporating similar BMPs as part of their projects. The City should implement applicable policies and implementing actions in its GPU to reduce urban-related pollutants (Policy PRC-7.1; Implementing Action LU-6.3.g). Note that this is beyond the County's legal ability to implement.

Significance Level After Mitigation: If these measures are implemented, impacts on water quality of the Sacramento River would be less than significant.

Cumulative Impact HWQ-2: Development of the project area, the upstream section of the City, and the remaining portions of the Park would result in increased stormwater flows in the unnamed ditch and downstream drainages.

Surface runoff from the project area, the eastern portion of the City of Colusa, and the remaining portions of the Park drains into the unnamed ditch running through the Park and is conveyed to the Colusa Drain and eventually to the Sacramento River. Development of these areas would increase the volume of surface flows being discharged into the ditch and into downstream surface waters and could cause the ditch to exceed its capacity during major storm events, resulting in a significant cumulative impact related to localized flooding. The unnamed ditch has capacity to convey up to 105 cfs and would be capable of receiving increased flows from the proposed project without resulting in flooding; however, increased runoff from upstream development could exceed capacity of the ditch.

The City has indicated that current and future City development upstream of the Park has been planned to drain through the Park. Buildout of the portion of the City upstream of the project area could cause the ditch to exceed capacity during storm events when combined with increased runoff generated by the proposed project and development of the remaining sections of the Park. The increased runoff could cause localized flooding in the Park, including within the project area, at the airport, on downstream properties, and upstream of the project area, if flows back up in the ditch. This would be a significant cumulative impact.

Significance Level Before Mitigation: Significant.

Mitigation Measure Cumulative HWQ-2a: Maintain, and widen as necessary, the unnamed ditch in the Park.

The project will implement Mitigation Measure HWQ-2a to maintain and widen the unnamed ditch in the Park. In addition, the County and City should ensure new projects provide additional stormwater retention or detention to limit surface runoff to pre-development rates.

Mitigation Measure Cumulative HWQ-2b: Implement master drainage plans to assure downstream drainages can accommodate increased runoff from new projects.

The County will ensure new development in the unincorporated County prepares a master drainage plan to identify measures to reduce and control surface runoff and minimize the effects on downstream drainages. The project will implement Mitigation Measure HWQ-2c to prepare a master drainage plan.

The City should be responsible for preparing master drainage plans as part of its projects. The City should implement applicable implementing actions in its GPU to control surface runoff in developed areas (Implementing Action LU-6.3.g). Note that this is beyond the County's legal ability to implement.

Significance Level After Mitigation: If these measures are implemented, impacts on downstream drainages would be less than significant.

Cumulative Impact HWQ-3: The proposed and related projects would result in a minor reduction in groundwater recharge in the Colusa Subbasin.

Development of the proposed and related projects would result in an increase in impervious surfaces, which would increase surface runoff and decrease groundwater recharge in developed areas. The reduction in groundwater recharge would be minimal because the majority of recharge within the Colusa Subbasin occurs within the foothills where more coarse grained sediments are exposed at the surface and along streams and rivers, such as the nearby Sacramento River. The proposed and related projects, therefore, would not result in a significant cumulative impact related to groundwater recharge.

Significance Level: Less than significant because the reduction in groundwater recharge would be minimal.

Cumulative Impact HWQ-4: The proposed and related projects would increase groundwater use in the Colusa Subbasin, but would have a minimal effect on groundwater levels.

The proposed and related projects would increase groundwater pumping for water supply within the Colusa Subbasin. The project would increase groundwater use by approximately 153 million gallons per year, which represents a 0.15 percent increase in pumpage within the county. The Colusa GPU water demand is estimated at 8,839 acre-feet per year at full buildout, which is less than the current demand by approximately 194 acre-feet per year (City of Colusa 2007a). The overall decrease in demand is a result of conversion of agricultural uses, which typically generate more demand, to urban uses. Groundwater resources in the aquifer are not in overdraft, so cumulative increases in pumpage within the county would not create a significant groundwater impact.

Significance Level: Less than significant because the increased demand on groundwater use in the Colusa Subbasin would have a minimal effect on groundwater levels.

Cumulative Impact HWQ-5: The proposed and related projects would include uses that could adversely affect groundwater quality within the Colusa Subbasin.

The project would increase wastewater generated within the Park and would involve land application of treated effluent, which could result in adverse effects on groundwater quality if effluent percolates into the groundwater aquifer. The Colusa GPU would involve land uses that would generate pollutants that could percolate into the groundwater aquifer, especially in areas where stormwater runoff is temporarily detained. Increased pollutants in developed areas could adversely affect groundwater quality, resulting in significant cumulative impacts.

Significance Level Before Mitigation: Significant.

Mitigation Measure HWQ-5: Comply with Waste Discharge Requirements issued by the Central Valley Regional Water Quality Control Board.

The County will ensure new development in the unincorporated County obtains and complies with Waste Discharge Requirements (WDRs), as required. The project will implement Mitigation Measure HWQ-5 to comply with revised WDRs to be issued by the Central Valley RWQCB.

The City should be responsible for ensuring its projects obtain and comply with WDRs, as required. The City should implement applicable policies and implementing actions in its GPU to reduce pollutants in developed areas and minimize adverse effects on groundwater quality (Policy PRC-7.1; Policy PRC-9.2; Policy SAF-4.3; Implementing Action SAF-4.1.a). Note that this is beyond the County's legal ability to implement.

Significance Level After Mitigation: If this measure is implemented, impacts on groundwater quality of the Colusa Subbasin would be less than significant.

5.3.8 Hazards and Hazardous Materials

Cumulative Impact HHM-1: Colusa County Airport operations would expose residents, visitors, and workers to health and safety risks associated with routine crop-dusting.

The proposed project and Colusa GPU include residential land uses within the Colusa County Airport overflight zone, which would be incompatible with the Colusa County Airport CLUP. The CLUP only allows single-family residential uses within the overflight zone at a density of at least five acres per residence in order to minimize the number of people exposed to potential hazards with aircraft accidents. Other uses within the overflight zone would also expose people to potential hazards from aircraft operations. Additionally, routine crop-dusting would expose residents and others within the flight path of the crop-dusting planes to potential hazards from chemical spills (pesticides, fungicides, and herbicides). The exposure of a substantial number of people to hazards associated with airport operations would be a significant cumulative impact.

Significance Level Before Mitigation: Significant.

Mitigation Measure: No feasible mitigation measures are available to reduce this impact (see Section 4.10).

Significance Level After Mitigation: Significant and unavoidable because no feasible mitigation measures exist to reduce exposure of a substantial number of people to health and safety risks associated with airport operations.

5.3.9 Biological Resources

Cumulative Impact BR-1: Land conversion for the proposed and related projects would cause a cumulative loss of wildlife habitat and adverse impacts on special status species.

Buildout of the Colusa GPU would convert large tracts of undeveloped farmland to urban uses and could result in a loss of some wetlands, riparian habitat, and native trees. Buildout of the Park would convert old agricultural fields and disturbed habitat to industrial uses. The project would convert old agricultural

fields and disturbed habitat, remove a few oak trees, and would convert three acres of farmland to developed uses. The cumulative loss of agricultural habitat in the area would result in a loss of foraging habitat for various migratory and non-migratory birds, mammals, and possibly special status wildlife and could result in the loss of nesting habitat for waterfowl, other migratory birds, and special status wildlife. Although the project's impacts would be minor, the cumulative loss of habitat would be a significant cumulative impact.

Significance Level Before Mitigation: Significant.

Mitigation Measure Cumulative BR-1: Avoid adverse impacts to biological resources, and provide appropriate mitigation to offset unavoidable adverse impacts.

The County will ensure new development in the unincorporated County complies with applicable biological regulations (i.e., federal and state Endangered Species Acts, Clean Water Act), as required, and implements mitigation measures to avoid impacts to biological resources where feasible and offset unavoidable impacts through habitat replacement or other measures. For impacts to federally or state listed species, applicants may be required to consult with the U.S. Fish and Wildlife Service or California Department of Fish and Game and obtain incidental take permits. Impacts to waters of the U.S. would require permitting through the U.S. Army Corps of Engineers. These regulatory agencies would identify appropriate mitigation, in coordination with the applicant, to fully mitigate impacts to biological resources. Typical mitigation would include replacing habitat, either through an on-site or off-site conservation easement or use of an existing mitigation bank; construction avoidance measures, such as establishing buffers around active nest sites, limiting construction to the non-breeding period, or using construction fencing around avoidance areas; and transplanting sensitive plant populations or relocating sensitive wildlife to a suitable off-site location.

The City should be responsible for ensuring its projects comply with applicable biological regulations, as required, and implement appropriate mitigation measures to reduce impacts. The City should implement applicable policies in its GPU to avoid or reduce impacts to biological resources (Policy PRC-1.1; Policy PRC-1.2; Policy PRC-6.1; Policy PEC-6.2; Policy PRC-9.1). Note that this is beyond the County's legal ability to implement.

Significance Level After Mitigation: If this measure is implemented, impacts on biological resources would be less than significant.

5.3.10 Agricultural Resources

Cumulative Impact AR-1: The proposed and related projects would convert a substantial amount of farmland, resulting in a cumulative loss of farmland and a reduction in agricultural productivity in the County.

Buildout of the Colusa GPU would convert a substantial amount of Prime Farmland to urban uses; buildout of the Park would convert Unique Farmland and Farmland of Local Importance to industrial uses; casino expansion could convert several acres of Prime Farmland to casino and hotel uses; and the project would convert 2 acres of Prime Farmland and 1 acre of Unique Farmland for site development. Farmland conversion caused by the proposed and related projects would result in a significant cumulative impact.

Significance Level Before Mitigation: Significant.

Mitigation Measure Cumulative AR-1: Provide conservation easements or other preservation areas to protect large blocks of existing farmland in Colusa County in perpetuity.

The County, City, and the Cachil Dehe Band of Wintun Indians will be responsible for performing environmental evaluations (CEQA or their equivalent) for future projects proposed within their jurisdictions. The analyses will include evaluations of farmland conversion and consistency with the applicable farmland preservation policies of their respective planning documents and will require mitigation of significant environmental impacts when feasible. Such mitigation may include establishment of conservation easements to protect large blocks of existing farmland in Colusa County in perpetuity. The applicants would be responsible for acquiring the land and protecting it from future land conversion to ensure agricultural productivity in the County continues. Note that the implementation of this measure for City and Cachil Dehe Band projects is beyond the County's legal ability to implement.

Significance Level After Mitigation: Significant and unavoidable because, notwithstanding CEQA and other environmental reviews, it is probable that future projects would contribute to further farmland conversion and result in a net loss of agricultural land in the County.

5.3.11 Significant and Unavoidable Impacts

Cumulative Impact N-1: The proposed and related projects would increase traffic noise levels along State Route 20 and would expose existing and new residents and commercial tenants to significant noise levels.

Cumulative Impact N-2: The proposed and related projects within the Colusa County Airport overflight corridor would expose sensitive receptors to excessive noise levels from aircraft overflights.

Cumulative Impact AQ-1: The proposed and related projects would generate short-term construction-related dust and vehicle emissions that would exceed established emissions thresholds for ROG, NO_x, and PM₁₀, resulting in adverse effects on local air quality.

Cumulative Impact AQ-2: The proposed and related projects would result in long-term stationary and mobile emissions that exceed air quality thresholds for ROG, NO_x, and PM₁₀.

Cumulative Impact HHM-1: Colusa County Airport operations would expose residents, visitors, and workers to health and safety risks associated with routine crop-dusting.

Cumulative Impact AR-1: The proposed and related projects would convert a substantial amount of farmland, resulting in a cumulative loss of farmland and a reduction in agricultural productivity in the County.

6. CLIMATE CHANGE

This section defines climate change and greenhouse gasses, presents the current legislation and programs to address climate change in California, analyzes potential impacts to climate change from the project, and provides mitigation measures to reduce greenhouse gas emissions.

6.1 INTRODUCTION

Climate change refers to any significant change in measures of climate (such as temperature, precipitation, or wind) lasting for an extended period (decades or longer) (EPA 2007). Climate change may result from:

- Natural factors, such as changes in the sun's intensity or slow changes in the Earth's orbit around the sun;
- Natural processes within the climate system (e.g. changes in ocean circulation);
- Human activities that change the atmosphere's composition (e.g. through burning fossil fuels) and the land surface (e.g. deforestation, reforestation, urbanization, desertification, etc.)

Human activities, such as fossil fuel combustion, release photochemically important gasses, termed greenhouse gasses (GHGs). GHGs are effective in trapping infrared radiation which otherwise would have escaped the atmosphere, thereby warming the atmosphere (EPA 2007).

6.1.1 Greenhouse Gases and Global Climate Change

Greenhouse Gases

GHGs are any gas that absorbs infrared radiation in the atmosphere (EPA 2007). GHGs, as defined in Assembly Bill 32 (AB 32), includes the following gasses: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). A brief summary of each GHG is summarized below (EPA 2007):

Carbon Dioxide (CO₂)

A naturally occurring gas and also a by-product of burning fossil fuels and biomass as well as land use changes and other industrial processes (EPA 2007). It is the principal anthropogenic greenhouse gas that affects the Earth's radiative balance.

Methane (CH₄)

A hydrocarbon that is a greenhouse gas with a global warming potential most recently estimated at 23 times that of CO₂. Methane is produced through anaerobic (without oxygen) decomposition of waste in landfills, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

Nitrous Oxide (N₂O)

N₂O is a powerful greenhouse gas with a global warming potential of 296 times that of CO₂. Major sources of nitrous oxide include soil cultivation practices, especially the use of commercial and organic fertilizers, fossil fuel combustion, nitric acid production, and biomass burning.

Hydrofluorocarbons (HFCs)

Compounds introduced as alternatives to ozone depleting substances in serving many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are also used in manufacturing. They do not significantly deplete the stratospheric ozone layer but they are powerful greenhouse gasses with global warming potential ranging from 140 to 11,700 times that of CO₂.

Perfluorocarbons (PFCs)

These chemicals were introduced along with hydrofluorocarbons as alternatives to ozone depleting substances. In addition, PFCs are emitted as by-products of industrial processes and are also used in manufacturing. PFCs do not deplete the stratospheric ozone layer but they are powerful greenhouse gasses with global warming potential ranging from 5,700 to 11,900 times that of CO₂.

Sulfur Hexafluoride (SF₆)

A colorless gas soluble in alcohol and ether, slightly soluble in water, with a global warming potential 22,200 times that of CO₂. SF₆ is a very powerful greenhouse gas used primarily in electrical transmission and distribution systems and as a dielectric in electronics.

6.1.2 Global Climate Change

A series of reports issued by the United Nations Intergovernmental Panel on Climate Change has synthesized the results of recent scientific studies of climate change (UNIPCC 2007a, 2007b, 2007c). Key findings of these reports include the following:

- Global atmospheric concentrations of carbon dioxide, methane, and nitrous oxide have increased markedly as a result of human activities since 1750, and now far exceed pre-industrial levels. Global increases in carbon dioxide concentration are due primarily to fossil fuel use and land use change, and global increases in methane and nitrous oxide are due primarily to agriculture.
- Warming of the global climate due to GHGs is unequivocal, as evidenced by increases in air and water temperatures, widespread melting of snow and ice, and rising global average sea level. Most of the increase in global average temperatures since the mid-twentieth century is very likely due to increases in GHGs from human activities. GHG emissions increased 70 percent between 1970 and 2004.
- Numerous long-term climate changes observed have included changes in arctic temperatures and ice, precipitation, ocean salinity, wind patterns, and the frequency of extreme weather events such as droughts, heavy precipitation, heat waves, and tropical cyclone intensity.
- Continued GHG emissions at current rates would cause further warming and climate change during the twenty-first century that would very likely be larger than that observed in the twentieth century.

- Climate change is expected to have adverse impacts on water resources, ecosystems, food and forest products, coastal systems and low-lying areas, urban areas, and public health. These impacts will vary regionally.

6.1.3 California GHG Emissions and Climate Change

In California, the main sources of GHG emissions are from the transportation and energy sectors. According to the California Air Resources Board (CARB) draft GHG emission inventory for the year 2004, 39 percent of GHG emissions result from transportation and 25 percent of GHG emissions result from electricity generation. California produced 497 million metric tons of CO₂ equivalent (MMtCO_{2e}) in 2004 (CARB 2007). California produces about 2 percent of the world's GHG emissions.

The potential effects of future climate change on California resources include (CCCP 2007):

- Air temperature: increases of 3–10.4 degrees Fahrenheit by the end of the century, depending on the aggressiveness of GHG emissions mitigation
- Sea level rise: 6–30 inches by the end of the century, depending on the aggressiveness of GHG emissions mitigation
- Water resources: reduced Sierra snowpack, reduced water supplies, increased water demands, changed flood hydrology
- Forests: changed forest composition, geographic range, and forest health and productivity
- Ecosystems: changed habitats, increased threats to certain endangered species
- Agriculture: changed crop yields, increased irrigation demands
- Public health: increased respiratory illness and weather-related mortality

6.2 CALIFORNIA CLIMATE CHANGE LEGISLATION AND PROGRAMS

6.2.1 Vehicle Climate Change Standards

With the passage of AB 1493 (Chapter 200, Statutes of 2002), California moved to the forefront of reducing vehicle climate change emissions. This bill required the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by CARB in September 2004. CARB analysis of this regulation indicates emissions savings of 1 MMtCO_{2e} by 2010 and 30 (MMtCO_{2e}) tons CO₂ equivalent by 2020. For these standards to go into effect, EPA must approve a waiver of Clean Air Act requirements to allow California (and other states) motor vehicle standards to exceed federal standards.

6.2.2 Assembly Bill 32

In September 2006, the Governor signed into law the California Global Warming Solutions Act of 2006 (Assembly Bill 32, Health & Safety Code Secs. 38500 et seq.). This law requires CARB to design and implement emission limits, regulations, and other measures, such that statewide GHG emissions are reduced in a technologically feasible and cost-effective manner to 1990 levels by 2020 (representing a 25 percent reduction). The following summarizes outputs from AB 32 to date.

Early Action Plans At the June 21, 2007 CARB hearing, 37 early actions were approved, including three strategies that were determined to meet the statutory definition of “discrete early actions.” On September 7, 2007, CARB released a list of additional early action measures and discrete early actions. CARB staff will present recommendations at the October 25-26 board hearing.

Draft Emission Inventory AB 32 requires that CARB determine the statewide 1990 GHG emission levels to be achieved by 2020. The most recent version of the emission inventory was presented at a workshop on August 13, 2007. CARB will release a draft staff report on the emission inventory in fall 2007, and the inventory will go to the Board for consideration at the hearing in December 2007.

Draft Mandatory Reporting Requirement AB 32 also requires that CARB adopt a regulation to require the mandatory reporting and verification of GHG emissions. A preliminary draft of the reporting requirement regulation was presented at a workshop on August 15, 2007. CARB staff will use the comments received to prepare a proposed regulation and staff report to be released on October 19, 2007 for a formal 45-day comment period. The regulation and staff report will go to the Board for consideration at the hearing in December 2007.

6.2.3 Senate Bill 1368

SB 1368 (Public Utilities Code Sections 8340 et seq.) is an AB 32 companion bill that was signed into law in 2006. It requires the California Public Utilities Commission (CPUC) to establish a GHG performance standard for baseload generation from investor-owned utilities and the California Energy Commission (CEC) to establish a similar standard for publicly-owned utilities. These standards may not exceed the GHG emission rate from a baseload combined-cycle natural gas fired plant. The bill also requires all imported electricity provided to California to be generated from plants meeting CPUC and CEC standards.

6.2.4 Renewable Portfolio Standard Program

The CPUC and CEC coordinate the Renewable Portfolio Standard (RPS), which calls for more energy to come from clean, renewable sources such as wind and sun. In 2003, the Governor called for an acceleration of the RPS to 20 percent by 2010 rather than 2017; this goal was codified by SB 107 (Chapter 464, Statutes of 2006). In 2005, the Governor called for an acceleration of the RPS to 33 percent by 2020.

6.2.5 Senate Bill 97

The California Environmental Quality Act (CEQA) requires the Office of Planning and Research (OPR) to prepare and develop proposed guidelines for implementation of CEQA by public agencies. Accordingly, SB 97 (Chapter 185, Statutes of 2007) requires OPR to develop guidelines for the feasible mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions by July 1, 2009. The Resource Agency must certify and adopt those guidelines by January 10, 2010. Until these guidelines are adopted, there is no formal guidance on how to conduct climate change analyses in CEQA documents.

6.2.6 Governor’s Executive Orders

Executive Order S-3-05 was signed in 2005. The Executive Order calls for a reduction of GHG emissions to 2000 levels by 2010; a reduction of GHG emissions to 1990 levels by 2020; and a reduction of GHG

emissions to 80 percent below 1990 levels by 2050. The order directs the California Environmental Protection Agency (CalEPA) secretary to coordinate development and implementation of strategies to achieve the GHG reduction targets in conjunction with the secretary of Business, Transportation and Housing Agency, the secretary of the Department of Food and Agriculture, the secretary of the Resources Agency, the chairperson of the Air Resources Board, the chairperson of the CEC, and the president of the CPUC.

CalEPA developed the Climate Action Team made up of representatives from the agencies listed above to implement the strategies to reduce GHG emissions. The order also includes a reporting requirement for the CalEPA to the governor and legislature. The first report was released in March 2006 (CalEPA 2006), and a report will be issued bi-annually in the future. The Climate Action Team has also issued a report on proposed early actions to mitigate climate change in California (CAT 2007).

Executive Order S-1-07, the Low Carbon Fuel Standard (LCFS) (issued on January 18, 2007), calls for a reduction of at least 10 percent in the carbon intensity of California's transportation fuels by 2020. The executive order instructed the CalEPA to coordinate activities between the University of California, the CEC, and other state agencies to develop and propose a draft compliance schedule to meet the 2020 target. Furthermore, the order directed CARB to consider initiating regulatory proceedings to establish and implement the LCFS. In response, CARB identified the LCFS as an early action item with a regulation to be adopted and implemented by 2010.

6.3 IMPACT ANALYSIS

6.3.1 Methodology

GHG emissions associated with the project were estimated using CO₂ emissions as representative of CH₄, N₂O, HFCs, PFCs, and SF₆. Emissions of the latter pollutants were not separately estimated; therefore, the total GHGs associated with the project would be greater than the CO₂ emissions calculated here. The analyses considered operations emissions only; project construction would generate additional CO₂ emissions which are minor when compared to operational emissions.

Operation Emissions

Operation emissions were estimated using the same methodology as used in the City of Colusa General Plan Update Draft EIR (City of Colusa 2007). The following CO₂ emissions factors were used:

- Residential energy use: 44,130 lbs/yr CO₂ per dwelling unit
- Commercial energy use: 11.356 lb/yr CO₂ per square foot
- Transportation: 294.4 lbs/yr CO₂ per daily vehicle mile traveled (VMT)

Methodology Uncertainties

Several uncertainties affect the CO₂ emissions estimates presented in this EIR:

- The analysis assumes today's CO₂ emissions factors will apply in future years. The extent to which construction and operations emissions factors will change in the future is unknown. It is

likely that AB 32 and other GHG regulatory programs will reduce at least some of these emissions factors.

- The analysis assumes all CO₂ emissions associated with the project are “new.” However, some of these emissions would actually be “redistributed” from existing developments in other locations, but the extent of this redistribution is uncertain.
- Although it is possible to calculate the project’s incremental CO₂ emissions, it is not possible to demonstrate that the project’s relatively minor incremental contribution to global GHG emissions would contribute to global climate change effects.

6.3.2 Criteria for Determining Significance

Specific significance criteria for GHG emissions have not been developed under CEQA. However, for this project, adverse impacts to climate change would be considered significant if the project would:

- Generate a substantial increase in GHG emissions relative to existing conditions.

6.3.3 Impacts and Mitigation Measures

Impact CC-1: Project operation would generate 10,270 metric tons of CO₂ per year.

Using the emissions factors presented previously, the project would generate the following CO₂ emissions:

- Residential energy use: 12,621,000 lbs/yr
- Commercial energy use: 1,323,900 lbs/yr
- Transportation: 8,697,100 lbs/yr
- **Total: 22,642,000 lbs/yr, equal to 10,270 metric tons/yr**

The project’s CO₂ emissions represent about 3.4 percent of the City of Colusa General Plan Update buildout emissions of 658,226,000 lbs/yr (City of Colusa 2007).

California GHG emissions in 2004 were estimated to be 497 million metric tons of CO₂ equivalent per year (CARB 2007). The project’s operational CO₂ emissions (0.01 million metric tons) represent a very small fraction of this total. Even if project construction emissions and project emissions of GHGs other than CO₂ were added to project operational emissions, project emissions would still represent a very small fraction of the state’s GHG emissions. Nevertheless, the project’s incremental contributions to GHG emissions are considered cumulatively significant because they are considered substantial increases compared to existing undeveloped land uses in the project area.

Significance Level Before Mitigation: Significant.

Mitigation Measure CC-1: Implement measures to reduce GHG emissions from energy use.

To reduce GHG emissions from direct and indirect energy use, the applicant will be required to:

- Ensure only EPA Phase II certified stoves are used, and equip residential structures with front and rear electric outlets (see Mitigation Measure AQ-2a)

- Meet or exceed the latest Title 24 energy efficiency standards applicable to the project (Title 24 standards are energy efficiency standards for residential and non-residential buildings established by Title 24, Part 6 of the California Code of Regulations)

Mitigation Measure CC-2: Implement measures to encourage alternative modes of transportation.

To reduce VMT, the project applicant will be required to:

- Create a bicycle path/walkway between the project area and City of Colusa, and encourage use of dial-a-ride services (see Mitigation measure AQ-2b)
- Provide bicycle parking facilities for residential and non-residential uses
- Provide easy pedestrian access and minimize barriers between the project's residential and non-residential uses
- Identify and reserve a bus stop site for use if transit services are extended to the project area.

Significance Level After Mitigation: Significant and unavoidable because it is not possible to calculate the effectiveness of these mitigation measures in reducing GHG emissions. With mitigation, project GHG emissions would likely still be substantial compared to existing conditions.

7. GROWTH-INDUCING EFFECTS

According to Section 15126.2(d) of the California Environmental Quality Act (CEQA) guidelines, Environmental Impact Reports (EIRs) must discuss growth-inducing effects of the project. Section 15126.2(d) states the EIR will:

Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.

The project would include the development of 286 residential units with an estimated population of 860 persons. The project area would include provision of some commercial services, which would likely meet some of the needs for the new population because of their close proximity. The new residential development could generate indirect demand for other services such as banks, grocery stores, and various retail stores. Additionally, the provision of commercial services along SR 20 south of the City of Colusa could generate a demand for new homes in the undeveloped areas on the east side of SR 20. These demands could lead to future commercial and residential development close to the project area, which would be a growth-inducing effect.

The project would extend Farinon Road through the project area to Wescott Road. This road would provide new access to adjacent parcels currently in agricultural production west of the project area. As a result of improved access and potential conflicts between agricultural and project activities, development pressure on these parcels would increase, which would be a growth-inducing effect.

The project would involve construction of a new wastewater treatment facility, but the facility is being designed to serve the project's uses and domestic wastewater requirements for the Park. Sewer lines, as well as water lines and drainage facility improvements, would be constructed within the Park. These facilities would not be designed to serve surrounding lands or future uses in the vicinity and would not be expected to have growth-inducing effects.

8. ALTERNATIVES TO THE PROJECT

8.1 INTRODUCTION

The analysis of alternatives is an important element of the Environmental Impact Report (EIR) process. CEQA Guidelines Section 15126.6(a) requires an evaluation of "...a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." The project objectives are stated in Section 3.2.1 (Project Objectives). Alternatives are used to determine whether or not a variation of the project would reduce, or eliminate, significant project impacts within the basic framework of the objectives. CEQA Guidelines Section 15126.6(f) specifies that the range of alternatives is governed by the "rule of reason," requiring evaluation of only those alternatives "necessary to permit a reasoned choice." Further, an EIR "...need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative" (CEQA Guidelines Section 15126.6(f)(3)).

CEQA Guidelines Section 15126.6(e) requires that, among other alternatives, a "No Project" alternative be evaluated in comparison to the project. CEQA Guidelines Section 15126.6(e)(2) requires that the No Project analysis discuss "...what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services." Accordingly, the No Project alternative analyzed in this EIR discusses buildout of the project area according to its existing land use and zoning designations.

CEQA Guidelines Section 15126.6(d) requires an EIR to discuss significant effects caused by the alternative, but permits the evaluation to be conducted in less detail than is done for the project. Potential environmental impacts for each alternative are provided in comparison to the project. The advantages and disadvantages of each alternative, compared to the project, are presented. Any significant impacts created or avoided exclusively by an alternative are also identified. Additionally, the feasibility and ability of each alternative to meet project objectives was evaluated. Table 8-1 provides a summary of the project alternatives analyzed and their environmental advantages and disadvantages. The project objectives, as defined in Chapter 3, include:

- Create a mixed-use community that can serve as the gateway to the City of Colusa and provides superior quality development with an aesthetically pleasing landscape.
- Provide a mix of uses and facilities that create a positive financial impact on the County over the long term.
- Provide a recreational area that benefits the community and increases tourism revenue in the County and City of Colusa.
- Accommodate a percentage of future job creation and population growth by providing office and commercial space and residential units in a mix of residential unit types and densities.

Table 8-1. Comparison of Alternatives to the Proposed Project

Proposed Project	No Project	Reduced Residential Density	Reduced Commercial Zoning	Wastewater Alternative – Connect to City Wastewater Facility
Description				
<ul style="list-style-type: none"> ▪ 140 single family residential units ▪ 146 high density residential units ▪ 6.52 acres of neighborhood commercial ▪ 21.67 acres of community commercial and highway commercial ▪ Golf course modification and improvements ▪ Farinon Road extension ▪ Onsite tertiary wastewater treatment facility 	<ul style="list-style-type: none"> ▪ 37.52 acres of office and commercial ▪ 76 acres of industrial ▪ No residential ▪ No community commercial or highway commercial ▪ No golf course modification or improvements ▪ No Farinon Road extension ▪ Onsite tertiary wastewater treatment facility 	<ul style="list-style-type: none"> ▪ 21 rural residences with 5-acre minimum parcels ▪ 6.52 acres of neighborhood commercial ▪ 21.67 acres of community commercial and highway commercial ▪ Golf course modification and improvements ▪ Farinon Road extension ▪ Onsite tertiary wastewater treatment facility 	<ul style="list-style-type: none"> ▪ 140 single family residential units ▪ 146 high density residential units ▪ 6.52 acres of commercial ▪ 21.67 acres of industrial ▪ Golf course modification and improvements ▪ Farinon Road extension ▪ Onsite tertiary wastewater treatment facility 	<ul style="list-style-type: none"> ▪ Same land development as project ▪ No onsite wastewater treatment facility ▪ Connect to City wastewater facility

Table 8-1. Comparison of Alternatives to the Proposed Project

Proposed Project	No Project	Reduced Residential Density	Reduced Commercial Zoning	Wastewater Alternative – Connect to City Wastewater Facility
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Results of Analysis

Table 8-1. Comparison of Alternatives to the Proposed Project

Proposed Project	No Project	Reduced Residential Density	Reduced Commercial Zoning	Wastewater Alternative – Connect to City Wastewater Facility
<p><u>Advantages</u></p> <ul style="list-style-type: none"> Meets all project objectives <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Inconsistent with airport land use restrictions for residential density (SU) Inconsistent with airport and County noise standards (SU) Safety concerns for project residents due to proximity of airport (SU) Traffic noise (SU) Traffic impacts (SU) Air quality impacts (SU) Indirect farmland conversion (SU) 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> No residential uses Fewer conflicts with airport and agricultural uses Less demand for public services Less night lighting Fewer safety concerns <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Does not meet any project objectives No residential uses Inconsistent with airport noise guidelines for some commercial uses More traffic than project More traffic noise and emissions than project No Farinon Road extension No golf course modification or improvements Increased noise and odors concerns from industrial uses 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Consistent with airport land use restrictions for residential density Less demand for public services Less traffic - may reduce two SU traffic impacts Less vehicle noise Less vehicle emissions Fewer conflicts with agricultural uses Reduced safety concerns Would meet most project objectives <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Inconsistent with airport noise guidelines and safety concerns (but fewer residences affected) Other environmental impacts would occur Might be economically infeasible 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Less traffic - may reduce some impacts Less vehicle noise Less vehicle emissions Fewer noise concerns for commercial uses near airport Less night lighting Would meet most project objectives <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Inconsistent with airport land use restrictions for residential density Inconsistent with airport noise guidelines and safety concerns for residences Other environmental impacts would occur Less revenue for County 	<p><u>Advantages</u></p> <ul style="list-style-type: none"> Meets all project objectives <p><u>Disadvantages</u></p> <ul style="list-style-type: none"> Would result in similar impacts within the development area Could exacerbate water quality and aquatic biology impacts associated with the WWTP's noncompliance with WDR effluent limitations, depending on project and WWTP improvement schedules (SU)

Table 8-1. Comparison of Alternatives to the Proposed Project

Proposed Project	No Project	Reduced Residential Density	Reduced Commercial Zoning	Wastewater Alternative – Connect to City Wastewater Facility
Conclusions				
<ul style="list-style-type: none"> ▪ Meets all project objectives 	<ul style="list-style-type: none"> ▪ Does not reduce any SU impacts to LTS ▪ New impacts from industrial noise and odor ▪ Does not meet any project objectives 	<ul style="list-style-type: none"> ▪ Environmentally superior alternative ▪ May reduce two SU traffic impacts ▪ Exposes fewer residences to airport noise and safety concerns ▪ Would meet most project objectives ▪ Might be economically infeasible 	<ul style="list-style-type: none"> ▪ Does not reduce any SU impacts to LTS ▪ Would meet most project objectives ▪ Might be economically infeasible 	<ul style="list-style-type: none"> ▪ Does not reduce any SU impacts to LTS ▪ Could generate new water quality and aquatic biology SU impact, depending on schedules ▪ Meets all project objectives ▪ Concerns with schedule

LOS = Level of Service
 LTS = Less than Significant
 SU = Significant and Unavoidable
 WDR = Waste Discharge Requirements
 WWTP = Wastewater Treatment Plant

8.2 DESCRIPTION AND ANALYSIS OF ALTERNATIVES

The following alternatives are evaluated in this chapter and compared to the project:

- No Project Alternative
- Development Alternative 1 - Reduced Residential Density
- Development Alternative 2 - Reduced Commercial Zoning
- Wastewater Alternative - Connect to City Wastewater Facility

8.2.1 No Project Alternative

Under the No Project alternative, Colusa Industrial Properties (CIP) would continue to develop the portion of the project area within the Colusa Industrial Park (Park) with land uses allowed under its current zoning and Declaration of Protective Covenants (DPC). The golf course would not be modified. It is reasonable to assume CIP would propose construction and operation of a wastewater treatment facility similar to the facility currently proposed with sufficient capacity to serve the Park. Under this alternative, CIP would build commercial uses allowed by the DPC and office space in the subdivided parcels that run parallel to SR 20. Gas stations and hotels are not allowed in this area. CIP would also build light industrial uses within the undeveloped portion of the M-PD zone and the remainder of the development area. Similar to the project, this alternative includes all necessary internal infrastructure, including roads and utility lines. This alternative would not include the widening and extension of Farinon Road through the development area to Wescott Road. Table 8-2 shows an estimate of land uses within the development area for the No Project alternative.

The No Project alternative would not meet any of the project objectives because it would not provide a mixed use community (no residential uses) and would not provide recreational opportunities, although it would accommodate a percentage of future job creation in the County.

Table 8–2. No Project Alternative Land Uses

Land Use	Parcel (acres)
<i>Future Buildout</i>	
Office Park and Commercial	31.0
Industrial	76.0
Undevelopable Areas (ditch, roads, wells, detention basin)	24.5
<i>Existing Facilities</i>	
Office Park	6.52
Total	138.02

Impact Analysis

Land Use

The No Project alternative would be consistent with County General Plan land use and zoning designations and would not require any amendments.

Similar to the project, aircraft-related noise levels would exceed the airport's Comprehensive Land Use Plan (CLUP) and County General Plan exterior noise standards for offices and other commercial uses, but unlike the project, no residential uses would be adversely affected by the noise because these uses are not allowed under current zoning.

This alternative could include construction of buildings and other facilities within the approach-departure zone, which may not be consistent with the CLUP because of safety concerns with potential crashes. However, the alternative would not construct incompatible residential uses in either the approach/departure zone or overflight zone, which would be an advantage over the project.

Similar to the project, this alternative would create conflicts with uses in the City relating to increased traffic, but the industrial and commercial/office uses would generally be consistent with existing uses in the Park and adjacent agricultural uses, with the provision of adequate buffers and setbacks between active farmland and larger industrial facilities.

Population, Housing, and Employment

Unlike the project, this alternative would not include new housing and would not directly increase the local population by 860 people. Similar to the project, however, this alternative would generate short-term (i.e. construction) and long-term (i.e., office, commercial, industrial) employment opportunities. The provision of an increased number of long-term jobs could indirectly induce growth by attracting more people to the Colusa area, resulting in an increased demand for new homes and other services.

Public Services

This alternative would increase demand on public services, but at a lower level than the project because it would not include a permanent residential population. Through indirect growth-inducing effects, the demand on police, fire, school, park, and other local services would increase, but these impacts would be mitigable through provision of funding as new homes and commercial/office buildings are built.

Traffic and Circulation

This alternative would generate more daily and peak hour vehicle trips than the project, resulting in longer delays at affected intersections and higher traffic volumes on affected roadways (see Appendix C Traffic Impact Study). Based on industry standard trip generation rates published by the Institute of Transportation Engineers, business park land uses generate 150 daily trips per acre and light industrial uses generate 52 daily trips per acre (Institute of Transportation Engineers 2003). This alternative would, therefore, generate approximately 8,600 new daily trips as compared to the 7,017 new trips (10,500 total trips, including the existing offices) generated by the project and would result in similar traffic impacts as the project.

Similar to the project, this alternative would incrementally create additional demand for transit services in the Colusa area because it would provide new employment opportunities.

Unlike the project, this alternative would not affect air traffic patterns because it would not include incompatible residential uses that could result in air traffic being redirected along an overflight corridor or away from the residential uses. Air traffic patterns would remain similar to current.

Noise

This alternative would generate more daily and peak hour vehicle trips than the project and would, therefore, generate more traffic noise than the project. Traffic noise along SR 20 currently ranges from 69.3 dB to 71.2 dB, exceeding the County's accepted exterior noise levels for office (65 dB), retail (70 dB), and other commercial uses (70 dB). Project-related traffic would result in a further 1.7 dB increase in SR 20 noise levels, affecting land uses along SR 20. Interior noise levels would be reduced through standard construction practices and mitigation measures similar to those identified for the project. The No Project alternative would result in a higher increase in traffic noise along SR 20, exacerbating the existing traffic noise levels that exceed County and City exterior noise standards at existing residences within the City and resulting in a significant, unavoidable impact.

Similar to the project, existing aircraft-related noise levels would exceed County and CLUP accepted exterior noise levels for offices and other commercial uses, resulting in a significant and unavoidable impact. Unlike the project, however, aircraft noise levels would not affect residents or hotel guests because residential and hotel land uses are not allowed under current zoning.

Unlike the project, the operation of industrial facilities in close proximity to existing residences in the City could result in increased noise levels and complaints from nearby residents. Industrial noise would cause a significant but mitigable impact.

Air Quality

This alternative would generate construction emissions over a longer period of time than the project, resulting in air quality violations until the project area is built out with industrial and commercial/office uses. This impact would remain significant and unavoidable because no feasible mitigation measures have been identified that would reduce the construction emissions on all days to levels that would not substantially contribute to potential air quality violations of PM10 and/or ozone in the project vicinity.

Similar to the project, long-term air quality impacts would consist of mobile source emissions generated by project-related traffic and stationary source emissions generated directly and indirectly by the natural gas and other similar fuels consumed. Long-term emissions would be generated from vehicle trips to and from the project area and fuel combustion related to natural gas and landscape maintenance. This alternative would generate more vehicle trips than the project and would, therefore, generate more vehicle emissions. Because this alternative does not include residential or hotel land uses, stationary emission sources would not include wood stoves or fireplaces. Similar to the project, operations emissions would be expected to exceed the significance thresholds used for ROG, NOx, and PM10, resulting in significant and unavoidable air quality impacts.

Because this alternative would generate more vehicle trips than the project, it would generate more CO emissions. Similar to the project, however, CO emissions would not be expected to exceed CAAQS CO standards.

Because this alternative would include a new wastewater treatment facility similar to the project, it would result in a significant but mitigable impact related to odor generation; however, fewer complaints would be expected because the facility would be located at a greater distance from residential uses. Unlike the project, the operation of industrial facilities in close proximity to existing residences in the City could result in additional odor complaints; this would be considered a significant but mitigable impact.

Utilities and Service Systems

Water demand for the No Project alternative would depend on the specific type of industrial uses proposed. Water demand estimates for this alternative would be speculative, but it is assumed that the Park's groundwater wells would supply the necessary demand to serve the uses. Additionally, new industrial facilities would not be allowed unless adequate water supply is available.

Similar to the project, the wastewater treatment facility would accommodate wastewater demand generated by the No Project alternative. This alternative would generate stormwater runoff similar to the project because the acreage of developed land would be similar to the project at buildout of the alternative, and planned drainage facilities, with some modifications identified as mitigation, would accommodate this demand. Similar to the project, the Maxwell Transfer Station and Ostrom Road Landfill would have adequate capacity to serve the No Project alternative.

Hydrology and Water Quality

Similar to the project, increased soil erosion and sedimentation during and after construction, and runoff of urban pollutants following construction, could substantially degrade surface water quality, resulting in significant but mitigable impacts with respect to surface water quality.

Similar to the project, development of the project area for the No Project alternative would cause a minor reduction in groundwater recharge due to a similar acreage of land being developed at buildout and a relatively small increase in groundwater pumping, resulting in a less than significant impact on groundwater supply.

Similar to the project, land application of treated effluent could contaminate groundwater, but compliance with waste discharge requirements would ensure that groundwater quality is monitored and contaminants do not exceed acceptable levels in the aquifer.

Geology and Soils

Environmental effects related to geology and soils would be similar to the project. Earthquake hazards, expansive soils, and erosion during construction would cause significant but mitigable impacts.

Hazards and Hazardous Materials

The No Project alternative would result in fewer concerns relating to hazards from truck traffic along SR 20, airplane overflights, crop-dusting operations, and 100-year flood risks because no residential uses would be allowed in the project area. These impacts would be less than significant, except for safety hazards associated with airport operations because of the presence of workers in the project area.

Because this alternative would not include a gas station, it would not result in an impact related to routine use of the gas station. Because this alternative would not include the widening and extension of Farinon Road through the development area to Wescott Road, emergency response times would be similar to current conditions.

Depending on the industrial uses built at the Park, this alternative could increase generation of hazardous materials and waste compared to the project.

Biological Resources

Environmental effects related to biological resources would be similar to the project because a similar acreage of land would be developed at buildout.

Agricultural Resources

Environmental effects related to agricultural resources would be similar to the project because a similar acreage of land would be developed at buildout and because the No Project Alternative could encourage unplanned population and housing growth in the project vicinity and result in the conversion of adjacent or nearby agricultural lands to non-agricultural uses. This alternative, however, would result in fewer conflicts with adjacent agricultural uses and have less of an indirect effect on productivity of nearby agricultural uses.

Cultural Resources

Similar to the project, ground disturbance for construction activities could affect undocumented cultural resources. This would be a significant but mitigable impact.

Aesthetics

Aesthetic effects would be reduced compared to the project because the industrial and commercial/office uses would generally be consistent with adjacent uses to the south and existing office uses in the Park and would generate less night lighting than the project. New lighting along SR 20 could adversely affect vision of nighttime drivers, but this would be considered a significant but mitigable impact.

Conclusions

Based on the above analyses, it can be concluded that the No Project alternative would result in similar environmental impacts as the project with the following exceptions. The No Project alternative would not include residences, so it would not directly increase the local population by 860 people, and it would result in a lower demand on public services. This alternative would generate more daily and peak hour vehicle trips than the project and would generate more vehicle noise and emissions than the project, including industrial noise and potential odors. No project residential or hotel land uses would be affected by excessive noise levels near SR 20 or from the airport. Notably, this alternative would not include the widening and extension of Farinon Road through the development area to Wescott Road and therefore would not provide a new route for public and emergency access to the Park from the west. Additionally, the alternative would result in fewer agricultural conflicts. Because this alternative would not include a gas station, it would not result in an impact related to routine use of the gas station. Because highway

commercial uses (e.g., gas station and hotel) would not be built along SR 20, this portion of the site would require less nighttime lighting and would be less noticeable from SR 20 than the project. Unlike the project, this alternative would be more compatible with the CLUP because of the lack of residences in the overflight zone. Residential uses would not be exposed to hazards from airport operations or other nearby uses, and air traffic patterns would not be modified as a result of the alternative.

This alternative would not be expected to result in significant, unavoidable impacts that would not occur under the project, nor would it reduce any significant, unavoidable impacts to a less than significant level. Also, this alternative would not attain the project objectives to create a mixed-use community or provide residential units in a mix of residential unit types and densities.

8.2.2 Development Alternative 1 – Reduced Residential Density

Under this alternative, all proposed residential land uses would be rezoned Rural Residential (RR) with a 5-acre minimum parcel size (Figure 8-1). This housing mix would allow a maximum of 21 residences instead of 286 units as proposed. All other land uses and project components would be the same as the project. Similar to the project, this alternative includes all necessary internal infrastructure, including roads, utility lines, and the wastewater treatment facility. This alternative would provide consistency with the land use guidelines provided in the airport's CLUP, although concerns regarding noise and hazards would remain.

The Reduced Residential Density alternative would meet all of the project objectives because it would provide a mixed use community, provide recreational opportunities, and accommodate a percentage of future job creation in the County, although it would have less of a financial benefit because of the reduced number of housing units and it would not provide a mix of residential housing types and densities.

Impact Analysis

Land Use

Similar to the project, the Reduced Residential Density alternative would be consistent with County General Plan land use and zoning designations and would not be consistent with General Plan Policies LU-12 and LU-35 because noise standards would be exceeded and safety concerns would remain for residential uses. The rural residential uses would create less of a conflict with adjacent agricultural uses, but increased traffic would create conflicts with uses in the City.

Notably, this alternative would provide the density of residential uses allowed by the CLUP within the overflight zone.

Population, Housing, and Employment

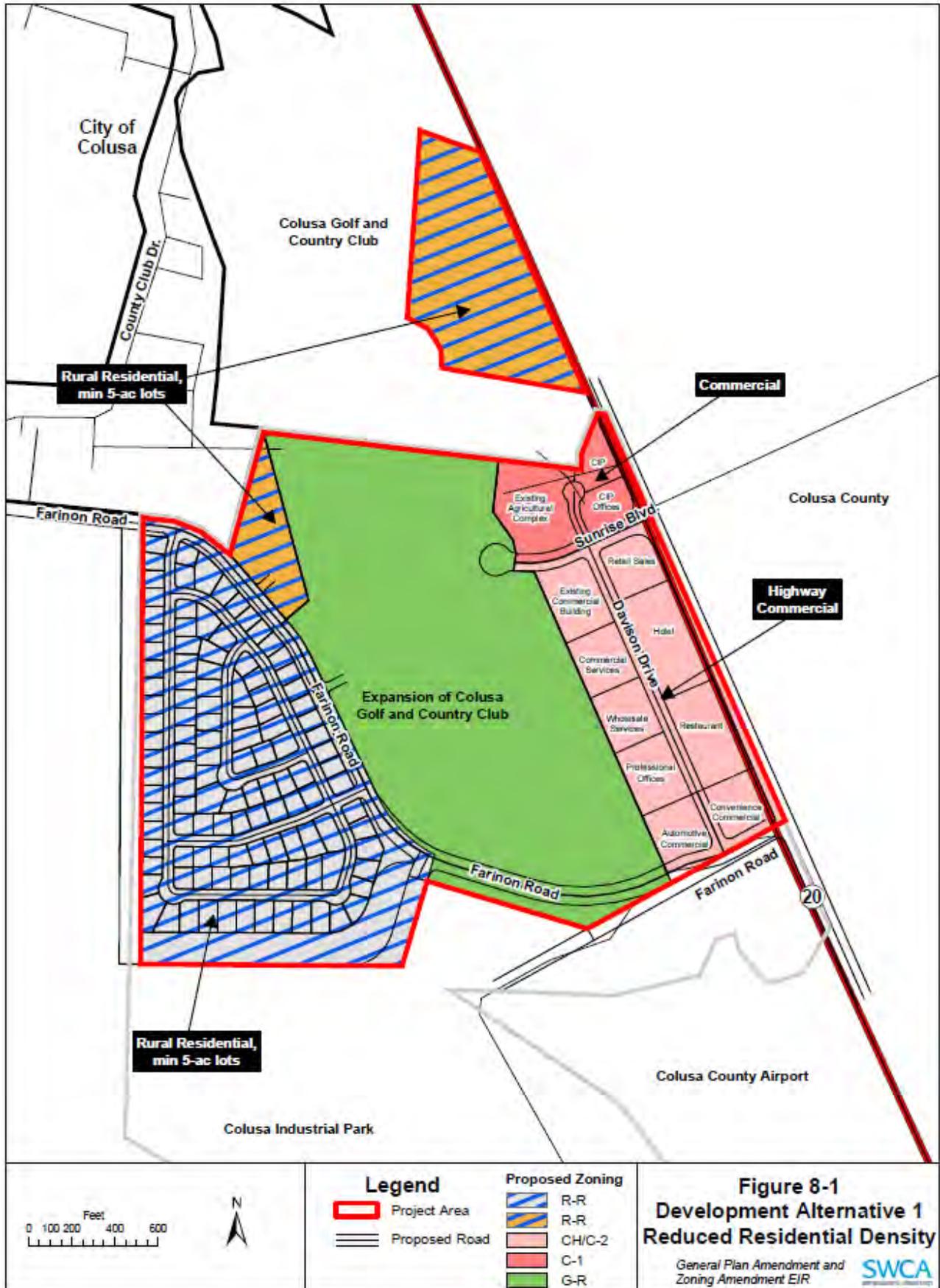
The Reduced Residential Density alternative would substantially reduce the population and housing generated by the project. This alternative would include 21 new residences rather than 286, and would directly increase the local population by 63 residents rather than 860. Similar to the project, this alternative would generate short-term (i.e. construction) and long-term (i.e., office, commercial, industrial) employment opportunities. Given the large lot sizes, however, the provision of low-income housing would be less feasible under this alternative.

Public Services

This alternative would have less demand on public services because it would generate less population growth than the project. As discussed in Section 4.3 (Public Services), the project would cause Burchfield Elementary School to exceed its capacity and would accelerate physical deterioration of the City's park facilities as well as increasing demand on fire, sheriff, and other local services. These are significant but mitigable impacts of the project.

Burchfield Elementary has a remaining capacity of about 30 students. This alternative would generate seven new elementary school students ($21 \text{ residences} \times 0.323 \text{ elementary students/household} = 7 \text{ new students}$) and would not exceed the capacity of the elementary school. This alternative would therefore reduce this significant but mitigable impact to a less than significant level.

Figure 8-1. Development Alternative 1



This alternative would generate less demand on City parks than the project. Direct and indirect growth generated by this alternative, however, would accelerate physical deterioration of the City's park facilities, resulting in a significant but mitigable impact.

Traffic and Circulation

The Reduced Residential Density alternative would generate substantially fewer vehicle trips than the project because substantially fewer residences would be constructed. The 286 residences in the project would generate 2,308 new daily vehicle trips; whereas, the 21 residences in this alternative would generate 202 new daily trips. This reduction of 2,100 daily trips represents 30 percent fewer new daily trips than the project. Under this alternative, some significant and unavoidable impacts related to intersection levels of service and roadway traffic volumes may be less than significant.

This alternative would create less additional demand for transit services in the Colusa area than the project. This alternative would also generate less bicycle and pedestrian traffic than the project because it would include fewer residences. This alternative would therefore lessen the project's significant but mitigable impact related to pedestrian and bicycle activity.

Noise

The Reduced Residential Density alternative would generate 30 percent fewer vehicle trips than the project, but would still increase vehicle trips by 70 percent over existing traffic levels. This alternative would therefore increase SR 20 noise levels, exacerbating the current traffic noise levels that exceed County and City exterior noise standards at existing residences, but this increase would not be as high as the project. The Reduced Residential Density alternative would, therefore, reduce this significant, unavoidable impact, but might not reduce this impact to a less than significant level.

This alternative would include fewer residences, thereby exposing fewer residences to excessive traffic noise levels near SR 20. However, similar to the project, aircraft-related noise levels would exceed County and ALUC accepted exterior noise levels for residential uses, hotels, and other uses, resulting in a significant and unavoidable impact. Under the Reduced Residential Density alternative, however, fewer project residents would be affected because fewer residences would be built.

Air Quality

Although this alternative would include fewer residences, the Reduced Residential Density alternative would involve a substantial amount of construction. Similar to the project, construction-related air quality impacts would remain significant and unavoidable because no feasible mitigation measures have been identified that would reduce the construction emissions on all days to levels that would not substantially contribute to potential air quality violations of PM10 and/or ozone in the project vicinity.

This alternative would generate fewer vehicle trips than the project and would, therefore, generate fewer vehicle emissions. Similar to the project, however, operations emissions would be expected to exceed the significance thresholds used for ROG, NOx, and PM10, resulting in significant, unavoidable air quality impacts.

Because this alternative would generate fewer vehicle trips than the project, it would generate less CO. Similar to the project, therefore, CO emissions would not be expected to exceed CAAQS CO standards.

Because this alternative would include a new wastewater treatment facility, it would result in a significant but mitigable impact related to odor generation.

Utilities and Service Systems

Water demand for the Reduced Residential Development alternative would be less than the project. Similar to the project, the available capacity of the CIP wells is more than sufficient to supply the estimated demands associated with the Reduced Residential Density alternative; therefore, impacts would be less than significant.

Similar to the project, the wastewater treatment facility would accommodate wastewater demand generated by this alternative. This alternative would generate stormwater runoff similar to the project, but planned drainage facilities, with some modifications identified as mitigation, would accommodate this demand. Similar to the project, the Maxwell Transfer Station and Ostrom Road Landfill would have adequate capacity to serve the Reduced Residential Density alternative.

Hydrology and Water Quality

Similar to the project, increased soil erosion and sedimentation during and after construction, and runoff of urban pollutants following construction, could substantially degrade surface water quality, resulting in significant but mitigable impacts with respect to surface water quality.

Similar to the project, development of the project area for the Reduced Residential Density alternative would cause a minor reduction in groundwater recharge and a relatively small increase in groundwater pumping, resulting in a less than significant impact on groundwater supply.

Similar to the project, land application of treated effluent could contaminate groundwater, but compliance with waste discharge requirements would ensure that groundwater quality is monitored and contaminants do not exceed acceptable levels in the aquifer.

Geology and Soils

Environmental effects related to geology and soils would be similar to the project, except that fewer residences would be constructed, so fewer buildings would be affected by earthquakes and expansive soil.

Hazards and Hazardous Materials

The Reduced Residential Density alternative would have similar impacts related to releases of hazardous materials from truck traffic along SR 20, routine use of the gas station, airport safety hazards, hazards from routing crop-dusting practices, and 100-year flood risks. All of these impacts would be less than significant, except crop-dusting which is a significant and unavoidable impact. The reduction in residential units would reduce the number of people exposed to substantial hazards from airport operations; however, impacts would not be reduced to a less than significant level and would not be mitigable.

Biological Resources

Environmental effects related to biological resources would be similar to the project because similar land areas would be developed.

Agricultural Resources

Environmental effects related to agricultural resources would be similar to the project because similar land areas would be developed. Also, the Reduced Residential Density alternative could encourage unplanned population and housing growth in the project vicinity and result in the conversion of adjacent or nearby agricultural lands to non-agricultural uses. This alternative, however, would include fewer residents living onsite and would result in fewer indirect effects on productivity of nearby agricultural uses.

Cultural Resources

Similar to the project, ground disturbance for construction activities could affect undocumented cultural resources. This would be a significant but mitigable impact.

Aesthetics

Aesthetic effects would be similar to the project, except views of the site would include fewer residential buildings and more yard area surrounding the residences.

Conclusions

Based on the above analyses, it can be concluded the Reduced Residential Density alternative would result in similar environmental impacts as the project with the following exceptions. The Reduced Residential Density alternative would substantially reduce the population and housing generated by the project and would, therefore, reduce overall demand for public services and generate less traffic. The residential uses would be compatible with the airport CLUP; however, noise levels and safety concerns would still create adverse impacts on project residents.

The Reduced Residential Density alternative would generate 30 percent fewer daily and peak hour vehicle trips than the project. Under this alternative, some significant and unavoidable impacts on intersection levels of service and roadway traffic volumes may be reduced to less than significant. This alternative would generate less vehicle noise and emissions than the project, and fewer project residences would be affected by excessive noise from SR 20. Similar to the project, aircraft-related noise levels would exceed County and ALUC accepted exterior noise levels, but fewer project residents would be affected because fewer residences would be built.

This alternative would not be expected to result in significant impacts that would not occur under the project, but may reduce two significant unavoidable traffic impacts to a less than significant level. This alternative would not attain the project objective of accommodating a percentage of future job creation and population growth by providing office and commercial space and residential units in a mix of residential unit types and densities. Additionally, the alternative might not be economically feasible because of the restriction on residential land uses within the overflight zone to single-family detached residences with a density of at least five acres per residence.

8.2.3 Development Alternative 2 – Reduced Commercial Zoning

The parcels along Davison Drive south of Sunrise Blvd would retain their Industrial (M) zoning and would not be changed to Community Commercial (C-2) and Highway Commercial (CH) as currently proposed (Figure 8-2). These parcels total 21.67 acres. This alternative would reduce the acreage of commercial uses from 28.19 to 6.52 acres. The 6.52 acres of commercial use would include the existing business park north of Sunrise Boulevard.

Gas stations, hotels, restaurants, and general retail uses are not allowed in the Industrial (M) zone. Therefore, the land uses on the parcels along Davison Drive south of Sunrise Blvd would include additional business park uses.

All other land uses and project components would be the same as the project, including all proposed residential land uses. Similar to the project, this alternative includes all necessary internal infrastructure, including roads, utility lines, and the wastewater treatment facility. This alternative would reduce traffic generated by the project because industrial land uses generate fewer vehicle trips than commercial uses.

The Reduced Commercial Zoning alternative would meet all of the project objectives because it would provide a mixed use community, provide recreational opportunities, and accommodate a percentage of future job creation in the County, although it would have less of a financial benefit because of the lack of retail-type uses.

Impact Analysis

Land Use

Similar to the project, the Reduced Commercial Zoning alternative would be consistent with County General Plan land use and zoning designations and would not be consistent with General Plan Policies LU-12 and LU-35 because noise standards would be exceeded and safety concerns would remain for residential uses. Similar to the project, the alternative would create conflicts with agricultural uses and uses in the City.

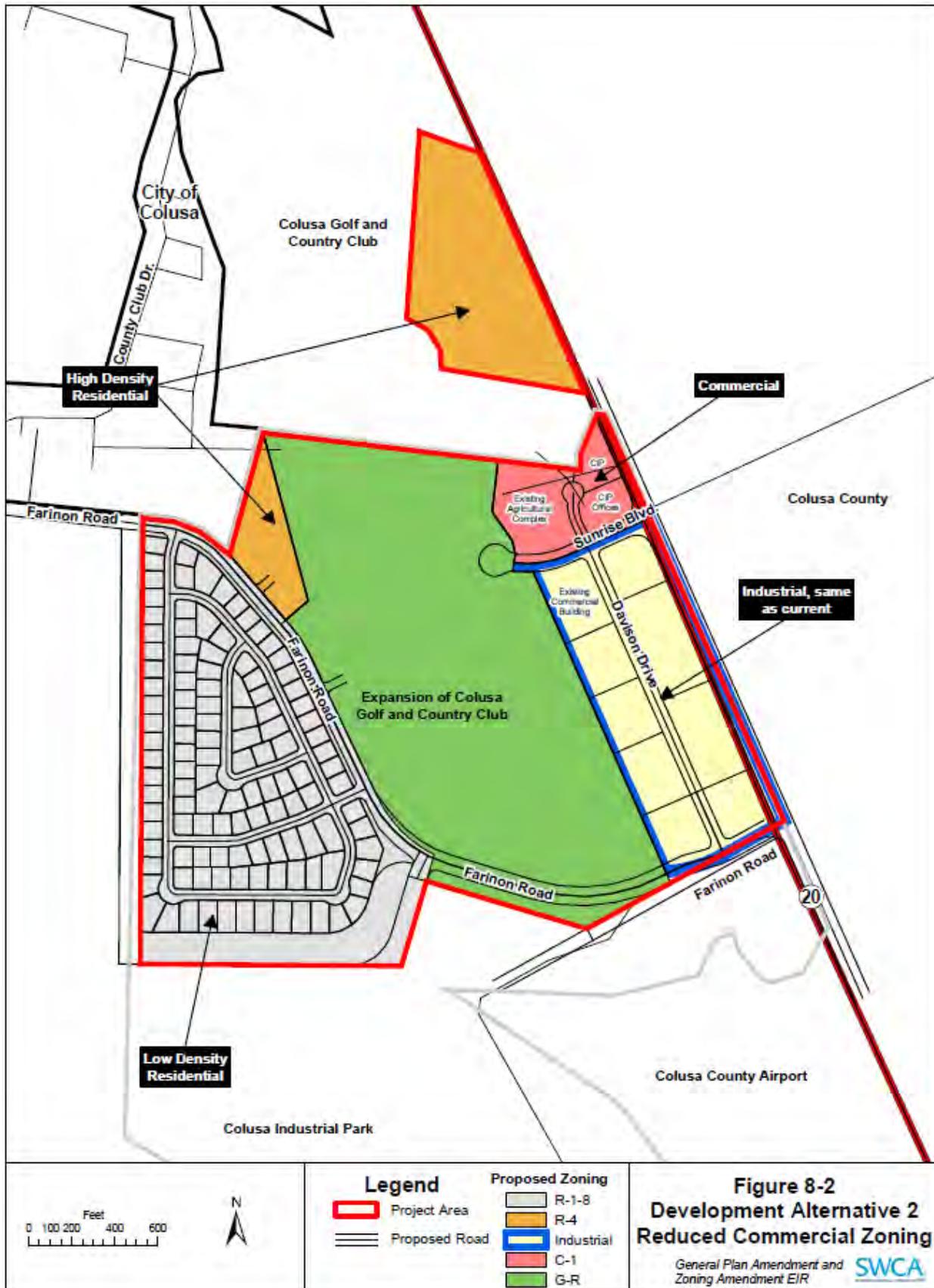
Population, Housing, and Employment

Similar to the project, the Reduced Commercial Zoning alternative would include 286 new residences and would directly increase the local population by 860 residents. Similar to the project, this alternative would generate short-term (i.e. construction) and long-term (i.e., office, commercial, industrial) employment opportunities.

Public Services

This alternative would generate a similar demand on public services as the project because it would include the same number of residences as the project and would add the same number of residents to the project vicinity.

Figure 8-2. Development Alternative 2



Traffic and Circulation

This alternative would generate fewer daily and peak hour vehicle trips than the project. The project's commercial land uses along Davison Drive would generate 4,436 new daily trips. Business park land uses generate 150 daily trips per acre (Institute of Transportation Engineers 2003). Under this alternative, therefore, new business park uses in this 21.67-acre area would generate about 3,250 new daily trips ($21.67 \times 150 = 3,250$ trips). This represents 1,186 fewer daily trips than the project and would therefore result in fewer peak hour vehicle trips. This represents 17 percent fewer new daily trips than the project. Under this alternative, some significant and unavoidable impacts related to intersection levels of service and roadway traffic volumes may be less than significant.

Similar to the project, the new residences would incrementally create additional demand for transit services in the Colusa area and would increase bicycle and pedestrian traffic in the project area.

Noise

The Reduced Commercial Zoning alternative would generate 17 percent fewer vehicle trips than the project, but would still increase vehicle trips by 83 percent over existing traffic levels. This alternative would therefore increase SR 20 noise levels, exacerbating the current traffic noise levels that exceed County and City exterior noise standards at existing residences, but this increase would not be as high as the project. The Reduced Commercial Zoning alternative, therefore, would reduce this significant unavoidable impact, but not to a less than significant level.

This alternative would not include hotel uses; therefore, hotel guests would not be exposed to excessive noise from SR 20. The Reduced Commercial Zoning alternative would therefore reduce this significant but mitigable impact related to traffic noise.

Similar to the project, aircraft-related noise levels would exceed County and ALUC accepted exterior noise levels for residential and other uses, resulting in a significant unavoidable impact. Under the Reduced Commercial Zoning alternative, however, aircraft noise levels would not affect project hotel guests because hotels are not allowed in the Industrial zone.

Air Quality

The Reduced Commercial Zoning alternative would involve a substantial amount of construction. Similar to the project, construction-related air quality impacts would remain significant and unavoidable.

This alternative would generate fewer vehicle trips than the project and would, therefore, generate fewer vehicle emissions. Similar to the project, however, operations emissions would be expected to exceed the significance thresholds used for ROG, NO_x, and PM₁₀, resulting in significant, unavoidable air quality impacts.

Because this alternative would generate fewer vehicle trips than the project, it would generate less CO. Similar to the project, CO emissions would, therefore, not be expected to exceed CAAQS CO standards.

Because this alternative would include a new wastewater treatment facility similar to the project, it would result in a significant but mitigable impact related to odor generation.

Utilities and Service Systems

Water demand for the Reduced Commercial Zoning alternative would be similar to the project. Similar to the project, the available capacity of the CIP wells is more than sufficient to supply the estimated demands associated with the Reduced Commercial Zoning alternative; therefore, impacts would be less than significant.

Similar to the project, the wastewater treatment facility would accommodate wastewater demand generated by this alternative. This alternative would generate stormwater runoff similar to the project, but planned drainage facilities, with some modifications identified as mitigation, would accommodate this demand. Similar to the project, the Maxwell Transfer Station and Ostrom Road Landfill would have adequate capacity to serve the Reduced Commercial Zoning alternative.

Hydrology and Water Quality

Similar to the project, increased soil erosion and sedimentation during and after construction and runoff of urban pollutants following construction could substantially degrade surface water quality, resulting in significant but mitigable impacts with respect to surface water quality.

Similar to the project, development of the project area for the Reduced Commercial Zoning alternative would cause a minor reduction in groundwater recharge and a relatively small increase in groundwater pumping, resulting in a less than significant impact on groundwater supply.

Similar to the project, land application of treated effluent could substantially contaminate groundwater, but compliance with waste discharge requirements would ensure that groundwater quality is monitored and contaminants do not exceed acceptable levels in the aquifer.

Geology and Soils

Environmental effects related to geology and soils would be similar to the project because the same land areas would be developed.

Hazards and Hazardous Materials

The Reduced Commercial Zoning alternative would have similar impacts related to releases of hazardous materials from truck traffic along SR 20, airport safety hazards, hazards from routing crop-dusting practices, and 100-year flood risks. All of these impacts would be less than significant, except crop-dusting which is a significant and unavoidable impact.

Because this alternative would not include a gas station, it would not result in an impact related to routine use of the gas station.

Biological Resources

Environmental effects related to biological resources would be similar to the project because similar land areas would be developed.

Agricultural Resources

Environmental effects related to agricultural resources would be similar to the project because similar land areas and uses would be developed.

Cultural Resources

Similar to the project, ground disturbance for construction activities could affect undocumented cultural resources. This would be a significant but mitigable impact.

Aesthetics

Aesthetic effects would be similar to the project, with the following exceptions: because highway commercial uses (e.g., gas station, hotel) would not be built along SR 20, this portion of the site would require less nighttime lighting and would be less noticeable from SR 20 than the project.

Conclusions

Based on the above analyses, it can be concluded the Reduced Commercial Zoning alternative would result in similar environmental impacts as the project with the following exceptions. This alternative would generate 17 percent fewer daily and peak hour vehicle trips than the project. Therefore, some significant and unavoidable impacts related to intersection levels of service and roadway traffic volumes may be less than significant. This alternative would generate less vehicle noise and emissions than the project. Similar to the project, aircraft-related noise levels would exceed County and ALUC accepted exterior noise levels, but aircraft noise levels would not affect hotel guests because hotels are not allowed in the Industrial zone. Because this alternative would not include a gas station, it would not result in an impact related to routine use of the gas station. Because highway commercial uses (e.g., gas station and hotel) would not be built along SR 20, this portion of the site would require less nighttime lighting and would be less noticeable from SR 20 than the project.

This alternative would not be expected to result in significant impacts that would not occur under the project, nor would it reduce any significant unavoidable impacts to a less than significant level. This alternative would partially attain the project objectives of creating a mixed-use community because it would include residential, industrial, and commercial uses, but would not include Community Commercial (C-2) or Highway Commercial (CH), and therefore, would not provide as wide a range of commercial uses as the project. Because this alternative would include less commercial land use than the project, it might be economically infeasible.

8.2.4 Wastewater Alternative – Connect to City Wastewater Facility

City Wastewater Treatment Plant

This alternative is being considered because the City of Colusa stated in its July 6, 2006 NOP response letter that the City's wastewater treatment plant (WWTP) will have capacity to serve the project and because this alternative would avoid the need for a new wastewater treatment facility in the Park to serve the proposed residential uses.

City of Colusa owns and operates its own wastewater collection and treatment system. The WWTP has a rated capacity of 0.7 million gallons per day (mgd) and a design capacity of 0.9 mgd. The WWTP is located 2 miles southeast of downtown Colusa on Will S. Green Avenue.

Wastewater is collected and transported to the WWTP by a system of underground sewer collection lines (underground) and lift stations located in City and County roads and right-of-ways. The collection line closest to the Park is a 15-inch diameter line running along Wescott Road, one-quarter mile west of the development area. South of Ashley Drive, a lift station pumps the wastewater into an 8-inch force main that runs west for a mile beneath agricultural fields before reaching the WWTP.

The WWTP treats wastewater using a pond system that produces effluent considered equivalent to secondary effluent produced by conventional mechanical treatment processes. The treated effluent is disinfected by adding chlorine. After disinfection, residual chlorine is neutralized with sulfur dioxide before the treated effluent is discharged to an unnamed tributary of Powell Slough (ECO:LOGIC 2004).

In March 2002, the Regional Water Quality Control Board (RWQCB) issued the City of Colusa's WWTP a cease and desist order (Order No. R5-2002-0021), enforcing the City's compliance with the its Waste Discharge Requirements (WDRs) (Order No. R5-2002-0020). The cease and desist order requires the City to comply with WDR effluent limitations on ammonia and aluminum by February 1, 2007. The RWQCB has not banned new connections to the City's WWTP (Pat Leary 2007).

The City is planning to improve its WWTP to ensure compliance with the WDRs by upgrading to a tertiary treatment system and changing the surface water discharge location to Colusa Basin Drain. The City plans to complete these improvements in approximately one year (i.e., Spring 2008).

The City's project will allow its WWTP to continue operating up to its rated capacity of 0.7 mgd. The City is also contemplating a second phase expansion of its WWTP to accommodate buildout of the City's sphere of influence. The schedule for Phase 2 will be based on demand within the City's service area and has not yet been defined (Ponticello 2007).

The City's WWTP appears to have capacity to accommodate domestic wastewater generated by the Park. The City's WWTP is rated at 0.7 mgd, and the current average daily flow rate is about 0.5 mgd. The wastewater generation for the mixed use project is estimated to be 0.1 mgd, about half of the City WWTP's remaining rated capacity. However, if the project used this 0.1 mgd capacity, there would be less capacity available for future buildout of projects within the City.

Alternative Description

Under this alternative, wastewater from the Park would be treated at the City's WWTP. The applicant would construct a sewer main in the proposed Farinon Road extension from the Park to Wescott Road, then south for about 500 feet to the City's lift station. To ensure the City's collection system would have sufficient capacity to accommodate CIP-generated wastewater, this alternative would include any necessary modifications to the lift station, and construction of a new underground force main (about 1 mile long) to augment or replace the City's 8-inch line between the lift station and the WWTP.

All other land uses and project components would be the same as the project. Similar to the project, this alternative includes all necessary internal infrastructure, including roads and utility lines.

Impact Analysis

Land Use

This alternative would have similar land use impacts to the project.

Population, Housing, and Employment

Similar to the project, the Wastewater Alternative would include 286 new residences and would directly increase the local population by 860 residents. Similar to the project, this alternative would generate short-term (i.e. construction) and long-term (i.e., office, commercial, and industrial) employment opportunities.

Public Services

This alternative would have similar demand on public services because the land uses in the development area would be the same as the project.

Traffic and Circulation

This alternative would have similar traffic and circulation impacts to the project because the land uses in the development area would be the same as the project. Unlike the project, this alternative would likely require a temporary lane closure on Wescott Road while a 500-foot section of sewer line is constructed, but this impact would be short term and mitigable.

Noise

This alternative would have similar noise impacts to the project because the land uses in the development area would be the same as the project.

Air Quality

This alternative would have similar air quality impacts to the project because the land uses in the development area would be the same as the project. This alternative would avoid the significant but mitigable impact related to odor generation because no wastewater treatment facility would be constructed onsite. Project-generated wastewater would be treated at the City's WWTP, where odors would not be distinguishable from odors generated by the City's plant.

Utilities and Service Systems

Demand for utilities under this alternative would be similar to the project because land uses in the development area would be the same as the project. Under this alternative, however, no wastewater treatment facility would be built, thereby avoiding any impacts of the project's wastewater treatment facility (as discussed in project Impact U-2, all impacts would be less than significant).

Hydrology and Water Quality

The development component of this alternative would have similar impacts related to surface water quality and groundwater supply because land uses in the development area would be the same as the project.

Unlike the project, however, this alternative could exacerbate water quality impacts associated with the WWTP's noncompliance with WDR effluent limitations on ammonia and aluminum if connection to the City's WWTP were to occur before the WWTP regains compliance. This would be a significant, unavoidable impact of this alternative.

Geology and Soils

Environmental effects related to geology and soils within the development area would be similar to the project because the same land areas would be developed. This alternative would include construction of a force main and lift station between the proposed intersection of Wescott Road and Farinon Road and the WWTP, which would be about the same length as the proposed sewer line between the development area and CIP's proposed wastewater treatment facility. Geology and soil impacts of this sewer line would be similar to the project's sewer line.

Hazards and Hazardous Materials

This alternative would have similar hazard impacts to the project because the land uses in the development area would be the same as the project.

Biological Resources

Biological effects of the proposed land use changes would be similar to the project because similar land areas would be developed.

This alternative would include construction of a new underground force main across 1 mile of agricultural fields that could support wildlife habitat. Construction impacts to biological resources would be temporary, but could result in a significant but mitigable impact that would not occur under the project.

This alternative would increase the amount of treated effluent discharged to surface waters by the City's WWTP. This alternative would, therefore, exacerbate any impacts to aquatic biology resulting from the WWTP's noncompliance until compliance is achieved. This potential effect would not occur with the project.

Agricultural Resources

Effects on agricultural resources from the proposed land use changes would be similar to the project because similar land areas would be developed. This alternative would not include construction of the proposed wastewater treatment facility and therefore would not result in the loss of 1 acre of Unique Farmland in this location.

This alternative would include construction of a new underground force main across 1 mile of Prime Farmland between Wescott Road and the City's WWTP. Construction of this force main could

temporarily impair agricultural productivity of this farmland. This would be a significant impact of this alternative that would not occur with the project.

Cultural Resources

Similar to the project, ground disturbance for construction activities could affect undocumented cultural resources. This would be a significant but mitigable impact.

Aesthetics

Environmental effects related to aesthetics would be similar to the project because similar land areas would be developed.

Conclusions

Based on the above analyses, it can be concluded the Wastewater Alternative would result in similar environmental impacts as the project with the following exceptions. Unlike the project, this alternative would likely require a temporary lane closure on Wescott Road while a 500-foot section of sewer line is constructed. This impact would be short term and mitigable. This alternative would avoid the significant but mitigable impact related to odor generation because no wastewater treatment facility would be built at the Park. Unlike the project, this alternative could exacerbate water quality impacts associated with the WWTP's noncompliance with WDR effluent limitations on ammonia and aluminum if connection to the City's WWTP were to occur before the WWTP regains compliance. This would be a significant, unavoidable impact of this alternative. This alternative would also exacerbate any impacts to aquatic biology resulting from the WWTP's noncompliance until compliance is achieved. This potential effect would not occur with the project. This alternative would eliminate the less than significant impact related to aerosol drift from the proposed wastewater treatment facility at the Park. Construction of a sewer line from the Park to the WWTP could impair farmland productivity and adversely affect wildlife habitat. These would be significant impacts of this alternative that would not occur with the project. The Wastewater Alternative would attain all of the project objectives, but might not be feasible due to concerns with the timing of improvements to the City's WWTP.

8.3 ALTERNATIVES CONSIDERED AND REJECTED

CEQA Guidelines Section 15126.6(c) provides that an EIR "should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination." One such alternative is an alternative location.

In determining whether alternative locations for the project need to be considered in an EIR, CEQA Guidelines Section 15126.6(f)(2)(A) states:

The key question and first step in analysis is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR.

An important project objective includes creation of a mixed-use community that can serve as the gateway to the City of Colusa. Feasible alternative locations, therefore, must be located near the edge of the City along SR 20 or SR 45, the primary roads entering the City. Locations that meet these criteria include undeveloped or agricultural land east of SR 20/SR 45 near the project area, along SR 20 west of the City, and along SR 45 north of the City.

CEQA Guidelines Section 15126.6(f)(1) further states that site suitability, economic viability, and availability of infrastructure can be used to judge the feasibility of alternatives.

The first location (east of SR 20/SR 45) is near the Colusa County Airport. As shown on Figure 4.5-1, noise levels on this land are similar to noise levels in the development area. This location, therefore, would not avoid or substantially lessen significant unavoidable impacts related to airport noise. The soils underlying the remaining locations are considered Prime Farmland if irrigated (and drained in some cases). These sites are not suitable because moving the project to these locations would convert a substantial amount of Prime Farmland, resulting in a new significant unavoidable impact that would not occur under the project.

Another option considered is the current golf course location. The alternative would require acquisition of the golf course property by CIP and would involve developing all of the proposed residential uses within the golf course property, while redesigning the golf course on land within the Park, where the proposed residential uses would be developed. Under this alternative, however, the residential uses would still be within the overflight corridor of the airport, and safety concerns would remain, although noise concerns would be reduced. This alternative would not be feasible because CIP does not currently have the ability to access or acquire the golf course property, and redesigning the golf course would be economically infeasible.

The economic viability of moving the project to these locations would be a concern. The applicant has owned the Park for many years and moving the project to land not owned by the applicant would require a substantial amount of land to be purchased at current market prices.

No feasible alternative locations exist that would avoid or substantially lessen any of the significant effects of the project or that would not result in a new significant unavoidable impact. Alternative locations are not considered further.

8.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

As shown by the previous analysis, the Reduced Residential Density alternative can be considered the environmentally superior alternative because it would reduce overall demand for public services; generate the fewest vehicle trips (30 percent fewer than the project), thereby reducing vehicle noise and emissions, and possibly reducing two significant unavoidable traffic impacts to a less than significant level; expose fewer project residents to excessive airport noise and safety concerns; and would not conflict with CLUP land use guidelines for residential uses within the overflight zone. However, the alternative might not be economically feasible because of the restriction on residential land uses within the overflight zone to single-family detached residences with a density of at least five acres per residence.

9. ACKNOWLEDGEMENTS

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10. ACRONYMS

AB	Assembly Bill
ADP	Average Daily Population
ALUC	Airport Land Use Commission
ALUC	Colusa County Airport Land Use Commission
APCD	Air Pollution Control District
AQMD	Air Quality Management District
ARMR	Archaeological Resource Management Reports
BAT	Best Available Technology Economically Achievable
BCT	Best Conventional Pollutant Control Technology
BMP	Best Management Practices
BOR	U.S. Bureau of Reclamation
CAAQS	California Ambient Air Quality Standards
CalEPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCAPD	Colusa County Air Pollution Control District
CCR	California Code of Regulations
CDC	California Department of Conservation
CDFG	California Department of Fish and Game
CDPR	California Department of Pesticide Regulation
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFAC	California Food and Agricultural Code
CFR	Code of Federal Regulations
cfs	cubic feet per second
CH ₄	methane
CIP	Colusa Industrial Properties
CLUP	Comprehensive Land Use Plan
CNDDB	California Natural Diversity Data Base
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO ₂	carbon dioxide
CPUC	California Public Energy Commission
CRHR	California Register of Historical Resources
CUSD	Colusa Unified School District
CVRWQCB	Central Valley Regional Water Quality Control Board
dB	decibels
DHS	Department of Health Service
DPM	Diesel Particulate Matter
DPR	California Department of Parks and Recreation
DWR	California Department of Water Resources
EIR	Environmental Impact Report
EDR	Environmental Data Resources, Inc.
EPA	Environmental Protection Agency
ESA	Federal Endangered Species Act

Acronyms

FAA	Federal Aviation Administration
FCAA	Federal Clean Air Act
FCAAAA	Federal Clean Air Act Amendments
FEMA	Federal Emergency Management Agency
FGC	California Fish and Game Code
FHWA	Federal Highway Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FIP	Federal Implementation Plan
FMMP	Farmland Mapping and Monitoring Program
FRA	Federal Railroad Administration
FWS	U.S. Fish and Wildlife Service
gpd	gallons per day
gpm	gallons per minute
GHG	greenhouse gasses
GPU	City of Colusa General Plan Update
HFC	hydrofluorocarbon
HPSA	Health Professional Shortage Area
K	Kindergarten
LAFCO	Local Agency Formation Commission
Leq	equivalent sound level
LOS	Level of Service
Lv	velocity level
MCL	Maximum Containment Level
mgd	million gallons per day
MMIS	Modified Mercalli Intensity Scale
MMtCO2e	million metric tons of CO2 equivalent
N2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NOP	Notice of Preparation
NOx	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
NSVAB	Northern Sacramento Valley Air Basin
NTSB	National Transportation Safety Board
NWIC	Northwest Information Center
NWR	National Wildlife Refuge
OES	California Office of Emergency Services
OPR	Office of Planning and Research
PFC	perfluorocarbon
PM10	Particulate Matter less than 10 microns in diameter
PRC	Public Resources Code
ROG	Reactive Organic Gas
ROW	Right-of-Way
RPS	Renewable Portfolio Standard
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SDWA	Safe Drinking Water Act
SEL	Sound Exposure Level
SF6	sulfur hexafluoride
SIP	State Implementation Plan
SOI	Sphere of Influence

Acronyms

SR	State Route
SRA	State Recreation Area
SRFD	Sacramento River Fire District
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
UBC	Uniform Building Code
UNIPCC	United Nations Panel on Climate Change
USACE	U.S. Army Corps of Engineers
USC	United States Code
VOC	Volatile Organic Compound
WDR	Waste Discharge Requirements
WWTP	Wastewater Treatment Plant

TRAFFIC IMPACT ANALYSIS

For

COLUSA INDUSTRIAL PROPERTIES REZONE
Colusa County, CA

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Colusa Industrial Properties Rezone.rpt

**TRAFFIC IMPACT ANALYSIS FOR
COLUSA INDUSTRIAL PROPERTIES REZONE**
Colusa County, CA

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TRAFFIC IMPACT ANALYSIS FOR COLUSA INDUSTRIAL PROPERTIES REZONE

INTRODUCTION

This report summarizes **KD Anderson & Associates, Inc.** analysis of the potential short-term and long-term traffic impacts associated with re-zoning and development of a portion of **Colusa Industrial Properties (CIP)** in Colusa County, California. As currently proposed, the project involves rezoning 138 acres near the City of Colusa to permit development of 286 residential units and 28 acres of commercial uses. Access to the project would be via Sunrise Blvd and Farinon Road, two existing streets that link the site with SR 20 south of the Colusa city limits. New access to SR 20 north of Sunrise Blvd would also be created for the multiple family residential portion of the project, and Farinon Road would be extended west to provide additional site access via Wescott Road.

The location of the project site is presented in Figure 1, while the project site plan is Figure 2.

Study Scope. The purpose of this analysis is to present an assessment of potential project specific and cumulative traffic impacts associated with the project and to suggest feasible measures for mitigating identified impacts. The analysis includes evaluation of existing circulation conditions in the area based on current a.m. and p.m. peak hour traffic. The characteristics of the proposed project have been determined, including estimated trip generation, the directional distribution, and assignment of the project traffic. By superimposing project trips onto existing traffic volumes, the impacts of project traffic on the operating conditions of streets and intersections in the area have been identified.

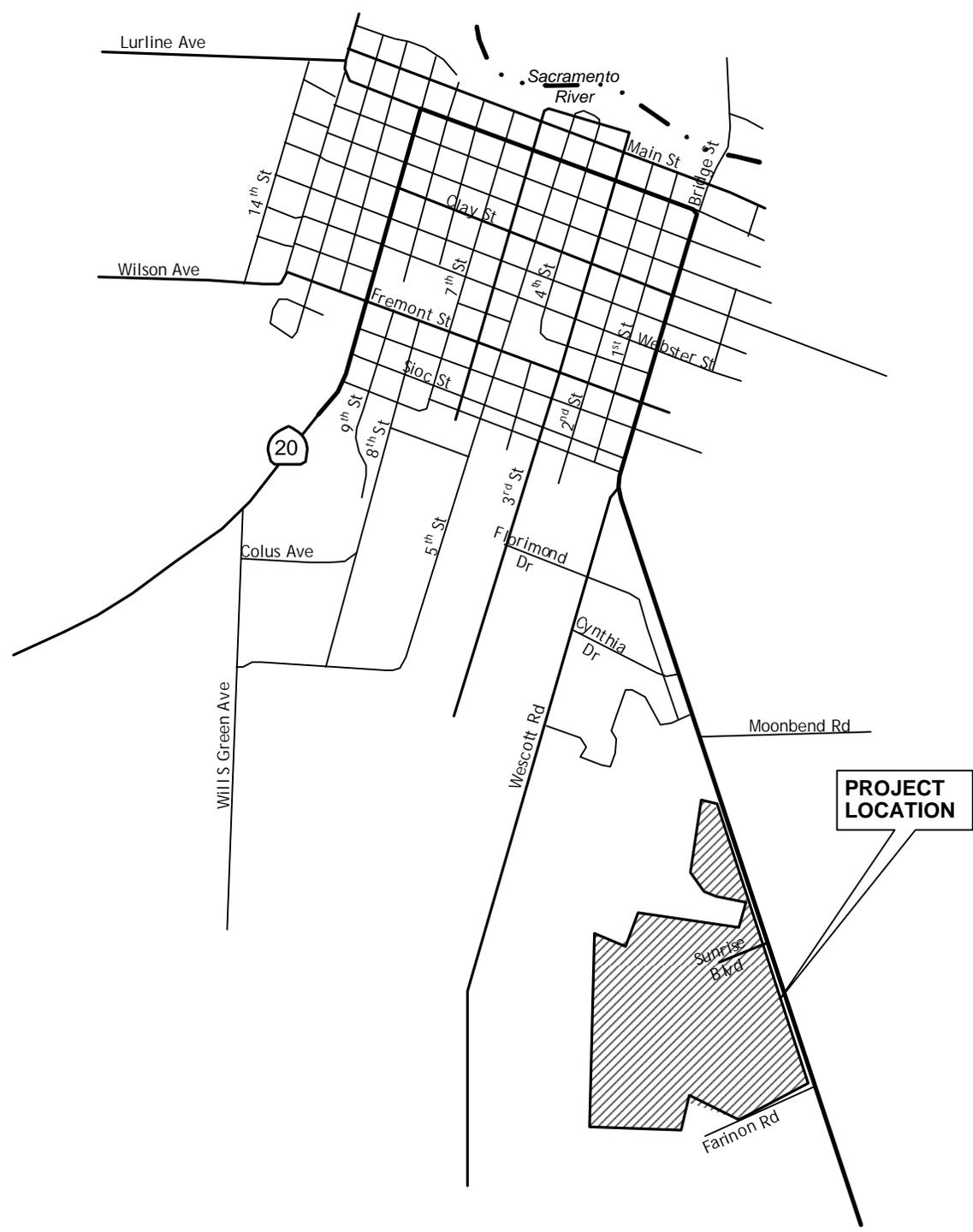
This report also considers the impacts of the project within the context of two future cumulative traffic conditions. The first cumulative scenario assumes existing traffic plus trips associated with other approved / pending project identified by Colusa County. The second cumulative scenario is based on future traffic volume forecasts based on preliminary information developed for the City of Colusa General Plan Update (GPU) EIR.

Five existing intersections and associated roadway segments were identified for investigation during the study scoping process. The study intersections include:

1. SR 20 (Bridge Street) / Fremont Street
2. SR 20 (Bridge Street) / Sioc Street
3. SR 20 (Bridge Street) / Wescott Road
4. SR 20 / Sunrise Blvd
5. SR 20 / Farinon Road

The roadway segments analyzed in this report were:

1. Bridge Street (SR 20) north of Fremont Street
2. Bridge Street (SR 20) between Fremont Street and Sioc Street
3. Bridge Street (SR 20) between Wescott Road and Sioc Street
4. SR 20 between Wescott Road and Sunrise Blvd
5. SR 20 between Sunrise Blvd and Farinon Road
6. SR 20 east of Farinon Road
7. Fremont Street between 3rd Street and Bridge Street
8. Sioc Street between 3rd Street and Bridge Street
9. Wescott Road between SR 20 and Cynthia Drive
10. Wescott Road between Cynthia Drive and Farinon Road extension





EXECUTIVE SUMMARY / RECOMMENDATIONS

Existing Conditions. Under existing conditions, the operation of the study area street system meets minimum standards for Level of Service (i.e., LOS C on city streets and county roads and LOS D on state highways through the City of Colusa). While motorists waiting to turn onto SR 20 do experience peak period delays that are indicative of Levels of Service in excess of these minimum standards, current traffic volume at study intersections do not satisfy traffic signal warrants.

Project Characteristics. The proposed project lies immediately north of the Colusa Airport along SR 20. The project is a mix of residential and commercial uses that is expected to generate approximately 7,017 new daily vehicle trips (i.e., one inbound trip and one outbound trip is two trip ends). Of that total, about 506 trips are expected during the a.m. peak hour, and 531 are expected during the p.m. peak hour. As a comparison, development of the site under current designation would result in 31 acres of office type uses and 76 acres of light industrial uses generating 8,581 daily, 1,156 a.m. and 1,074 p.m. peak hour trips.

Trips generated by the project will have destinations primarily in the City of Colusa, but a portion of the project traffic will be destined for locations in the Yuba City-Marysville area to the east or along the Interstate 5 corridor to the west.

The project includes proposed circulation system improvements. Frontage improvements to SR 20 are already programmed and were started in spring 2007, including development of turn lanes on the state highway. The project will also extend Farinon Road to Wescott Road in a manner that is consistent with the new City of Colusa General Plan.

Project Impacts. Trips generated by this project were superimposed onto current background traffic volumes, and "plus project" traffic conditions were identified to determine the significance of project impacts.

Development of the project will increase the daily traffic volume on SR 20 in the area between Sioc Street and Fremont Street to a volume that exceeds the minimum Level of Service (i.e., greater than LOS D). Development of the project will result in Levels of Service in excess of the LOS D minimum at study intersections, but traffic signal warrants are not projected to be met at any intersection. Development of the residential elements of the project will result in the need to create pedestrian facilities via Wescott Road to link the site with Colusa schools.

Cumulative Impacts – Existing Plus Pending / Approved Projects. Colusa County identified three (3) other development projects that were included in an “Existing Plus Approved Projects” background condition. These projects are:

- Riverbend Estates: 2,235 low-density residential units, 295 medium-density residential units, on 442 acres, north of Moonbend Road, east of Bridge Street and SR 20/45, approximately 1.5 miles north of CIP project. This project has not been approved by the City of Colusa and no traffic impact analysis has been conducted.

- Tennant Estates: 101-lot residential subdivision, approved with traffic study.
- Hoblit Subdivision: 12-unit single family residential subdivision, under construction.

With the development of Pending projects and the proposed project, the length of minor street approach delays would increase at Bridge Street / Fremont Street intersection, and the Level of Service for motorists waiting to turn on SR 20 would exceed the LOS D threshold. Similarly, very long delays would be expected at the Bridge Street / Wescott Road intersection, and the Level of Service for motorists waiting to turn north onto Bridge Street would exceed the LOS D minimum. Motorists waiting to turn left onto SR 20 at the SR 20 / Sunrise Blvd intersection would experience delays that are indicative of LOS E.

Cumulative Impacts - City of Colusa General Plan Build Out. The proposed project is consistent with the land uses envisioned under the City of Colusa General Plan Update, and the project’s cumulative impacts were included in the traffic study being conducted for the GPU EIR.

By the time that the City of Colusa General Plan is built out, the volume of traffic on many streets in the area of the project will exceed minimum Level of Service thresholds and improvements will be required. SR 20 would need to be improved to a four lane section, although improvement to this standard may not be possible along the entire length of SR 20 through the City of Colusa. Traffic signals will be required at major intersections along SR 20, and auxiliary turn lanes will be needed to deliver minimum Levels of Service at those locations. The volume of traffic forecast for Wescott Road and Farinon Road in the area of the project is forecast to exceed the LOS C threshold for a collector street, indicating that improvement to arterial standards may eventually be needed. Cumulative impacts to Sioc Street and Fremont Street were also identified.

Mitigations. The proposed project should mitigate its project specific and cumulative impacts by providing the following mitigations measures:

Existing Plus Project Impacts

1. Construct Farinon Road extension to Wescott Road, as proposed.
2. Construct all weather pedestrian routes into Colusa to mitigate pedestrian safety impacts.
3. Contribute “fair share” to the cost of SR 20 (Bridge Street)/Fremont Street signalization.

Existing Plus Pending Projects Plus Project Impacts

1. Contribute “fair share” to the cost of SR 20/Sioc Street signalization and intersection modification.
2. Contribute “fair share” to the cost of SR 20 (Bridge Street)/Fremont Street signalization and intersection improvements.
3. Contribute “fair share” to the cost of SR 20/Wescott Road traffic signal and intersection improvements.
4. Contribute “fair share” to the cost of SR 20/Sunrise Blvd traffic signal.
5. Contribute “fair share” to the cost of SR 20/Farinon Road traffic signal.
6. Contribute “fair share” to the cost of widening SR 20 to 4 lanes from Market Street through Farinon Road intersection.
7. Contribute “fair share” to cost of restriping Fremont Street to four lanes or to creating

Fremont Street/Sioc Street couplet.

**TABLE 1
EXISTING PLUS PENDING PROJECTS PLUS PROJECT FAIR SHARE CONTRIBUTION**

EPAPP+P	Location	Description	Project Share of General Plan Buildout Cumulative P.M. Peak Hour Traffic	
			% of New	% of Total
2	Bridge Street / Fremont Street	Traffic Signal and auxiliary lanes	14%	8%
1	Bridge Street / Sioc Street	Intersection widening	50%	16%
3	Bridge Street / Wescott Rd	Traffic Signal and Intersection widening	59%	19%
4	SR 20 / Sunrise Blvd	Traffic Signal and auxiliary lanes	36%	20%
5	SR 20 / Farinon Road	Traffic Signal and auxiliary lanes	30%	17%
6	SR 20 Market to Farinon	Widen SR 20	31% to 43%	5% to 23%
7	Fremont St from Bridge to 10 th	Re-stripe for 4 lanes	16%	11%
% of New is project traffic as a percentage of the net new traffic resulting from all development (i.e., total minus existing) % of Total is project traffic as a percentage of total future traffic				

General Plan Buildout Impacts

1. Identify the right of way needed to accommodate future traffic conditions under City of Colusa General Plan build out, and make an irrevocable offer of dedication for that right of way within the project.
2. Contribute its fair share to the cost of cumulative mitigations by paying the fees to be established via the City's planned Street and Highways Master Plan, or alternatively identify the cost of the following improvements and make a financial contribution in proportion to the project's traffic volume.

**TABLE 2
CUMULATIVE (GENERAL PLAN BUILDOUT) FAIR SHARE CONTRIBUTION**

#	Location	Description	Project Share of General Plan Buildout Cumulative P.M. Peak Hour Traffic	
			% of New	% of Total
C1	Bridge Street / Fremont Street	Traffic Signal and auxiliary lanes	3.8%	2.0%
C2	Bridge Street / Sioc Street	Intersection widening	3.4%	1.9%
C3	Bridge Street / Wescott Rd	Traffic Signal and Intersection	4.3%	2.4%

		widening		
C4	SR 20 / Sunrise Blvd	Traffic Signal and auxiliary lanes	6.3%	4.8%
C5	SR 20 / Farinon Road	Traffic Signal and auxiliary lanes	3.3%	2.7%
C6	Wescott Road / Farinon Road	Traffic Signal and auxiliary lanes	3.0%	2.8%
C8	SR 20 Farinon to Wescott	Widen SR 20	7.2%	4.9%
C9	Fremont St from Bridge to 10 th	Re-stripe for 4 lanes	2.4%	1.5%
C10	Sioc Street from Bridge St to 10 th St	Re-Stripe for 4 lanes	1.6%	1.2%
C11	Farinon Rd from Wescott to SR 20	Widen to 4 lanes	3.2%	3.2%
C12	Wescott Rd from Cynthia to Railroad Collector	Improve to Arterial Standards	1.4%	1.2%
C13	SR 20 West of Colusa to I5	Widen to 4 lanes	2.0%	1.4%
	SR 20 East of Colusa to SR 99	Widen to 4 lanes	2.1%	1.7%
% of New is project traffic as a percentage of the net new traffic resulting from all development (i.e., total minus existing)				
% of Total is project traffic as a percentage of total future traffic				

EXISTING SETTING

This report section describes current traffic volume levels and accompanying traffic operations on the roadways and intersections within the study area.

Existing Street System

Regional access to the site will be via SR 20 to the east and west of Colusa. Access to the developed areas of Colusa will be via existing roads such as Wescott Road, Bridge Street, Sioc Street, and Fremont Street. The text that follows describes these facilities.

State Route 20. State Route 20 (SR 20) is the primary regional access to the Colusa area. SR 20 originates at an intersection on SR 1 in Mendocino County and continues easterly across northern California to its junction with Interstate 80 in Nevada County. In Colusa County SR 20 provides access to Interstate 5 in Williams and links the County with the Yuba City-Marysville area to the east. Locally, SR 20 is the main route through the City of Colusa as it enters the east end of the community as 10th Street, continues easterly as Market Street then turns south as Bridge Street before passing the project site. In the vicinity of the proposed project SR 20 is a two lane rural highway with auxiliary turn lanes at major intersections. Today the California Department of Transportation (Caltrans) reports that SR 20 carries an *Average Daily Traffic (ADT)* volume of 9,700 per day in the area south of Moonbend Road, with the volume reported by Caltrans to be 25,000 vehicles per day on Market Street. Trucks comprise 7% of the daily traffic on SR 20 through Colusa. While the reported volume in the area south of Moonbend Road is consistent with spot traffic counts conducted for the City of Colusa GPU, daily volumes counted in the northern part of the study area were lower.

Wescott Road is a Collector street that links southern Colusa with SR 20 at the southern edge of the downtown area. Wescott Road also extends southerly into rural Colusa County. This two lane road varies in width, with limited shoulders available on the south end of the road but more urban features (i.e., wider shoulder and sidewalks) available near the intersection with SR 20. Traffic counts conducted in 2006 revealed that Wescott Road carried approximately 1,750 ADT in the area south of Cynthia Drive, with the volume rising to 4,550 ADT between SR 20 and Florimond Drive.

Sunrise Blvd. Sunrise Blvd is a Collector street that today provides access to the existing office-commercial development in the Colusa Industrial Park via Davison Court. The existing portion of Sunrise Blvd is a four lane road that extends westerly from SR 20 for one block. Today Sunrise Blvd carries approximately 750 ADT.

Fremont Street and Sioc Street. Fremont Street and Sioc Street are east-west Collectors that link 10th Street (SR 20) and Bridge Street (SR 20) in the area north of the project site. Both are wide two lane roads that accommodate on-street parking and have direct residential frontage. Today both streets carry approximately 5,000 ADT in the area west of Bridge Street.

Farinon Road. Farinon Road is a Collector street that extends west from an intersection on SR 20 to serve Colusa Airport as well as the existing industrial development along the west side of the Colusa Airport via Niagra Avenue. This two lane road is relatively wide near SR 20 but narrows to two travel lanes and limited shoulders in the area of Niagra Avenue. Today Farinon Road carries fewer than 250 ADT.

Cynthia Drive, Country Club Drive and Butte Vista Way. Today several local streets link SR 20 with Wescott Road in the area north of the project site. Three local streets intersect SR 20 in this area: Cynthia Drive, Country Club Drive and Butte Vista Drive. These streets are connected to Wescott Road via other local streets such as Tara Drive and Florimond Drive. The volume of traffic on these local connections is in the range of 1,000 vehicles per day.

Study Intersections

Because the quality of traffic flow on urban streets is typically governed by the operation of major intersections, this analysis assesses current conditions and addresses project impacts at five existing and one future intersection:

1. SR 20 (Bridge Street) / Fremont Street (EB/WB Stop)
2. SR 20 (Bridge Street) / Sioc Street (Signal)
3. SR 20 (Bridge Street) / Wescott Road (EB Stop)
4. SR 20 / Sunrise Blvd (EB Stop)
5. SR 20 / Farinon Road (EB Stop)
6. Wescott Road / Farinon Road Extension (future)

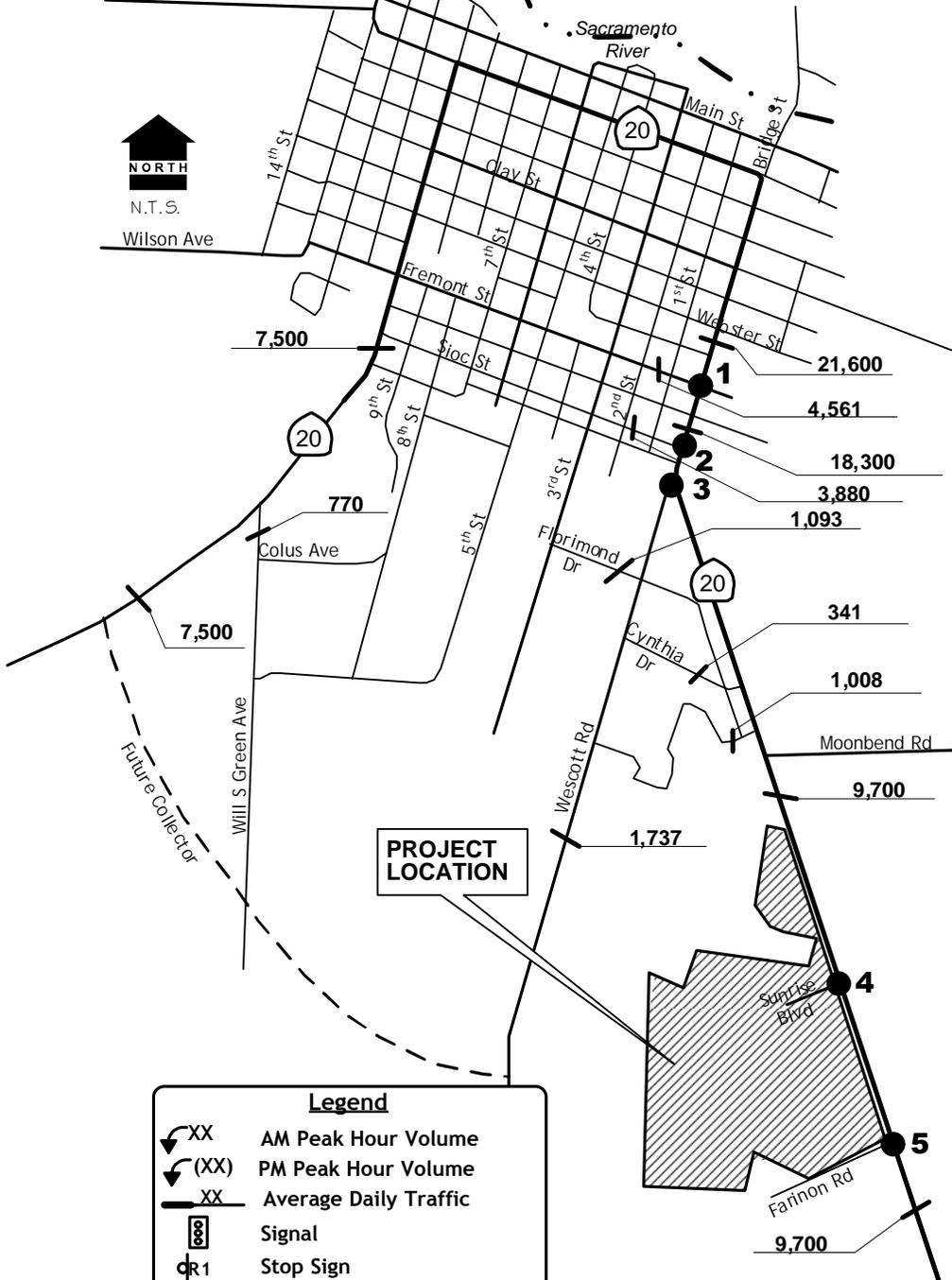
Existing Traffic Volumes

To quantify existing traffic conditions, a.m. and p.m. peak hour traffic counts were made by the consultant at several study intersections in August 2006 to supplement traffic counts conducted for the City of Colusa GPU in June and October 2005. The a.m. and p.m. peak hours were selected as being representative of typical "worst case" background traffic conditions, based on review of daily traffic counts in Colusa and based on the highest hours of project trip generation. This approach is consistent with the analyses contained in other recent EIRs in Colusa County. Observed traffic volumes are presented in Figure 3.

Level of Service: Methodology and Standards

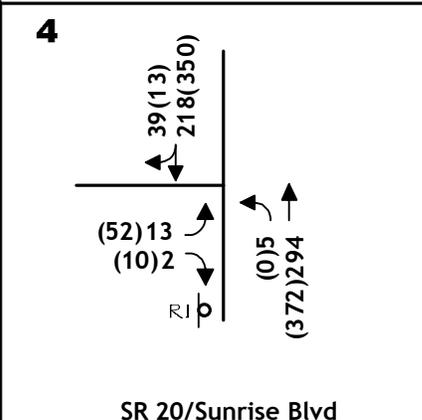
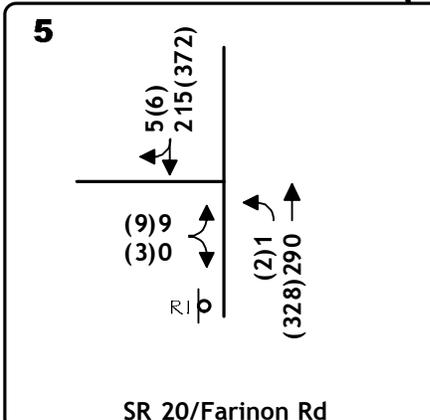
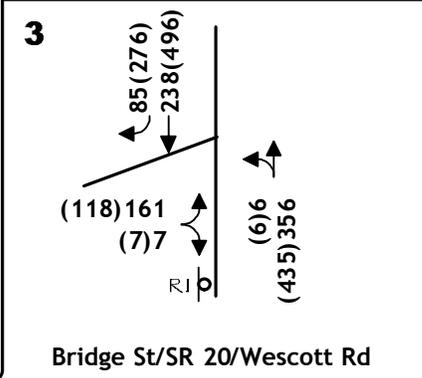
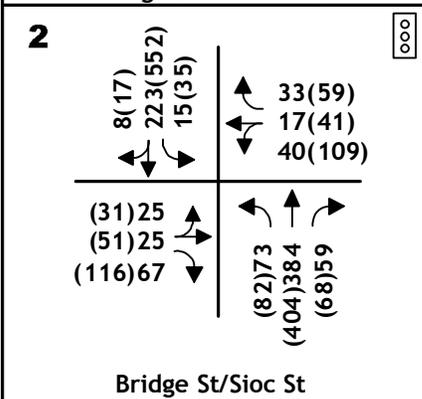
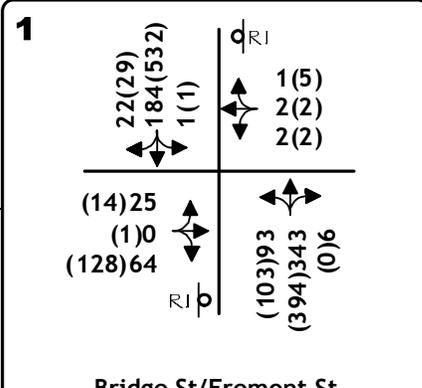
To quantitatively evaluate traffic conditions and to provide a basis for comparison of operating conditions with and without project generated traffic, "Levels of Service" were determined at study area intersections and on individual roadway segments.

"Level of Service" (LOS) is a quantitative measure of traffic operating conditions whereby a letter grade "A" through "F" is assigned to an intersection. LOS "A" through "F" represents progressively worsening traffic conditions. The characteristics associated with the various LOS for intersections are presented in Table 3.



Legend

- ↔ XX AM Peak Hour Volume
- ↔ (XX) PM Peak Hour Volume
- XX Average Daily Traffic
- ◻ Signal
- ◻ Stop Sign



EXISTING TRAFFIC VOLUMES AND LANE CONFIGURATIONS

figure 3

**TABLE 3
LEVEL OF SERVICE DEFINITIONS**

Level of Service	Signalized Intersection	Unsignalized Intersection	Roadway (Daily)
"A"	Uncongested operations, all queues clear in a single-signal cycle. Delay ≤ 10.0 sec	Little or no delay. Delay ≤ 10 sec/veh	Completely free flow.
"B"	Uncongested operations, all queues clear in a single cycle. Delay > 10.0 sec and ≤ 20.0 sec	Short traffic delays. Delay > 10 sec/veh and ≤ 15 sec/veh	Free flow, presence of other vehicles noticeable.
"C"	Light congestion, occasional backups on critical approaches. Delay > 20.0 sec and ≤ 35.0 sec	Average traffic delays. Delay > 15 sec/veh and ≤ 25 sec/veh	Ability to maneuver and select operating speed affected.
"D"	Significant congestions of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay > 35.0 sec and ≤ 55.0 sec	Long traffic delays. Delay > 25 sec/veh and ≤ 35 sec/veh	Unstable flow, speeds and ability to maneuver restricted.
"E"	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay > 55.0 sec and ≤ 80.0 sec	Very long traffic delays, failure, extreme congestion. Delay > 35 sec/veh and ≤ 50 sec/veh	At or near capacity, flow quite unstable.
"F"	Total breakdown, stop-and-go operation. Delay > 80.0 sec	Intersection blocked by external causes. Delay > 50 sec/veh	Forced flow, breakdown.

Sources: 2000 Highway Capacity Manual.

The Colusa County General Plan Circulation Element and the City of Colusa General Plan establish the allowable Level of Service standard for roadways and intersections, while Caltrans has also established goals for state highways. For example, the pending City of Colusa GPU establishes LOS "C" as the applicable standard on city streets but accepts LOS D on state highways. Colusa County's minimum standard is LOS C on County roads. Caltrans strives to maintain LOS C at locations where new construction is anticipated.

For this analysis it has been assumed that LOS C is the minimum standard for all streets and intersections within the City of Colusa that are not on state highways. LOS D is assumed to be the minimum on state highways.

The City's pending GPU includes policies relating to the significance of traffic impacts, as noted below.

Implementing Action CIR-1.1.a: Streets and Roadways Master Plan

The City will prepare, adopt and periodically update a Streets and Roadways Master Plan that establishes LOS C as the minimum acceptable LOS for City streets and intersections. If conditions of LOS D or worse are already present, future proposed projects may not cause roadway volumes to increase by five percent or more and shall be accompanied by other mitigation measures intended to reduce trip generation. LOS D is the minimum standard for state highways.

Levels of Service were calculated for different intersection control types and roadway segments using the applicable methodology contained in the 2000 Highway Capacity Manual.

Signalized Intersections. Procedures used for calculating Levels of Service at signalized intersections are as presented in the Highway Capacity Manual, 2000 edition. In addition to traffic volume, these procedures make use of geometric information and traffic signal timing data to estimate delay by approach and overall delay.

Unsignalized Intersections. The procedure for calculating the Level of Service at unsignalized intersections is based on the relative availability of gaps in traffic and the delay experienced for each movement that must yield the right-of-way. The number of gaps is related to delay and is a function of the volume and speed of conflicting traffic, type of control (stop or yield), and qualitative intersection geometrics. Like signalized intersections where overall traffic operation is described by one Level of Service grade, a Level of Service is calculated for the intersection but can also be calculated for each movement yielding the right-of-way to others. Levels of Service at unsignalized intersections controlled by side street stop signs are indicative of the magnitude of the delay incurred by motorists turning at the intersection. Because these calculations ignore the condition of through traffic flow (which is assumed to flow freely) traffic signal warrant analysis is performed to determine the significance of unsignalized conditions.

While the unsignalized Level of Service may indicate very long delays (i.e., LOS "E") traffic conditions are generally not assumed to be unacceptable unless a significant number of motorists are delayed. For this analysis, the satisfaction of traffic signal warrants has been used to suggest the significance of unsignalized Level of Service. Meeting signal warrants signifies that an intersection has unacceptable operating conditions, but it does not mean that installation of a signal is the only way to mitigate those conditions. It is often possible to improve an intersection with additional lanes or improved geometrics so that signalization is not necessary. The signal warrant criteria employed for this study are those presented in the California Manual of Uniform Traffic Control Devices (CMUTCD).

Level of Service based on Roadway Segment Traffic Volume. For planning purposes, it is also possible to suggest the general Level of Service that is likely to occur on roadways based on the observed traffic volumes. The pending City of Colusa GPU EIR introduces daily volume thresholds that can be used for identifying Levels of Service based on roadway segment traffic volumes. These guidelines are presented in Table 4.

**TABLE 4
ROADWAY SEGMENT LEVEL OF SERVICE THRESHOLDS**

Street Classification	Lanes	Control	Maximum Daily Traffic Volume at LOS				
			A	B	C	D	E
Collector	2	Undivided	4,000	5,800	7,700	11,600	12,900
	2+	Undivided	4,600	7,000	9,200	13,700	15,450
Arterial	2+	Divided	6,500	9,000	11,200	15,400	16,300
	4+	Divided	13,800	19,000	26,000	32,700	34,200
	6+	Divided	20,700	28,500	40,300	49,200	51,800

+ includes center turn lane

Current Levels of Service

Peak Hour Intersection Levels of Service. Current a.m. and p.m. peak hour Levels of Service were calculated at the study intersections (Refer to the Appendix for calculation worksheets) and are summarized in Table 5. Current Levels of Service were compared to adopted standards to determine whether existing conditions are satisfactory.

**TABLE 5
EXISTING LEVELS OF SERVICE**

Location	Control	Peak Hour Level of Service				Traffic Signal Warranted?
		A.m. Peak Hour		P.m. Peak Hour		
		Average Delay	LOS	Average Delay	LOS	
Bridge Street / Fremont St NB left turn SB left turn EB left+thru+right turn WB left+thru+right turn	EB/WB Stop	8.0 sec	A	9.4 sec	A	No
		8.1 sec	A	8.3 sec	A	
		13.9 sec	B	23.7 sec	C	
		18.2 sec	C	27.3 sec	D	
Bridge Street / Sioc Street	Signal	17.7 sec	B	25.5 sec	C	n.a.
Bridge Street / Wescott Rd NB left turn EB left+right turn	EB Stop	8.1 sec	A	9.8 sec	A	No
		21.3 sec	C	39.3 sec	E	
SR 20 / Sunrise Blvd NB left turn EB left turn EB right turn	EB Stop	7.9 sec	A	-	-	No
		13.2 sec	B	18.2 sec	C	
		9.6 sec	A	10.7 sec	B	
SR 20 / Farinon Road NB left turn EB left+right turn	EB Stop	7.8 sec	A	8.2 sec	A	No
		12.9 sec	B	14.6 sec	B	

Bold is LOS in excess of standard.

As noted, one location experiences Levels of Service in excess of the adopted standards. Motorists waiting to turn onto northbound SR 20 at the Wescott Road intersection experience delays that are indicative of LOS E. However, while this individual Level of Service exceeds the LOS D minimum, current traffic volumes do not reach the level that satisfy peak hour volume warrants for signalization.

Roadway Levels of Service. The current roadway segment Level of Service is presented in Table 6. As shown, recent traffic counts conducted for the City of Colusa GPU are indicative of LOS D or better conditions at all locations, with all city streets operating at LOS C or better. However, the Annual Average Daily Traffic (AADT) published by Caltrans are much higher in some locations and indicate LOS F. This study addresses project impacts to state highways relative to both published and observed daily traffic volumes.

**TABLE 6
EXISTING AVERAGE DAILY TRAFFIC VOLUMES AND
RESULTING LEVEL OF SERVICE**

Location	Classification	ADT	Lanes	Level of Service
3 rd St between W. Florimond Dr and Larson Ln	Collector	2,380	2	A
3 rd St between Sioc St and Carson St	Collector	1,770	2	A
3 rd St between Jay St and Oak St	Collector	320	2	A
Fremont St between 3 rd St and 4 th St	Collector	5,050	2	B
SR 20 between Wescott Rd and Cynthia Dr	Arterial	9,430 / 18,300*	2	C / F*
SR 20 between Cynthia Dr and Moonbend Rd	Arterial	8,370 / 18,300*	2	B / F
SR 20 between Moonbend Rd and east City limit	Arterial	9,700*	2	C
Bridge St (SR 20) between Carson St and Fremont St	Arterial	13,470 / 18,300*	2	D / F
Bridge St (SR 20) between Jay St and Oak St	Arterial	10,570 / 21,600*	2	B / F
Wescott Rd between Bridge St and Florimond Dr	Collector	4,550	2	B
Wescott Rd south of Florimond Drive	Collector	1,750	2	A
Sioc St between 1 st and 2 nd St	Collector	3,880	2	B
Fremont Street between 1 st and 2 nd	Collector	4,560	2	A
* is Caltrans 2005 AADT				
BOLD is condition in excess of minimum standard				

PROJECT IMPACTS

Project Characteristics

Trip Generation. To quantify the amount of vehicular traffic generated by the proposed project, peak hour rates presented in the 7th Edition of the ITE publication Trip Generation were consulted. Applicable rates are indicated in Table 7.

Table 8 presents estimated site trip generation under the current proposal. As indicated, the project is expected to generate a gross total of 10,497 daily trip ends. Of this total, 3,480 daily trips would be “pass-by” trips drawn to retail uses from passing traffic along SR 20. A total of 7,017 new daily trips are forecast, with 506 trips expected during the a.m. peak hour and 531 trips expected to occur during the p.m. peak hour. As a comparison, development of the site under current designation would result in 31 acres of office / business park type uses and 76 acres of light industrial uses generating 8,581 daily, 1,156 a.m. and 1,074 p.m. peak hour trips.

Trip Distribution and Assignment. The distribution of project trips will reflect the general location of employment, shopping and schools within the Colusa area and the project's location with regard to the regional street system. To quantify the project trip distribution, information developed for the City of Colusa GPU EIR traffic study regarding the location of employment, shopping and schools in Colusa was reviewed. The project's regional trip distribution was identified, as indicated in Table 9. Figure 4 depicts the project-only assignment of trips through the study intersections.

**TABLE 7
TRIP GENERATION RATES**

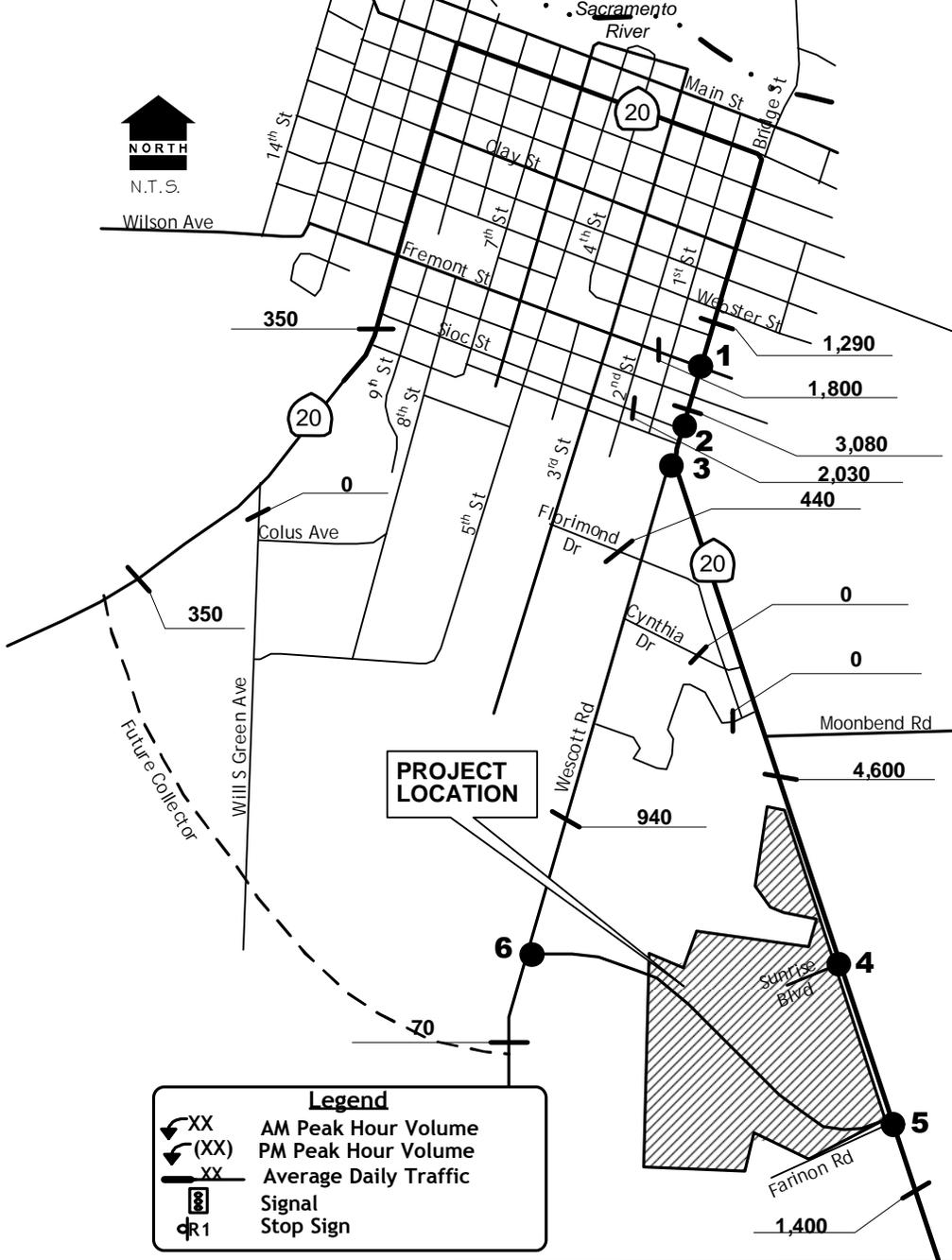
Land Use	Quantity	Daily Trip Rate	AM Peak Hour			PM Peak Hour Rate		
			In	Out	Total	In	Out	Total
Single Family Residence	Dwelling unit	9.60	0.19	0.56	0.75	0.64	0.37	1.01
Multiple Family Residence	Dwelling unit	6.6	0.10	0.41	0.51	0.40	0.22	0.62
Motel	room	9.11	0.23	0.41	0.64	0.31	0.27	0.58
Convenience market with Gas Station	Ksf	845.6	22.79	22.79	45.58	30.30	30.31	60.60
Sit-Down Restaurants	Ksf	127.15	5.99	5.53	11.52	6.66	4.26	10.92
Fast Food Restaurant	Ksf	496.12	27.09	26.02	53.11	18.01	16.63	34.64
General Office	Ksf	11.01	1.36	0.19	1.55	0.25	1.24	1.49
General Retail / Services	Ksf	44.32	1.65	1.06	2.71	1.19	1.52	2.71
Business Park	Acre	149.79	16.03	2.83	18.86	3.37	13.47	16.84
Light industrial	Acre	51.80	6.23	1.28	7.51	1.60	5.66	7.26

**TABLE 8
TRIP GENERATION ESTIMATE**

Land Use	Quantity	Daily Trips	AM Peak Hour			PM Peak Hour Rate		
			In	Out	Total	In	Out	Total
Single Family Residence	140 du's	1,344	27	78	105	90	52	142
Multiple Family Residence	146 du's	964	15	60	75	58	32	90
Motel	75 room	683	17	31	48	23	20	43
Convenience market with Gas Station	5.0 ksf	4,228	114	114	228	151	152	303
<"Pass-By"> 60% daily, 63% a.m. 66% p.m.		<2,537>	<72>	<72>	<144>	<100>	<100>	<200>
Net New Trips		1,691	42	42	84	51	52	103
Sit-Down Restaurants	6.5 ksf	826	39	36	75	43	28	71
<"Pass-By"> 30% daily, 30% a.m., 43% pm		<248>	<12>	<12>	<24>	<18>	<12>	<30>
Net New Trips		578	27	24	51	25	16	41
Fast Food Restaurant	3.5 ksf	1,736	95	91	186	63	58	121
<"Pass-By"> 40% daily, 50% a.m., 49% p.m.		<695>	<47>	<46>	<93>	<31>	<28>	<59>
Net New Trips		1,041	48	45	93	32	30	62
General Office	15.0 ksf	273	20	3	23	4	19	23
General Retail / Services	10.0 ksf	443	17	11	27	12	15	27
Gross Trip Ends		10,497	344	424	767	444	376	820
<"Pass-By" Trips>		<3,480>	<131>	<130>	<261>	<149>	<140>	<289>
Net "New" trips		7,017	213	294	506	295	236	531
Current Designations								
Light Industrial	76 acre	3,937	474	97	571	121	431	552
Business Park	31 acre	4,644	497	88	585	104	418	522
Total		8,581	971	185	1,156	225	849	1,074

**TABLE 9
DIRECTIONAL TRIP DISTRIBUTION**

Direction	Direction	Percentage	
		Residential	Non-residential
North	Bridge Street Beyond Fremont Street	25%	15%
	3 rd Street north of Fremont Street	15%	10%
West	Fremont Street west of 3 rd Street	19%	24%
	Sioc Street west of 3 rd Street	20%	30%
South	Wescott Road south of Farinon Road	1%	1%
East	SR 20 east of Farinon Road	20%	20%
	Total	100%	100%



Legend

- ↖ XX AM Peak Hour Volume
- ↗ (XX) PM Peak Hour Volume
- XX Average Daily Traffic
- Ⓜ Signal
- Ⓢ Stop Sign

1

0(0) ↖ ↗ 36(59) ↖ ↗ 0(0)	↖ ↗ 0(0) ↖ ↗ 0(0) ↖ ↗ 0(0)
(0)0 (0)0 (70)57	↖ ↗ (59)71 (43)57 (0)0

Bridge St/Fremont St

2

0(0) ↖ ↗ 94(129) ↖ ↗ 0(0)	↖ ↗ 0(0) ↖ ↗ 0(0) ↖ ↗ 0(0)
(0)0 (0)0 (80)64	↖ ↗ (67)81 (102)128 (0)0

Bridge St/Sioc St

3

↖ ↗ 10(34) ↖ ↗ 148(175)	↖ ↗ (0)0 ↖ ↗ (151)180
(19)29 (0)0	

Bridge St/SR 20/Wescott Rd

6

0(0) ↖ ↗ 21(59)	↖ ↗ 51(34) ↖ ↗ 3(2)
(0)10 (3)2	

Wescott Rd/Farion Extension

5

↖ ↗ 86(96) ↖ ↗ -23(-31)	↖ ↗ (72)57 ↖ ↗ (-13)-14
(76)81 (78)81	

SR 20/Farion Rd

4

↖ ↗ 128(124) ↖ ↗ 19(12)	↖ ↗ (36)35 ↖ ↗ (31)32
(106)105 (46)43	

SR 20/Sunrise Blvd

The development of “Existing plus Project” traffic volumes is intended to isolate the specific traffic impacts of the proposed project. Thus, while it is possible and perhaps likely that some traffic generated by existing Colusa residents will use the new routes created by the project, the effect of non-project traffic is not included in these projections but is included under Cumulative traffic volume forecasts.

Project Traffic Impacts

Existing Plus Project Volumes. Using the trip generation and distribution described above, project generated automobile trips were superimposed onto current background traffic, as indicated in Figure 5. Resulting “Existing Plus Project” Levels of Service were calculated for the study intersection under these conditions. The results of these calculations are shown in Table 10.

Project Impact-1: Addition of project trips would have an incremental impact on traffic operations at the study intersections.

The length of minor street approach delays would increase at Bridge Street / Fremont Street intersection, and the Level of Service for motorists waiting to turn on SR 20 would exceed the LOS D threshold. Similarly, very long delays would be expected at the Bridge Street / Wescott Road intersection, and the Level of Service for motorists waiting to turn north onto Bridge Street would exceed the LOS D minimum. Motorists waiting to turn left onto SR 20 at the SR 20 / Sunrise Blvd intersection would experience delays that are indicative of LOS E. Levels of Service at all other intersections would remain at LOS D or better conditions.

An increase in traffic at the Bridge Street / Fremont Street intersection, the Bridge Street / Wescott Road intersection, and the SR 20 / Sunrise Blvd intersection would exceed the LOS D threshold and would result in significant impacts.

Level of Significance Before Mitigation: Significant.

Mitigation Measure for Project Impact-1: Eventually a traffic signal will be needed at the Bridge Street (SR 20) / Fremont Street intersection to meet minimum LOS Standards. The project should contribute its fair share to the cost of this traffic signal. However, it is unlikely that Caltrans will permit the signal to be installed until warrants are met. Thus, payment of a fair share may still result in a significant and unavoidable impact if the signal is not installed.

Level of Significance After Mitigation: Significant and Unavoidable.

Project Impact-2: Addition of project trips would reduce the LOS on SR 20 (Bridge Street) in the area between Sioc Street and Fremont Street.

The relative impact of the proposed project on study area roads can be understood from comparison of daily traffic volumes with and without the proposed project. As shown in Table 11, the addition of project trips alone would reduce the Level of Service on SR 20 (Bridge Street) in the area between Sioc Street and Fremont Street from LOS D to LOS F. This exceeds the LOS D threshold

established by the City of Colusa GPU and would result in a significant impact. The amount of traffic added by the project on this roadway segment represents a 23% increase over existing volumes. This exceeds the 5% threshold of significance identified in the City of Colusa GPU.

Level of Significance Before Mitigation: Significant.

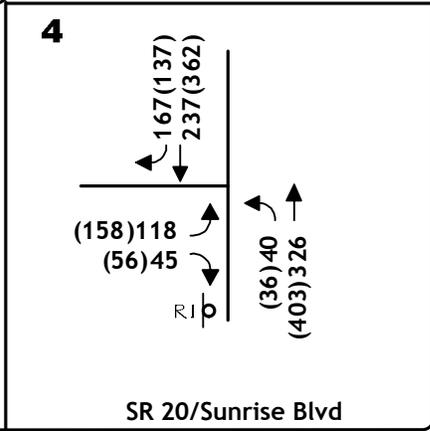
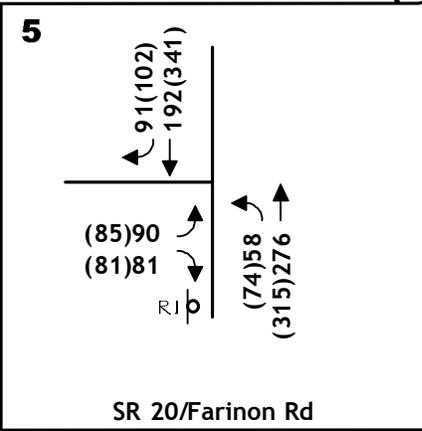
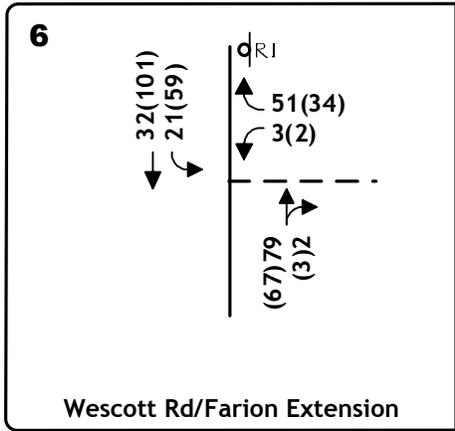
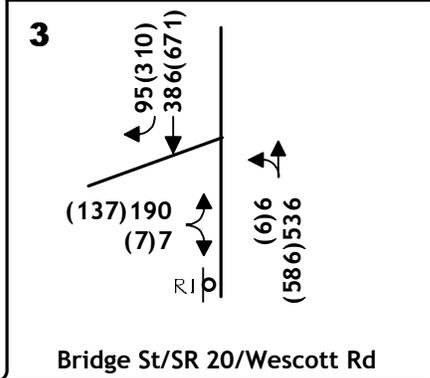
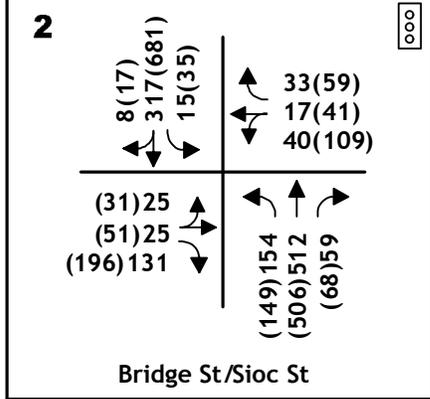
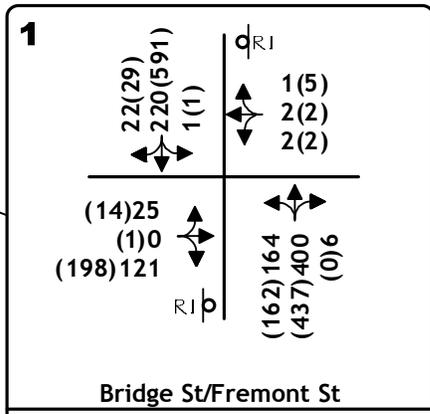
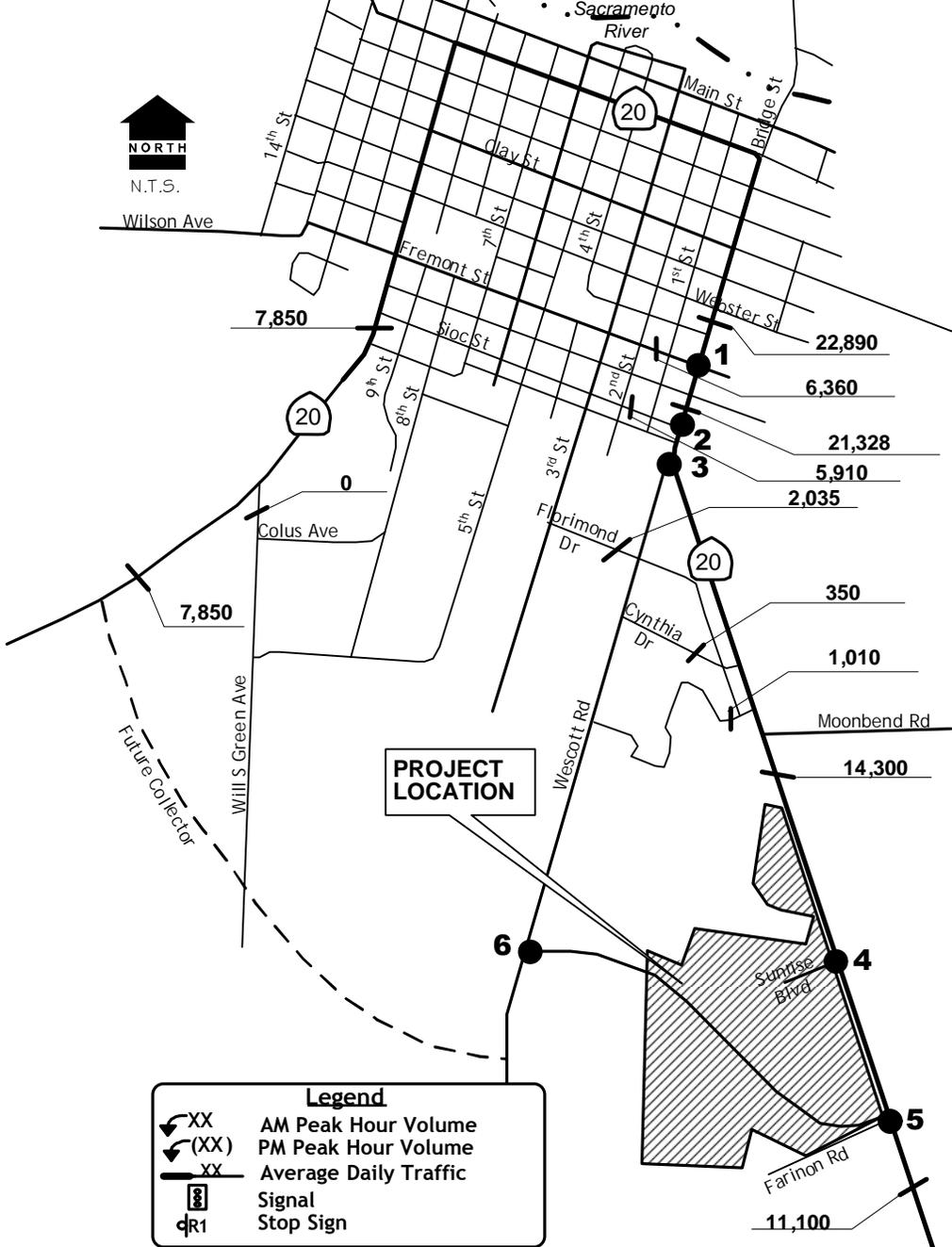
Mitigation Measure for Project Impact-2: Due to right of way constraints and existing development, it is not feasible to widen SR 20 to a four lane section in the area between Sioc Street and Fremont Street. The City of Colusa GPU recognizes that alternative routes linking Bridge Street and 10th Street will be needed as development proceeds, and these new routes will divert some traffic from SR 20. However, completion of new routes is beyond the financial capabilities of this project. Thus, no feasible mitigation measure exists.

Level of Significance After Mitigation: Significant and Unavoidable.

Project Impact-3: The project would add additional traffic to study intersections, but resulting volumes would not reach the level that would satisfy peak hour traffic signal warrants.

While the project will incrementally contribute to the eventual need for signalization, signals are unlikely to be installed until such time as warrants are met, even though Levels of Service do not meet minimum standards.

Level of Significance Before Mitigation: Less than significant.



EXISTING PLUS PROJECT
 TRAFFIC VOLUMES
 AND LANE CONFIGURATIONS

figure 5

**TABLE 10
EXISTING PLUS PROJECT LEVELS OF SERVICE**

Location	Control	Peak Hour Level of Service								Traffic Signal Warranted?
		A.M. Peak Hour				P.M. Peak Hour				
		Existing		Existing Plus Project		Existing		Existing Plus Project		
		Average Delay	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	LOS	
Bridge Street / Fremont St NB left turn SB left turn EB left+thru+right turn WB left+thru+right turn	EB/WB Stop	8.0 sec 8.1 sec 13.9 sec 18.2 sec	A A B C	8.3 sec 8.3 sec 17.3 sec 27.8 sec	A A C D	9.4 sec 8.3 sec 23.7 sec 27.3 sec	A A C D	10.2 sec 8.4 sec 47.8 sec 53.8 sec	B A E F	No
Bridge Street / Sioc Street	Signal	17.7 sec	B	20.6 sec	C	25.5 sec	C	44.4 sec	D	n.a.
Bridge Street / Wescott Road NB left turn EB left+right turn	EB Stop	8.1 sec 21.3 sec	A C	8.6 sec 85.8 sec	A F	9.8 sec 39.3 sec	A E	11.0 sec 187.1 sec	B F	No
SR 20 / Sunrise Blvd NB left turn EB left turn EB right turn	EB Stop	7.9 sec 13.2 sec 9.6 sec	A B A	8.5 sec 20.7 sec 10.1 sec	A C B	- 18.2 sec 10.7 sec	- C B	8.8 sec 43.5 sec 11.4 sec	A E B	No
SR 20 / Farinon Road NB left turn EB left+right turn	EB Stop	7.8 sec 12.9 sec	A B	8.1 sec 17.3 sec 10.0 sec*	A C B	8.2 sec 14.6 sec	A B	8.7 sec 25.4 sec 11.5 sec*	A D B	No
Wescott Road / Farinon Rd SB left WB left+right turn	WB Stop	n.a.		7.4 sec 9.0 sec	A A	n.a.		7.5 sec 8.9 sec	A A	No

* reflects proposed right turn lane

**TABLE 11
EXISTING PLUS PROJECT AVERAGE DAILY TRAFFIC VOLUMES AND
RESULTING LEVEL OF SERVICE**

Location	Classification	Existing			Existing Plus Project			
		Daily Traffic (ADT*)	Lanes	Level of Service	Daily Traffic (ADT)		# of Lanes	Level of Service
					Project Only	Total		
3 rd St between W. Florimond Dr and Larson Ln	Collector	2,380	2	A	440	2,820	2	A
SR 20 between Wescott Rd and Cynthia Dr	Arterial	9,430 / 18,300*	2	C / F*	4,600	14,030 / 22,900	2	D / F
SR 20 between Cynthia Dr and Moonbend Rd	Arterial	8,370 / 18,300*	2	B / F	4,600	12,970 / 22,900	2	D / F
SR 20 between Moonbend Rd and HDR access	Arterial	9,700*	2	C	4,600	14,300	2	D
SR 20 between HDR Access and Sunrise Blvd	Arterial	9,700*	2	C	4,050	13,750	2	D
Bridge St (SR 20) between Carson St and Fremont St	Arterial	13,470 / 18,300*	2	D / F	3,080	16,550 / 21,380	2	F / F
Bridge St (SR 20) between Jay St and Oak St	Arterial	10,570 / 21,600*	2	B / F	1,290	11,860 / 22,890*	2	D / F
Wescott Rd between Bridge St and Florimond Dr	Collector	4,550	2	B	500	5,050	2	B
Wescott Rd between Florimond Drive and Farinon Rd	Collector	1,750	2	A	940	2,690	2	A
Sioc St between 1 st and 2 nd St	Collector	3,880	2	B	2,030	5,910	2	C
Fremont Street between 1 st and 2 nd	Collector	4,560	2	A	1,800	6,360	2	C
* is Caltrans 2005 AADT								
BOLD is condition in excess of minimum standard								

Impacts to Non - Automotive Circulation

Project Impact-4: The development of the project's uses along the SR 20 corridor east of Colusa would incrementally increase demand for the area's non-automotive transportation facilities.

Pedestrian / Bicycle Activity. When the project is completed, some new pedestrian and bicycle activity may occur between the site, schools, shopping, etc. in Colusa. Non-automotive travel would be expected along SR 20 and along Wescott Road in locations where sidewalks or improved shoulders are not uniformly available. The mix of automobiles, pedestrians and cyclists sharing the travel way could create safety conflicts. Impacts from increased pedestrian and bicycle activities would be significant.

Transit Services. The project will incrementally create additional demand for the transit services in the Colusa area. However, it is unlikely that development of this project would by itself create the need to modify existing routes or expand current services. Impacts to transit services would be less than significant.

Level of Significance Before Mitigation: Significant.

Mitigation Measure for Project Impact-4: Create a safe pedestrian walkway between the project and Wescott Road and along Wescott Road to the limits of existing sidewalks.

Level of Significance After Mitigation: Less than Significant.

SHORT TERM CUMULATIVE CONDITIONS

Pending / Approved Projects. Colusa County identified three (3) other development projects that were included in an “Existing Plus Approved Projects” background condition. These projects are:

- Riverbend Estates: 2,235 low-density residential units, 295 medium-density residential units, on 442 acres, north of Moonbend Road, east of Bridge Street and SR 20/45, approximately 1.5 miles north of CIP project. This project has not been approved by the City of Colusa and no traffic impact analysis has been conducted.
- Tennant Estates: 101-lot residential subdivision, approved with traffic study.
- Hoblit Subdivision: 12-unit single family residential subdivision, under construction.

Trip Generation Forecasts. Table 12 identifies the trip generation characteristics of the three identified projects.

**TABLE 12
TRIP GENERATION ESTIMATES FOR PENDING PROJECTS
IDENTIFIED BY COLUSA COUNTY**

Land Use	Quantity	Trip Generation		
		Daily	AM Peak Hour	PM Peak Hour
Riverbend Estates	2,530 du's	24,288	1,898	2,555
Tenant Estates	101 du's	970	76	102
Hoblit Subdivision	12 du's	115	9	12
Total Residential	2,643	25,373	1,983	2,669

Trip Distribution Assumptions. Because no traffic study has been prepared for the Riverbend Estates project and the project is not yet approved, there is no quantitative information available regarding the directional distribution of traffic associated with this project. Table 13 presents the assumptions made for this study

**TABLE 13
PENDING PROJECTS TRIP DISTRIBUTION**

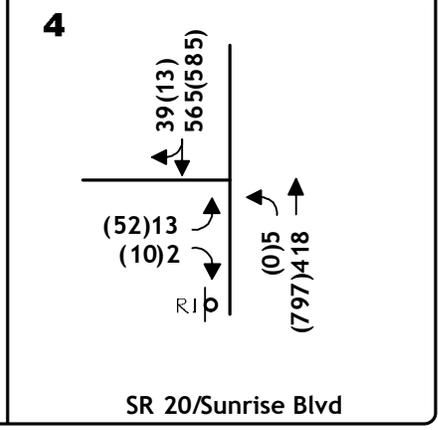
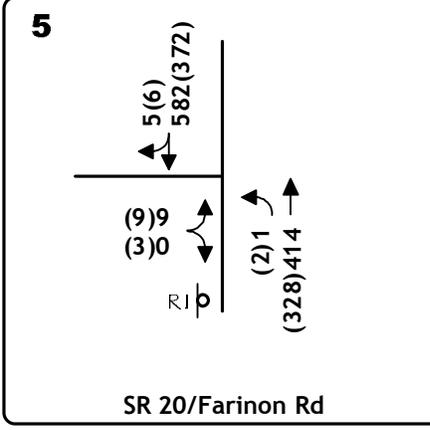
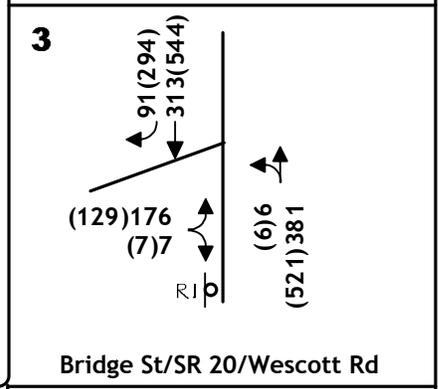
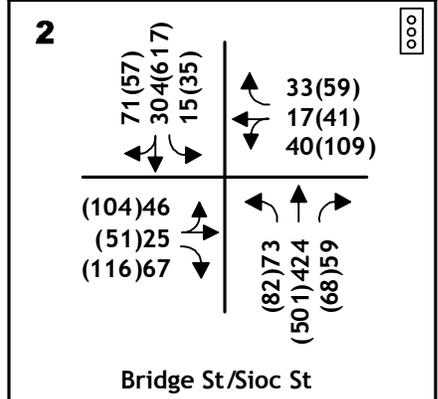
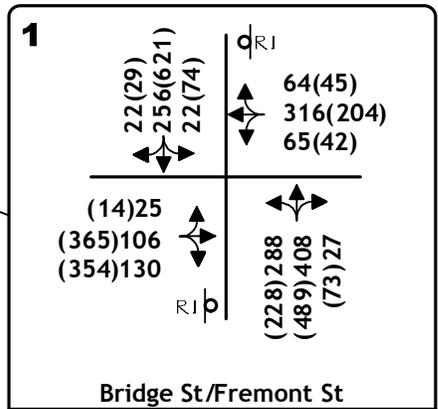
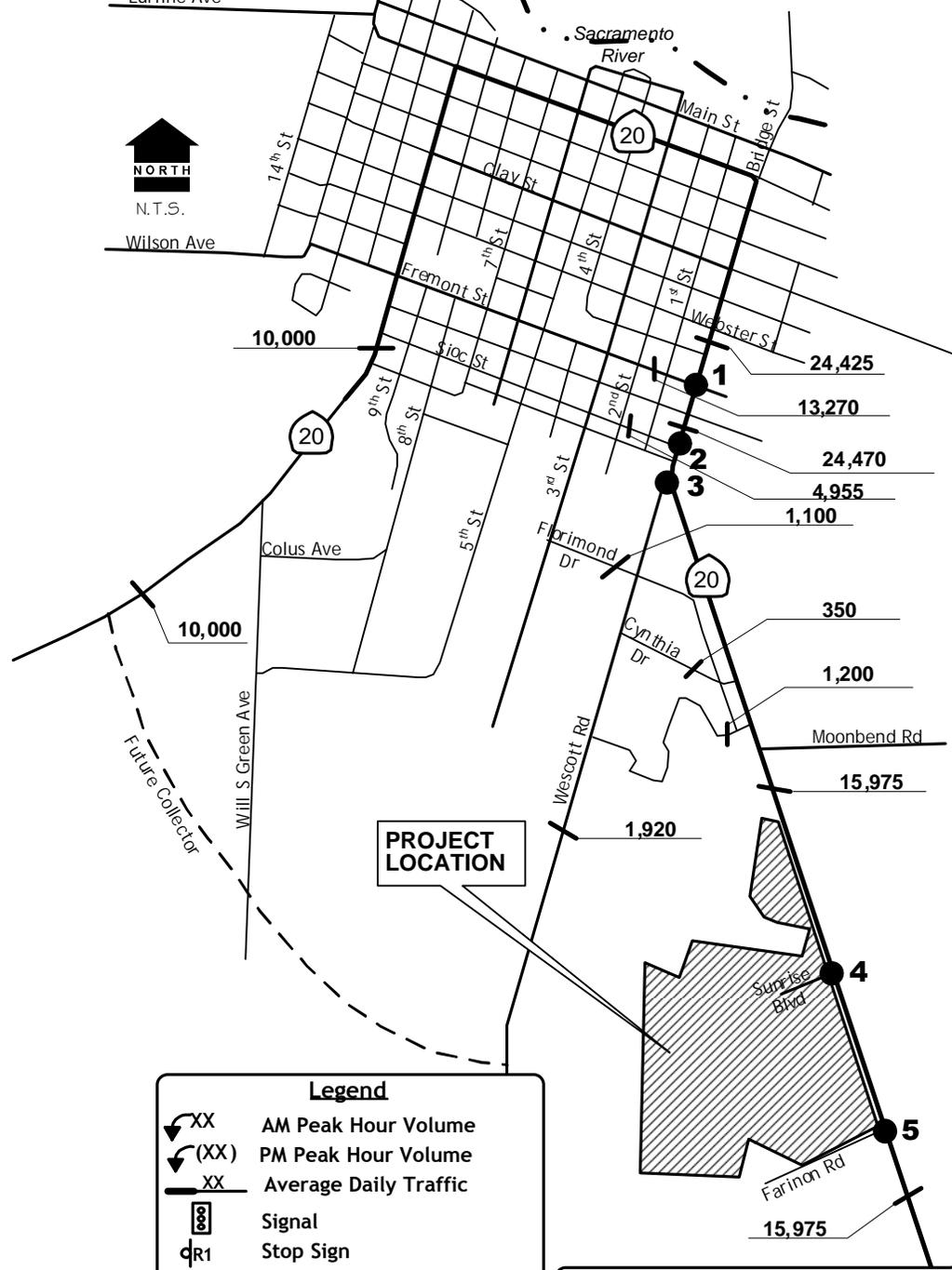
Direction	Direction	Percentage
		Residential
North	Central Colusa	40%
West	Fremont Street west of 3 rd Street	19%
	Sioc Street west of 3 rd Street	20%
	SR 20 west of Colusa	10%
South	Wescott Road south of Farinon Road	1%
East	SR 20 east of Farinon Road	25%

It is important to note that the assignment of trips generated by a project as large as Riverbend Estates will be relatively “rough”, since no traffic study is available for that project. The intent of these background forecasts is, therefore to develop a reasonable forecast of the additional traffic accompanying this level of development in the area of the proposed Re-zone.

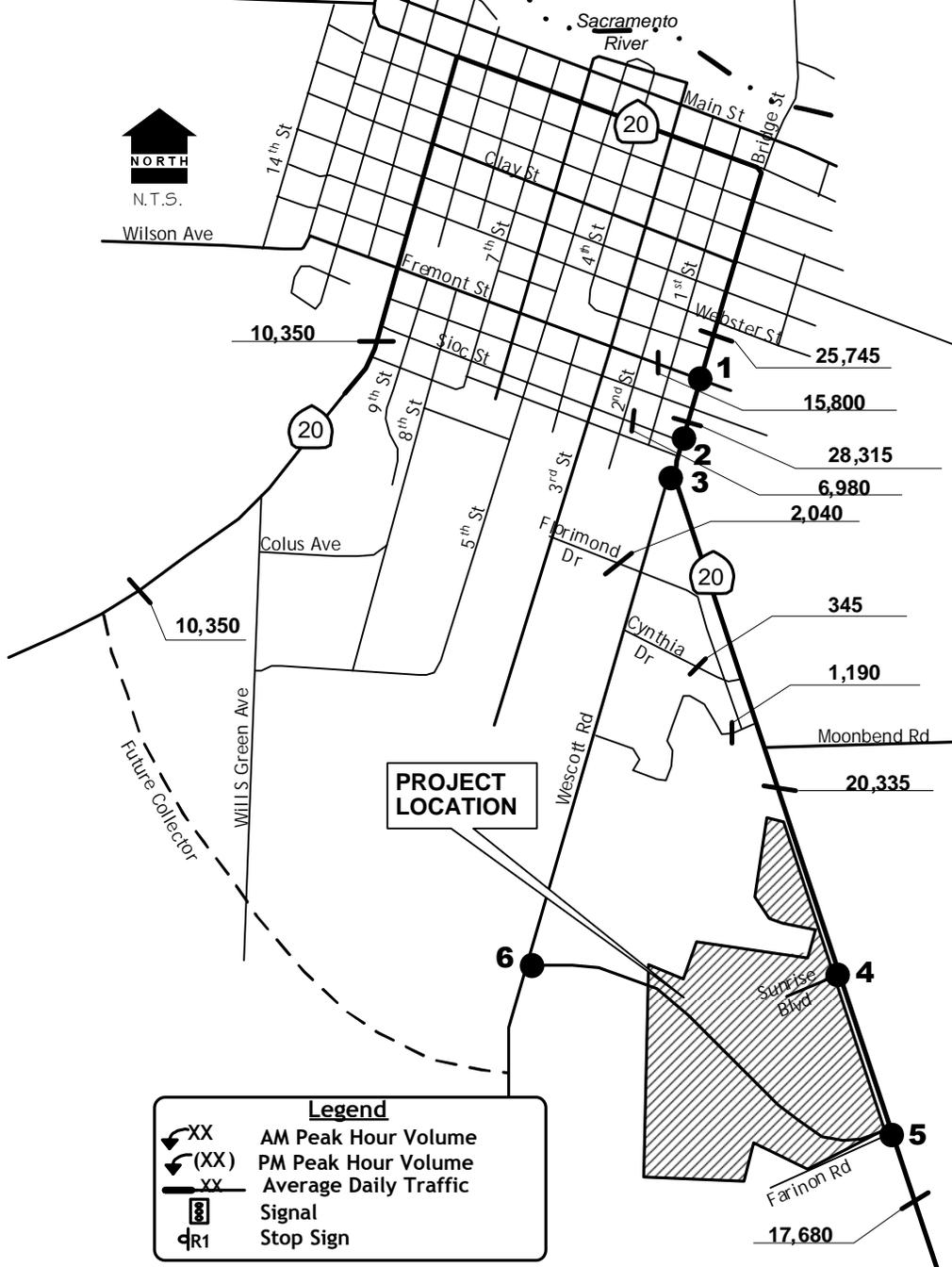
Short term “plus project” traffic volumes reflect traffic generated by other pending projects using project streets. However, to isolate the specific impacts of pending projects and the proposed project, no redistribution of existing traffic has been assumed. Use of project streets by “non-project” traffic is identified under long term cumulative conditions.

Traffic Volume Forecasts / Levels of Service. Figure 6 and 7 present “Existing Plus Pending Projects” traffic volumes with and without development of the properties included under the CIP Rezone. Resulting Levels of Service are presented in Tables 14 and 15.

The relative impact of the proposed project on study area roads can be understood from comparison of daily traffic volumes with and without the proposed project. As shown in Table 10, the addition of project trips would exacerbate the poor Level of Service on SR 20 (Bridge Street) in the area between Market Street and the proposed project. Conditions will exceed the LOS D threshold established by the City of Colusa GPU with or without the project and would result in a significant impact. The amount of traffic added by the project on this roadway segment represents a 23% increase over existing volumes. This exceeds the 5% threshold of significance identified in the City of Colusa GPU.



EXISTING PLUS PENDING PROJECTS
TRAFFIC VOLUMES
AND LANE CONFIGURATIONS



Legend

- AM Peak Hour Volume
- PM Peak Hour Volume
- Average Daily Traffic
- Signal
- Stop Sign

1

22(29) 294(682) 22(74)	$dR1$ 64(45) 316(204) 65(42)
(14)25 (365)106 (473)202	$R1b$ (314)402 (534)466 (73)27

Bridge St/Fremont St

2

71(57) 455(783) 15(35)	33(59) 17(41) 40(109)
(104)46 (51)25 (196)131	ooo (149)154 (669)572 (68)59

Bridge St/Sioc St

3

106(330) 514(752)	$R1b$ (6)6 (733)578
(153)207 (7)7	

Bridge St/SR 20/Wescott Rd

6

37(110) 35(68)	$dR1$ 56(51) 3(2)
(84)84 (3)2	

Wescott Rd/Farion Extension

5

91(102) 545(566)	$R1b$ (90)63 (723)395
(85)90 (90)96	

SR 20/Farion Rd

4

167(137) 590(588)	$R1b$ (36)40 (811)445
(158)118 (56)45	

SR 20/Sunrise Blvd

EXISTING PLUS PENDING PROJECTS
 PLUS PROJECT TRAFFIC VOLUMES
 AND LANE CONFIGURATIONS

**TABLE 14
EXISTING PLUS PENDING PROJECTS PLUS PROJECT LEVELS OF SERVICE**

Location	Control	Peak Hour Level of Service								Traffic Signal Warranted?
		A.M. Peak Hour				P.M. Peak Hour				
		Baseline		Baseline Plus Project		Baseline		Baseline Plus Project		
		Average Delay	LOS	Average Delay	LOS	Average Delay	LOS	Average Delay	LOS	
Bridge Street / Fremont St NB left turn	EB/WB Stop	9.0 sec	A	10.0 sec	A	11.1 sec	B	13.2 sec	B	Yes
SB left turn		8.5 sec	A	8.7 sec	A	9.3 sec	A	9.5 sec	A	
EB left+thru+right turn		<999 sec	F	<999 sec	C	<999 sec	F	<999 sec	F	
WB left+thru+right turn		<999 sec	F	<999 sec	D	<999 sec	F	<999 sec	F	
Bridge Street / Sioc Street	Signal	16.8 sec	B	21.5 sec	C	28.2 sec	C	60.7 sec	E	n.a.
Bridge Street / Wescott Road NB left turn	EB Stop	8.3 sec	A	9.1 sec	A	10.2 sec	A	11.6 sec	B	Yes
EB left+right turn		29.8 sec	D	233.1 sec	F	72.0 sec	F	504.2 sec	F	
SR 20 / Sunrise Blvd NB left turn	EB Stop	9.1 sec	A	10.0 sec	A	-	-	9.8 sec	A	Yes
EB left turn		23.7 sec	C	107.8 sec	C	68.0 sec	F	542.4 sec	F	
EB right turn		13.1 sec	A	14.2 sec	B	13.2 sec	B	14.4 sec	B	
SR 20 / Farinon Road NB left turn	EB Stop	9.0 sec	A	9.6 sec	A	9.1 sec	A	9.9 sec	A	No
EB left+right turn		22.7 sec	B	32.0 sec*	D	32.4 sec	D	112.7 sec	F	
Wescott Road / Farinon Rd SB left	WB Stop	n.a.		7.5 sec	A	n.a.		7.6 sec	A	No
WB left+right turn				9.1 sec	A			9.1 sec	A	

* reflects proposed right turn lane

**TABLE 15
EXISTING PLUS PENDING PROJECTS PLUS PROJECT AVERAGE DAILY TRAFFIC VOLUMES AND
RESULTING LEVEL OF SERVICE**

Location	Classification	Baseline			Baseline Plus Project			
		Daily Traffic (ADT*)	Lanes	Level of Service	Daily Traffic (ADT)		# of Lanes	Level of Service
					Project Only	Total		
3 rd St between W. Florimond Dr and Larson Ln	Collector	2,500	2	A	440	2,940	2	A
SR 20 between Wescott Rd and Cynthia Dr	Arterial	10,705 / 19,575*	2	C / F*	4,600	15,305 / 24,175	2	D-E / F
SR 20 between Cynthia Dr and Moonbend Rd	Arterial	10,940 / 20,870*	2	B / F	4,600	15,540 / 25,470	2	E / F
SR 20 between Moonbend Rd and HDR access	Arterial	15,975*	2	E	4,600	20,575	2	F
SR 20 between HDR Access and Sunrise Blvd	Arterial	15,975*	2	E	4,050	20,025	2	F
Bridge St (SR 20) between Carson St and Fremont St	Arterial	19,640 / 24,470*	2	F / F	3,080	22,720 / 27,550	2	F / F
Bridge St (SR 20) between Jay St and Oak St	Arterial	13,395 / 24,425*	2	D / F	1,290	14,685 / 25,715*	2	D / F
Wescott Rd between Bridge St and Florimond Dr	Collector	4,820	2	B	500	5,320	2	B
Wescott Rd between Florimond Drive and Farinon Rd	Collector	1,920	2	A	940	2,860	2	A
Sioc St between 1 st and 2 nd St	Collector	4,955	2	B	2,030	6,985	2	C
Fremont Street between 1 st and 2 nd	Collector	13,270	2	F	1,800	15,070	2	F
* is based on Caltrans 2005 AADT								
BOLD is condition in excess of minimum standard								

Existing Plus Pending Projects Plus Project Impact-1: LOS E at SR 20 / Sioc Street Intersection. Addition of project trips would result in LOS E conditions at the **SR 20 / Sioc Street intersection.**

Level of Significance Before Mitigation: Significant.

Mitigation Measure for Existing Plus Pending Projects Plus Project Impact-1:

The amount of project traffic added to the intersection represents more than 5% of the current volume at the intersection. To deliver LOS D or better conditions it would be necessary to reconfigure the intersection to add an eastbound overlap right turn. However, because of the grade differential between SR 20 and Sioc Street, the intersection would likely need to be reconstructed to accommodate this improvement, and right of way acquisition would be required. The project should contribute its fair share to the cost of this improvement. However, because there is not an adopted funding mechanism to pay for the balance of the cost of this improvement, the impact will remain significant and unavoidable.

Level of Significance After Mitigation: Significant and Unavoidable.

Existing Plus Pending Projects Plus Project Impact-2 at Bridge Street / Fremont Street: The length of minor street approach delays would increase and the Level of Service for motorists waiting to turn on SR 20 would exceed the LOS D threshold.

Level of Significance Before Mitigation: Significant.

Mitigation Measure for Existing Plus Pending Projects Plus Project Impact-2:

To deliver LOS D or better conditions it would be necessary to install a traffic signal and to widen the intersection to provide left turn lanes and right turn lanes on each leg of the intersection. Because this improvement is also needed without the proposed project, a “fair share” contribution is applicable. However, because there is not an adopted funding mechanism to pay for the balance of the cost of this improvement, the impact will remain significant and unavoidable.

Level of Significance After Mitigation: Significant and Unavoidable.

Existing Plus Pending Projects Plus Project Impact-3 at SR 20 / Wescott Road: Very long delays would be expected at the intersection, the Level of Service for motorists waiting to turn north onto SR 20 would exceed the LOS D minimum and traffic signal warrants are met.

Level of Significance Before Mitigation: Significant.

Mitigation Measure for Existing Plus Pending Projects Plus Project Impact-3:

To deliver LOS D or better conditions it would be necessary to signalize the intersection and to widen the intersection to provide a northbound left turn lane. Because this improvement is also

needed without the proposed project, a “fair share” contribution is applicable. However, because there is not an adopted funding mechanism to pay for the balance of the cost of this improvement, the impact will remain significant and unavoidable.

Level of Significance After Mitigation: Significant and Unavoidable.

Existing Plus Pending Projects Plus Project Impact-4 at SR 20 / Sunrise Blvd: Very long delays would be expected at the intersection. The Level of Service for motorists waiting to turn north onto SR 20 would exceed the LOS D minimum and traffic signal warrants are met.

Level of Significance Before Mitigation: Significant.

Mitigation Measure for Existing Plus Pending Projects Plus Project Impact-4:

To deliver LOS D or better condition it would be necessary to signalize the intersection. Because this improvement is not needed without the proposed project, the project should be responsible for installation with reimbursement from other development for costs beyond its “fair share” contribution. However, because there is not an adopted funding mechanism to pay for the balance of the cost of this improvement, the impact will remain significant and unavoidable.

Level of Significance After Mitigation: Significant and Unavoidable.

Existing Plus Pending Projects Plus Project Impact-5 at SR 20 / Farinon Road: Side street delays would exceed LOS D, but forecast traffic volumes do not reach the level that satisfies peak hour warrants.

Level of Significance Before Mitigation: Significant

Mitigation Measure for Existing Plus Pending Projects Plus Project Impact-5:

The project shall contribute its fair share to the cost of a traffic signal at this intersection. However, because there is not an adopted funding mechanism to pay for the balance of the cost of this improvement, the impact will remain significant and unavoidable.

Level of Significance After Mitigation: Significant and Unavoidable.

Existing Plus Pending Projects Plus Project Impact-6: The addition of project trips would exacerbate conditions that are projected to exceed the LOS D standard on SR 20 through Colusa in the area from Market Street south through the study area.

Level of Significance Before Mitigation: Significant

Mitigation Measure for Existing Plus Pending Projects Plus Project Impact-6:

To achieve LOS D it is necessary to widen SR 20 to a four lane section from Market Street south

through the Farinon Road intersection. However, it is unlikely that such widening is feasible in the developed area of Colusa. Because this improvement is also needed without the proposed project, a “fair share” contribution is applicable. However, because there is not an adopted funding mechanism to pay for the balance of the cost of this improvement, the impact will remain significant and unavoidable.

Level of Significance After Mitigation: Significant and Unavoidable.

Existing Plus Pending Projects Plus Project Impact-7 on Fremont Street: Daily traffic volumes are forecast to exceed the LOS C standard with and without the proposed project.

Level of Significance Before Mitigation: Significant

Mitigation Measure for Existing Plus Pending Projects Plus Project Impact-7:

The Colusa General Plan Update notes options of addressing conditions on Fremont Street which include re-striping the road to 4 lanes or converting Sioc Street and Fremont Street to a one-way couplet. However, while the proposed project could contribute its fair share to the cost of this improvement, implementing either action is within the jurisdiction of the City of Colusa. Because Colusa County has no control over this mitigation, this impact remains significant and unavoidable.

Level of Significance After Mitigation: Significant and Unavoidable.

LONG TERM CUMULATIVE CONDITIONS

The relative impacts of the proposed project were also assessed within the context of future traffic conditions occurring with buildout of the City of Colusa GPU. The future traffic volumes presented herein are based on preliminary long term traffic volume forecasts presented in the Colusa GPU EIR.

Land Use. The proposed project involves development of land use designations that are reflected in the pending City of Colusa GPU. The amount of new development anticipated under build out of the new Colusa General Plan includes development in “reserve” areas under current Colusa County designations.

As noted in Table 16, under “mid-range” assumptions for density, implementing the City General Plan could result in more than 7,000 new dwelling units in Colusa. Another 5.9 million square feet of non-residential development is also anticipated.

The trip generation associated with new development has also been estimated. As shown, new residences could generate more than 67,000 new daily trips. Non-residential uses could generate slightly fewer than 78,000 daily trips.

**TABLE 16
TRIP GENERATION ESTIMATES FOR BUILD OUT OF LAND USES UNDER
CITY OF COLUSA GENERAL PLAN UPDATE**

Land Use	Quantity	Trip Generation		
		Daily	AM Peak Hour	PM Peak Hour
Single Family Residences	6,916 du	66,186	5,187	6,985
Multiple Family Residences	172 du	1,156	88	107
Total Residential	7,088	67,342	5,275	7,092
Commercial / Professional	786 ksf	38,396	1,423	3,804
Office Professional / Light Industrial	1,697 ksf	20,005	2,375	2,291
Industrial	3,409 ksf	12,034	2,011	2,318
Golf Course	9 holes	306	25	25
Casino Expansion	Phase 1 & 2	7,032	382	513
Total Non-Residential		77,773	6,216	8,951
Total Residential and Non-Residential		145,115	11,491	16,043

Planned Circulation System Improvements. The future cumulative traffic scenarios addressed herein assume both area-wide development and implementation of the circulation system inherent to the policies of City of Colusa GPU (July 2007) Circulation Element. The GPU’s implementation measures include the creation of a Streets and Roadways Master Plan that will identify improvements needed to accommodate growth and will be the basis for an updated

traffic mitigation fee program. The GPU Circulation Diagram identifies several new streets which will carry traffic through the community and provide access to new growth areas. These include:

Farinon-Railroad Collector. New development in southern Colusa will create the need for a collector street that provides access to SR 20. The GPU Circulation diagram indicates that the Farinon Road – Railroad Collector will generally follow the alignment of the abandoned railroad right of way from an intersection on SR 20 west of Wil S Green Street to Westcott Road. The eastern portion of the route will follow Farinon Road as it links Westcott Road and SR 20 in eastern Colusa. The intent of the General Plan is to provide access to new development while avoiding creation of a “bypass” that would divert through traffic away from downtown Colusa.

East Side Collector. New development east of SR 20 will be served by a new collector that will extend north from the SR 20 / Sunrise Ave intersection to the extension of Market Street.

Wil S Green Street extension. West side development will be served by creating a collector that links Wilson Avenue with SR 20 at the Wil S Green intersection.

3rd Street, 5th Street and 8th Street Extensions. The existing downtown grid street system will be extended south into new growth areas.

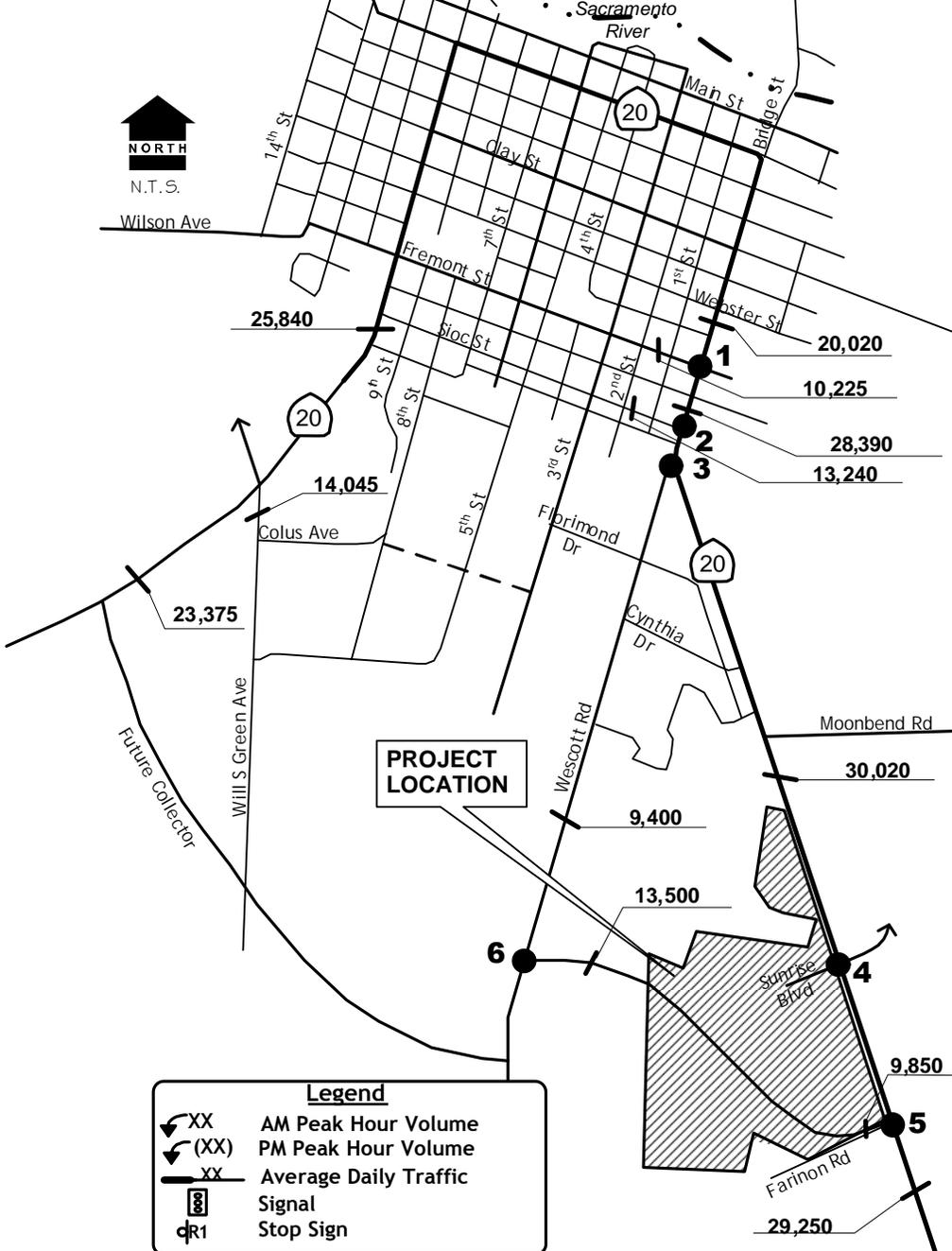
Colusa Avenue Extension. Colusa Avenue will be extended easterly from Wil S Green Street to 3rd Street.

Tenant Drive. Tenant Drive will be extended westerly from Wescott Road to Wil S Green Street to serve new south Colusa development.

Traffic Model Forecasts. The traffic volume forecasts contained in the City of Colusa GPU EIR were developed using a manual assignment process (TRAFFIX model) that accounted for the interaction between existing and future residential and non-residential uses, as well as through traffic growth on SR 20 and the planned expansion of the Colusa Casino. The GPU EIR presents daily traffic volume forecasts, as well as p.m. peak hour projections for key intersections. For this analysis, the model was employed to identify p.m. peak hour turning movement volumes at study intersections, and the model was further refined to create a.m. peak hour forecasts for this study.

These forecasts account for use of project streets by non-project traffic, and project streets will be used by others. For example, project trips represent only 7½% of the total traffic on the Farinon Road extension approaching Wescott Road.

Peak Hour Intersection Volumes. A.m. and p.m. peak hour traffic volumes accompanying build out of the City of Colusa GPU are presented in Figure 8.



Legend

- ↔ XX AM Peak Hour Volume
- ↔ (XX) PM Peak Hour Volume
- XX Average Daily Traffic
- Ⓜ Signal
- Ⓢ Stop Sign

1

30(47) 634(938) 1(1)	q _{RI}	1(5) 2(2) 2(2)
(29)31 (1)0 (347)243		(307)367 (893)566 (0)6

Bridge St/Fremont St

2

116(111) 839(1062) 27(46)		38(75) 29(89) 46(134)
(195)64 (77)59 (310)314		(379)192 (1075)702 (82)77

Bridge St/Sioc St

3

169(354) 1024(1147)		(65)36 (1330)763
(204)209 (49)54		

Bridge St/SR 20/Wescott Rd

6

44(131) 439(276)	q _{RI}	162(520) 421(775)
(88)99 (601)615		

Wescott Rd/Farion Extension

5

278(167) 959(1113)		(477)492 (1167)788
(292)106 (621)388		

SR 20/Farion Rd

4

127(99) 860(962) 30(52)	q _{RI}	16(74) 79(84) 365(279)
(181)59 (146)29 (21)12		(12)14 (1069)713 (413)169

SR 20/Sunrise Blvd

CUMULATIVE (COLUSA GP BUILD OUT)
TRAFFIC VOLUMES AND
LANE CONFIGURATIONS

Cumulative Traffic Conditions

Impacts to Intersections. As indicated in Table 17, the addition of trips generated by future development in Colusa would have an appreciable impact on the study area circulation system. Without improvements, all of the study intersections will operate at Levels of Service that exceed adopted standards. Table 18 notes the share of project traffic as a percentage of the “new” traffic through each intersection (i.e., total minus existing) and as a percentage of the total traffic at GPU build out.

**TABLE 17
GENERAL PLAN BUILD OUT INTERSECTION LEVELS OF SERVICE**

Location	Control	Peak Hour Level of Service				Traffic Signal Warranted?
		A.M. Peak Hour		P.M. Peak Hour		
		Average Delay	LOS	Average Delay	LOS	
Bridge Street / Fremont St NB left turn SB left turn EB left+thru+right turn WB left+thru+right turn	EB/WB Stop	13.7 sec 8.9 sec >999 sec 768.8 sec	B A F F	19.2 sec 10.4 sec >999 sec >999 sec	C B F F	Yes
Bridge Street / Sioc Street	Signal	105.1 sec	F	240.5 sec	F	n.a.
Bridge Street / Wescott Road NB left turn EB left+right turn	EB Stop	13.0 sec >999 sec	B F	17.8 sec >999 sec	A F	Yes
SR 20 / Sunrise Blvd NB left turn SB left turn EB left turn EB thru+right turn WB left turn WB thru+right turn	EB / WB Stop	11.2 sec 10.6 sec >999 sec 174.2 sec >999 sec 605.3 sec	B B F F F F	11.6 sec 16.9 sec >999 sec >999 sec >999 sec >999 sec	B C F F F F	Yes
SR 20 / Farinon Road NB left turn EB left+right turn	EB Stop	147.2 sec >999 sec	F F	155.1 sec >999 sec	F F	Yes
Wescott Road / Farinon Road SB left turn WB left turn WB right turn	WB Stop	17.3 sec >999 sec 20.9 sec	C F C	12.2 sec >999 sec 123.0 sec	B F F	Yes

**TABLE 18
PROJECT PERCENTAGE OF FUTURE TRAFFIC**

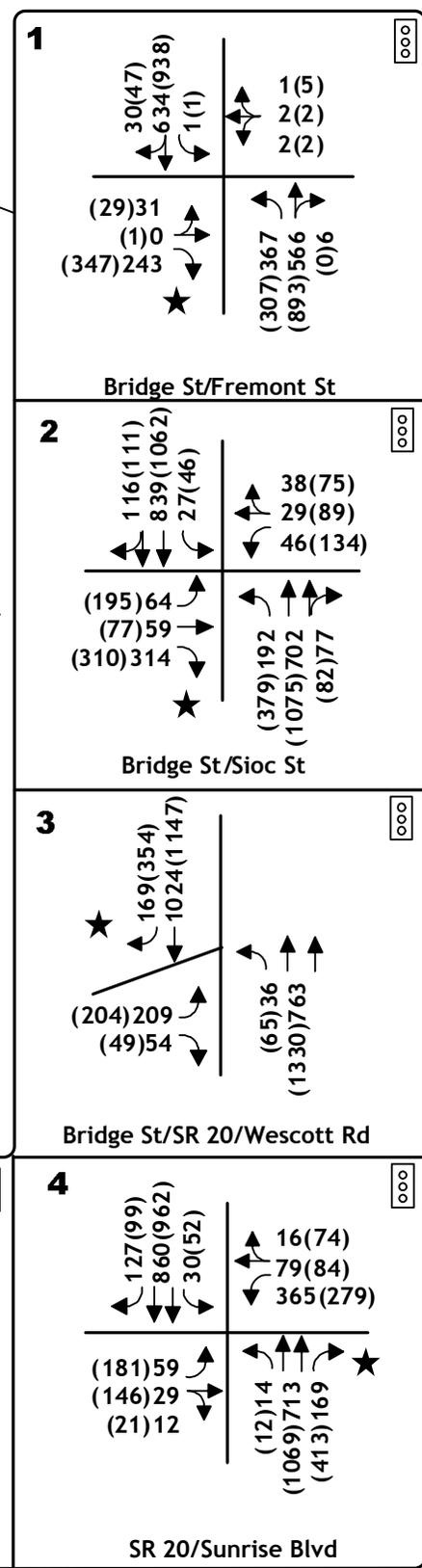
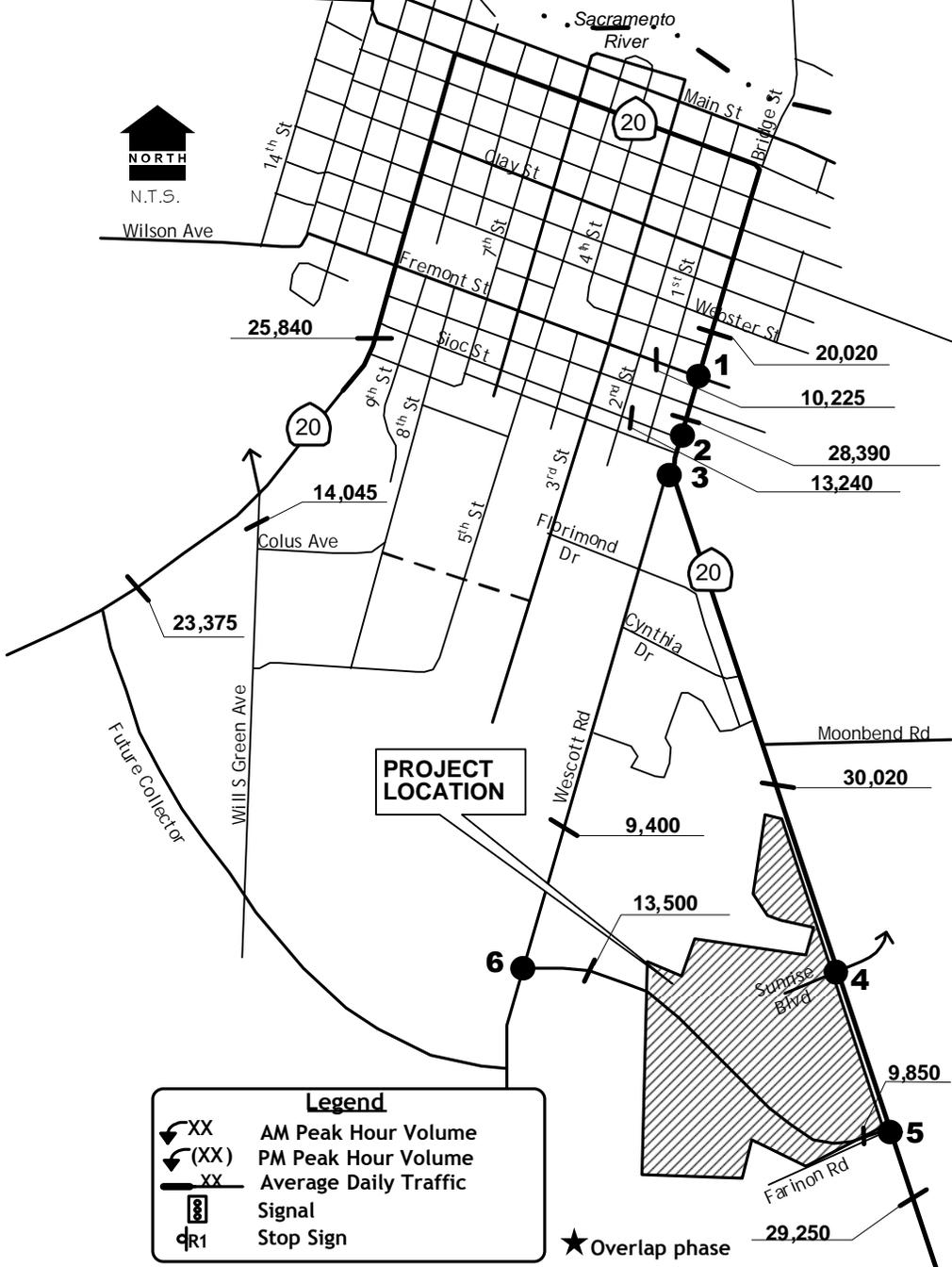
#	Location	Project Share of Cumulative P.M. Peak Hour Traffic	
		% of New	% of Total
C1	Bridge Street / Fremont Street	3.8%	2.0%
C2	Bridge Street / Sioc Street	3.4%	1.9%
C3	Bridge Street / Wescott Rd	4.3%	2.4%
C4	SR 20 / Sunrise Blvd	6.3%	4.8%
C5	SR 20 / Farinon Road	3.3%	2.7%
C6	Wescott Road / Farinon Road	3.0%	2.8%
C7	SR 20 through downtown Colusa	4.3%	2.1%
C8	SR 20 north of Farinon Rd to Wescott Road	7.2%	4.9%
C9	Fremont Street between 10 th Street and Bridge Street	2.4%	1.5%
C10	Sioc Street between 10 th Street and Bridge Street	1.6%	1.2%
C11	Wescott Road between SR 20 and Cynthia	2.3%	0.9%
C12	Wescott Road between Cynthia and Railroad Collector	1.4%	1.2%
C13	SR 20 west of Colusa	2.0%	1.4%
	SR 20 East of Colusa	2.1%	1.7%

Cumulative Impact - 1: The Bridge Street (SR 20) / Fremont Street intersection will operate at LOS F. With long term development motorists waiting to turn onto Bridge Street will experience long delays that are indicative of LOS F conditions. This exceeds minimum standards. The amount of project traffic added to the intersection represents more than 5% of the current volume at the intersection. To deliver the minimum Level of Service (i.e., LOS D), it would be necessary to create separate left turn lanes on Bridge Street and develop a right turn lane on eastbound Fremont Street, as noted in Figure 9.

Level of Significance Before Mitigation: Significant

Mitigation Measure for Cumulative Impact 1: The project shall contribute its fair share to the cost of cumulative mitigations by paying the fees to be established via the City planned Street and Highways Master Plan, or alternatively identifying the cost of constructing left turn lanes on Bridge Street and a right turn lane on Fremont Street and make a financial contribution in proportion to the project's traffic volume, which is 3.8% of the "new" traffic occurring at GPU buildout or 2.0% of the total traffic at build out.

Level of Significance After Mitigation. Because no adopted program exists to ensure that funding is available for the balance of the cost of this mitigation, this impact remains significant and unavoidable.



CUMULATIVE (COLUSA GP BUILD OUT)
 TRAFFIC VOLUMES AND
 MITIGATED LANE CONFIGURATIONS

KD Anderson & Associates, Inc.
 Transportation Engineers

Cumulative Impact 2: **The intersection of SR 20 / Sioc Street will operate at LOS F.** Projected conditions at this intersection will exceed the minimum LOS standard. The amount of project traffic added to the intersection represents more than 5% of the current volume at the intersection. To deliver LOS D or better conditions it would be necessary to widen and signalize the intersection. Two through lanes would be needed in each direction on Bridge Street, and Sioc Street would have to be widened and reconfigured. However, it is unlikely that mainline SR 20 can be widened to a four lane section through this intersection, and widening the intersection to provide auxiliary lanes may also be difficult without right of way acquisition. It may be that impacts to this intersection are significant and unavoidable.

Level of Significance Before Mitigation: Significant

Mitigation Measure for Cumulative Impact 2: The project shall contribute its fair share to the cost of cumulative mitigations by paying the fees to be established via the City's planned Street and Highways Master Plan, or alternatively identifying the cost of widening Bridge Street and Sioc Street and make a financial contribution in proportion to the project's traffic volume, which is 3.4% of the "new" traffic occurring at GPU buildout or 1.9% of the total traffic at build out.

Level of Significance After Mitigation: Because no adopted program exists to ensure that funding is available for the balance of the cost of this mitigation, this impact remains significant and unavoidable.

Cumulative Impact 3: **The intersection of SR 20 / Wescott Road will operate at LOS F.** Projected conditions at this intersection will exceed the minimum LOS standard, and a traffic signal will be warranted. The amount of project traffic added to the intersection represents more than 5% of the current volume at the intersection. As noted in the discussion of daily traffic volumes, while a four lane SR 20 is desirable, it is unlikely that mainline SR 20 can be widened to a four lane section north of this intersection. It may be possible to widen the road to create a northbound left turn lane, a second northbound through lane and a separate southbound right turn lane (with overlap) on SR 20. Assuming separate left turn and right turn lanes on the Wescott Road approach, under this configuration the intersection will operate at LOS D with signalization. Alternatively, a roundabout intersection could be installed at this location.

Level of Significance Before Mitigation: Significant

Mitigation Measure for Cumulative Impact 3: The project shall contribute its fair share to the cost of cumulative mitigations by paying the fees to be established via the City planned Street and Highways Master Plan, or alternatively identifying the cost of signalization plus constructing northbound left turn lane, a second northbound through lane and a separate southbound right turn lane (with overlap) on SR 20, as well as the cost of creating separate left turn and right turn lanes on the Wescott Road approach and make a financial contribution in proportion to the project's traffic volume, which is 4.3% of the "new" traffic occurring at GPU buildout or 2.4% of the total traffic at build out.

Level of Significance After Mitigation. Because no adopted program exists to ensure that funding is available for the balance of the cost of this mitigation, this impact remains significant and unavoidable.

Cumulative Impact 4: The intersection of SR 20 / Sunrise Blvd will operate at LOS F. Projected conditions at this intersection will exceed the minimum LOS standard, and a traffic signal will be warranted. The amount of project traffic added to the intersection represents more than 5% of the current volume at the intersection. Mainline SR 20 will need to be widened to a four lane section through this intersection, and separate right turn lanes will be needed. Assuming separate left turn lanes on each approach, the intersection will operate at LOS C with signalization.

Level of Significance Before Mitigation: Significant

Mitigation Measure for Cumulative Impact 4: The project shall contribute its fair share to the cost of cumulative mitigations by paying the fees to be established via the City planned Street and Highways Master Plan, or alternatively identifying the cost of signalization plus widening SR 20 to four lanes with right turn lanes with separate left turn lanes on each approach and make a financial contribution in proportion to the project's traffic volume, which is 6.3% of the "new" traffic occurring at GPU buildout or 4.8% of the total traffic at build out.

Level of Significance After Mitigation. Because no adopted program exists to ensure that funding is available for the balance of the cost of this mitigation, this impact remains significant and unavoidable

Cumulative Impact 5: The SR 20 / Farinon Road intersection will operate at LOS F. Projected conditions at this intersection will exceed the minimum LOS standard, and a traffic signal will be warranted. The amount of project traffic added to the intersection represents more than 5% of the current volume at the intersection. Mainline SR 20 will need to be widened to a four lane section through this intersection, and separate right turn lanes will be needed. Dual northbound left turn lanes will be needed, and with the level of improvement, the intersection will operate at LOS C with signalization.

Level of Significance Before Mitigation: Significant

Mitigation Measure for Cumulative Impact 5: The project shall contribute its fair share to the cost of cumulative mitigations by paying the fees to be established via the City planned Street and Highways Master Plan, or alternatively identifying the cost of signalization, widening SR 20 to four lanes with right turn lanes and dual northbound left turn lanes and make a financial contribution in proportion to the project's traffic volume, which is 3.3% of the "new" traffic occurring at GPU buildout or 2.7% of the total traffic at build out.

Level of Significance After Mitigation. Because no adopted program exists to ensure that funding is available for the balance of the cost of this mitigation, this impact remains significant and unavoidable

Cumulative Impact 6: **The Wescott Road / Farinon Road intersection will operate at LOS F.** Projected conditions at this intersection will exceed the minimum LOS standard, and a traffic signal will be warranted. The amount of project traffic added to the intersection represents more than 5% of the current volume at the intersection. Separate left turn and right turn lanes will be needed on each approach. With this level of improvement, the intersection will operate at LOS C with signalization.

Level of Significance Before Mitigation: Significant

Mitigation Measure for Cumulative Impact 6: The project shall contribute its fair share to the cost of cumulative mitigations by paying the fees to be established via the City planned Street and Highways Master Plan, or alternatively identifying the cost of constructing left turn lanes on each approach and signalizing the intersection and make a financial contribution in proportion to the project's traffic volume, which is 3.3% of the "new" traffic occurring at GPU buildout or 2.7% of the total traffic at build out.

Level of Significance After Mitigation. Because no adopted program exists to ensure that funding is available for the balance of the cost of this mitigation, this impact remains significant and unavoidable.

Impacts to Roadway Segments. The cumulative impact of all development anticipated in Colusa can be understood from review of future daily traffic volumes, as shown in Table 18. Key cumulative impacts identified from this data are summarized as follows:

Cumulative Impact 7: **Traffic volumes on SR 20 are indicative of the need for a 4 lane facility.** The volume of traffic forecast for SR 20 through Colusa will exceed the LOS D threshold for a 2 lane arterial. The amount of project traffic added to SR 20 represents more than 5% of the current volume at locations on Bridge Street and along the project's frontage. While widening to a four lane facility should be possible in new growth areas, it would be difficult to provide a four lane section in the developed areas along the 10th Street corridor from Market Street south to the fairgrounds and on the Bridge Street corridor from Market Street south to Wescott Avenue. Thus, exceeding the City's LOS D threshold in these areas is a significant and unavoidable impact.

Level of Significance Before Mitigation: Significant

Mitigation Measure for Cumulative Impact 7: The project shall contribute its fair share to the cost of cumulative mitigations by paying the fees to be established via the City planned Street and Highways Master Plan. However, it is likely due to limited rights of way and the location of existing development that widening the highway to 4 lanes is not feasible.

Level of Significance After Mitigation: Because it is not feasible to widen SR 20 through the developed area of the City of Colusa, this impact is significant and unavoidable.

Cumulative Impact 8: Traffic Volumes on SR 20 immediately north of the Project will result in Levels of Service in excess of adopted standards. The volume of traffic forecast on eastern SR 20 north of the project site will approach or exceed the LOS D threshold for a 4 lane facility. While creating a 6 lane section would theoretically deliver LOS D or better conditions, this level of improvement is not being considered as part of the City's GPU, and this impact would be better mitigated by adding auxiliary turn lanes at major intersections. An SR 20 access management plan will be needed.

Level of Significance Before Mitigation: Significant

Mitigation Measure for Cumulative Impact 8: The project shall identify the right of way needed to accommodate future traffic conditions under City of Colusa General Plan build out and make an irrevocable offer of dedication for that right of way within the project. The project shall contribute its fair share to the cost of constructing cumulative mitigations by paying the fees to be established via the City planned Street and Highways Master Plan. Alternatively, the project shall identify the cost of widening SR 20 to four lanes plus auxiliary lanes from the Wescott Road intersection to Farinon Road and make a financial contribution in proportion to the project's traffic. Project traffic is 7.2% of the new traffic and 4.9% of the total traffic on this segment of SR 20 at build out of the Colusa GPU.

Level of Significance After Mitigation: Because no adopted program exists to ensure that funding is available for the balance of the cost of this mitigation, this impact remains significant and unavoidable

Cumulative Impact 9: Traffic volumes on Fremont Street are indicative of LOS D conditions. The volume of traffic expected on Fremont Street will exceed the LOS C threshold for a collector street. The amount of traffic added by the proposed project exceeds 5% of the current volume. To deliver LOS C it would be necessary to prohibit on-street parking and stripe the street as a four lane facility. Alternatively, it would be possible to re-stripe Sioc Road and Fremont Street as two-lane one-way streets as part of a one-way couplet. Alternatively development of additional east – west capacity elsewhere could reduce the volume on Fremont Street.

Level of Significance Before Mitigation: Significant

Mitigation Measure for Cumulative Impact 9: The project shall contribute its fair share to the cost of cumulative mitigations by paying the fees to be established via the City planned Street and Highways Master Plan, or by making a financial contribution towards the cost of re-striping Fremont Street to four lanes. The project's traffic represents 2.4% of the new traffic and 1.5% of the total traffic at build out on Fremont Street. However, this mitigation may not be implemented by the City of Colusa.

Level of Significance After Mitigation: Because the City of Colusa may not elect to re-stripe Fremont Street for 4 lanes, create a one-way Fremont Street – Sioc Street couplet or change the draft general plan to create additional east-west capacity elsewhere, this impact is significant and unavoidable

Cumulative Impact 10: Traffic volumes on Sioc Street are indicative of LOS F conditions. The volume of traffic expected on Sioc Street will exceed the LOS C threshold for a collector street. The amount of traffic added by the proposed project exceeds 5% of the current volume. To deliver LOS C it would be necessary to prohibit on-street parking and stripe the street as a four lane facility, or create a Sioc Street – Fremont Street one-way couplet or develop additional east-west capacity elsewhere.

Level of Significance Before Mitigation: Significant

Mitigation Measure for Cumulative Impact 10: The project shall contribute its fair share to the cost of cumulative mitigations by paying the fees to be established via the City planned Street and Highways Master Plan, or by making a financial contribution towards the cost of re-striping Sioc Street to four lanes, creating a Sioc Street – Fremont Street couplet or creating additional east-west capacity elsewhere. The project’s traffic represents 1.6% of the new traffic and 1.2% of the total traffic at build out on Sioc Street. However, this mitigation may not be implemented by the City of Colusa.

Level of Significance After Mitigation: Because the City of Colusa may not elect to re-stripe Sioc Street for 4 lanes, create a one-way couplet or create additional east-west capacity, this impact is significant and unavoidable

Cumulative Impact 11: Traffic volumes on the Farinon Rd Extension between SR 20 and Westcott Road are indicative of LOS D conditions. The volume of traffic expected on Farinon Road will exceed the LOS C threshold for a two lane collector street. To deliver LOS C it would be necessary to widen the roadway to 4 lanes. However, a four lane Farinon Road may not be consistent with the intent of the City of Colusa GPU, which strives to avoid creation of an SR 20 “bypass”. Alternatively, modifying the City’s circulation plan to extend Sunrise Blvd west to Wescott Road could reduce the volume on Farinon Road to a level that may be accommodated by a collector street, although the effect on Wescott Road traffic is undetermined. However, changes to the City of Colusa GPU circulation diagram are beyond the control of this project.

Level of Significance Before Mitigation: Significant

Mitigation Measure for Cumulative Impact 11: The project shall identify the right of way needed to accommodate a four lane Farinon Road and shall make an irrevocable offer of dedication for this right of way. The project shall contribute its fair share to the cost of cumulative mitigations by paying the fees to be established via the City planned Street and Highways Master Plan, or by making a financial contribution towards the cost of widening Farinon Road beyond the currently planned width to four lanes. The project’s traffic represents 3.2% of the new traffic and 3.2% of the total traffic at build out on Farinon Road between Wescott Road and SR 20.

Level of Significance After Mitigation. Because no adopted program exists to ensure that funding is available for the balance of the cost of this mitigation, this impact remains significant and unavoidable

Cumulative Impact 12: Traffic Volumes on Wescott Road between Cynthia Avenue and the Railroad Collector are indicative of LOS D conditions. The volume of traffic on the southern end of Westcott Road will exceed the LOS C threshold on a 2 lane collector street. The amount of traffic added by the proposed project exceeds 5% of the current volume. To deliver LOS C it would be necessary to acquire right of way and improve the road to an arterial standard.

Level of Significance Before Mitigation: Significant

Mitigation Measure for Cumulative Impact 12: The project shall contribute its fair share to the cost of cumulative mitigations by paying the fees to be established via the City planned Street and Highways Master Plan, or by making a financial contribution towards the cost of widening Wescott Road to an arterial standard in this area. The project's traffic represents 1.4% of the new traffic and 1.2% of the total traffic at build out on Wescott Road between Cynthia Avenue and the Railroad Collector.

Level of Significance After Mitigation. Because no adopted program exists to ensure that funding is available for the balance of the cost of this mitigation, this impact remains significant and unavoidable.

Cumulative Impact 13: Traffic volumes on SR 20 east and west of the City of Colusa sphere of influence are indicative of LOS F conditions. Regionally, development in and near to Colusa will contribute to the need to improve SR 20 to a four lane section from SR 99 to Interstate 5. While the inter-regional street system is not the sole responsibility of development in or near the City of Colusa, the City and County should investigate mechanisms for local development to participate on a "fair share" basis in the costs of maintaining and improving roads outside of the City limits. The City and Colusa County, as well as communities such as Williams and Yuba City need to work with Caltrans towards a mechanism to address impacts to the state highway system.

Level of Significance Before Mitigation: Significant

Mitigation Measure for Cumulative Impact 13: The project shall be contribute its fair share to the cost of cumulative mitigations by paying the fees to be established via the City's planned Street and Highways Master Plan, or by making a financial contribution towards the cost of widening SR 20 to a four lane section from Interstate 5 to SR 99. The project's traffic represents 2.0% of the new traffic and 1.4% of the total traffic at build out on SR 20 west of Colusa and 2.1% of the new traffic and 1.7% of the total traffic on SR 20 east of Colusa.

Level of Significance After Mitigation. Because no adopted program exists to ensure that funding is available for the balance of the cost of this mitigation, this impact remains significant and unavoidable

Traffic Signal Warrants. Traffic signal warrants are met at all study intersections under cumulative conditions. Fair share contribution to the cost of signalization is identified in Cumulative mitigations No. 1,3,4,5 and 6.

**TABLE 19
CUMULATIVE DAILY TRAFFIC VOLUMES AND LEVELS OF SERVICE
(BUILD OUT OF CITY OF COLUSA GENERAL PLAN)**

Street	From	To	Daily Traffic Volumes				Lanes	LOS	
			Existing	New Growth	Through traffic	Casino Expansion			Total
East-West Streets									
Fremont Street	Bridge St	5 th	5,050 (c)	4,475	700	0	10,225	2	D
	5 th Street	10 th Street	3,640 (c)	6,050	700	0	10,390	2	D
	10 th Street	11 th Street	2,090 (c)	3,500	0	0	5,590	2	B
Sioc Street	Bridge St	5 th Street	4,940 (c)	7,600	700	0	13,240	2	F
	5 th Street	10 th Street	5,000 (e)	9,300	700	0	15,000	2	F
Moonbend Rd	East of SR 20		0	4,350	0	0	4,350	2	B
Sunrise Ave	SR 20	Davison	500 (e)	4,325	0	0	4,825	2	B
	SR 20	East Collector	0	7,500	0	0	7,500	2	C
Farinon Road	SR 20	Niagra Ave	300 (e)	8,850	700	0	9,850	2	D
	Wescott St	Niagra Ave	0	12,800	700	0	13,500	2	D
Railroad Collector	SR 20	Wil S Green	0	5,450	700	0	6,150	2	B
	Wil S Green	Wescott Rd	0	8,125	700	0	8,825	2	C
North-South Streets									
Wescott Road	SR 20	Cynthia Ave	4,550 (c)	2,600	0	0	7,150	2	C
	Cynthia Ave	Tenant Drive	4,550 (c)	5,675	0	0	10,225	2	D
	Tenant Dr	Farinon Dr	1,000 (e)	8,400	0	0	9,400	2	D
	Railroad Collector	Farinon Dr	1,000 (e)	8,200	0	0	9,200	2	D
SR 20 (Bridge St)	Market Street	Clay Street	21,600*	5,100	700	1,870	29,270	2	F
			10,570 (c)				18,250		
	Clay Street	Fremont Street	21,600*	7,450	700	1,870	31,620	2	F
			10,000 (e)				20,020		
	Fremont St	Sioc Street	18,300*	11,650	1,400	1,870	33,220	2	F
			13,470 (c)				28,390		
	Sioc St	Wescott St	18,300*	12,600	2,100	1,870	34,870	2	F
			13,300 (e)				29,870		
	Wescott St	New Commercial	18,300*	12,050	2,100	1,800	34,250	2	F
			9,430 (c)				25,380		

TABLE 19 (CONT'D)
CUMULATIVE DAILY TRAFFIC VOLUMES AND LEVELS OF SERVICE
(BUILD OUT OF CITY OF COLUSA GENERAL PLAN)

Street	From	To	Daily Traffic Volumes				Lanes	LOS	
			Existing	New Growth	Through traffic	Casino Expansion			Total
SR 20 (Bridge St)	New Commercial	Moonbend Rd	18,300*	20,625	2,100	1,800	42,825	2	F
			9,430 (c)				33,955	2	F
	Moonbend Rd	Sunrise Blvd	9,700*	17,750	2,100	1,800	31,350	2	F
			8,370 (c)				30,020	2	F
	East of Farinon St		9,700*	15,050	2,800	1,700	29,250	2	F
3 rd Street	Sioc St	Carson St	1,800 (c)	2,225	0	0	4,025	2	B
5 th Street	Tuttle St	Ware St	800 (c)	2,200	0	0	3,000	2	A
8 th Street	Fremont St	Carson St	800 (c)	1,125	0	0	1,925	2	A
13 th Street	Clay Street	Fremont Street	835 (c)	750	0	0	1,585	2	A
East Collector	Market Street	Fremont Street	0	5,500	0	0	5,500	2	B
	Fremont St	Sunrise Blvd	0	9,875	0	0	9,875	2	D
2005 traffic volume reported by Caltrans is (*) Daily traffic volume interpolated from peak hour counts or otherwise estimated is (e) Daily traffic count by KDA is (c) BOLD- is condition in excess of minimum LOS									

TECHNICAL APPENDIX

Appendix A: Existing Conditions Results

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Scenario Report

Scenario: ex am
Command: Default Command
Volume: ex am
Geometry: existing
Impact Fee: Default Impact Fee
Trip Generation: pm peak hour
Trip Distribution: current
Paths: current
Routes: Default Routes
Configuration: Default Configuration

 EXISTING CONDITIONS
 SWCA: COLUSA CIP RE-ZONE

Intersection Volume Report
 Base Volume Alternative

Node Intersection	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
1 SR 20 / Sunri	5	294	0	0	218	39	13	0	2	0	0	0
2 Wescott Rd /	6	356	0	0	238	85	161	0	7	0	0	0
3 Sioc St / Bri	73	384	59	15	223	8	25	25	67	40	17	33
14 Fremont / Bri	93	343	6	1	184	22	25	0	64	2	2	1
99 SR 20 / FARIN	1	290	0	0	215	5	9	0	0	0	0	0

 EXISTING CONDITIONS
 SWCA: COLUSA CIP RE-ZONE

 Intersection Volume Report
 Future Volume Alternative

Node Intersection	Northbound			Southbound			Eastbound			Westbound		
	L --	T --	R	L --	T --	R	L --	T --	R	L --	T --	R
1 SR 20 / Sunri	17	921	413	52	748	125	142	146	13	279	84	74
2 Wescott Rd /	65	1703	0	0	1190	163	247	0	49	0	0	0
3 Sioc St / Bri	867	1008	73	26	678	102	189	51	617	65	65	49
14 Fremont / Bri	274	819	6	1	563	40	40	0	255	2	2	1
99 SR 20 / FARIN	453	1059	0	0	874	166	292	0	591	0	0	0

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 1 SR 20 / Sunrise	No / No	??? / ???
# 2 Wescott Rd / Bridge St (SR 20)/ Tut	No / No	??? / ???
# 14 Fremont / Bridge (SR 20)	No / No	??? / ???
# 99 SR 20 / FARINON	No / No	??? / ???

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Peak Hour Delay Signal Warrant Report

Intersection #1 SR 20 / Sunrise

Base Volume Alternative: Peak Hour Warrant NOT Met

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Lanes, Initial Vol, and ApproachDel.

Approach[eastbound][lanes=2][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=15]

FAIL - Approach volume less than 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=571]

FAIL - Total volume less than 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future.

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction.

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #1 SR 20 / Sunrise

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1	0	1	0	1	0	1	0	0	1	0	0
Initial Vol:	5	294	0	0	218	39	13	0	2	0	0	0
Major Street Volume:	556											
Minor Approach Volume:	15											
Minor Approach Volume Threshold:	627											

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Peak Hour Delay Signal Warrant Report

Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Base Volume Alternative: Peak Hour Warrant NOT Met

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Lanes, Initial Vol, and ApproachDel.

Approach[eastbound][lanes=2][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=1.0]

FAIL - Vehicle-hours less than 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=168]

SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=853]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future.

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction.

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound										
Movement:	L	T	R	L	T	R	L	T	R	L	T	R								
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign										
Lanes:	0	1	0	0	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0
Initial Vol:	6	356	0	0	238	85	161	0	7	0	0	0								
Major Street Volume:	685																			
Minor Approach Volume:	168																			
Minor Approach Volume Threshold:	537																			

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Peak Hour Delay Signal Warrant Report

Intersection #14 Fremont / Bridge (SR 20)

Base Volume Alternative: Peak Hour Warrant NOT Met

Table with 5 columns: Approach, Movement, Control, Lanes, Initial Vol, ApproachDel. Rows include North Bound, South Bound, East Bound, West Bound with L, T, R movements.

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=89]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=743]
FAIL - Total volume less than 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=5]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=743]
FAIL - Total volume less than 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #14 Fremont / Bridge (SR 20)

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	T	R		L	T	R		L	T	R		L	T	R					
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	1	0	0	1	0	1	0	0	1	0	0	0	1	0	0	0	0	1	0	0
Initial Vol:	93	343		6		1	184		22		25	0		64		2	2		1	
Major Street Volume:	649																			
Minor Approach Volume:	89																			
Minor Approach Volume Threshold:	434																			

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Peak Hour Delay Signal Warrant Report

Intersection #99 SR 20 / FARINON

Base Volume Alternative: Peak Hour Warrant NOT Met

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Lanes, Initial Vol, and ApproachDel.

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.0]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=9]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=520]
FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #99 SR 20 / FARINON

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	T	R		L	T	R		L	T	R		L	T	R					
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	1	0	1	0	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0
Initial Vol:	1	290		0		0	215		5		9	0		0		0	0		0	
Major Street Volume:					511															
Minor Approach Volume:					9															
Minor Approach Volume Threshold:					663															

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Level of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 SR 20 / Sunrise

Average Delay (sec/veh): 0.4 Worst Case Level of Service: B[12.7]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module:

Table with 12 columns representing traffic volumes and adjustments for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Vol.

Critical Gap Module:

Table with 12 columns for Critical Gap and FollowUpTim values.

Capacity Module:

Table with 12 columns for Capacity metrics like Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level of Service Module:

Table with 12 columns for Level of Service metrics including 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Level of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Average Delay (sec/veh): 4.3 Worst Case Level of Service: C[21.3]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 13 columns for traffic volumes and adjustment factors like Base Vol, Growth Adj, Initial Bse, etc.

Critical Gap Module: Table with 13 columns for critical gap and follow-up time values.

Capacity Module: Table with 13 columns for capacity-related metrics like Cnflct Vol, Potent Cap., Move Cap., etc.

Level of Service Module: Table with 13 columns for LOS metrics like 2Way95thQ, Control Del, LOS by Move, etc.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #3 Sioc St / Bridge St (SR 20)

Cycle (sec): 80 Critical Vol./Cap.(X): 0.415
Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 17.7
Optimal Cycle: 35 Level Of Service: B

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, Min. Green, and Lanes.

Volume Module table with 13 columns representing different traffic movements and 10 rows of adjustment factors like Base Vol, Growth Adj, etc.

Saturation Flow Module table with 13 columns and 5 rows of flow data including Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module table with 13 columns and 10 rows of capacity metrics like Vol/Sat, Crit Moves, Green/Cycle, etc.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Level of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #14 Fremont / Bridge (SR 20)

Average Delay (sec/veh): 2.8 Worst Case Level Of Service: C [18.2]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module table with 12 columns for volume components and 4 rows for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Vol.

Critical Gap Module table with 12 columns for gap and follow-up times and 2 rows for Critical Gp and FollowUpTim.

Capacity Module table with 12 columns for capacity metrics and 4 rows for Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Level of Service Module table with 12 columns for LOS metrics and 8 rows for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #99 SR 20 / FARINON

Average Delay (sec/veh): 0.2 Worst Case Level Of Service: B[12.9]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module:

Table with 13 columns for volume metrics: Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Vol.

Critical Gap Module:

Table with 13 columns for critical gap metrics: Critical Gp, FollowUpTim.

Capacity Module:

Table with 13 columns for capacity metrics: Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Level Of Service Module:

Table with 13 columns for level of service metrics: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Scenario Report

Scenario: Existing Conditions
Command: Default Command
Volume: existing pm
Geometry: existing
Impact Fee: Default Impact Fee
Trip Generation: daily
Trip Distribution: GP daily
Paths: current
Routes: Default Routes
Configuration: Default Configuration

 EXISTING CONDITIONS
 SWCA: COLUSA CIP RE-ZONE

 Intersection Volume Report
 Base Volume Alternative

Node Intersection	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
1 SR 20 / Sunri	0	372	0	0	350	13	52	0	10	0	0	0
2 Wescott Rd /	6	435	0	0	496	276	118	0	7	0	0	0
3 Sioc St / Bri	82	404	68	35	552	17	31	51	116	109	41	59
14 Fremont / Bri	103	394	0	1	532	29	14	1	128	2	2	5
99 SR 20 / FARIN	2	328	0	0	372	6	9	0	3	0	0	0

 EXISTING CONDITIONS
 SWCA: COLUSA CIP RE-ZONE

 Intersection Volume Report
 Future Volume Alternative

Node Intersection	Northbound			Southbound			Eastbound			Westbound		
	L	T	R	L	T	R	L	T	R	L	T	R
1 SR 20 / Sunri	10	935	283	49	790	98	176	136	19	189	79	69
2 Wescott Rd /	71	1262	0	0	1024	360	212	0	48	0	0	0
3 Sioc St / Bri	326	1065	84	48	993	125	218	88	260	137	107	79
14 Fremont / Bri	265	936	0	1	932	52	32	1	301	2	2	5
99 SR 20 / FARIN	279	928	0	0	884	132	264	0	398	0	0	0

 EXISTING CONDITIONS
 SWCA: COLUSA CIP RE-ZONE

Impact Analysis Report
 Level Of Service

Intersection		Base		Future		Change in
		LOS	Veh C	LOS	Veh C	
# 1 SR 20 / Sunrise	C	17.0	0.000	F OVRFL	0.000	+ 1.0E+0308
# 2 Wescott Rd / Bridge St (SR 20)	E	39.3	0.000	F OVRFL	0.000	+5681.671 D/
# 3 Sioc St / Bridge St (SR 20)	C	25.5	0.739	F 211.9	1.569	+186.365 D/V
# 14 Fremont / Bridge (SR 20)	D	27.3	0.000	F OVRFL	0.000	+ 1.8E+0308
# 99 SR 20 / FARINON	B	14.6	0.000	F OVRFL	0.000	+4928.170 D/

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 1 SR 20 / Sunrise	No / No	??? / ???
# 2 Wescott Rd / Bridge St (SR 20) / Tut	No / No	??? / ???
# 14 Fremont / Bridge (SR 20)	No / No	??? / ???
# 99 SR 20 / FARINON	No / No	??? / ???

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Peak Hour Delay Signal Warrant Report

Intersection #1 SR 20 / Sunrise

Base Volume Alternative: Peak Hour Warrant NOT Met

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Lanes, Initial Vol, and ApproachDel.

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.3]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=62]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=797]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #1 SR 20 / Sunrise

Base Volume Alternative: Peak Hour Warrant NOT Met

Table with 5 columns: Approach, Movement, Control, Lanes, Initial Vol. Rows include North Bound, South Bound, East Bound, West Bound with sub-columns L, T, R. Includes Major Street Volume (735), Minor Approach Volume (62), and Minor Approach Volume Threshold (506).

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Peak Hour Delay Signal Warrant Report

Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Base Volume Alternative: Peak Hour Warrant NOT Met

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Lanes, Initial Vol, and ApproachDel.

Approach(eastbound)[lanes=2][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=1.4]

FAIL - Vehicle-hours less than 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=125]

FAIL - Approach volume less than 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=1338]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future.

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction.

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	0	1	0	0	0	1	1	0	0	0	0	0
Initial Vol:	6	435	0	0	496	276	118	0	7	0	0	0
Major Street Volume:	1213											
Minor Approach Volume:	125											
Minor Approach Volume Threshold:	291											

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Peak Hour Delay Signal Warrant Report

Intersection #14 Fremont / Bridge (SR 20)

Base Volume Alternative: Peak Hour Warrant NOT Met

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Lanes, Initial Vol, and ApproachDel.

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.9]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=143]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1211]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=9]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1211]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #14 Fremont / Bridge (SR 20)

Base Volume Alternative: Peak Hour Warrant NOT Met

Table with 5 columns: Approach, Movement, Control, Lanes, Initial Vol. Rows include North Bound, South Bound, East Bound, West Bound with sub-movements L, T, R. Control types: Uncontrolled, Stop Sign. Major Street Volume: 1059, Minor Approach Volume: 143, Minor Approach Volume Threshold: 265.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Peak Hour Delay Signal Warrant Report

Intersection #99 SR 20 / FARINON

Base Volume Alternative: Peak Hour Warrant NOT Met

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Lanes, Initial Vol, and ApproachDel.

Approach[eastbound][lanes=2][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.0]

FAIL - Vehicle-hours less than 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=12]

FAIL - Approach volume less than 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=720]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future.

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction.

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Peak Hour Volume Signal Warrant Report {Urban}

Intersection #99 SR 20 / FARINON

Base Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1	0	1	0	0	1	1	0	0	0	0	0
Initial Vol:	2	328	0	0	372	6	9	0	3	0	0	0
Major Street Volume:	708											
Minor Approach Volume:	12											
Minor Approach Volume Threshold:	523											

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 SR 20 / Sunrise

Average Delay (sec/veh): 1.3 Worst Case Level Of Service: C [17.0]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, and Lanes.

Volume Module: PM Peak Hour

Table with 13 columns representing traffic volumes and adjustments for Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Vol.

Critical Gap Module:

Table with 13 columns showing critical gap and follow-up times for different approaches.

Capacity Module:

Table with 13 columns showing capacity metrics like Conflict Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module:

Table with 13 columns showing level of service metrics like 2Way95thQ, Control Del, LOS by Move, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Average Delay (sec/veh): 3.7 Worst Case Level Of Service: E[39.3]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0	1	0	0	0	1	0	0	1	0	0	0

Volume Module: PM Peak Hour												
Base Vol:	6	435	0	0	496	276	118	0	7	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	435	0	0	496	276	118	0	7	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	7	509	0	0	580	323	138	0	8	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	7	509	0	0	580	323	138	0	8	0	0	0

Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx

Capacity Module:												
Cnflct Vol:	903	xxxx	xxxxx	xxxx	xxxx	xxxxx	1103	xxxx	580	xxxx	xxxx	xxxxx
Potent Cap.:	753	xxxx	xxxxx	xxxx	xxxx	xxxxx	234	xxxx	514	xxxx	xxxx	xxxxx
Move Cap.:	753	xxxx	xxxxx	xxxx	xxxx	xxxxx	232	xxxx	514	xxxx	xxxx	xxxxx
Volume/Cap:	0.01	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.59	xxxx	0.02	xxxx	xxxx	xxxxx

Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	3.4	xxxx	0.0	xxxx	xxxx	xxxxx
Control Del:	9.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	40.9	xxxx	12.1	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	E	*	B	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	9.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			39.3			xxxxxx		
ApproachLOS:	*			*			E			*		

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Level of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #3 Sioc St / Bridge St (SR 20)

Cycle (sec): 80 Critical Vol./Cap.(X): 0.739
Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 25.5
Optimal Cycle: 61 Level Of Service: C

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Table with 12 columns for traffic movements. Rows include Volume Module (Base Vol, Growth Adj, etc.), Sat/Lane, and Adjustment factors.

Table with 12 columns for traffic movements. Rows include Capacity Analysis Module (Vol/Sat, Crit Moves, Green/Cycle, etc.).

Table with 12 columns for traffic movements. Rows include LOS by Move and HCM2kAvgQ.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #14 Fremont / Bridge (SR 20)

Average Delay (sec/veh): 3.8 Worst Case Level Of Service: D[27.3]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Table with 12 columns representing traffic volumes. Rows include Base Vol, Growth Adj, Initial Bse, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Vol.

Table with 12 columns representing critical gap and follow-up times. Rows include Critical Gp and FollowUpTim.

Table with 12 columns representing capacity and conflict volumes. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Table with 12 columns representing level of service and queue lengths. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS
SWCA: COLUSA CIP RE-ZONE

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #99 SR 20 / FARINON

Average Delay (sec/veh): 0.3 Worst Case Level Of Service: B[14.6]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module table with 12 columns for traffic volumes and 12 columns for adjustment factors (Growth, User, PHF).

Critical Gap Module table with 12 columns for gap and follow-up times.

Capacity Module table with 12 columns for conflict, potent, move, and volume/capacity.

Level Of Service Module table with 12 columns for delay, LOS, and approach delay/LOS.

Note: Queue reported is the number of cars per lane.

Appendix B: Existing Conditions Plus Project Results

EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Scenario Report

Scenario: cip am
Command: Default Command
Volume: ex am
Geometry: existing
Impact Fee: Default Impact Fee
Trip Generation: cip am
Trip Distribution: cip
Paths: cip
Routes: Default Routes
Configuration: Default Configuration

 EXISTING CONDITIONS plus CIP Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Trip Generation Report

Forecast for CIP AM

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
8	CIP rezone	12.00	gas	3.50	3.50	42	42	84	16.6
8	CIP rezone	10.00	restaurant	7.50	6.90	75	69	144	28.5
8	CIP rezone	75.00	motel	0.23	0.41	17	31	48	9.5
8	CIP rezone	25.00	office - servi	1.48	0.56	37	14	51	10.1
	Zone 8 Subtotal					171	156	327	64.6
36	CIP res	140.00	sf res	0.19	0.56	27	78	105	20.8
	Zone 36 Subtotal					27	78	105	20.8
37	CIP HDR	146.00	HDR	0.11	0.40	16	58	74	14.6
	Zone 37 Subtotal					16	58	74	14.6
TOTAL						214	292	506	100.0

EXISTING CONDITIONS plus CIP Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Trip Distribution Report

Percent Of Trips cip

Zone	To Gates								
	1	2	3	4	7	10	12	16	29
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	15.0	20.0	1.0	30.0	0.0	10.0	24.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36	0.0	0.0	25.0	20.0	1.0	20.0	0.0	15.0	19.0
37	0.0	0.0	25.0	20.0	1.0	20.0	0.0	15.0	19.0
38	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

 EXISTING CONDITIONS plus CIP Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Turning Movement Report
 CIP AM

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 SR 20 / Sunrise													
Base	5	294	0	0	218	39	13	0	2	0	0	0	571
Added	14	63	0	0	66	81	74	0	12	0	0	0	310
commer	21	-31	0	0	-47	47	31	0	31	0	0	0	52
Total	40	326	0	0	237	167	118	0	45	0	0	0	933
#2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln													
Base	6	356	0	0	238	85	161	0	7	0	0	0	853
Added	0	180	0	0	148	10	29	0	0	0	0	0	367
Total	6	536	0	0	386	95	190	0	7	0	0	0	1220
#3 Sioc St / Bridge St (SR 20)													
Base	73	384	59	15	223	8	25	25	67	40	17	33	969
Added	81	128	0	0	94	0	0	0	64	0	0	0	367
Total	154	512	59	15	317	8	25	25	131	40	17	33	1336
#4 Market St / Bridge St (SR 20)													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	57	0	0	36	0	0	0	0	0	0	0	93
Total	0	57	0	0	36	0	0	0	0	0	0	0	93
#6 Market St (SR 20)/ 5th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#8 Market St / 13th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#9 Main St / 13th St / Lurline St.													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#10 Fremont St / 10th St (SR 20)													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	19	0	0	0	0	0	0	50	10	0	55	0	134
Total	19	0	0	0	0	0	0	50	10	0	55	0	134
#11 Will S. Green / SR 20													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

 EXISTING CONDITIONS plus CIP Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#12													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#13 SR 20 / railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#14 Fremont / Bridge (SR 20)													
Base	93	343	6	1	184	22	25	0	64	2	2	1	743
Added	71	57	0	0	36	0	0	0	57	0	0	0	221
Total	164	400	6	1	220	22	25	0	121	2	2	1	964
#15 Market St / 10th St (SR 20)													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#19													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#25 Fremont / 3rd													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	7	21	0	11	13	0	0	47	3	0	56	15	173
Total	7	21	0	11	13	0	0	47	3	0	56	15	173
#28 Main St / 8th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#30 Main St / 3rd St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	36	0	0	24	0	0	0	0	0	0	0	60
Total	0	36	0	0	24	0	0	0	0	0	0	0	60
#32 Sioc / 3rd													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	11	11	0	12	4	0	0	53	7	0	63	17	178
Total	11	11	0	12	4	0	0	53	7	0	63	17	178
#33 Sioc / 5th													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	60	0	0	74	0	134
Total	0	0	0	0	0	0	0	60	0	0	74	0	134

 EXISTING CONDITIONS plus CIP Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#84 8th / Railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#95 3rd St / Railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#99 SR 20 / FARINON													
Base	1	290	0	0	215	5	9	0	0	0	0	0	520
Added	26	17	0	0	24	55	60	0	34	0	0	0	216
commer	31	-31	0	0	-47	31	21	0	47	0	0	0	52
Total	58	276	0	0	192	91	90	0	81	0	0	0	788
#138 sr 20 / Wilson													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#142 Wescott / Farinon													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	2	21	0	0	0	0	0	3	0	51	77
Total	0	0	2	21	0	0	0	0	0	3	0	51	77
#147 SR 20 / CIP MF Access													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	3	134	0	0	135	13	46	0	12	0	0	0	343
Total	3	134	0	0	135	13	46	0	12	0	0	0	343
#148													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 1 SR 20 / Sunrise	??? / ???	No / No
# 2 Wescott Rd / Bridge St (SR 20)/ Tut	??? / ???	No / No
# 14 Fremont / Bridge (SR 20)	??? / ???	No / No
# 99 SR 20 / FARINON	??? / ???	No / No

EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Delay Signal Warrant Report

Intersection #1 SR 20 / Sunrise

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1	0	1	0	1	0	1	0	0	1	0	0
Initial Vol:	40	326	0	0	237	167	118	0	45	0	0	0
ApproachDel:	xxxxxx			xxxxxx			17.8			xxxxxx		

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.8]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=163]
SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=933]
SUCCEED - Total volume greater than or equal to 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #1 SR 20 / Sunrise

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	T	R		L	T	R		L	T	R		L	T	R					
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	1	0	1	0	1	1	0	1	0	1	1	0	0	1	0	1	0	0	1	0
Initial Vol:	40	326		0		0	237	167			118	0	45			0	0		0	
Major Street Volume:					770															
Minor Approach Volume:					163															
Minor Approach Volume Threshold:					486															

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Delay Signal Warrant Report

Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound								
Movement:	L	T	R	L	T	R	L	T	R	L	T	R						
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign								
Lanes:	0	1	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	1
Initial Vol:	6	536	0	0	386	95	190	0	7	0	0	0						
ApproachDel:	xxxxxx			xxxxxx			85.8			xxxxxx								

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=4.7]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=197]
SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1220]
SUCCEED - Total volume greater than or equal to 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound								
Movement:	L	T	R	L	T	R	L	T	R	L	T	R						
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign								
Lanes:	0	1	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0
Initial Vol:	6	536	0	0	386	95	190	0	7	0	0	0						
Major Street Volume:	1023																	
Minor Approach Volume:	197																	
Minor Approach Volume Threshold:	364																	

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #14 Fremont / Bridge (SR 20)

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	T	R		L	T	R		L	T	R		L	T	R					
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	1	0	0	1	0	1	0	0	1	0	0	0	1	0	0	0	0	1	0	0
Initial Vol:	164	400		6		1	220		22		25	0		121		2	2		1	
Major Street Volume:									813											
Minor Approach Volume:									146											
Minor Approach Volume Threshold:									356											

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Delay Signal Warrant Report

Intersection #99 SR 20 / FARINON

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	1	0	1	0	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0
Initial Vol:	58	276		0		0	192	91			90	0	81			0	0		0	
ApproachDel:	xxxxxx				xxxxxx				13.8				xxxxxx							

Approach[eastbound][lanes=2][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.7]

FAIL - Vehicle-hours less than 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=171]

SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=788]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #99 SR 20 / FARINON

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1	0	1	0	0	1	1	0	0	0	0	0
Initial Vol:	58	276	0	0	192	91	90	0	81	0	0	0
Major Street Volume:	617											
Minor Approach Volume:	171											
Minor Approach Volume Threshold:	582											

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 SR 20 / Sunrise

Average Delay (sec/veh): 3.5 Worst Case Level Of Service: C [17.8]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 12 columns representing different volume categories and 12 rows of data.

Critical Gap Module: Table with 12 columns and 2 rows of data.

Capacity Module: Table with 12 columns and 4 rows of data.

Level Of Service Module: Table with 12 columns and 10 rows of data.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Average Delay (sec/veh): 13.9 Worst Case Level Of Service: F[85.8]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0	1	0	0	0	1	0	0	1	0	0	0

Volume Module:

Base Vol:	6	356	0	0	238	85	161	0	7	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	356	0	0	238	85	161	0	7	0	0	0
Added Vol:	0	180	0	0	148	10	29	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	6	536	0	0	386	95	190	0	7	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	7	627	0	0	451	111	222	0	8	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	7	627	0	0	451	111	222	0	8	0	0	0

Critical Gap Module:

Critical Gap:	4.1	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	6.4	xxxx	6.2	xxxxxx	xxxx	xxxxxx
FollowUpTim:	2.2	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	3.5	xxxx	3.3	xxxxxx	xxxx	xxxxxx

Capacity Module:

Cnflct Vol:	563	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	1092	xxxx	451	xxxx	xxxx	xxxxxx
Potent Cap.:	1009	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	237	xxxx	608	xxxx	xxxx	xxxxxx
Move Cap.:	1009	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	236	xxxx	608	xxxx	xxxx	xxxxxx
Volume/Cap:	0.01	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	0.94	xxxx	0.01	xxxx	xxxx	xxxxxx

Level Of Service Module:

2Way95thQ:	0.0	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	8.3	xxxx	0.0	xxxx	xxxx	xxxxxx			
Control Del:	8.6	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	88.5	xxxx	11.0	xxxxxx	xxxx	xxxxxx			
LOS by Move:	A	*	*	*	*	*	F	*	B	*	*	*			
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx
SharedQueue:	0.0	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx									
Shrd ConDel:	8.6	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx									
Shared LOS:	A	*	*	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			85.8			xxxxxx					
ApproachLOS:	*			*			F			*					

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Sioc St / Bridge St (SR 20)

Cycle (sec): 80 Critical Vol./Cap. (X): 0.566
Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 20.6
Optimal Cycle: 44 Level of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	1	0	1	0	1	0	0	0	1	0

Volume Module:

Base Vol:	73	384	59	15	223	8	25	25	67	40	17	33
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	73	384	59	15	223	8	25	25	67	40	17	33
Added Vol:	81	128	0	0	94	0	0	0	64	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	154	512	59	15	317	8	25	25	131	40	17	33
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	180	599	69	18	371	9	29	29	153	47	20	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	180	599	69	18	371	9	29	29	153	47	20	39
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	180	599	69	18	371	9	29	29	153	47	20	39

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.93	0.98	0.98	0.93	0.86	0.86	0.95	0.95	0.83
Lanes:	1.00	1.00	1.00	1.00	0.98	0.02	1.00	0.16	0.84	0.70	0.30	1.00
Final Sat.:	1769	1862	1583	1769	1809	46	1769	261	1367	1262	536	1583

Capacity Analysis Module:

Vol/Sat:	0.10	0.32	0.04	0.01	0.20	0.20	0.02	0.11	0.11	0.04	0.04	0.02
Crit Moves:	****			****			****			****		
Green/Cycle:	0.19	0.57	0.57	0.02	0.39	0.39	0.20	0.20	0.20	0.07	0.07	0.07
Volume/Cap:	0.52	0.57	0.08	0.57	0.52	0.52	0.08	0.57	0.57	0.57	0.57	0.37
Delay/Veh:	30.4	11.7	7.8	61.0	19.3	19.3	26.2	31.3	31.3	42.5	42.5	38.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.4	11.7	7.8	61.0	19.3	19.3	26.2	31.3	31.3	42.5	42.5	38.0
LOS by Move:	C	B	A	E	B	B	C	C	C	D	D	D
HCM2kAvgQ:	5	10	1	1	8	8	1	5	5	3	3	1

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #14 Fremont / Bridge (SR 20)

Average Delay (sec/veh): 4.2 Worst Case Level Of Service: D[27.8]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Vol.

Critical Gap Module: Critical Gap, FollowUpTim

Capacity Module: Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Level Of Service Module: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #99 SR 20 / FARINON

Average Delay (sec/veh): 3.6 Worst Case Level Of Service: B[13.8]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module:

Table with 12 columns representing traffic volumes and adjustments for Base Vol, Growth Adj, Initial Bse, Added Vol, Commercial, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Vol.

Critical Gap Module:

Table with 12 columns for Critical Gap and FollowUpTim values.

Capacity Module:

Table with 12 columns for Capacity metrics like Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module:

Table with 12 columns for Level of Service metrics like 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Scenario Report

Scenario: cip pm
Command: Default Command
Volume: existing pm
Geometry: existing
Impact Fee: Default Impact Fee
Trip Generation: cip pm
Trip Distribution: cip
Paths: cip
Routes: Default Routes
Configuration: Default Configuration

 EXISTING CONDITIONS plus CIP Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Trip Generation Report

Forecast for CIP PM

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
8	CIP rezone	12.00	gas	4.25	4.33	51	52	103	19.4
8	CIP rezone	10.00	restaurant	5.70	4.60	57	46	103	19.4
8	CIP rezone	75.00	motel	0.31	0.27	23	20	43	8.1
8	CIP rezone	25.00	office - servi	0.64	1.36	16	34	50	9.4
	Zone 8 Subtotal					147	152	299	56.4
36	CIP res	140.00	sf res	0.65	0.36	91	50	141	26.6
	Zone 36 Subtotal					91	50	141	26.6
37	CIP HDR	146.00	HDR	0.40	0.22	58	32	90	17.0
	Zone 37 Subtotal					58	32	90	17.0
TOTAL						296	234	530	100.0

EXISTING CONDITIONS plus CIP Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Trip Distribution Report

Percent Of Trips cip

Zone	To Gates								
	1	2	3	4	7	10	12	16	29
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	15.0	20.0	1.0	30.0	0.0	10.0	24.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36	0.0	0.0	25.0	20.0	1.0	20.0	0.0	15.0	19.0
37	0.0	0.0	25.0	20.0	1.0	20.0	0.0	15.0	19.0
38	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Turning Movement Report
CIP PM

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 SR 20 / Sunrise													
Base	0	372	0	0	350	13	52	0	10	0	0	0	797
Added	12	65	0	0	66	70	72	0	12	0	0	0	297
PassBy	24	-34	0	0	-54	54	34	0	34	0	0	0	58
Total	36	403	0	0	362	137	158	0	56	0	0	0	1152
#2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln													
Base	6	435	0	0	496	276	118	0	7	0	0	0	1338
Added	0	151	0	0	175	34	19	0	0	0	0	0	379
Total	6	586	0	0	671	310	137	0	7	0	0	0	1717
#3 Sioc St / Bridge St (SR 20)													
Base	82	404	68	35	552	17	31	51	116	109	41	59	1565
Added	67	102	0	0	129	0	0	0	80	0	0	0	378
Total	149	506	68	35	681	17	31	51	196	109	41	59	1943
#4 Market St / Bridge St (SR 20)													
Base	301	86	0	0	67	45	31	0	362	0	0	0	892
Added	0	43	0	0	59	0	0	0	0	0	0	0	102
Total	301	129	0	0	126	45	31	0	362	0	0	0	994
#6 Market St (SR 20)/ 5th St													
Base	48	15	33	59	22	29	14	378	43	20	344	24	1029
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	48	15	33	59	22	29	14	378	43	20	344	24	1029
#8 Market St / 13th St													
Base	11	292	0	0	320	16	22	0	22	0	0	0	683
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	11	292	0	0	320	16	22	0	22	0	0	0	683
#9 Main St / 13th St / Lurline St.													
Base	53	261	0	0	272	17	21	0	63	0	0	0	687
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	53	261	0	0	272	17	21	0	63	0	0	0	687
#10 Fremont St / 10th St (SR 20)													
Base	29	189	76	85	162	5	4	20	18	69	33	75	765
Added	14	0	0	0	0	0	0	53	21	0	48	0	136
Total	43	189	76	85	162	5	4	73	39	69	81	75	901
#11 Will S. Green / SR 20													
Base	9	0	22	0	0	0	0	286	10	25	235	0	587
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	9	0	22	0	0	0	0	286	10	25	235	0	587

 EXISTING CONDITIONS plus CIP Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#12													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#13 SR 20 / railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#14 Fremont / Bridge (SR 20)													
Base	103	394	0	1	532	29	14	1	128	2	2	5	1211
Added	59	43	0	0	59	0	0	0	70	0	0	0	231
Total	162	437	0	1	591	29	14	1	198	2	2	5	1442
#15 Market St / 10th St (SR 20)													
Base	87	18	138	12	9	10	7	246	124	87	240	9	987
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	87	18	138	12	9	10	7	246	124	87	240	9	987
#19													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#25 Fremont / 3rd													
Base	63	25	8	6	21	8	12	177	59	5	165	8	557
Added	5	16	0	15	22	0	0	55	9	0	47	12	181
Total	68	41	8	21	43	8	12	232	68	5	212	20	738
#28 Main St / 8th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#30 Main St / 3rd St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	28	0	0	37	0	0	0	0	0	0	0	65
Total	0	28	0	0	37	0	0	0	0	0	0	0	65
#32 Sioc / 3rd													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	9	7	0	18	13	0	0	62	12	0	53	14	188
Total	9	7	0	18	13	0	0	62	12	0	53	14	188
#33 Sioc / 5th													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	74	0	0	62	0	136
Total	0	0	0	0	0	0	0	74	0	0	62	0	136

EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#84 8th / Railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#95 3rd St / Railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#99 SR 20 / FARINON													
Base	2	328	0	0	372	6	9	0	3	0	0	0	720
Added	36	23	0	0	19	60	54	0	28	0	0	0	220
commer	36	-36	0	0	-50	36	22	0	50	0	0	0	58
Total	74	315	0	0	341	102	85	0	81	0	0	0	998
#138 sr 20 / Wilson													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#142 Wescott / Farinon													
Base	0	67	0	0	101	0	0	0	0	0	0	0	168
Added	0	0	3	59	0	0	0	0	0	2	0	34	98
Total	0	67	3	59	101	0	0	0	0	2	0	34	266
#147 SR 20 / CIP MF Access													
Base	0	424	0	0	363	0	0	0	0	0	0	0	787
Added	12	125	0	0	129	46	25	0	7	0	0	0	344
Total	12	549	0	0	492	46	25	0	7	0	0	0	1131
#148													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

0

0

0

EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 1 SR 20 / Sunrise	??? / ???	No / No
# 2 Wescott Rd / Bridge St (SR 20)/ Tut	??? / ???	No / No
# 14 Fremont / Bridge (SR 20)	??? / ???	No / No
# 99 SR 20 / FARINON	??? / ???	No / No
#142 Wescott / Farinon	??? / ???	No / No

EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Delay Signal Warrant Report

Intersection #1 SR 20 / Sunrise

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	T	R		L	T	R		L	T	R		L	T	R					
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	1	0	1	0	1	1	0	1	0	1	1	0	0	1	0	1	0	0	1	0
Initial Vol:	36	403		0	0	362	137		158	0	56		0	0		0				
ApproachDel:	xxxxxxx				xxxxxxx				35.1				xxxxxxx							

Approach[eastbound][lanes=2][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=2.1]

FAIL - Vehicle-hours less than 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=214]

SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=1152]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

 EXISTING CONDITIONS plus CIP Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #1 SR 20 / Sunrise

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	1	0	1	0	1	1	0	1	0	1	1	0	0	1	0	1	0	0	1	0
Initial Vol:	36		403		0	0		362		137	158		0		56	0		0		0
Major Street Volume:					938															
Minor Approach Volume:					214															
Minor Approach Volume Threshold:					402															

SIGNAL WARRANT DISCLAIMER

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EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Delay Signal Warrant Report

Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound								
Movement:	L	T	R	L	T	R	L	T	R	L	T	R						
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign								
Lanes:	0	1	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0
Initial Vol:	6	586	0	0	671	310	137	0	7	0	0	0	0	0	0	0	0	
ApproachDel:	xxxxxx			xxxxxx			187.1			xxxxxx								

Approach[eastbound][lanes=2][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=7.5]

SUCCEED - Vehicle-hours >= 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=144]

FAIL - Approach volume less than 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=1717]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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 EXISTING CONDITIONS plus CIP Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

 Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	T	R		L	T	R		L	T	R		L	T	R	
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Lanes:	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0
Initial Vol:	6	586	0	0	0	671	310	0	137	0	7	0	0	0	0	0
Major Street Volume:	1573															
Minor Approach Volume:	144															
Minor Approach Volume Threshold:	179															

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Delay Signal Warrant Report

Intersection #14 Fremont / Bridge (SR 20)

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1	0	0	1	0	0	0	0	1	0	0	1
Initial Vol:	162	437	0	1	591	29	14	1	198	2	2	5
ApproachDel:	xxxxxx			xxxxxx			47.8			53.8		

-----|-----|-----|-----|-----|

Approach[eastbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=2.8]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=213]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1442]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

-----|-----|-----|-----|-----|

Approach[westbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=9]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1442]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

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 EXISTING CONDITIONS plus CIP Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #14 Fremont / Bridge (SR 20)

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	1	0	0	1	0	1	0	0	1	0	0	0	1	0	0	0	0	1	0	0
Initial Vol:	162	437		0		1	591	29			14	1	198			2	2		5	
Major Street Volume:					1220															
Minor Approach Volume:					213															
Minor Approach Volume Threshold:					216															

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Delay Signal Warrant Report

Intersection #99 SR 20 / FARINON

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	1	0	1	0	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0
Initial Vol:	74		315		0	0		341		102	85		0		81	0		0		0
ApproachDel:	xxxxxx				xxxxxx				18.6				xxxxxx							

Approach[eastbound][lanes=2][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.9]

FAIL - Vehicle-hours less than 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=166]

SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=998]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

 EXISTING CONDITIONS plus CIP Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #99 SR 20 / FARINON

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	1	0	1	0	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0
Initial Vol:	74	315		0		0	341	102			85	0	81			0	0		0	
Major Street Volume:					832															
Minor Approach Volume:					166															
Minor Approach Volume Threshold:					453															

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Delay Signal Warrant Report

Intersection #142 Wescott / Farinon

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	T	R		L	T	R		L	T	R		L	T	R					
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	0	0	0	1	0	1	0	1	0	0	0	0	1	0	0	1	0	0	0	1
Initial Vol:	0	67	3		59	101	0		0	0	0	0		2	0			34		
ApproachDel:	xxxxxxx				xxxxxxx				xxxxxxx				8.9							

Approach(westbound)[lanes=2][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=36]

FAIL - Approach volume less than 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=266]

FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

 EXISTING CONDITIONS plus CIP Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #142 Wescott / Farinon

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	0	0	0	1	0	1	0	1	0	0	0	0	1	0	0	1	0	0	0	1
Initial Vol:	0		67		3	59	101			0	0		0		0	2		0		34
Major Street Volume:					230															
Minor Approach Volume:					36															
Minor Approach Volume Threshold:					1006															

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 SR 20 / Sunrise

Average Delay (sec/veh): 6.8 Worst Case Level of Service: E[35.1]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, and Lanes.

Table with 13 columns for traffic volume. Rows include Volume Module: PM Peak Hour, Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Vol.

Table with 13 columns for critical gap. Rows include Critical Gap Module, Critical Gp, and FollowUpTim.

Table with 13 columns for capacity. Rows include Capacity Module, Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Table with 13 columns for level of service. Rows include Level of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Average Delay (sec/veh): 15.7 Worst Case Level Of Service: F[187.1]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Rights (Include), and Lanes (0-1).

Table with 12 columns for traffic volume. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Vol.

Table with 12 columns for critical gap. Rows include Critical Gp and FollowUpTim.

Table with 12 columns for capacity. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Table with 12 columns for level of service. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Sioc St / Bridge St (SR 20)

Cycle (sec): 80 Critical Vol./Cap.(X): 0.956
Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 44.4
Optimal Cycle: 122 Level Of Service: D

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Volume Module: PM Peak Hour. Table with 13 columns for different approaches and 13 rows for various volume and adjustment factors.

Saturation Flow Module. Table with 13 columns and 5 rows for saturation flow and adjustment factors.

Capacity Analysis Module. Table with 13 columns and 11 rows for capacity analysis metrics.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #14 Fremont / Bridge (SR 20)

Average Delay (sec/veh): 8.6 Worst Case Level Of Service: F[53.8]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Table with 12 columns representing different traffic movements. Rows include Volume Module, Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Vol.

Table with 12 columns representing different traffic movements. Rows include Critical Gap Module, Critical Gp, and FollowUpTim.

Table with 12 columns representing different traffic movements. Rows include Capacity Module, Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Table with 12 columns representing different traffic movements. Rows include Level Of Service Module, 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #99 SR 20 / FARINON

Average Delay (sec/veh): 3.7 Worst Case Level Of Service: C{ 18.6}

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 12 columns representing different traffic movements. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, commercial, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Vol.

Critical Gap Module: Table with 12 columns. Rows include Critical Gp and FollowUpTim.

Capacity Module: Table with 12 columns. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module: Table with 12 columns. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS plus CIP Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #142 Wescott / Farinon

Average Delay (sec/veh): 2.9 Worst Case Level Of Service: A[8.9]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module:

Table with 12 columns representing traffic volumes and adjustments. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Vol.

Critical Gap Module:

Table with 3 columns for Critical Gap, FollowUpTim, and other metrics.

Capacity Module:

Table with 3 columns for Capacity metrics. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module:

Table with 3 columns for Level of Service metrics. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

Appendix C: Existing Conditions Plus Pending Projects Results

EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Scenario Report

Scenario: EPAP No CIP AM

Command: Default Command

Volume: ex am

Geometry: existing

Impact Fee: Default Impact Fee

Trip Generation: cip am

Trip Distribution: cip

Paths: NO CIP

Routes: Default Route

Configuration: Default Configuration

 EXISTING CONDITIONS PLUS PENDING
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Trip Generation Report

Forecast for CIP AM

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
5	Tenant Estat	101.00	SF RES	0.19	0.56	19	57	76	3.9
	Zone 5 Subtotal					19	57	76	3.9
6	Riverbend Es	331.00	SF RES	0.19	0.56	63	185	248	12.6
6	Riverbend Es	56.00	MF RES	0.10	0.41	6	23	29	1.5
	Zone 6 Subtotal					69	208	277	14.1
7	Halsey	293.00	SF RES	0.19	0.56	56	164	220	11.2
	Zone 7 Subtotal					56	164	220	11.2
16		347.00	SF res	0.19	0.56	66	194	260	13.2
16		46.00	MF res	0.11	0.40	5	18	23	1.2
	Zone 16 Subtotal					71	212	283	14.4
17	EASTSIDE 1	1479.00	SF RES	0.19	0.56	281	828	1109	56.4
	Zone 17 Subtotal					281	828	1109	56.4

TOTAL						496	1469	1965	100.0

EXISTING CONDITIONS PLUS PENDING
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Trip Distribution Report

Percent Of Trips cip

Zone	To Gates						
	3	4	5	7	10	16	29
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	25.0	25.0	0.0	1.0	15.0	15.0	19.0
6	0.0	25.0	20.0	1.0	20.0	15.0	19.0
7	0.0	25.0	20.0	1.0	20.0	15.0	19.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	25.0	20.0	1.0	20.0	15.0	19.0
17	0.0	25.0	20.0	1.0	20.0	15.0	19.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	0.0	0.0	0.0	0.0	0.0	0.0	0.0

 EXISTING CONDITIONS PLUS PENDING
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Turning Movement Report
 CIP AM

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 SR 20 / Sunrise													
Base	5	294	0	0	218	39	13	0	2	0	0	0	571
Added	0	124	0	0	367	0	0	0	0	0	0	0	491
Total	5	418	0	0	585	39	13	0	2	0	0	0	1062
#2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln													
Base	6	356	0	0	238	85	161	0	7	0	0	0	853
Added	0	25	0	0	75	6	15	0	0	0	0	0	121
Total	6	381	0	0	313	91	176	0	7	0	0	0	974
#3 Sioc St / Bridge St (SR 20)													
Base	73	384	59	15	223	8	25	25	67	40	17	33	969
Added	0	40	0	0	81	63	21	0	0	0	0	0	205
Total	73	424	59	15	304	71	46	25	67	40	17	33	1174
#4 Market St / Bridge St (SR 20)													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	32	14	5	15	5	0	0	83	11	16	247	44	472
Total	32	14	5	15	5	0	0	83	11	16	247	44	472
#6 Market St (SR 20)/ 5th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	16	0	0	0	0	0	0	34	6	0	102	0	158
Total	16	0	0	0	0	0	0	34	6	0	102	0	158
#8 Market St / 13th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	12	0	0	0	0	0	0	0	4	0	0	0	16
Total	12	0	0	0	0	0	0	0	4	0	0	0	16
#9 Main St / 13th St / Lurline St.													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#10 Fremont St / 10th St (SR 20)													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	21	7	153	0	0	452	0	633
Total	0	0	0	0	0	21	7	153	0	0	452	0	633
#11 Will S. Green / SR 20													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

 EXISTING CONDITIONS PLUS PENDING
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#12													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#13 SR 20 / railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#14 Fremont / Bridge (SR 20)													
Base	93	343	6	1	184	22	25	0	64	2	2	1	743
Added	195	65	21	21	72	0	0	106	66	63	314	63	986
Total	288	408	27	22	256	22	25	106	130	65	316	64	1729
#15 Market St / 10th St (SR 20)													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	12	0	0	0	0	4	0	35	12	0	63
Total	0	0	12	0	0	0	0	4	0	35	12	0	63
#19													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	12	4	15	0	0	46	0	77
Total	0	0	0	0	0	12	4	15	0	0	46	0	77
#25 Fremont / 3rd													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	19	9	0	0	3	63	21	173	6	0	509	0	803
Total	19	9	0	0	3	63	21	173	6	0	509	0	803
#28 Main St / 8th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#30 Main St / 3rd St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	177	0	15	60	0	0	0	0	0	0	44	296
Total	0	177	0	15	60	0	0	0	0	0	0	44	296
#32 Sioc / 3rd													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	28	0	0	9	0	0	21	0	0	63	0	121
Total	0	28	0	0	9	0	0	21	0	0	63	0	121
#33 Sioc / 5th													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	21	0	0	0	0	0	0	0	63	84
Total	0	0	0	21	0	0	0	0	0	0	0	63	84

 EXISTING CONDITIONS PLUS PENDING
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#34 Sioc / 8th													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#35 (SR 20) 10th / Sioc													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#43													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	65	0	0	0	95	0	0	282	191	633
Total	0	0	0	65	0	0	0	95	0	0	282	191	633
#45 Railroad / Wil S Green													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#48 Wil S Green / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#50													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#52 Clay St . 8th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	13	0	0	40	31	10	0	0	0	0	0	94
Total	0	13	0	0	40	31	10	0	0	0	0	0	94
#54 Ckay St / 3rd St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	9	21	4	3	21	7	11	0	63	33	12	184
Total	0	9	21	4	3	21	7	11	0	63	33	12	184
#55 Bridge / Clay													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	63	51	14	0	31	0	0	15	21	41	45	0	281
Total	63	51	14	0	31	0	0	15	21	41	45	0	281
#60 East collector													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	489	130	0	0	60	84	28	0	166	0	0	0	957
Total	489	130	0	0	60	84	28	0	166	0	0	0	957

EXISTING CONDITIONS PLUS PENDING
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#63 sr 20 / local													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	124	0	0	367	0	0	0	0	0	0	0	491
Total	0	124	0	0	367	0	0	0	0	0	0	0	491
#64 SR 20 / Moon Bend													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	48	76	3	142	0	0	0	0	225	0	8	502
Total	0	48	76	3	142	0	0	0	0	225	0	8	502
#71 3rd / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	28	0	0	9	0	0	0	0	0	0	0	37
Total	0	28	0	0	9	0	0	0	0	0	0	0	37
#72 5th / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#76 8th / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#78 8th / N Brookins													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#80 8th St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#81 3rd St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	9	0	0	0	0	0	0	0	28	37
Total	0	0	0	9	0	0	0	0	0	0	0	28	37
#82 5th St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#83 Wescott / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	5	1	0	0	2	5	14	0	15	0	0	0	42
Total	5	1	0	0	2	5	14	0	15	0	0	0	42

 EXISTING CONDITIONS PLUS PENDING
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#84 8th / Railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#95 3rd St / Railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#99 SR 20 / FARINON													
Base	1	290	0	0	215	5	9	0	0	0	0	0	520
Added	0	124	0	0	367	0	0	0	0	0	0	0	491
Total	1	414	0	0	582	5	9	0	0	0	0	0	1011
#138 sr 20 / Wilson													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#142 Wescott / Farinon													
Base	0	79	0	0	32	0	0	0	0	0	0	0	111
Added	0	4	0	0	10	0	0	0	0	0	0	0	14
Total	0	83	0	0	42	0	0	0	0	0	0	0	125
#147 SR 20 / CIP MF Access													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	124	0	0	367	0	0	0	0	0	0	0	491
Total	0	124	0	0	367	0	0	0	0	0	0	0	491
#148													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

 EXISTING CONDITIONS PLUS PENDING
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Impact Analysis Report
 Level Of Service

Intersection	Base			Future			Change in
	LOS	Del/ Veh	V/ C	LOS	Del/ Veh	V/ C	
# 1 SR 20 / Sunrise	B	12.7	0.000	C	22.3	0.000	+ 9.578 D/V
# 2 Wescott Rd / Bridge St (SR 20)	C	21.3	0.000	D	29.8	0.000	+ 8.415 D/V
# 3 Sioc St / Bridge St (SR 20)	B	17.7	0.415	B	16.8	0.462	-0.881 D/V
# 14 Fremont / Bridge (SR 20)	C	18.2	0.000	F	OVRFL	0.000	+ 1.8E+0308
# 99 SR 20 / FARINON	B	12.9	0.000	C	22.8	0.000	+ 9.885 D/V
#142 Wescott / Farinon	A	0.0	0.000	A	0.0	0.000	+ 0.000 D/V

 EXISTING CONDITIONS PLUS PENDING
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 1 SR 20 / Sunrise	??? / ???	No / No
# 2 Wescott Rd / Bridge St (SR 20)/ Tut	??? / ???	No / No
# 14 Fremont / Bridge (SR 20)	??? / ???	Yes / Yes
# 99 SR 20 / FARINON	??? / ???	No / No
#142 Wescott / Farinon	??? / ???	No / No

EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Delay Signal Warrant Report

Intersection #1 SR 20 / Sunrise

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	T	R		L	T	R		L	T	R		L	T	R					
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	1	0	1	0	1	1	0	1	0	1	1	0	0	1	0	1	0	0	1	0
Initial Vol:	5	418		0		0	585	39			13	0		2		0	0		0	
ApproachDel:	xxxxxx				xxxxxx				22.3				xxxxxx							

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=15]
FAIL - Approach volume less than 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1062]
SUCCEED - Total volume greater than or equal to 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #1 SR 20 / Sunrise

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	1	0	1	0	1	1	0	1	0	1	1	0	0	1	0	1	0	0	1	0
Initial Vol:	5	418		0		0	585		39		13	0		2		0	0		0	
Major Street Volume:					1047															
Minor Approach Volume:					15															
Minor Approach Volume Threshold:					354															

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Delay Signal Warrant Report

Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Future Volume Alternative: Peak Hour Warrant NOT Met

Table with 5 columns: Approach, North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Lanes, Initial Vol, and ApproachDel.

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=1.5]
FAIL - Vehicle-hours less than 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=183]
SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=974]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound						
Movement:	L	T	R		L	T	R		L	T	R		L	T	R				
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign						
Lanes:	0	1	0	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0
Initial Vol:	6	381		0	0	313		91	176	0		7	0	0		0	0		
Major Street Volume:	791																		
Minor Approach Volume:	183																		
Minor Approach Volume Threshold:	475																		

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Delay Signal Warrant Report

Intersection #14 Fremont / Bridge (SR 20)

Future Volume Alternative: Peak Hour Warrant Met

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Lanes, Initial Vol, and ApproachDel.

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=261]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1729]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=445]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=1729]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #14 Fremont / Bridge (SR 20)

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	T	R	L	T	R	L	T	R	L	T	R			
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign					
Lanes:	1	0	0	1	0	0	1	0	0	0	0	1	0	0	1
Initial Vol:	288	408	27	22	256	22	25	106	130	65	316	64			
Major Street Volume:	1023														
Minor Approach Volume:	445														
Minor Approach Volume Threshold:	277														

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Delay Signal Warrant Report

Intersection #99 SR 20 / FARINON

Future Volume Alternative: Peak Hour Warrant NOT Met

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Lanes, Initial Vol, and ApproachDel.

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=9]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1011]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #99 SR 20 / FARINON

Future Volume Alternative: Peak Hour Warrant NOT Met

Table with 5 columns: Approach, Movement, Control, Lanes, Initial Vol. and 4 sub-columns for North, South, East, and West Bound movements.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future.

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction.

 EXISTING CONDITIONS PLUS PENDING
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Delay Signal Warrant Report

Intersection #142 Wescott / Farinon

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	T	R		L	T	R		L	T	R		L	T	R					
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	0	0	1	0	0	1	0	1	0	0	0	0	1	0	0	1	0	0	0	1
Initial Vol:	0	83		0	0	0	42		0	0	0	0		0	0	0	0		0	0
ApproachDel:	xxxxxx				xxxxxx				xxxxxx				xxxxxx							

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #142 Wescott / Farinon

Future Volume Alternative: Peak Hour Warrant NOT Met

Table with columns: Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Uncontrolled, Stop Sign), Lanes, Initial Vol, Major Street Volume, Minor Approach Volume, and Minor Approach Volume Threshold.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future.

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction.

EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 SR 20 / Sunrise

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: C[22.3]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module:

Table with 12 columns representing traffic volumes for different movements and adjustments like Growth Adj, Initial Bse, Added Vol, etc.

Critical Gap Module:

Table with 12 columns showing critical gap values and follow-up times for different movements.

Capacity Module:

Table with 12 columns showing capacity metrics like Conflict Vol, Potent Cap., Move Cap., and Volume/Cap.

Level of Service Module:

Table with 12 columns showing level of service metrics like 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Average Delay (sec/veh): 5.6 Worst Case Level of Service: D[29.8]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module table with 12 columns representing different traffic movements and rows for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and FinalVolume.

Critical Gap Module table with 12 columns and rows for Critical Gap and FollowUpTim.

Capacity Module table with 12 columns and rows for Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level of Service Module table with 12 columns and rows for 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Sioc St / Bridge St (SR 20)

Cycle (sec): 80 Critical Vol./Cap.(X): 0.462
Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 16.8
Optimal Cycle: 38 Level Of Service: B

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Volume Module:

Table with 13 columns representing different traffic movements. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and FinalVolume.

Saturation Flow Module:

Table with 13 columns. Rows include Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module:

Table with 13 columns. Rows include Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, LOS by Move, and HCM2kAvgQ.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #14 Fremont / Bridge (SR 20)

Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module:

Table with 12 columns representing traffic volumes and adjustments for Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Critical Gap Module:

Table with 12 columns for Critical Gap and FollowUpTim values.

Capacity Module:

Table with 12 columns for Capacity metrics: Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module:

Table with 12 columns for Level of Service metrics: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #99 SR 20 / FARINON

Average Delay (sec/veh): 0.2 Worst Case Level Of Service: C [22.8]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module:

Table with 12 columns representing different traffic volumes and adjustments. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, commercial, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and FinalVolume.

Critical Gap Module:

Table with 12 columns for critical gap and follow-up time. Rows include Critical Gp and FollowUpTim.

Capacity Module:

Table with 12 columns for capacity and volume. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level of Service Module:

Table with 12 columns for level of service. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #142 Wescott / Farinon

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[0.0]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 12 columns for volume components (Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume) and 4 columns for North, South, East, West.

Critical Gap Module: Table with 12 columns for gap components (Critical Gp, FollowUpTim) and 4 columns for North, South, East, West.

Capacity Module: Table with 12 columns for capacity components (Cnflict Vol, Potent Cap., Move Cap., Volume/Cap) and 4 columns for North, South, East, West.

Level Of Service Module: Table with 12 columns for LOS components (2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS) and 4 columns for North, South, East, West.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Scenario Report

Scenario: EPAP No CIP PM

Command: Default Command
Volume: existing pm
Geometry: existing
Impact Fee: Default Impact Fee
Trip Generation: cip pm
Trip Distribution: cip
Paths: NO CIP
Routes: Default Route
Configuration: Default Configuration

EXISTING CONDITIONS PLUS PENDING
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Trip Generation Report

Forecast for CIP PM

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
5	Tenant Estat	101.00	SF RES	0.65	0.36	66	36	102	3.9
	Zone 5 Subtotal					66	36	102	3.9
6	Riverbend Es	331.00	SF RES	0.65	0.36	215	119	334	12.7
6	Riverbend Es	56.00	MF RES	0.40	0.22	22	12	34	1.3
	Zone 6 Subtotal					237	131	368	14.0
7	Halsey	293.00	SF RES	0.65	0.36	190	105	295	11.2
	Zone 7 Subtotal					190	105	295	11.2
16		347.00	SF res	0.65	0.36	226	125	351	13.3
16		46.00	MF res	0.40	0.22	18	10	28	1.1
	Zone 16 Subtotal					244	135	379	14.4
17	EASTSIDE 1	1479.00	SF RES	0.65	0.36	961	532	1493	56.6
	Zone 17 Subtotal					961	532	1493	56.6
TOTAL						1698	939	2637	100.0

 EXISTING CONDITIONS PLUS PENDING
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Trip Distribution Report

Percent Of Trips cip

Zone	To Gates						
	3	4	5	7	10	16	29
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	25.0	25.0	0.0	1.0	15.0	15.0	19.0
6	0.0	25.0	20.0	1.0	20.0	15.0	19.0
7	0.0	25.0	20.0	1.0	20.0	15.0	19.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	25.0	20.0	1.0	20.0	15.0	19.0
17	0.0	25.0	20.0	1.0	20.0	15.0	19.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	0.0	0.0	0.0	0.0	0.0	0.0	0.0

 EXISTING CONDITIONS PLUS PENDING
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Turning Movement Report
 CIP PM

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 SR 20 / Sunrise													
Base	0	372	0	0	350	13	52	0	10	0	0	0	797
Added	0	425	0	0	235	0	0	0	0	0	0	0	660
Total	0	797	0	0	585	13	52	0	10	0	0	0	1457
#2 Wescott Rd / Bridge St (SR 20) / Tuttle Ln													
Base	6	435	0	0	496	276	118	0	7	0	0	0	1338
Added	0	86	0	0	48	18	11	0	0	0	0	0	163
Total	6	521	0	0	544	294	129	0	7	0	0	0	1501
#3 Sioc St / Bridge St (SR 20)													
Base	82	404	68	35	552	17	31	51	116	109	41	59	1565
Added	0	97	0	0	65	40	73	0	0	0	0	0	275
Total	82	501	68	35	617	57	104	51	116	109	41	59	1840
#4 Market St / Bridge St (SR 20)													
Base	301	86	0	0	67	45	31	0	362	0	0	0	892
Added	20	9	18	50	17	0	0	284	37	10	157	28	630
Total	321	95	18	50	84	45	31	284	399	10	157	28	1522
#6 Market St (SR 20) / 5th St													
Base	48	15	33	59	22	29	14	378	43	20	344	24	1029
Added	11	0	0	0	0	0	0	116	19	0	64	0	210
Total	59	15	33	59	22	29	14	494	62	20	408	24	1239
#8 Market St / 13th St													
Base	11	292	0	0	320	16	22	0	22	0	0	0	683
Added	8	0	0	0	0	0	0	0	14	0	0	0	22
Total	19	292	0	0	320	16	22	0	36	0	0	0	705
#9 Main St / 13th St / Lurline St.													
Base	53	261	0	0	272	17	21	0	63	0	0	0	687
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	53	261	0	0	272	17	21	0	63	0	0	0	687
#10 Fremont St / 10th St (SR 20)													
Base	29	189	76	85	162	5	4	20	18	69	33	75	765
Added	0	0	0	0	0	13	24	524	0	0	290	0	851
Total	29	189	76	85	162	18	28	544	18	69	323	75	1616
#11 Will S. Green / SR 20													
Base	9	0	22	0	0	0	0	286	10	25	235	0	587
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	9	0	22	0	0	0	0	286	10	25	235	0	587

 EXISTING CONDITIONS PLUS PENDING
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#12													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#13 SR 20 / railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#14 Fremont / Bridge (SR 20)													
Base	103	394	0	1	532	29	14	1	128	2	2	5	1211
Added	125	95	73	73	89	0	0	364	226	40	202	40	1327
Total	228	489	73	74	621	29	14	365	354	42	204	45	2538
#15 Market St / 10th St (SR 20)													
Base	87	18	138	12	9	10	7	246	124	87	240	9	987
Added	0	0	40	0	0	0	0	14	0	22	8	0	84
Total	87	18	178	12	9	10	7	260	124	109	248	9	1071
#19													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	8	14	52	0	0	29	0	103
Total	0	0	0	0	0	8	14	52	0	0	29	0	103
#25 Fremont / 3rd													
Base	63	25	8	6	21	8	12	177	59	5	165	8	557
Added	12	5	0	0	10	40	73	590	22	0	327	0	1079
Total	75	30	8	6	31	48	85	767	81	5	492	8	1636
#28 Main St / 8th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#30 Main St / 3rd St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	113	0	50	205	0	0	0	0	0	0	28	396
Total	0	113	0	50	205	0	0	0	0	0	0	28	396
#32 Sioc / 3rd													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	18	0	0	32	0	0	73	0	0	40	0	163
Total	0	18	0	0	32	0	0	73	0	0	40	0	163
#33 Sioc / 5th													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	73	0	0	0	0	0	0	0	40	113
Total	0	0	0	73	0	0	0	0	0	0	0	40	113

 EXISTING CONDITIONS PLUS PENDING
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#34 Sioc / 8th													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#35 (SR 20) 10th / Sioc													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#43													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	221	0	0	0	326	0	0	181	122	850
Total	0	0	0	221	0	0	0	326	0	0	181	122	850
#45 Railroad / Wil S Green													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#48 Wil S Green / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#50													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#52 Clay St . 8th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	45	0	0	25	20	36	0	0	0	0	0	126
Total	0	45	0	0	25	20	36	0	0	0	0	0	126
#54 Ckay St / 3rd St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	5	73	14	10	13	24	38	0	40	21	8	246
Total	0	5	73	14	10	13	24	38	0	40	21	8	246
#55 Bridge / Clay													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	40	47	48	0	63	0	0	52	73	26	29	0	378
Total	40	47	48	0	63	0	0	52	73	26	29	0	378
#60 East collector													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	314	101	0	0	156	53	97	0	567	0	0	0	1288
Total	314	101	0	0	156	53	97	0	567	0	0	0	1288

 EXISTING CONDITIONS PLUS PENDING
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#63 sr 20 / local													
Base	0	424	0	0	363	0	0	0	0	0	0	0	787
Added	0	425	0	0	235	0	0	0	0	0	0	0	660
Total	0	849	0	0	598	0	0	0	0	0	0	0	1447
#64 SR 20 / Moon Bend													
Base	0	441	0	0	504	0	0	0	0	0	0	0	945
Added	0	164	261	10	90	0	0	0	0	144	0	5	674
Total	0	605	261	10	594	0	0	0	0	144	0	5	1619
#71 3rd / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	18	0	0	32	0	0	0	0	0	0	0	50
Total	0	18	0	0	32	0	0	0	0	0	0	0	50
#72 5th / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#76 8th / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#78 8th / N Brookins													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#80 8th St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#81 3rd St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	32	0	0	0	0	0	0	0	18	50
Total	0	0	0	32	0	0	0	0	0	0	0	18	50
#82 5th St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#83 Wescott / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	17	2	0	0	1	17	9	0	9	0	0	0	55
Total	17	2	0	0	1	17	9	0	9	0	0	0	55

 EXISTING CONDITIONS PLUS PENDING
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#84 8th / Railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#95 3rd St / Railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#99 SR 20 / FARINON													
Base	2	328	0	0	372	6	9	0	3	0	0	0	720
Added	0	425	0	0	235	0	0	0	0	0	0	0	660
Total	2	753	0	0	607	6	9	0	3	0	0	0	1380
#138 sr 20 / Wilson													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#142 Wescott / Farinon													
Base	0	67	0	0	101	0	0	0	0	0	0	0	168
Added	0	12	0	0	7	0	0	0	0	0	0	0	19
Total	0	79	0	0	108	0	0	0	0	0	0	0	187
#147 SR 20 / CIP MF Access													
Base	0	424	0	0	363	0	0	0	0	0	0	0	787
Added	0	425	0	0	235	0	0	0	0	0	0	0	660
Total	0	849	0	0	598	0	0	0	0	0	0	0	1447
#148													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

 EXISTING CONDITIONS PLUS PENDING
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Impact Analysis Report
 Level Of Service

Intersection		Base		Future		Change in
		Del/ LOS	V/ Veh C	Del/ LOS	V/ Veh C	
# 1 SR 20 / Sunrise	C	17.0	0.000	F 59.2	0.000	+42.179 D/V
# 2 Wescott Rd / Bridge St (SR 20)	E	39.3	0.000	F 72.0	0.000	+32.716 D/V
# 3 Sioc St / Bridge St (SR 20)	C	25.5	0.739	C 28.2	0.821	+ 2.673 D/V
# 14 Fremont / Bridge (SR 20)	D	27.3	0.000	F OVRFL	0.000	+ 1.8E+0308
# 99 SR 20 / FARINON	B	14.7	0.000	D 33.0	0.000	+18.239 D/V
#142 Wescott / Farinon	A	0.0	0.000	A 0.0	0.000	+ 0.000 D/V

 EXISTING CONDITIONS PLUS PENDING
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 1 SR 20 / Sunrise	??? / ???	No / No
# 2 Wescott Rd / Bridge St (SR 20)/ Tut	??? / ???	No / No
# 14 Fremont / Bridge (SR 20)	??? / ???	Yes / Yes
# 99 SR 20 / FARINON	??? / ???	No / No
#142 Wescott / Farinon	??? / ???	No / No

EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Delay Signal Warrant Report

Intersection #1 SR 20 / Sunrise

Future Volume Alternative: Peak Hour Warrant NOT Met

Table with 5 columns: Approach, Movement, Control, Lanes, Initial Vol, ApproachDel. Rows include North Bound, South Bound, East Bound, West Bound with L, T, R movements.

Approach[eastbound][lanes=2][control=Stop Sign]

Signal Warrant Rule #1: {vehicle-hours=1.0}

FAIL - Vehicle-hours less than 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=62]

FAIL - Approach volume less than 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=3]{total volume=1457}

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future.

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction.

EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #1 SR 20 / Sunrise

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	T	R	L	L	T	R	L	L	T	R	L	L	T	R	L
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Lanes:	1	0	1	0	1	0	1	0	1	0	0	1	0	1	0	0
Initial Vol:	0	797	0	0	585	13	52	0	10	0	0	0	0	0	0	0
Major Street Volume:					1395											
Minor Approach Volume:					62											
Minor Approach Volume Threshold:	231															

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Delay Signal Warrant Report

Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Future Volume Alternative: Peak Hour Warrant NOT Met

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Lanes, Initial Vol, and ApproachDel.

Approach[eastbound][lanes=2][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=2.7]

FAIL - Vehicle-hours less than 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=136]

FAIL - Approach volume less than 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=1501]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future.

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction.

EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	T	R		L	T	R		L	T	R		L	T	R	
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Lanes:	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0
Initial Vol:	6	521		0	0	544		294	129	0		7	0	0		0
Major Street Volume:													1365			
Minor Approach Volume:													136			
Minor Approach Volume Threshold:	240															

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Delay Signal Warrant Report

Intersection #14 Fremont / Bridge (SR 20)

Future Volume Alternative: Peak Hour Warrant Met

Table with 5 columns: Approach, Movement, Control, Lanes, Initial Vol, ApproachDel. Rows include North Bound, South Bound, East Bound, West Bound with L, T, R movements.

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=733]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2538]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=291]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2538]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #14 Fremont / Bridge (SR 20)

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound			East Bound			West Bound									
Movement:	L	T	R		L	T	R	L	T	R	L	T	R							
Control:	Uncontrolled				Uncontrolled			Stop Sign			Stop Sign									
Lanes:	1	0	0	1	0	1	0	0	1	0	0	0	1	0	0	0	0	1	0	0
Initial Vol:	228	489		73		74	621		29		14	365		354		42	204		45	
Major Street Volume:														1514						
Minor Approach Volume:														733						
Minor Approach Volume Threshold:														142						

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Delay Signal Warrant Report

Intersection #99 SR 20 / FARINON

Future Volume Alternative: Peak Hour Warrant NOT Met

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Lanes, Initial Vol, and ApproachDel.

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=0.1]
FAIL - Vehicle-hours less than 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=12]
FAIL - Approach volume less than 100 for one lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1380]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #99 SR 20 / FARINON

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	T	R		L	T	R		L	T	R		L	T	R					
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	1	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
Initial Vol:	2	753		0	0	0	607		6	9	0		3		0	0		0	0	
Major Street Volume:					1368															
Minor Approach Volume:					12															
Minor Approach Volume Threshold:	177																			

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Delay Signal Warrant Report

Intersection #142 Wescott / Farinon

Future Volume Alternative: Peak Hour Warrant NOT Met

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Lanes, Initial Vol, and ApproachDel.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future.

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction.

EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #142 Wescott / Farinon

Future Volume Alternative: Peak Hour Warrant NOT Met

Table with 5 columns: Approach, Movement, Control, Lanes, Initial Vol. and 4 rows of data for North, South, East, and West Bound approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future.

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction.

EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 SR 20 / Sunrise

Average Delay (sec/veh): 2.5 Worst Case Level Of Service: F[59.2]

Table with 4 columns: Approach (North Bound, South Bound, East Bound, West Bound) and 3 rows: Movement, Control, Rights, Lanes.

Volume Module: PM Peak Hour

Table with 12 columns for volume components (Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume) and 4 columns for approaches.

Critical Gap Module:

Table with 12 columns for critical gap and follow-up time components and 4 columns for approaches.

Capacity Module:

Table with 12 columns for capacity components (Conflict Vol, Potent Cap., Move Cap., Volume/Cap) and 4 columns for approaches.

Level Of Service Module:

Table with 12 columns for level of service components (2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS) and 4 columns for approaches.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln
Average Delay (sec/veh): 6.6 Worst Case Level Of Service: F[72.0]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Table with 12 columns representing traffic volumes. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and FinalVolume.

Table for Critical Gap Module with 12 columns. Rows include Critical Gp and FollowUpTim.

Table for Capacity Module with 12 columns. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Table for Level Of Service Module with 12 columns. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Sioc St / Bridge St (SR 20)

Cycle (sec): 80 Critical Vol./Cap.(X): 0.821
Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 28.2
Optimal Cycle: 75 Level Of Service: C

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Volume Module: PM Peak Hour. Table with 13 columns for different traffic movements and 13 rows for various volume and adjustment factors.

Saturation Flow Module. Table with 13 columns for different traffic movements and 4 rows for saturation flow, adjustment, lanes, and final saturation.

Capacity Analysis Module. Table with 13 columns for different traffic movements and 10 rows for capacity analysis metrics.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #99 SR 20 / FARINON

Average Delay (sec/veh): 0.3 Worst Case Level Of Service: D[33.0]

Table with 4 columns: Approach (North Bound, South Bound, East Bound, West Bound), Movement (L, T, R), Control (Uncontrolled, Stop Sign), Rights (Include), and Lanes (1, 0, 1, 0, 0).

Volume Module:

Table with 13 columns for various volume metrics: Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume.

Critical Gap Module:

Table with 13 columns for critical gap metrics: Critical Gp, FollowUpTim.

Capacity Module:

Table with 13 columns for capacity metrics: Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Level of Service Module:

Table with 13 columns for level of service metrics: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS PLUS PENDING
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #142 Wescott / Farinon

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: A[0.0]

Table with 4 columns: Approach (North Bound, South Bound, East Bound, West Bound) and 3 rows: Movement, Control, Rights, Lanes.

Volume Module:

Table with 12 columns for volume metrics (Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume) and 12 rows for different movement directions.

Critical Gap Module:

Table with 12 columns for critical gap metrics (Critical Gp, FollowUpTim) and 12 rows for different movement directions.

Capacity Module:

Table with 12 columns for capacity metrics (Cnflct Vol, Potent Cap., Move Cap., Volume/Cap) and 12 rows for different movement directions.

Level Of Service Module:

Table with 12 columns for level of service metrics (2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS) and 12 rows for different movement directions.

Note: Queue reported is the number of cars per lane.

Appendix D: Existing Conditions Plus Pending Projects Plus Project Results

EXISTING CONDITIONS PLUS PENDING plus Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Scenario Report

Scenario: cip am

Command: Default Command
Volume: ex am
Geometry: existing
Impact Fee: Default Impact Fee
Trip Generation: cip am
Trip Distribution: cip
Paths: cip
Routes: Default Route
Configuration: Default Configuration

 EXISTING CONDITIONS PLUS PENDING plus Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Trip Generation Report

Forecast for CIP AM

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
5	Tenant Estat	101.00	SF RES	0.19	0.56	19	57	76	3.1
	Zone 5 Subtotal					19	57	76	3.1
6	Riverbend Es	331.00	SF RES	0.19	0.56	63	185	248	10.0
6	Riverbend Es	56.00	MF RES	0.10	0.41	6	23	29	1.2
	Zone 6 Subtotal					69	208	277	11.2
7	Halsey	293.00	SF RES	0.19	0.56	56	164	220	8.9
	Zone 7 Subtotal					56	164	220	8.9
8	CIP rezone	12.00	gas	3.50	3.50	42	42	84	3.4
8	CIP rezone	10.00	restaurant	7.50	6.90	75	69	144	5.8
8	CIP rezone	75.00	motel	0.23	0.41	17	31	48	1.9
8	CIP rezone	25.00	office - servi	1.48	0.56	37	14	51	2.1
	Zone 8 Subtotal					171	156	327	13.2
16		347.00	SF res	0.19	0.56	66	194	260	10.5
16		46.00	MF res	0.11	0.40	5	18	23	0.9
	Zone 16 Subtotal					71	212	283	11.5
17	EASTSIDE 1	1479.00	SF RES	0.19	0.56	281	828	1109	44.9
	Zone 17 Subtotal					281	828	1109	44.9
36	CIP res	140.00	sf res	0.19	0.56	27	78	105	4.2
	Zone 36 Subtotal					27	78	105	4.2
37	CIP HDR	146.00	HDR	0.11	0.40	16	58	74	3.0
	Zone 37 Subtotal					16	58	74	3.0
TOTAL						710	1761	2471	100.0

 EXISTING CONDITIONS PLUS PENDING plus Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Trip Distribution Report

Percent Of Trips cip

Zone	To Gates						
	3	4	5	7	10	16	29
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	25.0	25.0	0.0	1.0	15.0	15.0	19.0
6	0.0	25.0	20.0	1.0	20.0	15.0	19.0
7	0.0	25.0	20.0	1.0	20.0	15.0	19.0
8	15.0	20.0	0.0	1.0	30.0	10.0	24.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	25.0	20.0	1.0	20.0	15.0	19.0
17	0.0	25.0	20.0	1.0	20.0	15.0	19.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36	25.0	20.0	0.0	1.0	20.0	15.0	19.0
37	25.0	20.0	0.0	1.0	20.0	15.0	19.0
38	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	0.0	0.0	0.0	0.0	0.0	0.0	0.0

 EXISTING CONDITIONS PLUS PENDING plus Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Turning Movement Report
 CIP AM

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 SR 20 / Sunrise													
Base	5	294	0	0	218	39	13	0	2	0	0	0	571
Added	14	182	0	0	419	81	74	0	12	0	0	0	782
commer	21	31	0	0	-47	47	31	0	31	0	0	0	114
Total	40	507	0	0	590	167	118	0	45	0	0	0	1467
#2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln													
Base	6	356	0	0	238	85	161	0	7	0	0	0	853
Added	0	222	0	0	276	21	46	0	0	0	0	0	565
Total	6	578	0	0	514	106	207	0	7	0	0	0	1418
#3 Sioc St / Bridge St (SR 20)													
Base	73	384	59	15	223	8	25	25	67	40	17	33	969
Added	81	188	0	0	232	63	21	0	64	0	0	0	649
Total	154	572	59	15	455	71	46	25	131	40	17	33	1618
#4 Market St / Bridge St (SR 20)													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	32	72	6	15	41	0	0	83	11	18	247	44	569
Total	32	72	6	15	41	0	0	83	11	18	247	44	569
#6 Market St (SR 20)/ 5th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	16	0	0	0	0	0	0	34	6	0	102	0	158
Total	16	0	0	0	0	0	0	34	6	0	102	0	158
#8 Market St / 13th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	12	0	0	0	0	0	0	0	4	0	0	0	16
Total	12	0	0	0	0	0	0	0	4	0	0	0	16
#9 Main St / 13th St / Lurline St.													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#10 Fremont St / 10th St (SR 20)													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	19	0	0	0	0	21	7	217	10	0	550	0	824
Total	19	0	0	0	0	21	7	217	10	0	550	0	824
#11 Will S. Green / SR 20													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

 EXISTING CONDITIONS PLUS PENDING plus Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#12													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#13 SR 20 / railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#14 Fremont / Bridge (SR 20)													
Base	93	343	6	1	184	22	25	0	64	2	2	1	743
Added	309	123	21	21	110	0	0	106	138	63	314	63	1268
Total	402	466	27	22	294	22	25	106	202	65	316	64	2011
#15 Market St / 10th St (SR 20)													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	12	0	0	0	0	4	0	35	12	0	63
Total	0	0	12	0	0	0	0	4	0	35	12	0	63
#19													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	12	4	15	0	0	46	0	77
Total	0	0	0	0	0	12	4	15	0	0	46	0	77
#25 Fremont / 3rd													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	27	29	0	11	16	63	21	233	9	0	608	15	1032
Total	27	29	0	11	16	63	21	233	9	0	608	15	1032
#28 Main St / 8th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#30 Main St / 3rd St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	213	0	15	83	0	0	0	0	0	0	44	355
Total	0	213	0	15	83	0	0	0	0	0	0	44	355
#32 Sioc / 3rd													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	11	39	0	12	13	0	0	74	7	0	126	17	299
Total	11	39	0	12	13	0	0	74	7	0	126	17	299
#33 Sioc / 5th													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	21	0	0	0	60	0	0	74	63	218
Total	0	0	0	21	0	0	0	60	0	0	74	63	218

 EXISTING CONDITIONS PLUS PENDING plus Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#34 Sioc / 8th													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	50	0	0	0	10	0	0	19	55	134
Total	0	0	0	50	0	0	0	10	0	0	19	55	134
#35 (SR 20) 10th / Sioc													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	10	0	0	0	0	0	0	0	19	29
Total	0	0	0	10	0	0	0	0	0	0	0	19	29
#43													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	139	0	0	0	95	0	0	282	307	823
Total	0	0	0	139	0	0	0	95	0	0	282	307	823
#45 Railroad / Wil S Green													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#48 Wil S Green / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#50													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#52 Clay St . 8th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	13	0	0	40	31	10	0	0	0	0	0	94
Total	0	13	0	0	40	31	10	0	0	0	0	0	94
#54 Ckay St / 3rd St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	45	21	4	26	21	7	11	0	63	33	12	243
Total	0	45	21	4	26	21	7	11	0	63	33	12	243
#55 Bridge / Clay													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	63	109	14	0	69	0	0	15	21	41	45	0	377
Total	63	109	14	0	69	0	0	15	21	41	45	0	377
#60 East collector													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	489	130	0	0	60	84	28	0	166	0	0	0	957
Total	489	130	0	0	60	84	28	0	166	0	0	0	957

 EXISTING CONDITIONS PLUS PENDING plus Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#63 sr 20 / local													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	299	0	0	501	0	0	0	0	0	0	0	800
Total	0	299	0	0	501	0	0	0	0	0	0	0	800
#64 SR 20 / Moon Bend													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	222	76	3	276	0	0	0	0	225	0	8	810
Total	0	222	76	3	276	0	0	0	0	225	0	8	810
#71 3rd / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	46	0	0	19	0	0	0	0	0	0	0	65
Total	0	46	0	0	19	0	0	0	0	0	0	0	65
#72 5th / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#76 8th / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#78 8th / N Brookins													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#80 8th St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#81 3rd St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	19	0	0	0	0	0	0	0	46	65
Total	0	0	0	19	0	0	0	0	0	0	0	46	65
#82 5th St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#83 Wescott / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	23	35	0	0	17	5	14	0	25	0	0	0	119
Total	23	35	0	0	17	5	14	0	25	0	0	0	119

 EXISTING CONDITIONS PLUS PENDING plus Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#84 8th / Railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#95 3rd St / Railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#99 SR 20 / FARINON													
Base	1	290	0	0	215	5	9	0	0	0	0	0	520
Added	31	136	0	0	377	55	60	0	49	0	0	0	708
commer	31	-31	0	0	-47	31	21	0	47	0	0	0	52
Total	63	395	0	0	545	91	90	0	96	0	0	0	1280
#138 sr 20 / Wilson													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#142 Wescott / Farinon													
Base	0	79	0	0	32	0	0	0	0	0	0	0	111
Added	0	5	2	35	15	0	0	0	0	3	0	56	116
Total	0	84	2	35	47	0	0	0	0	3	0	56	227
#147 SR 20 / CIP MF Access													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	3	253	0	0	488	13	46	0	12	0	0	0	815
Total	3	253	0	0	488	13	46	0	12	0	0	0	815
#148													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

 EXISTING CONDITIONS PLUS PENDING plus Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Impact Analysis Report
 Level Of Service

Intersection		Base		Future		Change in
		Del/ LOS Veh	V/ C	Del/ LOS Veh	V/ C	
# 1 SR 20 / Sunrise	B	12.7	0.000	F 82.0	0.000	+69.280 D/V
# 2 Wescott Rd / Bridge St (SR 20)	C	21.3	0.000	F 233.1	0.000	+211.764 D/V
# 3 Sioc St / Bridge St (SR 20)	B	17.7	0.415	C 21.5	0.692	+ 3.806 D/V
# 14 Fremont / Bridge (SR 20)	C	18.2	0.000	F OVREFL	0.000	+ 1.8E+0308
# 99 SR 20 / FARINON	B	12.9	0.000	D 32.0	0.000	+19.149 D/V
#142 Wescott / Farinon	A	0.0	0.000	A 9.1	0.000	+ 9.086 D/V

 EXISTING CONDITIONS PLUS PENDING plus Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Signal Warrant Summary Report

Intersection	Base Met	Future Met
	[Del / Vol]	[Del / Vol]
# 1 SR 20 / Sunrise	??? / ???	No / No
# 2 Wescott Rd / Bridge St (SR 20)/ Tut	??? / ???	Yes / No
# 14 Fremont / Bridge (SR 20)	??? / ???	Yes / Yes
# 99 SR 20 / FARINON	??? / ???	No / No
#142 Wescott / Farinon	??? / ???	No / No

 EXISTING CONDITIONS PLUS PENDING plus Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Delay Signal Warrant Report

Intersection #1 SR 20 / Sunrise

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1	0	1	0	1	0	1	0	0	1	0	0
Initial Vol:	40	507	0	0	590	167	118	0	45	0	0	0
ApproachDel:	xxxxxx			xxxxxx			82.0			xxxxxx		

Approach[eastbound][lanes=2][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=3.7]

FAIL - Vehicle-hours less than 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=163]

SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=1467]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

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The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

 EXISTING CONDITIONS PLUS PENDING plus Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #1 SR 20 / Sunrise

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1	0	1	0	1	0	1	0	0	1	0	0
Initial Vol:	40	507	0	0	590	167	118	0	45	0	0	0
Major Street Volume:	1304											
Minor Approach Volume:	163											
Minor Approach Volume Threshold:	260											

SIGNAL WARRANT DISCLAIMER

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EXISTING CONDITIONS PLUS PENDING plus Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Delay Signal Warrant Report

Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Future Volume Alternative: Peak Hour Warrant Met

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Lanes, Initial Vol, and ApproachDel.

Approach[eastbound][lanes=2][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=13.9]

SUCCEED - Vehicle-hours >= 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=214]

SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=1418]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

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 EXISTING CONDITIONS PLUS PENDING plus Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

 Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound						
Movement:	L	T	R		L	T	R		L	T	R		L	T	R				
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign						
Lanes:	0	1	0	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0
Initial Vol:	6	578		0	0	514		106	207		0		7	0		0		0	
Major Street Volume:	1204																		
Minor Approach Volume:	214																		
Minor Approach Volume Threshold:	294																		

 SIGNAL WARRANT DISCLAIMER

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EXISTING CONDITIONS PLUS PENDING plus Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Delay Signal Warrant Report

Intersection #14 Fremont / Bridge (SR 20)

Future Volume Alternative: Peak Hour Warrant Met

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Lanes, Initial Vol, and ApproachDel.

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=333]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2011]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=445]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2011]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

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 EXISTING CONDITIONS PLUS PENDING plus Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #14 Fremont / Bridge (SR 20)

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	T	R		L	T	R		L	T	R		L	T	R					
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	1	0	0	1	0	1	0	0	1	0	0	0	1	0	0	0	0	1	0	0
Initial Vol:	402	466		27		22	294		22		25	106		202		65	316		64	
Major Street Volume:									1233											
Minor Approach Volume:									445											
Minor Approach Volume Threshold:									213											

SIGNAL WARRANT DISCLAIMER

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 EXISTING CONDITIONS PLUS PENDING plus Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Delay Signal Warrant Report

Intersection #99 SR 20 / FARINON

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1	0	1	0	0	1	1	0	0	0	0	0
Initial Vol:	63	395	0	0	545	91	90	0	96	0	0	0
ApproachDel:	xxxxxx			xxxxxx			32.0			xxxxxx		

Approach[eastbound][lanes=2][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=1.7]

FAIL - Vehicle-hours less than 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=186]

SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=1280]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

 EXISTING CONDITIONS PLUS PENDING plus Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #99 SR 20 / FARINON

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1	0	1	0	0	1	1	0	0	0	0	0
Initial Vol:	63	395	0	0	545	91	90	0	96	0	0	0
Major Street Volume:	1094											
Minor Approach Volume:	186											
Minor Approach Volume Threshold:	335											

 SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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EXISTING CONDITIONS PLUS PENDING plus Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Delay Signal Warrant Report

Intersection #142 Wescott / Farinon

Future Volume Alternative: Peak Hour Warrant NOT Met

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Lanes, Initial Vol, and ApproachDel.

Approach[westbound][lanes=2][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=59]

FAIL - Approach volume less than 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=227]

FAIL - Total volume less than 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future.

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction.

 EXISTING CONDITIONS PLUS PENDING plus Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #142 Wescott / Farinon

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	0	0	0	1	0	1	0	1	0	0	0	0	1	0	0	1	0	0	0	1
Initial Vol:	0	84		2		35	47		0		0	0		0		3	0		56	

Major Street Volume: 168
 Minor Approach Volume: 59
 Minor Approach Volume Threshold: 1141

SIGNAL WARRANT DISCLAIMER

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EXISTING CONDITIONS PLUS PENDING plus Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 SR 20 / Sunrise

Average Delay (sec/veh): 9.4 Worst Case Level Of Service: F[82.0]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module:

Table with 12 columns representing different traffic movements and 10 rows of volume data including Base Vol, Growth Adj, Initial Bse, Added Vol, commercial, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Critical Gap Module:

Table with 12 columns and 2 rows: Critical Gp and FollowUpTim.

Capacity Module:

Table with 12 columns and 4 rows: Chnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module:

Table with 12 columns and 10 rows: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS PLUS PENDING plus Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Average Delay (sec/veh): 35.2 Worst Case Level Of Service: F[233.1]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module:

Table with 12 columns for volume metrics: Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Critical Gap Module:

Table with 12 columns for critical gap metrics: Critical Gp, FollowUpTim.

Capacity Module:

Table with 12 columns for capacity metrics: Cnflict Vol, Potent Cap., Move Cap., Volume/Cap.

Level Of Service Module:

Table with 12 columns for level of service metrics: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS PLUS PENDING plus Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Sioc St / Bridge St (SR 20)

Cycle (sec): 80 Critical Vol./Cap.(X): 0.692
Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 21.5
Optimal Cycle: 55 Level Of Service: C

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Volume Module:

Table with 13 columns representing different traffic movements and 12 rows of volume-related metrics like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module:

Table with 13 columns and 5 rows showing saturation flow metrics like Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module:

Table with 13 columns and 10 rows showing capacity analysis metrics like Vol/Sat, Crit Moves, Green/Cycle, etc.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS PLUS PENDING plus Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #14 Fremont / Bridge (SR 20)

Average Delay (sec/veh): OVERFLOW Worst Case Level of Service: F[xxxxx]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 13 columns for traffic volume metrics like Base Vol, Growth Adj, Initial Bse, etc.

Critical Gap Module: Table with 13 columns for gap metrics like Critical Gp, FollowUpTim.

Capacity Module: Table with 13 columns for capacity metrics like Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Level of Service Module: Table with 13 columns for LOS metrics like 2Way95thQ, Control Del, LOS by Move, etc.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS PLUS PENDING plus Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #99 SR 20 / FARINON

Average Delay (sec/veh): 5.1 Worst Case Level Of Service: D[32.0]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 12 columns for volume components. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, commercial, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and FinalVolume.

Critical Gap Module: Table with 12 columns for gap components. Rows include Critical Gp and FollowUpTim.

Capacity Module: Table with 12 columns for capacity components. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module: Table with 12 columns for LOS components. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS PLUS PENDING plus Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #142 Wescott / Farinon

Average Delay (sec/veh): 3.5 Worst Case Level of Service: A[9.1]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module:

Table with 13 columns representing traffic volumes and adjustments. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and FinalVolume.

Critical Gap Module:

Table with 13 columns for critical gap and follow-up time. Rows include Critical Gp and FollowUpTim.

Capacity Module:

Table with 13 columns for capacity and volume. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level of Service Module:

Table with 13 columns for level of service and delay. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS PLUS PENDING plus Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Scenario Report

Scenario: cip pm
Command: Default Command
Volume: existing pm
Geometry: existing
Impact Fee: Default Impact Fee
Trip Generation: cip pm
Trip Distribution: cip
Paths: cip
Routes: Default Route
Configuration: Default Configuration

EXISTING CONDITIONS PLUS PENDING plus Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Trip Generation Report

Forecast for CIP PM

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
5	Tenant Estat	101.00	SF RES	0.65	0.36	66	36	102	3.2
	Zone 5 Subtotal					66	36	102	3.2
6	Riverbend Es	331.00	SF RES	0.65	0.36	215	119	334	10.5
6	Riverbend Es	56.00	MF RES	0.40	0.22	22	12	34	1.1
	Zone 6 Subtotal					237	131	368	11.6
7	Halsey	293.00	SF RES	0.65	0.36	190	105	295	9.3
	Zone 7 Subtotal					190	105	295	9.3
8	CIP rezone	12.00	gas	4.25	4.33	51	52	103	3.3
8	CIP rezone	10.00	restaurant	5.70	4.60	57	46	103	3.3
8	CIP rezone	75.00	motel	0.31	0.27	23	20	43	1.4
8	CIP rezone	25.00	office - servi	0.64	1.36	16	34	50	1.6
	Zone 8 Subtotal					147	152	299	9.4
16		347.00	SF res	0.65	0.36	226	125	351	11.1
16		46.00	MF res	0.40	0.22	18	10	28	0.9
	Zone 16 Subtotal					244	135	379	12.0
17	EASTSIDE 1	1479.00	SF RES	0.65	0.36	961	532	1493	47.1
	Zone 17 Subtotal					961	532	1493	47.1
36	CIP res	140.00	sf res	0.65	0.36	91	50	141	4.5
	Zone 36 Subtotal					91	50	141	4.5
37	CIP HDR	146.00	HDR	0.40	0.22	58	32	90	2.8
	Zone 37 Subtotal					58	32	90	2.8
TOTAL						1994	1173	3167	100.0

 EXISTING CONDITIONS PLUS PENDING plus Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Trip Distribution Report

Percent Of Trips cip

Zone	To Gates						
	3	4	5	7	10	16	29
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	25.0	25.0	0.0	1.0	15.0	15.0	19.0
6	0.0	25.0	20.0	1.0	20.0	15.0	19.0
7	0.0	25.0	20.0	1.0	20.0	15.0	19.0
8	15.0	20.0	0.0	1.0	30.0	10.0	24.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	25.0	20.0	1.0	20.0	15.0	19.0
17	0.0	25.0	20.0	1.0	20.0	15.0	19.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36	25.0	20.0	0.0	1.0	20.0	15.0	19.0
37	25.0	20.0	0.0	1.0	20.0	15.0	19.0
38	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	0.0	0.0	0.0	0.0	0.0	0.0	0.0

 EXISTING CONDITIONS PLUS PENDING plus Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Turning Movement Report
 CIP PM

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 SR 20 / Sunrise													
Base	0	372	0	0	350	13	52	0	10	0	0	0	797
Added	12	473	0	0	292	70	72	0	12	0	0	0	931
PassBy	24	-34	0	0	-54	54	34	0	34	0	0	0	58
Total	36	811	0	0	588	137	158	0	56	0	0	0	1786
#2 Wescott Rd / Bridge St (SR 20) / Tuttle Ln													
Base	6	435	0	0	496	276	118	0	7	0	0	0	1338
Added	0	298	0	0	256	54	35	0	0	0	0	0	643
Total	6	733	0	0	752	330	153	0	7	0	0	0	1981
#3 Sioc St / Bridge St (SR 20)													
Base	82	404	68	35	552	17	31	51	116	109	41	59	1565
Added	67	265	0	0	231	40	73	0	80	0	0	0	756
Total	149	669	68	35	783	57	104	51	196	109	41	59	2321
#4 Market St / Bridge St (SR 20)													
Base	301	86	0	0	67	45	31	0	362	0	0	0	892
Added	20	52	20	50	76	0	0	284	37	11	157	28	735
Total	321	138	20	50	143	45	31	284	399	11	157	28	1627
#6 Market St (SR 20) / 5th St													
Base	48	15	33	59	22	29	14	378	43	20	344	24	1029
Added	11	0	0	0	0	0	0	116	19	0	64	0	210
Total	59	15	33	59	22	29	14	494	62	20	408	24	1239
#8 Market St / 13th St													
Base	11	292	0	0	320	16	22	0	22	0	0	0	683
Added	8	0	0	0	0	0	0	0	14	0	0	0	22
Total	19	292	0	0	320	16	22	0	36	0	0	0	705
#9 Main St / 13th St / Lurline St.													
Base	53	261	0	0	272	17	21	0	63	0	0	0	687
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	53	261	0	0	272	17	21	0	63	0	0	0	687
#10 Fremont St / 10th St (SR 20)													
Base	29	189	76	85	162	5	4	20	18	69	33	75	765
Added	14	0	0	0	0	13	24	626	21	0	365	0	1063
Total	43	189	76	85	162	18	28	646	39	69	398	75	1828
#11 Will S. Green / SR 20													
Base	9	0	22	0	0	0	0	286	10	25	235	0	587
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	9	0	22	0	0	0	0	286	10	25	235	0	587

 EXISTING CONDITIONS PLUS PENDING plus Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#12													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#13 SR 20 / railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#14 Fremont / Bridge (SR 20)													
Base	103	394	0	1	532	29	14	1	128	2	2	5	1211
Added	211	140	73	73	150	0	0	364	345	40	202	40	1638
Total	314	534	73	74	682	29	14	365	473	42	204	45	2849
#15 Market St / 10th St (SR 20)													
Base	87	18	138	12	9	10	7	246	124	87	240	9	987
Added	0	0	40	0	0	0	0	14	0	22	8	0	84
Total	87	18	178	12	9	10	7	260	124	109	248	9	1071
#19													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	8	14	52	0	0	29	0	103
Total	0	0	0	0	0	8	14	52	0	0	29	0	103
#25 Fremont / 3rd													
Base	63	25	8	6	21	8	12	177	59	5	165	8	557
Added	17	21	0	15	32	40	73	694	31	0	401	12	1336
Total	80	46	8	21	53	48	85	871	90	5	566	20	1893
#28 Main St / 8th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#30 Main St / 3rd St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	141	0	50	242	0	0	0	0	0	0	28	461
Total	0	141	0	50	242	0	0	0	0	0	0	28	461
#32 Sioc / 3rd													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	9	25	0	18	45	0	0	135	12	0	94	14	352
Total	9	25	0	18	45	0	0	135	12	0	94	14	352
#33 Sioc / 5th													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	73	0	0	0	74	0	0	62	40	249
Total	0	0	0	73	0	0	0	74	0	0	62	40	249

 EXISTING CONDITIONS PLUS PENDING plus Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#34 Sioc / 8th													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	53	0	0	0	21	0	0	14	48	136
Total	0	0	0	53	0	0	0	21	0	0	14	48	136
#35 (SR 20) 10th / Sioc													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	21	0	0	0	0	0	0	0	14	35
Total	0	0	0	21	0	0	0	0	0	0	0	14	35
#43													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	344	0	0	0	326	0	0	181	211	1062
Total	0	0	0	344	0	0	0	326	0	0	181	211	1062
#45 Railroad / Wil S Green													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#48 Wil S Green / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#50													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#52 Clay St . 8th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	45	0	0	25	20	36	0	0	0	0	0	126
Total	0	45	0	0	25	20	36	0	0	0	0	0	126
#54 Ckay St / 3rd St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	33	73	14	47	13	24	38	0	40	21	8	311
Total	0	33	73	14	47	13	24	38	0	40	21	8	311
#55 Bridge / Clay													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	40	93	48	0	124	0	0	52	73	26	29	0	485
Total	40	93	48	0	124	0	0	52	73	26	29	0	485
#60 East collector													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	314	101	0	0	156	53	97	0	567	0	0	0	1288
Total	314	101	0	0	156	53	97	0	567	0	0	0	1288

 EXISTING CONDITIONS PLUS PENDING plus Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#63 sr 20 / local													
Base	0	424	0	0	363	0	0	0	0	0	0	0	787
Added	0	559	0	0	401	0	0	0	0	0	0	0	960
Total	0	983	0	0	764	0	0	0	0	0	0	0	1747
#64 SR 20 / Moon Bend													
Base	0	441	0	0	504	0	0	0	0	0	0	0	945
Added	0	298	261	10	256	0	0	0	0	144	0	5	974
Total	0	739	261	10	760	0	0	0	0	144	0	5	1919
#71 3rd / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	31	0	0	53	0	0	0	0	0	0	0	84
Total	0	31	0	0	53	0	0	0	0	0	0	0	84
#72 5th / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#76 8th / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#78 8th / N Brookins													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#80 8th St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#81 3rd St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	53	0	0	0	0	0	0	0	31	84
Total	0	0	0	53	0	0	0	0	0	0	0	31	84
#82 5th St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#83 Wescott / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	30	28	0	0	42	17	9	0	30	0	0	0	156
Total	30	28	0	0	42	17	9	0	30	0	0	0	156

 EXISTING CONDITIONS PLUS PENDING plus Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#84 8th / Railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#95 3rd St / Railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#99 SR 20 / FARINON													
Base	2	328	0	0	372	6	9	0	3	0	0	0	720
Added	52	431	0	0	244	60	54	0	37	0	0	0	878
commer	36	-36	0	0	-50	36	22	0	50	0	0	0	58
Total	90	723	0	0	566	102	85	0	90	0	0	0	1656
#138 sr 20 / Wilson													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#142 Wescott / Farinon													
Base	0	67	0	0	101	0	0	0	0	0	0	0	168
Added	0	17	3	68	9	0	0	0	0	2	0	51	150
Total	0	84	3	68	110	0	0	0	0	2	0	51	318
#147 SR 20 / CIP MF Access													
Base	0	424	0	0	363	0	0	0	0	0	0	0	787
Added	12	533	0	0	355	46	25	0	7	0	0	0	978
Total	12	957	0	0	718	46	25	0	7	0	0	0	1765
#148													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

 EXISTING CONDITIONS PLUS PENDING plus Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Impact Analysis Report
 Level Of Service

Intersection		Base		Future		Change in
		Del/ LOS	V/ Veh	Del/ LOS	V/ Veh	
# 1 SR 20 / Sunrise	C	17.0	0.000	F 404.2	0.000	+387.248 D/V
# 2 Wescott Rd / Bridge St (SR 20)	E	39.3	0.000	F 504.2	0.000	+464.896 D/V
# 3 Sioc St / Bridge St (SR 20)	C	25.5	0.739	E 60.7	1.065	+35.114 D/V
# 14 Fremont / Bridge (SR 20)	D	27.3	0.000	F OVRFL	0.000	+ 1.8E+0308
# 99 SR 20 / FARINON	B	14.6	0.000	F 112.7	0.000	+98.138 D/V
#142 Wescott / Farinon	A	0.0	0.000	A 9.1	0.000	+ 9.097 D/V

EXISTING CONDITIONS PLUS PENDING plus Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 1 SR 20 / Sunrise	??? / ???	Yes / Yes
# 2 Wescott Rd / Bridge St (SR 20)/ Tut	??? / ???	Yes / Yes
# 14 Fremont / Bridge (SR 20)	??? / ???	Yes / Yes
# 99 SR 20 / FARINON	??? / ???	Yes / No
#142 Wescott / Farinon	??? / ???	No / No

EXISTING CONDITIONS PLUS PENDING plus Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Delay Signal Warrant Report

Intersection #1 SR 20 / Sunrise

Future Volume Alternative: Peak Hour Warrant Met

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Lanes, Initial Vol, and ApproachDel.

Approach[eastbound][lanes=2][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=24.0]

SUCCEED - Vehicle-hours >= 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=214]

SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=1786]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future.

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction.

 EXISTING CONDITIONS PLUS PENDING plus Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #1 SR 20 / Sunrise

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	T	R		L	T	R		L	T	R		L	T	R					
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	1	0	1	0	1	1	0	1	0	1	1	0	0	1	0	1	0	0	1	0
Initial Vol:	36	811		0		0	588	137			158	0		56		0	0		0	
Major Street Volume:					1572															
Minor Approach Volume:					214															
Minor Approach Volume Threshold:	180																			

SIGNAL WARRANT DISCLAIMER

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EXISTING CONDITIONS PLUS PENDING plus Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Delay Signal Warrant Report

Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Future Volume Alternative: Peak Hour Warrant Met

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement (L-T-R), Control (Uncontrolled/Stop Sign), Lanes, Initial Vol, and ApproachDel.

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=22.4]
SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=160]
SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1981]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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 EXISTING CONDITIONS PLUS PENDING plus Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

 Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound						
Movement:	L	T	R		L	T	R		L	T	R		L	T	R				
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign						
Lanes:	0	1	0	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0
Initial Vol:	6	733		0	0	752		330	153	0		7	0	0		0	0		
Major Street Volume:	1821																		
Minor Approach Volume:	160																		
Minor Approach Volume Threshold:	116 [less than minimum of 150]																		

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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EXISTING CONDITIONS PLUS PENDING plus Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Delay Signal Warrant Report

Intersection #14 Fremont / Bridge (SR 20)

Future Volume Alternative: Peak Hour Warrant Met

Table with 5 columns: Approach, North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Lanes, Initial Vol, and ApproachDel.

Approach[eastbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=852]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2849]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.
Signal Warrant Rule #2: [approach volume=291]
SUCCEED - Approach volume greater than or equal to 100 for one lane approach.
Signal Warrant Rule #3: [approach count=4][total volume=2849]
SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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EXISTING CONDITIONS PLUS PENDING plus Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #14 Fremont / Bridge (SR 20)

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1	0	0	1	0	0	0	0	1	0	0	1
Initial Vol:	314	534	73	74	682	29	14	365	473	42	204	45
Major Street Volume:	1706											
Minor Approach Volume:	852											
Minor Approach Volume Threshold:	101											

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS PLUS PENDING plus Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Delay Signal Warrant Report

Intersection #99 SR 20 / FARINON

Future Volume Alternative: Peak Hour Warrant Met

Table with 5 columns: Approach, Movement, Control, Lanes, Initial Vol, ApproachDel. Rows include North Bound, South Bound, East Bound, West Bound with various lane configurations and volumes.

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=5.5]
SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=175]
SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=1656]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

 EXISTING CONDITIONS PLUS PENDING plus Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #99 SR 20 / FARINON

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1	0	1	0	0	1	1	0	0	0	0	0
Initial Vol:	90	723	0	0	566	102	85	0	90	0	0	0
Major Street Volume:	1481											
Minor Approach Volume:	175											
Minor Approach Volume Threshold:	205											

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS PLUS PENDING plus Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Delay Signal Warrant Report

Intersection #142 Wescott / Farinon

Future Volume Alternative: Peak Hour Warrant NOT Met

Table with 5 columns: Approach, North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Lanes, Initial Vol, and ApproachDel.

Approach[westbound][lanes=2][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=53]

FAIL - Approach volume less than 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=318]

FAIL - Total volume less than 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future.

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction.

 EXISTING CONDITIONS PLUS PENDING plus Rezone
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #142 Wescott / Farinon

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	T	R		L	T	R		L	T	R		L	T	R					
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	0	0	0	1	0	1	0	1	0	0	0	0	1	0	0	1	0	0	0	1
Initial Vol:	0	84		3		68	110		0		0	0	0		0	2	0		51	
Major Street Volume:					265															
Minor Approach Volume:					53															
Minor Approach Volume Threshold:	945																			

 SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

EXISTING CONDITIONS PLUS PENDING plus Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 SR 20 / Sunrise

Average Delay (sec/veh): 48.6 Worst Case Level Of Service: F[404.2]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Table with 12 columns representing traffic volumes. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Volume.

Table with 12 columns representing critical gap and follow-up times. Rows include Critical Gap and FollowUpTim.

Table with 12 columns representing capacity. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Table with 12 columns representing level of service. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., Shared Queue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS PLUS PENDING plus Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Average Delay (sec/veh): 40.8 Worst Case Level Of Service: F[504.2]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Table with 12 columns representing traffic movements. Rows include Volume Module: PM Peak Hour, Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and FinalVolume.

Table with 12 columns. Row: Critical Gap Module: Critical Gap, FollowUpTim.

Table with 12 columns. Row: Capacity Module: Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Table with 12 columns. Row: Level Of Service Module: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS PLUS PENDING plus Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Sioc St / Bridge St (SR 20)

Cycle (sec): 80 Critical Vol./Cap.(X): 1.065
Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 60.7
Optimal Cycle: 180 Level of Service: E

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, Min. Green, and Lanes.

Volume Module:PM Peak Hour

Table with 13 columns representing different traffic movements and 12 rows of volume and adjustment factors.

Saturation Flow Module:

Table with 13 columns and 4 rows showing saturation flow values and adjustment factors.

Capacity Analysis Module:

Table with 13 columns and 10 rows showing capacity analysis metrics like Vol/Sat, Green/Cycle, and Delay/Veh.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS PLUS PENDING plus Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #14 Fremont / Bridge (SR 20)
Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Table with 12 columns for volume data. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and FinalVolume.

Table for Critical Gap Module with 12 columns. Rows include Critical Gp and FollowUpTim.

Table for Capacity Module with 12 columns. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Table for Level of Service Module with 12 columns. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS PLUS PENDING plus Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #99 SR 20 / FARINON

Average Delay (sec/veh): 12.5 Worst Case Level Of Service: F[112.7]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Rights, and Lanes.

Volume Module:

Table with 13 columns representing different volume categories like Base Vol, Growth Adj, Initial Bse, etc.

Critical Gap Module:

Table with 13 columns for Critical Gap and FollowUpTim values.

Capacity Module:

Table with 13 columns for Capacity metrics like Cnflct Vol, Potent Cap., Move Cap., etc.

Level Of Service Module:

Table with 13 columns for Level Of Service metrics like 2Way95thQ, Control Del, LOS by Move, etc.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS PLUS PENDING plus Rezone
SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #142 Wescott / Farinon

Average Delay (sec/veh): 3.1 Worst Case Level Of Service: A[9.1]

Table with columns: Approach, Movement, Control, Rights, Lanes. Rows: North Bound, South Bound, East Bound, West Bound. Includes lane configurations like L-T-R and volume data.

Volume Module: Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, FinalVolume.

Critical Gap Module: Critical Gp, FollowUpTim.

Capacity Module: Cnflct Vol, Potent Cap., Move Cap., Volume/Cap.

Level Of Service Module: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, ApproachLOS.

Note: Queue reported is the number of cars per lane.

Appendix E: Existing Conditions Plus Pending Projects Plus Project Results with Mitigation

EXISTING CONDITIONS PLUS PENDING PLUS REZONE
mitigated
SWCA: COLUSA CIP RE-ZONE (7128-01)

Scenario Report

Scenario: cip am
Command: Default Command
Volume: ex am
Geometry: mitigated
Impact Fee: Default Impact Fee
Trip Generation: cip am
Trip Distribution: cip
Paths: cip
Routes: Default Route
Configuration: Default Configuration

 EXISTING CONDITIONS PLUS PENDING PLUS REZONE
 mitigated
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Trip Generation Report

Forecast for CIP AM

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
5	Tenant Estat	101.00	SF RES	0.19	0.56	19	57	76	3.1
	Zone 5 Subtotal					19	57	76	3.1
6	Riverbend Es	331.00	SF RES	0.19	0.56	63	185	248	10.0
6	Riverbend Es	56.00	MF RES	0.10	0.41	6	23	29	1.2
	Zone 6 Subtotal					69	208	277	11.2
7	Halsey	293.00	SF RES	0.19	0.56	56	164	220	8.9
	Zone 7 Subtotal					56	164	220	8.9
8	CIP rezone	12.00	gas	3.50	3.50	42	42	84	3.4
8	CIP rezone	10.00	restaurant	7.50	6.90	75	69	144	5.8
8	CIP rezone	75.00	motel	0.23	0.41	17	31	48	1.9
8	CIP rezone	25.00	office - servi	1.48	0.56	37	14	51	2.1
	Zone 8 Subtotal					171	156	327	13.2
16		347.00	SF res	0.19	0.56	66	194	260	10.5
16		46.00	MF res	0.11	0.40	5	18	23	0.9
	Zone 16 Subtotal					71	212	283	11.5
17	EASTSIDE 1	1479.00	SF RES	0.19	0.56	281	828	1109	44.9
	Zone 17 Subtotal					281	828	1109	44.9
36	CIP res	140.00	sf res	0.19	0.56	27	78	105	4.2
	Zone 36 Subtotal					27	78	105	4.2
37	CIP HDR	146.00	HDR	0.11	0.40	16	58	74	3.0
	Zone 37 Subtotal					16	58	74	3.0
TOTAL						710	1761	2471	100.0

 EXISTING CONDITIONS PLUS PENDING PLUS REZONE
 mitigated
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Trip Distribution Report

Percent Of Trips cip

Zone	To Gates						
	3	4	5	7	10	16	29
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	25.0	25.0	0.0	1.0	15.0	15.0	19.0
6	0.0	25.0	20.0	1.0	20.0	15.0	19.0
7	0.0	25.0	20.0	1.0	20.0	15.0	19.0
8	15.0	20.0	0.0	1.0	30.0	10.0	24.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	25.0	20.0	1.0	20.0	15.0	19.0
17	0.0	25.0	20.0	1.0	20.0	15.0	19.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36	25.0	20.0	0.0	1.0	20.0	15.0	19.0
37	25.0	20.0	0.0	1.0	20.0	15.0	19.0
38	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	0.0	0.0	0.0	0.0	0.0	0.0	0.0

EXISTING CONDITIONS PLUS PENDING PLUS REZONE
mitigated

SWCA: COLUSA CIP RE-ZONE (7128-01)

Turning Movement Report
CIP AM

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 SR 20 / Sunrise													
Base	5	294	0	0	218	39	13	0	2	0	0	0	571
Added	14	182	0	0	419	81	74	0	12	0	0	0	782
commer	21	31	0	0	-47	47	31	0	31	0	0	0	114
Total	40	507	0	0	590	167	118	0	45	0	0	0	1467
#2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln													
Base	6	356	0	0	238	85	161	0	7	0	0	0	853
Added	0	222	0	0	276	21	46	0	0	0	0	0	565
Total	6	578	0	0	514	106	207	0	7	0	0	0	1418
#3 Sioc St / Bridge St (SR 20)													
Base	73	384	59	15	223	8	25	25	67	40	17	33	969
Added	81	188	0	0	232	63	21	0	64	0	0	0	649
Total	154	572	59	15	455	71	46	25	131	40	17	33	1618
#4 Market St / Bridge St (SR 20)													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	32	72	6	15	41	0	0	83	11	18	247	44	569
Total	32	72	6	15	41	0	0	83	11	18	247	44	569
#6 Market St (SR 20)/ 5th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	16	0	0	0	0	0	0	34	6	0	102	0	158
Total	16	0	0	0	0	0	0	34	6	0	102	0	158
#8 Market St / 13th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	12	0	0	0	0	0	0	0	4	0	0	0	16
Total	12	0	0	0	0	0	0	0	4	0	0	0	16
#9 Main St / 13th St / Lurline St.													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#10 Fremont St / 10th St (SR 20)													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	19	0	0	0	0	21	7	217	10	0	550	0	824
Total	19	0	0	0	0	21	7	217	10	0	550	0	824
#11 Will S. Green / SR 20													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

 EXISTING CONDITIONS PLUS PENDING PLUS REZONE
 mitigated
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#12													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#13 SR 20 / railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#14 Fremont / Bridge (SR 20)													
Base	93	343	6	1	184	22	25	0	64	2	2	1	743
Added	309	123	21	21	110	0	0	106	138	63	314	63	1268
Total	402	466	27	22	294	22	25	106	202	65	316	64	2011
#15 Market St / 10th St (SR 20)													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	12	0	0	0	0	4	0	35	12	0	63
Total	0	0	12	0	0	0	0	4	0	35	12	0	63
#19													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	12	4	15	0	0	46	0	77
Total	0	0	0	0	0	12	4	15	0	0	46	0	77
#25 Fremont / 3rd													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	27	29	0	11	16	63	21	233	9	0	608	15	1032
Total	27	29	0	11	16	63	21	233	9	0	608	15	1032
#28 Main St / 8th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#30 Main St / 3rd St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	213	0	15	83	0	0	0	0	0	0	44	355
Total	0	213	0	15	83	0	0	0	0	0	0	44	355
#32 Sioc / 3rd													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	11	39	0	12	13	0	0	74	7	0	126	17	299
Total	11	39	0	12	13	0	0	74	7	0	126	17	299

 EXISTING CONDITIONS PLUS PENDING PLUS REZONE
 mitigated
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#33 Sioc / 5th													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	21	0	0	0	60	0	0	74	63	218
Total	0	0	0	21	0	0	0	60	0	0	74	63	218
#34 Sioc / 8th													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	50	0	0	0	10	0	0	19	55	134
Total	0	0	0	50	0	0	0	10	0	0	19	55	134
#35 (SR 20) 10th / Sioc													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	10	0	0	0	0	0	0	0	19	29
Total	0	0	0	10	0	0	0	0	0	0	0	19	29
#43													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	139	0	0	0	95	0	0	282	307	823
Total	0	0	0	139	0	0	0	95	0	0	282	307	823
#45 Railroad / Wil S Green													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#48 Wil S Green / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#50													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#52 Clay St . 8th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	13	0	0	40	31	10	0	0	0	0	0	94
Total	0	13	0	0	40	31	10	0	0	0	0	0	94
#54 Ckay St / 3rd St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	45	21	4	26	21	7	11	0	63	33	12	243
Total	0	45	21	4	26	21	7	11	0	63	33	12	243

 EXISTING CONDITIONS PLUS PENDING PLUS REZONE
 mitigated
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#55 Bridge / Clay													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	63	109	14	0	69	0	0	15	21	41	45	0	377
Total	63	109	14	0	69	0	0	15	21	41	45	0	377
#60 East collector													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	489	130	0	0	60	84	28	0	166	0	0	0	957
Total	489	130	0	0	60	84	28	0	166	0	0	0	957
#63 sr 20 / local													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	299	0	0	501	0	0	0	0	0	0	0	800
Total	0	299	0	0	501	0	0	0	0	0	0	0	800
#64 SR 20 / Moon Bend													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	222	76	3	276	0	0	0	0	225	0	8	810
Total	0	222	76	3	276	0	0	0	0	225	0	8	810
#71 3rd / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	46	0	0	19	0	0	0	0	0	0	0	65
Total	0	46	0	0	19	0	0	0	0	0	0	0	65
#72 5th / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#76 8th / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#78 8th / N Brookins													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#80 8th St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

 EXISTING CONDITIONS PLUS PENDING PLUS REZONE
 mitigated

SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#81 3rd St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	19	0	0	0	0	0	0	0	46	65
Total	0	0	0	19	0	0	0	0	0	0	0	46	65
#82 5th St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#83 Wescott / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	23	35	0	0	17	5	14	0	25	0	0	0	119
Total	23	35	0	0	17	5	14	0	25	0	0	0	119
#84 8th / Railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#95 3rd St / Railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#99 SR 20 / FARINON													
Base	1	290	0	0	215	5	9	0	0	0	0	0	520
Added	31	136	0	0	377	55	60	0	49	0	0	0	708
commer	31	-31	0	0	-47	31	21	0	47	0	0	0	52
Total	63	395	0	0	545	91	90	0	96	0	0	0	1280
#138 sr 20 / Wilson													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#142 Wescott / Farinon													
Base	0	79	0	0	32	0	0	0	0	0	0	0	111
Added	0	5	2	35	15	0	0	0	0	3	0	56	116
Total	0	84	2	35	47	0	0	0	0	3	0	56	227
#147 SR 20 / CIP MF Access													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	3	253	0	0	488	13	46	0	12	0	0	0	815
Total	3	253	0	0	488	13	46	0	12	0	0	0	815

 EXISTING CONDITIONS PLUS PENDING PLUS REZONE
 mitigated

SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#148													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

 EXISTING CONDITIONS PLUS PENDING PLUS REZONE
 mitigated

SWCA: COLUSA CIP RE-ZONE (7128-01)

Impact Analysis Report
 Level Of Service

Intersection		Base		Future		Change in	
		LOS	Del/ Veh	V/ C	LOS		Del/ Veh
# 1 SR 20 / Sunrise	A	2.6	0.218	A	9.4	0.535	+ 6.761 D/V
# 2 Wescott Rd / Bridge St (SR 20)	B	12.0	0.377	B	12.3	0.613	+ 0.312 D/V
# 3 Sioc St / Bridge St (SR 20)	B	17.0	0.415	C	20.1	0.692	+ 3.145 D/V
# 14 Fremont / Bridge (SR 20)	B	10.5	0.275	C	26.8	0.783	+16.310 D/V

EXISTING CONDITIONS PLUS PENDING PLUS REZONE
mitigated

SWCA: COLUSA CIP RE-ZONE (7128-01)

Signal Warrant Summary Report

Intersection

Base Met
[Del / Vol]

Future Met
[Del / Vol]

EXISTING CONDITIONS PLUS PENDING PLUS REZONE mitigated

SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 SR 20 / Sunrise

Cycle (sec): 80 Critical Vol./Cap.(X): 0.535
Loss Time (sec): 9 (Y+R=4.0 sec) Average Delay (sec/veh): 9.4
Optimal Cycle: 35 Level Of Service: A

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Volume Module: Table with 12 columns for traffic volumes. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, commercial, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and FinalVolume.

Saturation Flow Module: Table with 12 columns for saturation flow. Rows include Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module: Table with 12 columns for capacity analysis. Rows include Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, LOS by Move, and HCM2kAvgQ.

Note: Queue reported is the number of cars per lane. *****

EXISTING CONDITIONS PLUS PENDING PLUS REZONE
mitigated

SWCA: COLUSA CIP RE-ZONE (7128-01)

Level of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Cycle (sec): 80 Critical Vol./Cap.(X): 0.613
Loss Time (sec): 9 (Y+R=4.0 sec) Average Delay (sec/veh): 12.3
Optimal Cycle: 41 Level Of Service: B

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Volume Module table with 12 columns representing different traffic movements and 13 rows of volume-related metrics.

Saturation Flow Module table with 12 columns and 4 rows of saturation flow data.

Capacity Analysis Module table with 12 columns and 10 rows of capacity and delay analysis data.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS PLUS PENDING PLUS REZONE mitigated

SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Sioc St / Bridge St (SR 20)

Cycle (sec): 80 Critical Vol./Cap.(X): 0.692
Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 20.1
Optimal Cycle: 55 Level Of Service: C

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Volume Module: Table with 13 columns representing different traffic movements and 13 rows of volume-related metrics like Base Vol, Growth Adj, etc.

Saturation Flow Module: Table with 13 columns and 4 rows showing saturation flow rates and adjustments.

Capacity Analysis Module: Table with 13 columns and 10 rows showing capacity analysis metrics like Vol/Sat, Crit Moves, Green/Cycle, etc.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS PLUS PENDING PLUS REZONE mitigated

SWCA: COLUSA CIP RE-ZONE (7128-01)

Level of Service Computation Report 2000 HCM Operations Method (Future Volume Alternative)

Intersection #14 Fremont / Bridge (SR 20)

Cycle (sec): 80 Critical Vol./Cap.(X): 0.783
Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 26.8
Optimal Cycle: 68 Level Of Service: C

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, Min. Green, and Lanes.

Volume Module table with 13 columns and 15 rows including Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Reduced Vol, PCE Adj, MLF Adj, and FinalVolume.

Saturation Flow Module table with 13 columns and 5 rows including Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module table with 13 columns and 11 rows including Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User DelAdj, AdjDel/Veh, LOS by Move, and HCM2kAvgQ.

Note: Queue reported is the number of cars per lane.

EXISTING CONDITIONS PLUS PENDING PLUS REZONE
mitigated
SWCA: COLUSA CIP RE-ZONE (7128-01)

Scenario Report

Scenario: cip pm
Command: Default Command
Volume: existing pm
Geometry: mitigated
Impact Fee: Default Impact Fee
Trip Generation: cip pm
Trip Distribution: cip
Paths: cip
Routes: Default Route
Configuration: Default Configuration

 EXISTING CONDITIONS PLUS PENDING PLUS REZONE
 mitigated
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Trip Generation Report

Forecast for CIP PM

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
5	Tenant Estat	101.00	SF RES	0.65	0.36	66	36	102	3.2
	Zone 5 Subtotal					66	36	102	3.2
6	Riverbend Es	331.00	SF RES	0.65	0.36	215	119	334	10.5
6	Riverbend Es	56.00	MF RES	0.40	0.22	22	12	34	1.1
	Zone 6 Subtotal					237	131	368	11.6
7	Halsey	293.00	SF RES	0.65	0.36	190	105	295	9.3
	Zone 7 Subtotal					190	105	295	9.3
8	CIP rezone	12.00	gas	4.25	4.33	51	52	103	3.3
8	CIP rezone	10.00	restaurant	5.70	4.60	57	46	103	3.3
8	CIP rezone	75.00	motel	0.31	0.27	23	20	43	1.4
8	CIP rezone	25.00	office - servi	0.64	1.36	16	34	50	1.6
	Zone 8 Subtotal					147	152	299	9.4
16		347.00	SF res	0.65	0.36	226	125	351	11.1
16		46.00	MF res	0.40	0.22	18	10	28	0.9
	Zone 16 Subtotal					244	135	379	12.0
17	EASTSIDE 1	1479.00	SF RES	0.65	0.36	961	532	1493	47.1
	Zone 17 Subtotal					961	532	1493	47.1
36	CIP res	140.00	sf res	0.65	0.36	91	50	141	4.5
	Zone 36 Subtotal					91	50	141	4.5
37	CIP HDR	146.00	HDR	0.40	0.22	58	32	90	2.8
	Zone 37 Subtotal					58	32	90	2.8

TOTAL						1994	1173	3167	100.0

 EXISTING CONDITIONS PLUS PENDING PLUS REZONE
 mitigated
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Trip Distribution Report

Percent Of Trips cip

Zone	To Gates						
	3	4	5	7	10	16	29
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	25.0	25.0	0.0	1.0	15.0	15.0	19.0
6	0.0	25.0	20.0	1.0	20.0	15.0	19.0
7	0.0	25.0	20.0	1.0	20.0	15.0	19.0
8	15.0	20.0	0.0	1.0	30.0	10.0	24.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	25.0	20.0	1.0	20.0	15.0	19.0
17	0.0	25.0	20.0	1.0	20.0	15.0	19.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36	25.0	20.0	0.0	1.0	20.0	15.0	19.0
37	25.0	20.0	0.0	1.0	20.0	15.0	19.0
38	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	0.0	0.0	0.0	0.0	0.0	0.0	0.0

 EXISTING CONDITIONS PLUS PENDING PLUS REZONE
 mitigated
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Turning Movement Report
 CIP PM

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 SR 20 / Sunrise													
Base	0	372	0	0	350	13	52	0	10	0	0	0	797
Added	12	473	0	0	292	70	72	0	12	0	0	0	931
PassBy	24	-34	0	0	-54	54	34	0	34	0	0	0	58
Total	36	811	0	0	588	137	158	0	56	0	0	0	1786
#2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln													
Base	6	435	0	0	496	276	118	0	7	0	0	0	1338
Added	0	298	0	0	256	54	35	0	0	0	0	0	643
Total	6	733	0	0	752	330	153	0	7	0	0	0	1981
#3 Sioc St / Bridge St (SR 20)													
Base	82	404	68	35	552	17	31	51	116	109	41	59	1565
Added	67	265	0	0	231	40	73	0	80	0	0	0	756
Total	149	669	68	35	783	57	104	51	196	109	41	59	2321
#4 Market St / Bridge St (SR 20)													
Base	301	86	0	0	67	45	31	0	362	0	0	0	892
Added	20	52	20	50	76	0	0	284	37	11	157	28	735
Total	321	138	20	50	143	45	31	284	399	11	157	28	1627
#6 Market St (SR 20)/ 5th St													
Base	48	15	33	59	22	29	14	378	43	20	344	24	1029
Added	11	0	0	0	0	0	0	116	19	0	64	0	210
Total	59	15	33	59	22	29	14	494	62	20	408	24	1239
#8 Market St / 13th St													
Base	11	292	0	0	320	16	22	0	22	0	0	0	683
Added	8	0	0	0	0	0	0	0	14	0	0	0	22
Total	19	292	0	0	320	16	22	0	36	0	0	0	705
#9 Main St / 13th St / Lurline St.													
Base	53	261	0	0	272	17	21	0	63	0	0	0	687
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	53	261	0	0	272	17	21	0	63	0	0	0	687
#10 Fremont St / 10th St (SR 20)													
Base	29	189	76	85	162	5	4	20	18	69	33	75	765
Added	14	0	0	0	0	13	24	626	21	0	365	0	1063
Total	43	189	76	85	162	18	28	646	39	69	398	75	1828
#11 Will S. Green / SR 20													
Base	9	0	22	0	0	0	0	286	10	25	235	0	587
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	9	0	22	0	0	0	0	286	10	25	235	0	587

 EXISTING CONDITIONS PLUS PENDING PLUS REZONE
 mitigated
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#12													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#13 SR 20 / railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#14 Fremont / Bridge (SR 20)													
Base	103	394	0	1	532	29	14	1	128	2	2	5	1211
Added	211	140	73	73	150	0	0	364	345	40	202	40	1638
Total	314	534	73	74	682	29	14	365	473	42	204	45	2849
#15 Market St / 10th St (SR 20)													
Base	87	18	138	12	9	10	7	246	124	87	240	9	987
Added	0	0	40	0	0	0	0	14	0	22	8	0	84
Total	87	18	178	12	9	10	7	260	124	109	248	9	1071
#19													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	8	14	52	0	0	29	0	103
Total	0	0	0	0	0	8	14	52	0	0	29	0	103
#25 Fremont / 3rd													
Base	63	25	8	6	21	8	12	177	59	5	165	8	557
Added	17	21	0	15	32	40	73	694	31	0	401	12	1336
Total	80	46	8	21	53	48	85	871	90	5	566	20	1893
#28 Main St / 8th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#30 Main St / 3rd St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	141	0	50	242	0	0	0	0	0	0	28	461
Total	0	141	0	50	242	0	0	0	0	0	0	28	461
#32 Sioc / 3rd													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	9	25	0	18	45	0	0	135	12	0	94	14	352
Total	9	25	0	18	45	0	0	135	12	0	94	14	352

 EXISTING CONDITIONS PLUS PENDING PLUS REZONE
 mitigated
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#33 Sioc / 5th													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	73	0	0	0	74	0	0	62	40	249
Total	0	0	0	73	0	0	0	74	0	0	62	40	249
#34 Sioc / 8th													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	53	0	0	0	21	0	0	14	48	136
Total	0	0	0	53	0	0	0	21	0	0	14	48	136
#35 (SR 20) 10th / Sioc													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	21	0	0	0	0	0	0	0	14	35
Total	0	0	0	21	0	0	0	0	0	0	0	14	35
#43													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	344	0	0	0	326	0	0	181	211	1062
Total	0	0	0	344	0	0	0	326	0	0	181	211	1062
#45 Railroad / Wil S Green													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#48 Wil S Green / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#50													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#52 Clay St . 8th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	45	0	0	25	20	36	0	0	0	0	0	126
Total	0	45	0	0	25	20	36	0	0	0	0	0	126
#54 Ckay St / 3rd St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	33	73	14	47	13	24	38	0	40	21	8	311
Total	0	33	73	14	47	13	24	38	0	40	21	8	311

 EXISTING CONDITIONS PLUS PENDING PLUS REZONE
 mitigated
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#55 Bridge / Clay													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	40	93	48	0	124	0	0	52	73	26	29	0	485
Total	40	93	48	0	124	0	0	52	73	26	29	0	485
#60 East collector													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	314	101	0	0	156	53	97	0	567	0	0	0	1288
Total	314	101	0	0	156	53	97	0	567	0	0	0	1288
#63 sr 20 / local													
Base	0	424	0	0	363	0	0	0	0	0	0	0	787
Added	0	559	0	0	401	0	0	0	0	0	0	0	960
Total	0	983	0	0	764	0	0	0	0	0	0	0	1747
#64 SR 20 / Moon Bend													
Base	0	441	0	0	504	0	0	0	0	0	0	0	945
Added	0	298	261	10	256	0	0	0	0	144	0	5	974
Total	0	739	261	10	760	0	0	0	0	144	0	5	1919
#71 3rd / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	31	0	0	53	0	0	0	0	0	0	0	84
Total	0	31	0	0	53	0	0	0	0	0	0	0	84
#72 5th / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#76 8th / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#78 8th / N Brookins													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#80 8th St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

 EXISTING CONDITIONS PLUS PENDING PLUS REZONE
 mitigated
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#81 3rd St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	53	0	0	0	0	0	0	0	31	84
Total	0	0	0	53	0	0	0	0	0	0	0	31	84
#82 5th St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#83 Wescott / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	30	28	0	0	42	17	9	0	30	0	0	0	156
Total	30	28	0	0	42	17	9	0	30	0	0	0	156
#84 8th / Railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#95 3rd St / Railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#99 SR 20 / FARINON													
Base	2	328	0	0	372	6	9	0	3	0	0	0	720
Added	52	431	0	0	244	60	54	0	37	0	0	0	878
commer	36	-36	0	0	-50	36	22	0	50	0	0	0	58
Total	90	723	0	0	566	102	85	0	90	0	0	0	1656
#138 sr 20 / Wilson													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
#142 Wescott / Farinon													
Base	0	67	0	0	101	0	0	0	0	0	0	0	168
Added	0	17	3	68	9	0	0	0	0	2	0	51	150
Total	0	84	3	68	110	0	0	0	0	2	0	51	318
#147 SR 20 / CIP MF Access													
Base	0	424	0	0	363	0	0	0	0	0	0	0	787
Added	12	533	0	0	355	46	25	0	7	0	0	0	978
Total	12	957	0	0	718	46	25	0	7	0	0	0	1765

EXISTING CONDITIONS PLUS PENDING PLUS REZONE
mitigated
SWCA: COLUSA CIP RE-ZONE (7128-01)

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#148													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0

 EXISTING CONDITIONS PLUS PENDING PLUS REZONE
 mitigated
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Impact Analysis Report
 Level Of Service

Intersection		Base		Future		Change in
		Del/ LOS	V/ Veh C	Del/ LOS	V/ Veh C	
# 1 SR 20 / Sunrise	A	5.1	0.302	B 11.1	0.692	+ 5.980 D/V
# 2 Wescott Rd / Bridge St (SR 20)	A	9.1	0.672	B 18.6	0.922	+ 9.529 D/V
# 3 Sioc St / Bridge St (SR 20)	C	24.4	0.739	D 54.3	1.065	+29.878 D/V
# 14 Fremont / Bridge (SR 20)	B	11.2	0.506	D 53.5	1.051	+42.387 D/V

EXISTING CONDITIONS PLUS PENDING PLUS REZONE
mitigated
SWCA: COLUSA CIP RE-ZONE (7128-01)

Intersection	Signal Warrant Summary Report	
	Base Met [Del / Vol]	Future Met [Del / Vol]

 EXISTING CONDITIONS PLUS PENDING PLUS REZONE
 mitigated
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report
 2000 HCM Operations Method (Future Volume Alternative)

 Intersection #1 SR 20 / Sunrise

Cycle (sec): 80 Critical Vol./Cap.(X): 0.692
 Loss Time (sec): 9 (Y+R=4.0 sec) Average Delay (sec/veh): 11.1
 Optimal Cycle: 48 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	1	0	0	1	1	0	0	1	0	0

Volume Module: PM Peak Hour

Base Vol:	0	372	0	0	350	13	52	0	10	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	372	0	0	350	13	52	0	10	0	0	0
Added Vol:	12	473	0	0	292	70	72	0	12	0	0	0
PasserByVol:	24	-34	0	0	-54	54	34	0	34	0	0	0
Initial Fut:	36	811	0	0	588	137	158	0	56	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	42	949	0	0	688	160	185	0	65	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	42	949	0	0	688	160	185	0	65	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	42	949	0	0	688	160	185	0	65	0	0	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	1.00	1.00	0.98	0.83	0.93	1.00	0.83	1.00	1.00	1.00
Lanes:	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Final Sat.:	1769	1862	0	0	1862	1583	1769	0	1583	1900	1900	0

Capacity Analysis Module:

Vol/Sat:	0.02	0.51	0.00	0.00	0.37	0.10	0.10	0.00	0.04	0.00	0.00	0.00
Crit Moves:	****			****			****					
Green/Cycle:	0.04	0.74	0.00	0.00	0.69	0.69	0.15	0.00	0.15	0.00	0.00	0.00
Volume/Cap:	0.53	0.69	0.00	0.00	0.53	0.15	0.69	0.00	0.27	0.00	0.00	0.00
Delay/Veh:	44.3	7.2	0.0	0.0	6.5	4.3	39.7	0.0	30.7	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	44.3	7.2	0.0	0.0	6.5	4.3	39.7	0.0	30.7	0.0	0.0	0.0
LOS by Move:	D	A	A	A	A	A	D	A	C	A	A	A
HCM2kAvgQ:	2	13	0	0	9	1	6	0	2	0	0	0

 Note: Queue reported is the number of cars per lane.

 EXISTING CONDITIONS PLUS PENDING PLUS REZONE
 mitigated
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Level Of Service Computation Report
 2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Cycle (sec): 80 Critical Vol./Cap.(X): 0.922
 Loss Time (sec): 9 (Y+R=4.0 sec) Average Delay (sec/veh): 18.6
 Optimal Cycle: 103 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	0	1	0	0	0	0	1	0	0	0

Volume Module: PM Peak Hour

Base Vol:	6	435	0	0	496	276	118	0	7	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	435	0	0	496	276	118	0	7	0	0	0
Added Vol:	0	298	0	0	256	54	35	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	6	733	0	0	752	330	153	0	7	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	7	857	0	0	880	386	179	0	8	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	7	857	0	0	880	386	179	0	8	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	7	857	0	0	880	386	179	0	8	0	0	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	1.00	1.00	0.94	0.94	0.93	1.00	0.93	1.00	1.00	1.00
Lanes:	1.00	1.00	0.00	0.00	0.70	0.30	0.96	0.00	0.04	0.00	0.00	0.00
Final Sat.:	1769	1862	0	0	1241	545	1688	0	77	0	0	0

Capacity Analysis Module:

Vol/Sat:	0.00	0.46	0.00	0.00	0.71	0.71	0.11	0.00	0.11	0.00	0.00	0.00
Crit Moves:	***				****				****			
Green/Cycle:	0.00	0.77	0.00	0.00	0.77	0.77	0.11	0.00	0.11	0.00	0.00	0.00
Volume/Cap:	0.92	0.60	0.00	0.00	0.92	0.92	0.92	0.00	0.92	0.00	0.00	0.00
Delay/Veh:	316.2	4.5	0.0	0.0	17.9	17.9	77.0	0.0	77.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	316.2	4.5	0.0	0.0	17.9	17.9	77.0	0.0	77.0	0.0	0.0	0.0
LOS by Move:	F	A	A	A	B	B	E	A	E	A	A	A
HCM2kAvgQ:	1	9	0	0	30	30	8	0	8	0	0	0

 Note: Queue reported is the number of cars per lane.

 EXISTING CONDITIONS PLUS PENDING PLUS REZONE
 mitigated
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Level of Service Computation Report
 2000 HCM Operations Method (Future Volume Alternative)

 Intersection #3 Sioc St / Bridge St (SR 20)

Cycle (sec): 80 Critical Vol./Cap.(X): 1.065
 Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 54.3
 Optimal Cycle: 180 Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	1	0	1	0	1	0	0	0	1	0

Volume Module: PM Peak Hour

Base Vol:	82	404	68	35	552	17	31	51	116	109	41	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	82	404	68	35	552	17	31	51	116	109	41	59
Added Vol:	67	265	0	0	231	40	73	0	80	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	149	669	68	35	783	57	104	51	196	109	41	59
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	174	782	80	41	916	67	122	60	229	127	48	69
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	174	782	80	41	916	67	122	60	229	127	48	69
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	174	782	80	41	916	67	122	60	229	127	48	69

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.93	0.97	0.97	0.93	0.86	0.86	0.95	0.95	0.83
Lanes:	1.00	1.00	1.00	1.00	0.93	0.07	1.00	0.21	0.79	0.73	0.27	1.00
Final Sat.:	1769	1862	1583	1769	1718	125	1769	339	1302	1306	491	1583

Capacity Analysis Module:

Vol/Sat:	0.10	0.42	0.05	0.02	0.53	0.53	0.07	0.18	0.18	0.10	0.10	0.04
Crit Moves:	****				****			****			****	
Green/Cycle:	0.09	0.56	0.56	0.03	0.50	0.50	0.17	0.17	0.26	0.09	0.09	0.09
Volume/Cap:	1.06	0.75	0.09	0.75	1.06	1.06	0.42	1.06	0.68	1.06	1.06	0.48
Delay/Veh:	125.0	16.2	8.1	81.4	68.5	68.5	30.9	106	31.3	124.8	125	37.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	125.0	16.2	8.1	81.4	68.5	68.5	30.9	106	31.3	124.8	125	37.0
LOS by Move:	F	B	A	F	E	E	C	F	C	F	F	D
HCM2kAvgQ:	9	16	1	2	37	37	3	14	8	9	9	2

 Note: Queue reported is the number of cars per lane.

 EXISTING CONDITIONS PLUS PENDING PLUS REZONE
 mitigated
 SWCA: COLUSA CIP RE-ZONE (7128-01)

Level of Service Computation Report
 2000 HCM Operations Method (Future Volume Alternative)

Intersection #14 Fremont / Bridge (SR 20)

Cycle (sec): 80 Critical Vol./Cap.(X): 1.051
 Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 53.5
 Optimal Cycle: 180 Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	1	0	1	0	1	0	1	1	0	1

Volume Module: >> Count Date: 20 Sep 2006 <<

Base Vol:	103	394	0	1	532	29	14	1	128	2	2	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	103	394	0	1	532	29	14	1	128	2	2	5
Added Vol:	211	140	73	73	150	0	0	364	345	40	202	40
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	314	534	73	74	682	29	14	365	473	42	204	45
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	367	625	85	87	798	34	16	427	553	49	239	53
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	367	625	85	87	798	34	16	427	553	49	239	53
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	367	625	85	87	798	34	16	427	553	49	239	53

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.93	0.98	0.83	0.93	0.98	0.83	0.93	0.98	0.83
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1769	1862	1583	1769	1862	1583	1769	1862	1583	1769	1862	1583

Capacity Analysis Module:

Vol/Sat:	0.21	0.34	0.05	0.05	0.43	0.02	0.01	0.23	0.35	0.03	0.13	0.03
Crit Moves:	****			****			****			****		
Green/Cycle:	0.20	0.53	0.55	0.08	0.41	0.42	0.02	0.22	0.42	0.03	0.23	0.31
Volume/Cap:	1.05	0.63	0.10	0.63	1.05	0.05	0.56	1.05	0.84	1.05	0.56	0.11
Delay/Veh:	94.1	14.8	8.4	45.3	70.5	13.6	61.7	89.8	30.5	185.7	29.0	20.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	94.1	14.8	8.4	45.3	70.5	13.6	61.7	89.8	30.5	185.7	29.0	20.1
LOS by Move:	F	B	A	D	E	B	E	F	C	F	C	C
HCM2kAvgQ:	16	12	1	3	30	0	1	18	15	4	6	1

 Note: Queue reported is the number of cars per lane.

Appendix F: Cumulative (Year 2030) without Project Results

YEAR 2030 TOTAL - ~~AM~~ peak hour
General Plan Update 11/20/06 distribution
PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Scenario Report

Scenario: GP AM
Command: Default Command
Volume: existing am
Geometry: existing
Impact Fee: Default Impact Fee
Trip Generation: am peak hour
Trip Distribution: GP AM
Paths: current
Routes: Default Routes
Configuration: Default Configuration

YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Trip Generation Report

Forecast for AM PEAK

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	Vann 1 - RES	667.00	SF RES	0.19	0.56	127	374	501	4.2
1	Vann 1 - RES	66.00	MF RES	0.10	0.41	7	27	34	0.3
	Zone 1 Subtotal					134	401	535	4.4
2	Vann 2 - RES	667.00	sf res	0.19	0.56	127	374	501	4.2
2	Vann 2 - RES	66.00	mf res	0.11	0.40	7	26	33	0.3
	Zone 2 Subtotal					134	400	534	4.4
3	Brookins Ran	444.00	SF RES	0.19	0.56	84	249	333	2.8
	Zone 3 Subtotal					84	249	333	2.8
4	Brookins Ran	195.00	SF RES	0.19	0.56	37	109	146	1.2
	Zone 4 Subtotal					37	109	146	1.2
5	Tenant Estat	182.00	SF RES	0.19	0.56	35	102	137	1.1
5	Tenant Estat	0.00	MF RES	0.10	0.41	0	0	0	0.0
	Zone 5 Subtotal					35	102	137	1.1
6	Riverbend Es	331.00	SF RES	0.19	0.56	63	185	248	2.1
6	Riverbend Es	56.00	MF RES	0.10	0.41	6	23	29	0.2
	Zone 6 Subtotal					69	208	277	2.3
7	Halsey	293.00	SF RES	0.19	0.56	56	164	220	1.8
	Zone 7 Subtotal					56	164	220	1.8
8	CIP rezone	12.00	gas	2.51	2.52	30	30	60	0.5
8	CIP rezone	10.00	restaurant	4.19	3.87	42	39	81	0.7
8	CIP rezone	60.00	motel	0.17	0.28	10	17	27	0.2
8	CIP rezone	25.00	office - servi	1.55	0.19	39	5	44	0.4
	Zone 8 Subtotal					121	91	212	1.8
9	Casino Expan	1.00	phase 1	24.00	30.00	24	30	54	0.4
9	Casino Expan	1.00	phase 2	136.00	192.00	136	192	328	2.7
	Zone 9 Subtotal					160	222	382	3.2
10	Reserve_ Ind	139.39	INDUSTRIAL	0.58	0.11	81	15	96	0.8
	Zone 10 Subtotal					81	15	96	0.8
11	NW Reserve	565.00	SF RES	0.19	0.56	107	316	423	3.5
	Zone 11 Subtotal					107	316	423	3.5
12	NORTHWEST	557.29	OP LI	1.19	0.21	663	117	780	6.5
	Zone 12 Subtotal					663	117	780	6.5

YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
13	NW Reserve	70.00	SF RES	0.19	0.56	13	39	52	0.4
	Zone 13 Subtotal					13	39	52	0.4
14	DT	0.00	mf	0.11	0.40	0	0	0	0.0
14	DT	61.00	sf res	0.19	0.56	12	34	46	0.4
	Zone 14 Subtotal					12	34	46	0.4
15	DT	0.00	MF	0.11	0.40	0	0	0	0.0
15	DT	61.00	sf res	0.19	0.56	12	34	46	0.4
	Zone 15 Subtotal					12	34	46	0.4
16		347.00	SF res	0.19	0.56	66	194	260	2.2
16		46.00	MF res	0.11	0.40	5	18	23	0.2
	Zone 16 Subtotal					71	212	283	2.3
17	EASTSIDE 1	1148.00	SF RES	0.19	0.56	218	643	861	7.1
17	EASTSIDE 1	0.00	MF RES	0.10	0.41	0	0	0	0.0
	Zone 17 Subtotal					218	643	861	7.1
18	EAST	431.77	OP LI	1.19	0.21	514	91	605	5.0
	Zone 18 Subtotal					514	91	605	5.0
19	CP	326.70	COMM PRO	1.27	0.54	415	176	591	4.9
	Zone 19 Subtotal					415	176	591	4.9
20	URBAN RESERV	83.00	A-T	0.19	0.56	16	46	62	0.5
20	URBAN RESERV	7.00	A-G	0.19	0.56	1	4	5	0.0
	Zone 20 Subtotal					17	50	67	0.6
21	SW INDUSTRIA	707.76	OP LI	1.19	0.21	842	149	991	8.2
21	SW INDUSTRIA	312.24	IND	0.58	0.11	181	34	215	1.8
	Zone 21 Subtotal					1023	183	1206	10.0
22	Reserve Sout	38.00	SF RES	0.19	0.56	7	21	28	0.2
	Zone 22 Subtotal					7	21	28	0.2
23	URBAN RESERV	38.00	SF RES	0.19	0.56	7	21	28	0.2
	Zone 23 Subtotal					7	21	28	0.2
24	CIP	1478.60	INDUSTRIAL	0.58	0.11	858	163	1021	8.5
	Zone 24 Subtotal					858	163	1021	8.5
25	CIP SOUTH	1478.60	INDUSTRIAL	0.58	0.11	858	163	1021	8.5
	Zone 25 Subtotal					858	163	1021	8.5
28	VANN 3 - NO	272.25	COMM / PRO	1.27	0.54	346	147	493	4.1

YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
	Zone 28 Subtotal					346	147	493	4.1
29	EASTSIDE 2	0.00	MF RES	0.10	0.41	0	0	0	0.0
29	EASTSIDE 2	0.00	SF RES	0.19	0.56	0	0	0	0.0
30	NW Reserve	0.00	MF RES	0.11	0.40	0	0	0	0.0
30	NW Reserve	70.00	SF RES	0.19	0.56	13	39	52	0.4
	Zone 30 Subtotal					13	39	52	0.4
31	SO of DT	306.00	sf res	0.19	0.56	58	171	229	1.9
	Zone 31 Subtotal					58	171	229	1.9
32	SO of DT	305.00	SF res	0.19	0.56	58	171	229	1.9
	Zone 32 Subtotal					58	171	229	1.9
33	DT	0.00	MF	0.10	0.40	0	0	0	0.0
33	DT	61.00	sf res	0.19	0.56	12	34	46	0.4
	Zone 33 Subtotal					12	34	46	0.4
34	DT	0.00	mf res	0.11	0.40	0	0	0	0.0
34	DT	61.00	sf res	0.19	0.56	12	34	46	0.4
	Zone 34 Subtotal					12	34	46	0.4
35	DT	61.00	sf	0.19	0.56	12	34	46	0.4
	Zone 35 Subtotal					12	34	46	0.4
36	CIP res	140.00	sf res	0.19	0.56	27	78	105	0.9
36	CIP res	0.00	mf res	0.11	0.40	0	0	0	0.0
	Zone 36 Subtotal					27	78	105	0.9
37	CIP HDR	146.00	HDR	0.11	0.40	16	58	74	0.6
	Zone 37 Subtotal					16	58	74	0.6
38	south estate	88.00	Estates	0.19	0.56	17	49	66	0.5
	Zone 38 Subtotal					17	49	66	0.5
39	So- Central	649.00	sf res	0.19	0.56	123	363	486	4.0
	Zone 39 Subtotal					123	363	486	4.0
40	Thru Traffic	0.81	growth	148.00	165.00	120	134	254	2.1
	Zone 40 Subtotal					120	134	254	2.1
TOTAL						6520	5536	12056	100.0

YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Trip Distribution Report

Percent Of Trips GP AM

Zone	To Gates											
	1	2	3	4	5	6	7	9	10	11	12	
1	0.2	1.1	0.4	12.2	0.2	7.2	0.2	0.9	7.8	2.6	2.6	
2	0.2	1.1	0.4	12.2	0.2	7.2	0.2	0.9	7.8	2.6	2.6	
3	0.2	1.1	0.4	12.2	0.2	7.2	0.2	0.9	7.8	2.6	2.6	
4	0.2	1.1	0.4	12.2	0.2	7.2	0.2	0.9	7.8	2.6	2.6	
5	0.2	1.1	0.4	12.2	0.2	7.2	0.2	0.9	7.8	2.6	2.6	
6	0.2	1.1	0.4	12.2	0.2	7.2	0.2	0.9	7.8	2.6	2.6	
7	0.2	1.1	0.4	12.2	0.2	7.2	0.2	0.9	7.8	2.6	2.6	
8	0.2	1.2	1.1	11.6	0.2	7.1	0.2	0.0	0.0	0.0	0.0	
9	0.0	22.0	0.0	24.0	0.0	36.0	0.0	0.0	0.0	1.4	1.4	
10	0.2	1.3	1.2	13.1	0.2	8.0	0.2	58.1	0.0	0.0	0.0	
11	0.2	1.1	0.4	12.2	0.2	7.2	0.2	0.9	7.8	2.6	2.6	
12	0.4	1.4	1.3	14.1	0.3	8.6	0.3	0.0	53.8	0.0	0.0	
13	0.2	1.1	0.4	12.2	0.2	7.2	0.2	0.9	7.8	2.6	2.6	
14	0.2	1.1	0.4	12.2	0.2	7.2	0.2	0.9	7.8	2.6	2.6	
15	0.2	1.1	0.4	12.2	0.2	7.2	0.2	0.9	7.8	2.6	2.6	
16	0.2	1.1	0.4	12.2	0.2	7.2	0.2	0.9	7.8	2.6	2.6	
17	0.2	1.1	0.4	12.2	0.2	7.2	0.2	0.9	7.8	2.6	2.6	
18	0.4	1.4	1.3	14.1	0.3	8.6	0.3	0.0	0.0	0.0	0.0	
19	0.2	1.2	1.1	11.6	0.2	7.1	0.2	0.0	0.0	0.0	0.0	
20	0.2	1.1	0.4	12.2	0.2	7.2	0.2	0.9	7.8	2.6	2.6	
21	0.4	1.4	1.3	14.1	0.3	8.6	0.3	0.0	0.0	0.0	0.0	
22	0.2	1.1	0.4	12.2	0.2	7.2	0.2	0.9	7.8	2.6	2.6	
23	0.2	1.1	0.4	12.2	0.2	7.2	0.2	0.9	7.8	2.6	2.6	
24	0.2	1.3	1.2	13.1	0.2	8.0	0.2	0.0	0.0	0.0	0.0	
25	0.2	1.3	1.2	13.1	0.2	8.0	0.2	0.0	0.0	0.0	0.0	
28	0.2	1.2	1.1	11.6	0.2	7.1	0.2	0.0	0.0	0.0	59.3	
29	0.2	1.1	0.4	12.2	0.2	7.2	0.2	0.9	7.8	2.6	2.6	
30	0.2	1.1	0.4	12.2	0.2	7.2	0.2	0.9	7.8	2.6	2.6	
31	0.2	1.1	0.4	12.2	0.2	7.2	0.2	0.9	7.8	2.6	2.6	
32	0.2	1.1	0.4	12.2	0.2	7.2	0.2	0.9	7.8	2.6	2.6	
33	0.2	1.1	0.4	12.2	0.2	7.2	0.2	0.9	7.8	2.6	2.6	
34	0.2	1.1	0.4	12.2	0.2	7.2	0.2	0.9	7.8	2.6	2.6	
35	0.2	1.1	0.4	12.2	0.2	7.2	0.2	0.9	7.8	2.6	2.6	
36	0.2	1.1	0.4	12.2	0.2	7.2	0.2	0.9	7.8	2.6	2.6	
37	0.2	1.1	0.4	12.2	0.2	7.2	0.2	0.9	7.8	2.6	2.6	
38	0.2	1.1	0.4	12.2	0.2	7.2	0.2	0.9	7.8	2.6	2.6	
39	0.2	1.1	0.4	12.2	0.2	7.2	0.2	0.9	7.8	2.6	2.6	
40	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

Zone	To Gates											
	13	14	15	16	17	18	19	20	21	22	23	
1	11.9	4.5	0.4	0.4	0.4	0.4	2.0	6.0	6.3	3.6	9.4	

YEAR 2030 TOTAL - Pm peak hour
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 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Zone	To Gates										
	13	14	15	16	17	18	19	20	21	22	23
2	11.9	4.5	0.4	0.4	0.4	0.4	2.0	6.0	6.3	3.6	9.4
3	11.9	4.5	0.4	0.4	0.4	0.4	2.0	6.0	6.3	3.6	9.4
4	11.9	4.5	0.4	0.4	0.4	0.4	2.0	6.0	6.3	3.6	9.4
5	11.9	4.5	0.4	0.4	0.4	0.4	2.0	6.0	6.3	3.6	9.4
6	11.9	4.5	0.4	0.4	0.4	0.4	2.0	6.0	6.3	3.6	9.4
7	11.9	4.5	0.4	0.4	0.4	0.4	2.0	6.0	6.3	3.6	9.4
8	0.0	0.0	2.1	2.1	2.1	2.1	0.0	0.0	0.0	59.3	0.0
9	0.0	1.4	1.4	1.4	1.4	1.4	1.2	0.0	1.4	0.0	0.0
10	0.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0
11	11.9	4.5	0.4	0.4	0.4	0.4	2.0	6.0	6.3	3.6	9.4
12	0.0	0.0	2.2	2.2	2.2	2.2	0.0	0.0	0.0	0.0	0.0
13	11.9	4.5	0.4	0.4	0.4	0.4	2.0	6.0	6.3	3.6	9.4
14	11.9	4.5	0.4	0.4	0.4	0.4	2.0	6.0	6.3	3.6	9.4
15	11.9	4.5	0.4	0.4	0.4	0.4	2.0	6.0	6.3	3.6	9.4
16	11.9	4.5	0.4	0.4	0.4	0.4	2.0	6.0	6.3	3.6	9.4
17	11.9	4.5	0.4	0.4	0.4	0.4	2.0	6.0	6.3	3.6	9.4
18	0.0	0.0	2.2	2.2	2.2	2.2	0.0	53.8	0.0	0.0	0.0
19	0.0	0.0	2.1	2.1	2.1	2.1	0.0	0.0	59.3	0.0	0.0
20	11.9	4.5	0.4	0.4	0.4	0.4	2.0	6.0	6.3	3.6	9.4
21	53.8	0.0	2.2	2.2	2.2	2.2	0.0	0.0	0.0	0.0	0.0
22	11.9	4.5	0.4	0.4	0.4	0.4	2.0	6.0	6.3	3.6	9.4
23	11.9	4.5	0.4	0.4	0.4	0.4	2.0	6.0	6.3	3.6	9.4
24	0.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	58.1
25	0.0	0.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	2.1	2.1	2.1	2.1	0.0	0.0	0.0	0.0	0.0
29	11.9	4.5	0.4	0.4	0.4	0.4	2.0	6.0	6.3	3.6	9.4
30	11.9	4.5	0.4	0.4	0.4	0.4	2.0	6.0	6.3	3.6	9.4
31	11.9	4.5	0.4	0.4	0.4	0.4	2.0	6.0	6.3	3.6	9.4
32	11.9	4.5	0.4	0.4	0.4	0.4	2.0	6.0	6.3	3.6	9.4
33	11.9	4.5	0.4	0.4	0.4	0.4	2.0	6.0	6.3	3.6	9.4
34	11.9	4.5	0.4	0.4	0.4	0.4	2.0	6.0	6.3	3.6	9.4
35	11.9	4.5	0.4	0.4	0.4	0.4	2.0	6.0	6.3	3.6	9.4
36	11.9	4.5	0.4	0.4	0.4	0.4	2.0	6.0	6.3	3.6	9.4
37	11.9	4.5	0.4	0.4	0.4	0.4	2.0	6.0	6.3	3.6	9.4
38	11.9	4.5	0.4	0.4	0.4	0.4	2.0	6.0	6.3	3.6	9.4
39	11.9	4.5	0.4	0.4	0.4	0.4	2.0	6.0	6.3	3.6	9.4
40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Zone	To Gates					
	24	27	28	29	30	31
1	9.4	0.4	0.5	4.5	0.0	4.5
2	9.4	0.4	0.5	4.5	0.0	4.5
3	9.4	0.4	0.5	4.5	0.0	4.5
4	9.4	0.4	0.5	4.5	0.0	4.5
5	9.4	0.4	0.5	4.5	0.0	4.5
6	9.4	0.4	0.5	4.5	0.0	4.5

 YEAR 2030 TOTAL - Pm peak hour
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 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Zone	To Gates					
	24	27	28	29	30	31
7	9.4	0.4	0.5	4.5	0.0	4.5
8	0.0	2.1	2.1	2.1	2.1	2.3
9	0.0	1.4	1.4	1.4	1.4	0.0
10	0.0	2.0	1.9	1.9	1.9	2.0
11	9.4	0.4	0.5	4.5	0.0	4.5
12	0.0	2.2	2.2	2.2	2.2	2.2
13	9.4	0.4	0.5	4.5	0.0	4.5
14	9.4	0.4	0.5	4.5	0.0	4.5
15	9.4	0.4	0.5	4.5	0.0	4.5
16	9.4	0.4	0.5	4.5	0.0	4.5
17	9.4	0.4	0.5	4.5	0.0	4.5
18	0.0	2.2	2.2	2.2	2.2	2.2
19	0.0	2.1	2.1	2.1	2.1	2.3
20	9.4	0.4	0.5	4.5	0.0	4.5
21	0.0	2.2	2.2	2.2	2.2	2.2
22	9.4	0.4	0.5	4.5	0.0	4.5
23	9.4	0.4	0.5	4.5	0.0	4.5
24	0.0	2.0	1.9	1.9	1.9	2.0
25	58.1	2.0	1.9	1.9	1.9	2.0
28	0.0	2.1	2.1	2.1	2.1	2.3
29	9.4	0.4	0.5	4.5	0.0	4.5
30	9.4	0.4	0.5	4.5	0.0	4.5
31	9.4	0.4	0.5	4.5	0.0	4.5
32	9.4	0.4	0.5	4.5	0.0	4.5
33	9.4	0.4	0.5	4.5	0.0	4.5
34	9.4	0.4	0.5	4.5	0.0	4.5
35	9.4	0.4	0.5	4.5	0.0	4.5
36	9.4	0.4	0.5	4.5	0.0	4.5
37	9.4	0.4	0.5	4.5	0.0	4.5
38	9.4	0.4	0.5	4.5	0.0	4.5
39	9.4	0.4	0.5	4.5	0.0	4.5
40	0.0	0.0	0.0	0.0	0.0	0.0

 YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Turning Movement Report
 AM PEAK

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 SR 20 / Sunrise													
Base	5	294	0	0	218	39	13	0	2	0	0	0	571
Added	9	419	169	30	642	88	46	29	10	365	79	16	1902
Total	14	713	169	30	860	127	59	29	12	365	79	16	2473
#2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln													
Base	6	356	0	0	238	85	161	0	7	0	0	0	853
Added	30	407	0	0	786	84	48	0	47	0	0	0	1402
Total	36	763	0	0	1024	169	209	0	54	0	0	0	2255
#3 Sioc St / Bridge St (SR 20)													
Base	73	384	59	15	223	8	25	25	67	40	17	33	969
Added	119	318	18	12	616	108	39	34	247	6	12	5	1534
Total	192	702	77	27	839	116	64	59	314	46	29	38	2503
#4 Market St / Bridge St (SR 20)													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	152	13	30	19	34	14	8	62	250	44	153	9	788
Total	152	13	30	19	34	14	8	62	250	44	153	9	788
#6 Market St (SR 20)/ 5th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	70	1	6	3	0	23	9	243	112	7	247	2	723
Total	70	1	6	3	0	23	9	243	112	7	247	2	723
#8 Market St / 13th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	25	293	0	0	451	58	8	0	6	0	0	0	841
Total	25	293	0	0	451	58	8	0	6	0	0	0	841
#9 Main St / 13th St / Lurline St.													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	40	261	0	0	358	16	22	0	151	0	0	0	848
Total	40	261	0	0	358	16	22	0	151	0	0	0	848
#10 Fremont St / 10th St (SR 20)													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	47	208	137	74	365	3	2	87	29	125	232	35	1344
Total	47	208	137	74	365	3	2	87	29	125	232	35	1344
#11 Will S. Green / SR 20													
Base	8	0	54	0	0	0	0	309	19	75	287	0	752
Added	152	223	78	105	298	69	63	336	191	263	399	113	2290
Total	160	223	132	105	298	69	63	645	210	338	686	113	3042

 YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#12													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	9	1	0	0	0	767	518	0	1	0	0	0	1296
Total	9	1	0	0	0	767	518	0	1	0	0	0	1296
#13 SR 20 / railroad													
Base	0	0	0	0	0	0	0	328	0	0	295	0	623
Added	135	60	23	215	158	45	28	351	272	94	410	116	1907
Total	135	60	23	215	158	45	28	679	272	94	705	116	2530
#14 Fremont / Bridge (SR 20)													
Base	93	343	6	1	184	22	25	0	64	2	2	1	743
Added	274	223	0	0	450	8	6	0	179	0	0	0	1140
Total	367	566	6	1	634	30	31	0	243	2	2	1	1883
#15 Market St / 10th St (SR 20)													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	158	7	64	0	20	9	10	159	287	126	152	0	992
Total	158	7	64	0	20	9	10	159	287	126	152	0	992
#19													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	11	6	0	0	53	30	7	56	6	0	145	1	315
Total	11	6	0	0	53	30	7	56	6	0	145	1	315
#25 Fremont / 3rd													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	53	63	0	19	122	71	88	165	62	0	235	46	924
Total	53	63	0	19	122	71	88	165	62	0	235	46	924
#28 Main St / 8th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	1	0	3	0	0	0	0	23	2	1	14	0	44
Total	1	0	3	0	0	0	0	23	2	1	14	0	44
#30 Main St / 3rd St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	32	1	11	84	16	8	2	0	0	8	3	165
Total	0	32	1	11	84	16	8	2	0	0	8	3	165
#32 Sioc / 3rd													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	60	94	3	68	115	0	0	248	35	1	215	23	862
Total	60	94	3	68	115	0	0	248	35	1	215	23	862

 YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#33 Sioc / 5th													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	31	63	13	10	46	170	41	260	10	9	237	29	919
Total	31	63	13	10	46	170	41	260	10	9	237	29	919
#34 Sioc / 8th													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	12	29	17	57	19	4	3	238	5	20	351	67	822
Total	12	29	17	57	19	4	3	238	5	20	351	67	822
#35 (SR 20) 10th / Sioc													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	346	173	73	446	0	0	0	0	321	0	46	1405
Total	0	346	173	73	446	0	0	0	0	321	0	46	1405
#43													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	6	164	9	70	59	42	58	29	16	54	22	238	767
Total	6	164	9	70	59	42	58	29	16	54	22	238	767
#45 Railroad / Wil S Green													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	144	0	6	2	419	0	0	315	131	1017
Total	0	0	0	144	0	6	2	419	0	0	315	131	1017
#48 Wil S Green / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	160	220	12	165	235	353	92	59	46	4	184	140	1670
Total	160	220	12	165	235	353	92	59	46	4	184	140	1670
#50													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	131	2	121	143	0	0	0	0	7	0	207	611
Total	0	131	2	121	143	0	0	0	0	7	0	207	611
#52 Clay St . 8th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	36	16	1	0	34	100	30	4	29	2	10	0	262
Total	36	16	1	0	34	100	30	4	29	2	10	0	262
#54 Ckay St / 3rd St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	11	24	7	7	43	129	40	114	36	19	125	4	559
Total	11	24	7	7	43	129	40	114	36	19	125	4	559

YEAR 2030 TOTAL - Pm peak hour
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 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#55 Bridge / Clay													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	41	162	25	9	295	25	9	25	106	57	71	25	850
Total	41	162	25	9	295	25	9	25	106	57	71	25	850
#60 East collector													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	245	96	0	0	257	48	16	0	131	0	0	0	793
Total	245	96	0	0	257	48	16	0	131	0	0	0	793
#63 sr 20 / local													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	502	4	0	732	0	0	0	0	11	0	0	1249
Total	0	502	4	0	732	0	0	0	0	11	0	0	1249
#64 SR 20 / Moon Bend													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	493	46	304	947	0	0	0	0	18	0	148	1956
Total	0	493	46	304	947	0	0	0	0	18	0	148	1956
#71 3rd / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	8	36	0	0	32	296	184	0	20	0	0	0	576
Total	8	36	0	0	32	296	184	0	20	0	0	0	576
#72 5th / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	2	33	6	22	32	87	28	176	11	2	297	5	701
Total	2	33	6	22	32	87	28	176	11	2	297	5	701
#76 8th / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	12	42	6	18	24	26	7	190	6	2	379	4	716
Total	12	42	6	18	24	26	7	190	6	2	379	4	716
#78 8th / N Brookins													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	7	30	4	7	13	14	14	19	21	8	30	17	184
Total	7	30	4	7	13	14	14	19	21	8	30	17	184
#80 8th St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	18	11	4	16	17	9	21	144	54	12	155	9	470
Total	18	11	4	16	17	9	21	144	54	12	155	9	470

YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#81 3rd St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	18	9	10	49	3	1	3	221	13	11	178	33	549
Total	18	9	10	49	3	1	3	221	13	11	178	33	549
#82 5th St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	75	0	2	1	162	0	0	173	25	438
Total	0	0	0	75	0	2	1	162	0	0	173	25	438
#83 Wescott / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	169	122	0	0	353	23	55	0	261	0	0	0	983
Total	169	122	0	0	353	23	55	0	261	0	0	0	983
#84 8th / Railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	56	0	26	9	554	0	0	420	24	1089
Total	0	0	0	56	0	26	9	554	0	0	420	24	1089
#95 3rd St / Railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	7	0	9	5	614	0	0	430	3	1068
Total	0	0	0	7	0	9	5	614	0	0	430	3	1068
#99 SR 20 / FARINON													
Base	1	290	0	0	215	5	9	0	0	0	0	0	520
Added	491	498	0	0	744	273	97	0	388	0	0	0	2491
Total	492	788	0	0	959	278	106	0	388	0	0	0	3011
#138 sr 20 / Wilson													
Base	0	0	0	0	0	0	0	328	0	0	295	0	623
Added	0	0	0	24	0	49	59	627	0	0	531	59	1349
Total	0	0	0	24	0	49	59	955	0	0	826	59	1972
#142 Wescott / Farinon													
Base	0	79	0	0	32	0	0	0	0	0	0	0	111
Added	0	20	615	439	12	2	5	13	0	416	5	162	1689
Total	0	99	615	439	44	2	5	13	0	416	5	162	1800
#147 SR 20 / CIP MF Access													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	7	473	0	0	734	9	32	0	26	0	0	0	1281
Total	7	473	0	0	734	9	32	0	26	0	0	0	1281

 YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#148													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	10	38	18	17	41	6	18	0	45	54	0	51	298
Total	10	38	18	17	41	6	18	0	45	54	0	51	298

YEAR 2030 TOTAL - Pm peak hour
General Plan Update 11/20/06 distribution
PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 1 SR 20 / Sunrise	??? / ???	Yes / Yes
# 2 Wescott Rd / Bridge St (SR 20)/ Tut	??? / ???	Yes / Yes
# 14 Fremont / Bridge (SR 20)	??? / ???	Yes / Yes
# 99 SR 20 / FARINON	??? / ???	Yes / Yes
#142 Wescott / Farinon	??? / ???	Yes / Yes

 YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Peak Hour Delay Signal Warrant Report

Intersection #1 SR 20 / Sunrise

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1	0	1	0	1	0	1	0	0	1	0	0
Initial Vol:	14	713	169	30	860	127	59	29	12	365	79	16
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		

Approach[eastbound][lanes=2][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]

SUCCEED - Vehicle-hours >= 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=100]

FAIL - Approach volume less than 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=2473]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=2][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=1369.6]

SUCCEED - Vehicle-hours >= 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=460]

SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=2473]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

 YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #1 SR 20 / Sunrise

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1	0	1	0	1	0	1	0	0	1	0	0
Initial Vol:	14	713	169	30	860	127	59	29	12	365	79	16
Major Street Volume:	1913											
Minor Approach Volume:	460											
Minor Approach Volume Threshold:	95 [less than minimum of 150]											

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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 YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Peak Hour Delay Signal Warrant Report

 Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

 Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound						
Movement:	L	T	R		L	T	R		L	T	R		L	T	R				
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign						
Lanes:	0	1	0	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0
Initial Vol:	36	763		0	0	1024		169	209		0		54	0		0		0	
ApproachDel:	xxxxxx				xxxxxx				1616.3				xxxxxx						

 Approach[eastbound][lanes=2][control=Stop Sign]
 Signal Warrant Rule #1: [vehicle-hours=118.1]
 SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
 Signal Warrant Rule #2: [approach volume=263]
 SUCCEED - Approach volume >= 150 for two or more lane approach.
 Signal Warrant Rule #3: [approach count=3][total volume=2255]
 SUCCEED - Total volume greater than or equal to 650 for intersection
 with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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 YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Peak Hour Volume Signal Warrant Report [Urban]

 Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	0	1	0	0	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0
Initial Vol:	36	763		0		0	1024	169			209	0	54			0	0		0	0
Major Street Volume:					1992															
Minor Approach Volume:					263															
Minor Approach Volume Threshold:	78 [less than minimum of 150]																			

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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 YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Peak Hour Delay Signal Warrant Report

Intersection #14 Fremont / Bridge (SR 20)

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	T	R	L	T	R	L	T	R	L	T	R			
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign					
Lanes:	1	0	0	1	0	0	1	0	0	0	0	1	0	0	1
Initial Vol:	367	566	6	1	634	30	31	0	243	2	2	1			
ApproachDel:	xxxxxxx			xxxxxxx			1032.5			768.8					

Approach[eastbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=78.6]

SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=274]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1883]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=1.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=5]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=1883]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

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 YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #14 Fremont / Bridge (SR 20)

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1	0	0	1	0	0	0	0	1	0	0	1
Initial Vol:	367	566	6	1	634	30	31	0	243	2	2	1
Major Street Volume:	1604											
Minor Approach Volume:	274											
Minor Approach Volume Threshold:	122											

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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 YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Peak Hour Delay Signal Warrant Report

Intersection #99 SR 20 / FARINON

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1	0	1	0	0	1	1	0	0	0	0	0
Initial Vol:	492	788	0	0	959	278	106	0	388	0	0	0
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		

 Approach[eastbound][lanes=2][control=Stop Sign]
 Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]
 SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
 Signal Warrant Rule #2: [approach volume=494]
 SUCCEED - Approach volume >= 150 for two or more lane approach.
 Signal Warrant Rule #3: [approach count=3][total volume=3011]
 SUCCEED - Total volume greater than or equal to 650 for intersection
 with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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 YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #99 SR 20 / FARINON

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound				
Movement:	L	T	R	L	T	R	L	T	R	L	T	R		
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign				
Lanes:	1	0	1	0	0	1	0	0	0	1	0	0	0	0
Initial Vol:	492	788	0	0	959	278	106	0	388	0	0	0	0	0
Major Street Volume:	2517													
Minor Approach Volume:	494													
Minor Approach Volume Threshold:	-23 [less than minimum of 150]													

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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 YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Peak Hour Delay Signal Warrant Report

Intersection #142 Wescott / Farinon

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	1	0	0	1	0	1	0	0	1	0	0	1	0	0	0	1	0	0	1	0
Initial Vol:	0	0	99	615		439	44	2			5	13	0	0		416	5	162		
ApproachDel:	xxxxxx				xxxxxx				367.5				6395.0							

 Approach[eastbound][lanes=1][control=Stop Sign]
 Signal Warrant Rule #1: [vehicle-hours=1.8]
 FAIL - Vehicle-hours less than 4 for one lane approach.
 Signal Warrant Rule #2: [approach volume=18]
 FAIL - Approach volume less than 100 for one lane approach.
 Signal Warrant Rule #3: [approach count=4][total volume=1800]
 SUCCEED - Total volume greater than or equal to 800 for intersection
 with four or more approaches.

 Approach[westbound][lanes=2][control=Stop Sign]
 Signal Warrant Rule #1: [vehicle-hours=1035.6]
 SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
 Signal Warrant Rule #2: [approach volume=583]
 SUCCEED - Approach volume >= 150 for two or more lane approach.
 Signal Warrant Rule #3: [approach count=4][total volume=1800]
 SUCCEED - Total volume greater than or equal to 800 for intersection
 with four or more approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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 YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Peak Hour Volume Signal Warrant Report [Urban]

 Intersection #142 Wescott / Farinon

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	1 0 0 1 0	1 0 0 1 0	0 1 0 0 0	1 0 0 1 0
Initial Vol:	0 99 615	439 44 2	5 13 0	416 5 162
Major Street Volume:	1199			
Minor Approach Volume:	583			
Minor Approach Volume Threshold:	296			

 SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 SR 20 / Sunrise

Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1	0	1	0	1	0	1	0	0	1	0	1

-----|-----|-----|-----|

Volume Module:

Base Vol:	5	294	0	0	218	39	13	0	2	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	5	294	0	0	218	39	13	0	2	0	0	0
Added Vol:	9	419	169	30	642	88	46	29	10	365	79	16
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	14	713	169	30	860	127	59	29	12	365	79	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	16	834	198	35	1006	149	69	34	14	427	92	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	16	834	198	35	1006	149	69	34	14	427	92	19

Critical Gap Module:

Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3

Capacity Module:

Cnflct Vol:	1154	xxxx	xxxxx	1032	xxxx	xxxxx	2097	2140	1006	2041	2091	834
Potent Cap.:	605	xxxx	xxxxx	674	xxxx	xxxxx	38	49	293	42	52	368
Move Cap.:	605	xxxx	xxxxx	674	xxxx	xxxxx	0	45	293	14	48	368
Volume/Cap:	0.03	xxxx	xxxxx	0.05	xxxx	xxxxx	xxxx	0.75	0.05	29.54	1.91	0.05

Level Of Service Module:

2Way95thQ:	0.1	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	54.5	xxxx	xxxxx			
Control Del:	11.1	xxxx	xxxxx	10.6	xxxx	xxxxx	xxxxxx	xxxx	xxxxx	13351	xxxx	xxxxx			
LOS by Move:	B	*	*	B	*	*	*	*	*	F	*	*			
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	60	xxxx	xxxx	57			
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxxx	xxxx	3.6	xxxxx	xxxx	10.7			
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxxx	xxxx	174.2	xxxxx	xxxx	605.3			
Shared LOS:	*	*	*	*	*	*	*	*	F	*	*	F			
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx					
ApproachLOS:	*			*			F			F					

Note: Queue reported is the number of cars per lane.

 YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Level of Service Computation Report
 2000 HCM Unsignalized Method (Future Volume Alternative)

 Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Average Delay (sec/veh): 188.7 Worst Case Level of Service: F[1616.3]

Approach:	North Bound			South Bound			East Bound			West Bound					
Movement:	L	T	R	L	T	R	L	T	R	L	T	R			
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign					
Rights:	Include			Include			Include			Include					
Lanes:	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0

Volume Module:

Base Vol:	6	356	0	0	238	85	161	0	7	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	356	0	0	238	85	161	0	7	0	0	0
Added Vol:	30	407	0	0	786	84	48	0	47	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	763	0	0	1024	169	209	0	54	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	42	892	0	0	1198	198	244	0	63	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	42	892	0	0	1198	198	244	0	63	0	0	0

Critical Gap Module:

Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx

Capacity Module:

Cnflct Vol:	1395	xxxx	xxxxx	xxxx	xxxx	xxxxx	2174	xxxx	1198	xxxx	xxxx	xxxxx
Potent Cap.:	490	xxxx	xxxxx	xxxx	xxxx	xxxxx	51	xxxx	226	xxxx	xxxx	xxxxx
Move Cap.:	490	xxxx	xxxxx	xxxx	xxxx	xxxxx	48	xxxx	226	xxxx	xxxx	xxxxx
Volume/Cap:	0.09	xxxx	xxxx	xxxx	xxxx	xxxx	5.13	xxxx	0.28	xxxx	xxxx	xxxx

Level of Service Module:

2Way95thQ:	0.3	xxxx	xxxxx	xxxx	xxxx	xxxxx	27.9	xxxx	1.1	xxxx	xxxx	xxxxx			
Control Del:	13.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2027	xxxx	27.0	xxxxx	xxxx	xxxxx			
LOS by Move:	B	*	*	*	*	*	F	*	D	*	*	*			
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxx												
SharedQueue:	0.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
Shrd ConDel:	13.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
Shared LOS:	B	*	*	*	*	*	*	*	*	*	*	*			
ApproachDel:	xxxxxx			xxxxxx			1616.3			xxxxxx					
ApproachLOS:	*			*			F			*					

Note: Queue reported is the number of cars per lane.

 YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Level of Service Computation Report
 2000 HCM Operations Method (Future Volume Alternative)

 Intersection #3 Sioc St / Bridge St (SR 20)

Cycle (sec): 80 Critical Vol./Cap.(X): 1.241
 Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 105.1
 Optimal Cycle: 180 Level Of Service: F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	1	0	1	0	1	0	0	1	0	0

Volume Module:

Base Vol:	73	384	59	15	223	8	25	25	67	40	17	33
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	73	384	59	15	223	8	25	25	67	40	17	33
Added Vol:	119	318	18	12	616	108	39	34	247	6	12	5
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	192	702	77	27	839	116	64	59	314	46	29	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	225	821	90	32	981	136	75	69	367	54	34	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	225	821	90	32	981	136	75	69	367	54	34	44
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	225	821	90	32	981	136	75	69	367	54	34	44

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.93	0.96	0.96	0.93	0.86	0.86	0.95	0.95	0.83
Lanes:	1.00	1.00	1.00	1.00	0.88	0.12	1.00	0.16	0.84	0.61	0.39	1.00
Final Sat.:	1769	1862	1583	1769	1606	222	1769	257	1370	1108	698	1583

Capacity Analysis Module:

Vol/Sat:	0.13	0.44	0.06	0.02	0.61	0.61	0.04	0.27	0.27	0.05	0.05	0.03
Crit Moves:	****			****			****			****		
Green/Cycle:	0.10	0.57	0.57	0.02	0.49	0.49	0.22	0.22	0.22	0.04	0.04	0.04
Volume/Cap:	1.24	0.77	0.10	0.77	1.24	1.24	0.20	1.24	1.24	1.24	1.24	0.72
Delay/Veh:	182.1	16.7	7.8	98.8	138	138.0	25.9	162	161.5	223.5	223	71.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	182.1	16.7	7.8	98.8	138	138.0	25.9	162	161.5	223.5	223	71.0
LOS by Move:	F	B	A	F	F	F	C	F	F	F	F	E
HCM2kAvgQ:	14	17	1	2	56	56	2	24	24	6	6	2

 Note: Queue reported is the number of cars per lane.

 YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Level Of Service Computation Report
 2000 HCM Unsignalized Method (Future Volume Alternative)

 Intersection #14 Fremont / Bridge (SR 20)

Average Delay (sec/veh): 155.0 Worst Case Level Of Service: F[1032.5]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1	0	0	1	0	0	0	0	1	0	0	1

Volume Module:

Base Vol:	93	343	6	1	184	22	25	0	64	2	2	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	93	343	6	1	184	22	25	0	64	2	2	1
Added Vol:	274	223	0	0	450	8	6	0	179	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	367	566	6	1	634	30	31	0	243	2	2	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	429	662	7	1	742	35	36	0	284	2	2	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	429	662	7	1	742	35	36	0	284	2	2	1

Critical Gap Module:

Critical Gp:	4.1	xxxx	xxxxxx	4.1	xxxx	xxxxxx	7.1	xxxx	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxxx	2.2	xxxx	xxxxxx	3.5	xxxx	3.3	3.5	4.0	3.3

Capacity Module:

Cnflct Vol:	777	xxxx	xxxxxx	669	xxxx	xxxxxx	2287	xxxx	759	2427	2303	665
Potent Cap.:	840	xxxx	xxxxxx	921	xxxx	xxxxxx	28	xxxx	406	22	39	460
Move Cap.:	840	xxxx	xxxxxx	921	xxxx	xxxxxx	15	xxxx	406	4	19	460
Volume/Cap:	0.51	xxxx	xxxxxx	0.00	xxxx	xxxxxx	2.40	xxxx	0.70	0.59	0.12	0.00

Level Of Service Module:

2Way95thQ:	3.0	xxxx	xxxxxx	0.0	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	xxxx	xxxx	xxxxxx			
Control Del:	13.7	xxxx	xxxxxx	8.9	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx			
LOS by Move:	B	*	*	A	*	*	*	*	*	*	*	*			
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	xxxx	103	xxxxxx	xxxx	8	xxxxxx			
SharedQueue:	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	31.0	xxxxxx	xxxxxx	1.3	xxxxxx			
Shrd ConDel:	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	1033	xxxxxx	xxxxxx	769	xxxxxx			
Shared LOS:	*	*	*	*	*	*	*	F	*	*	F	*			
ApproachDel:	xxxxxx			xxxxxx			1032.5			768.8					
ApproachLOS:	*			*			F			F					

Note: Queue reported is the number of cars per lane.

YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #99 SR 20 / FARINON

Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1	0	0	1	0	0	1	0	0	1	0	0

Volume Module:

Base Vol:	1	290	0	0	215	5	9	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	290	0	0	215	5	9	0	0	0	0	0
Added Vol:	491	498	0	0	744	273	97	0	388	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	492	788	0	0	959	278	106	0	388	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	575	922	0	0	1122	325	124	0	454	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	575	922	0	0	1122	325	124	0	454	0	0	0

Critical Gap Module:

Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx

Capacity Module:

Cnflct Vol:	1447	xxxx	xxxxx	xxxx	xxxx	xxxxx	3194	xxxx	1122	xxxx	xxxx	xxxxx
Potent Cap.:	468	xxxx	xxxxx	xxxx	xxxx	xxxxx	11	xxxx	251	xxxx	xxxx	xxxxx
Move Cap.:	468	xxxx	xxxxx	xxxx	xxxx	xxxxx	0	xxxx	251	xxxx	xxxx	xxxxx
Volume/Cap:	1.23	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	1.81	xxxx	xxxx	xxxx

Level Of Service Module:

2Way95thQ:	22.8	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	30.9	xxxx	xxxx	xxxxx
Control Del:	147.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	413.7	xxxxx	xxxx	xxxxx
LOS by Move:	F	*	*	*	*	*	*	*	F	*	*	*
Movement:	LT	LTR	RT									
Shared Cap.:	xxxx	xxxx	xxxxx									
SharedQueue:	xxxxx	xxxx	xxxxx									
Shrd ConDel:	xxxxx	xxxx	xxxxx									
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxxx			xxxxxxx			xxxxxxx			xxxxxxx		
ApproachLOS:	*			*			F			*		

Note: Queue reported is the number of cars per lane.

YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Level Of Service Computation Report
 2000 HCM Unsignalized Method (Future Volume Alternative)

 Intersection #142 Wescott / Farinon

 Average Delay (sec/veh): 2079.2 Worst Case Level Of Service: F[6395.0]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1	0	0	1	0	0	0	1	0	0	1	0

Volume Module:

Base Vol:	0	79	0	0	32	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	79	0	0	32	0	0	0	0	0	0	0
Added Vol:	0	20	615	439	12	2	5	13	0	416	5	162
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	99	615	439	44	2	5	13	0	416	5	162
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	0	116	719	513	51	2	6	15	0	487	6	189
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	116	719	513	51	2	6	15	0	487	6	189

Critical Gap Module:

Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxxx	7.1	6.5	xxxxxx	7.1	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxxx	2.2	xxxx	xxxxxx	3.5	4.0	xxxxxx	3.5	4.0	3.3

Capacity Module:

Cnflct Vol:	xxxx	xxxx	xxxxxx	835	xxxx	xxxxxx	1653	1915	xxxxxx	1563	1556	475
Potent Cap.:	xxxx	xxxx	xxxxxx	798	xxxx	xxxxxx	79	69	xxxxxx	91	113	589
Move Cap.:	xxxx	xxxx	xxxxxx	798	xxxx	xxxxxx	24	24	xxxxxx	24	40	589
Volume/Cap:	xxxx	xxxx	xxxx	0.64	xxxx	xxxx	0.25	0.62	xxxx	20.21	0.15	0.32

Level Of Service Module:

2Way95thQ:	xxxx	xxxx	xxxxxx	4.8	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	60.8	xxxx	xxxxxx
Control Del:	xxxxxx	xxxx	xxxxxx	17.3	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	8954	xxxx	xxxxxx
LOS by Move:	*	*	*	C	*	*	*	*	*	F	*	*
Movement:	LT	LTR	RT									
Shared Cap.:	xxxx	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	24	xxxx	xxxxxx	xxxx	xxxx	418
SharedQueue:	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	2.6	xxxx	xxxxxx	xxxxxx	xxxx	2.4
Shrd ConDel:	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	367.5	xxxx	xxxxxx	xxxxxx	xxxx	20.9
Shared LOS:	*	*	*	*	*	*	F	*	*	*	*	C
ApproachDel:	xxxxxx			xxxxxx			367.5			6395.0		
ApproachLOS:	*			*			F			F		

Note: Queue reported is the number of cars per lane.

YEAR 2030 TOTAL - Pm peak hour
General Plan Update 11/20/06 distribution
PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Scenario Report

Scenario: Existing Conditions
Command: Default Command
Volume: existing pm
Geometry: existing
Impact Fee: Default Impact Fee
Trip Generation: pm peak hour
Trip Distribution: cumulative
Paths: current
Routes: Default Routes
Configuration: Default Configuration

YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Trip Generation Report

Forecast for PM PEAK

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	Vann 1 - RES	667.00	SF RES	0.65	0.36	434	240	674	4.3
1	Vann 1 - RES	66.00	MF RES	0.40	0.22	26	15	41	0.3
	Zone 1 Subtotal					460	255	715	4.5
2	Vann 2 - RES	667.00	sf res	0.65	0.36	434	240	674	4.3
2	Vann 2 - RES	66.00	mf res	0.40	0.22	26	15	41	0.3
	Zone 2 Subtotal					460	255	715	4.5
3	Brookins Ran	444.00	SF RES	0.65	0.36	289	160	449	2.8
	Zone 3 Subtotal					289	160	449	2.8
4	Brookins Ran	195.00	SF RES	0.65	0.36	127	70	197	1.2
	Zone 4 Subtotal					127	70	197	1.2
5	Tenant Estat	182.00	SF RES	0.65	0.36	118	66	184	1.2
5	Tenant Estat	0.00	MF RES	0.40	0.22	0	0	0	0.0
	Zone 5 Subtotal					118	66	184	1.2
6	Riverbend Es	331.00	SF RES	0.65	0.36	215	119	334	2.1
6	Riverbend Es	56.00	MF RES	0.40	0.22	22	12	34	0.2
	Zone 6 Subtotal					237	131	368	2.3
7	Halsey	293.00	SF RES	0.65	0.36	190	105	295	1.9
	Zone 7 Subtotal					190	105	295	1.9
8	CIP rezone	12.00	gas	3.34	3.35	40	40	80	0.5
8	CIP rezone	10.00	restaurant	4.66	2.98	47	30	77	0.5
8	CIP rezone	60.00	motel	0.25	0.22	15	13	28	0.2
8	CIP rezone	25.00	office - servi	0.21	1.29	5	32	37	0.2
	Zone 8 Subtotal					107	115	222	1.4
9	Casino Expan	1.00	phase 1	23.00	50.00	23	50	73	0.5
9	Casino Expan	1.00	phase 2	188.00	252.00	188	252	440	2.8
	Zone 9 Subtotal					211	302	513	3.3
10	Reserve_ Ind	139.39	INDUSTRIAL	0.15	0.59	21	82	103	0.7
	Zone 10 Subtotal					21	82	103	0.7
11	NW Reserve	565.00	SF RES	0.65	0.36	367	203	570	3.6
	Zone 11 Subtotal					367	203	570	3.6
12	NORTHWEST	557.29	OP LI	0.27	1.07	150	596	746	4.7
	Zone 12 Subtotal					150	596	746	4.7

YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
13	NW Reserve	70.00	SF RES	0.65	0.36	46	25	71	0.5
	Zone 13 Subtotal					46	25	71	0.5
14	DT	0.00	mf	0.40	0.20	0	0	0	0.0
14	DT	61.00	sf res	0.65	0.36	40	22	62	0.4
	Zone 14 Subtotal					40	22	62	0.4
15	DT	0.00	MF	0.40	0.22	0	0	0	0.0
15	DT	61.00	sf res	0.65	0.36	40	22	62	0.4
	Zone 15 Subtotal					40	22	62	0.4
16		347.00	SF res	0.65	0.36	226	125	351	2.2
16		46.00	MF res	0.40	0.22	18	10	28	0.2
	Zone 16 Subtotal					244	135	379	2.4
17	EASTSIDE 1	1148.00	SF RES	0.65	0.36	746	413	1159	7.3
17	EASTSIDE 1	0.00	MF RES	0.40	0.22	0	0	0	0.0
	Zone 17 Subtotal					746	413	1159	7.3
18	EAST	431.77	OP LI	0.27	1.07	117	462	579	3.7
	Zone 18 Subtotal					117	462	579	3.7
19	CP	326.70	COMM PRO	2.05	2.79	670	911	1581	10.0
	Zone 19 Subtotal					670	911	1581	10.0
20	URBAN RESERV	83.00	A-T	0.65	0.36	54	30	84	0.5
20	URBAN RESERV	7.00	A-G	0.65	0.36	5	3	8	0.1
	Zone 20 Subtotal					59	33	92	0.6
21	SW INDUSTRIA	707.76	OP LI	0.27	1.07	191	757	948	6.0
21	SW INDUSTRIA	312.24	IND	0.13	0.55	41	172	213	1.4
	Zone 21 Subtotal					232	929	1161	7.4
22	Reserve Sout	38.00	SF RES	0.65	0.36	25	14	39	0.2
	Zone 22 Subtotal					25	14	39	0.2
23	URBAN RESERV	38.00	SF RES	0.65	0.36	25	14	39	0.2
	Zone 23 Subtotal					25	14	39	0.2
24	CIP	1478.60	INDUSTRIAL	0.13	0.55	192	813	1005	6.4
	Zone 24 Subtotal					192	813	1005	6.4
25	CIP SOUTH	1478.60	INDUSTRIAL	0.15	0.59	222	872	1094	6.9
	Zone 25 Subtotal					222	872	1094	6.9
28	VANN 3 - NO	272.25	COMM / PRO	2.05	2.79	558	760	1318	8.4

YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
	Zone 28 Subtotal					558	760	1318	8.4
29	EASTSIDE 2	0.00	MF RES	0.40	0.22	0	0	0	0.0
29	EASTSIDE 2	0.00	SF RES	0.65	0.36	0	0	0	0.0
30	NW Reserve	0.00	MF RES	0.40	0.22	0	0	0	0.0
30	NW Reserve	70.00	SF RES	0.65	0.36	46	25	71	0.5
	Zone 30 Subtotal					46	25	71	0.5
31	SO of DT	306.00	sf res	0.65	0.36	199	110	309	2.0
	Zone 31 Subtotal					199	110	309	2.0
32	SO of DT	305.00	SF res	0.65	0.36	198	110	308	2.0
	Zone 32 Subtotal					198	110	308	2.0
33	DT	0.00	MF	0.40	0.22	0	0	0	0.0
33	DT	61.00	sf res	0.65	0.36	40	22	62	0.4
	Zone 33 Subtotal					40	22	62	0.4
34	DT	0.00	mf res	0.40	0.22	0	0	0	0.0
34	DT	61.00	sf res	0.65	0.36	40	22	62	0.4
	Zone 34 Subtotal					40	22	62	0.4
35	DT	61.00	sf	0.65	0.36	40	22	62	0.4
	Zone 35 Subtotal					40	22	62	0.4
36	CIP res	140.00	sf res	0.65	0.36	91	50	141	0.9
36	CIP res	0.00	mf res	0.40	0.22	0	0	0	0.0
	Zone 36 Subtotal					91	50	141	0.9
37	CIP HDR	146.00	HDR	0.40	0.22	58	32	90	0.6
	Zone 37 Subtotal					58	32	90	0.6
38	south estate	88.00	Estates	0.65	0.36	57	32	89	0.6
	Zone 38 Subtotal					57	32	89	0.6
39	So- Central	649.00	sf res	0.65	0.36	422	234	656	4.2
	Zone 39 Subtotal					422	234	656	4.2
40	Thru Traffic	0.81	growth	115.00	135.00	93	109	202	1.3
	Zone 40 Subtotal					93	109	202	1.3
TOTAL						7237	8533	15770	100.0

YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Trip Distribution Report

Percent Of Trips general plan 9 25

Zone	To Gates										
	1	2	3	4	5	6	7	9	10	11	12
1	0.2	0.9	0.4	11.2	0.2	5.1	0.2	0.7	6.2	5.5	5.5
2	0.2	0.9	0.4	11.2	0.2	5.1	0.2	0.7	6.2	5.5	5.5
3	0.2	0.9	0.4	11.2	0.2	5.1	0.2	0.7	6.2	5.5	5.5
4	0.2	0.9	0.4	11.2	0.2	5.1	0.2	0.7	6.2	5.5	5.5
5	0.2	0.9	0.4	11.2	0.2	5.1	0.2	0.7	6.2	5.5	5.5
6	0.2	0.9	0.4	11.2	0.2	5.1	0.2	0.7	6.2	5.5	5.5
7	0.2	0.9	0.4	11.2	0.2	5.1	0.2	0.7	6.2	5.5	5.5
8	0.2	1.3	1.2	13.4	0.2	7.7	0.2	0.0	0.0	0.0	0.0
9	0.0	22.0	0.0	24.0	0.0	36.0	0.0	0.0	0.0	1.4	1.4
10	0.3	1.5	1.4	14.9	0.3	8.6	0.3	60.6	0.0	0.0	0.0
11	0.2	0.9	0.4	11.2	0.2	5.1	0.2	0.7	6.2	5.5	5.5
12	0.4	1.5	1.3	14.8	0.3	8.5	0.3	0.0	59.7	0.0	0.0
13	0.2	0.9	0.4	11.2	0.2	5.1	0.2	0.7	6.2	5.5	5.5
14	0.2	0.9	0.4	11.2	0.2	5.1	0.2	0.7	6.2	5.5	5.5
15	0.2	0.9	0.4	11.2	0.2	5.1	0.2	0.7	6.2	5.5	5.5
16	0.2	0.9	0.4	11.2	0.2	5.1	0.2	0.7	6.2	5.5	5.5
17	0.2	0.9	0.4	11.2	0.2	5.1	0.2	0.7	6.2	5.5	5.5
18	0.4	1.5	1.3	14.8	0.3	8.5	0.3	0.0	0.0	0.0	0.0
19	0.2	1.3	1.2	13.4	0.2	7.7	0.2	0.0	0.0	0.0	0.0
20	0.2	0.9	0.4	11.2	0.2	5.1	0.2	0.7	6.2	5.5	5.5
21	0.4	1.5	1.3	14.8	0.3	8.5	0.3	0.0	0.0	0.0	0.0
22	0.2	0.9	0.4	11.2	0.2	5.1	0.2	0.7	6.2	5.5	5.5
23	0.2	0.9	0.4	11.2	0.2	5.1	0.2	0.7	6.2	5.5	5.5
24	0.3	1.5	1.4	14.9	0.3	8.6	0.3	0.0	0.0	0.0	0.0
25	0.3	1.5	1.4	14.9	0.3	8.6	0.3	0.0	0.0	0.0	0.0
28	0.2	1.3	1.2	13.4	0.2	7.7	0.2	0.0	0.0	0.0	57.2
29	0.2	0.9	0.4	11.2	0.2	5.1	0.2	0.7	6.2	5.5	5.5
30	0.2	0.9	0.4	11.2	0.2	5.1	0.2	0.7	6.2	5.5	5.5
31	0.2	0.9	0.4	11.2	0.2	5.1	0.2	0.7	6.2	5.5	5.5
32	0.2	0.9	0.4	11.2	0.2	5.1	0.2	0.7	6.2	5.5	5.5
33	0.2	0.9	0.4	11.2	0.2	5.1	0.2	0.7	6.2	5.5	5.5
34	0.2	0.9	0.4	11.2	0.2	5.1	0.2	0.7	6.2	5.5	5.5
35	0.2	0.9	0.4	11.2	0.2	5.1	0.2	0.7	6.2	5.5	5.5
36	0.2	0.9	0.4	11.2	0.2	5.1	0.2	0.7	6.2	5.5	5.5
37	0.2	0.9	0.4	11.2	0.2	5.1	0.2	0.7	6.2	5.5	5.5
38	0.2	0.9	0.4	11.2	0.2	5.1	0.2	0.7	6.2	5.5	5.5
39	0.2	0.9	0.4	11.2	0.2	5.1	0.2	0.7	6.2	5.5	5.5
40	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Zone	To Gates										
	13	14	15	16	17	18	19	20	21	22	23
1	9.6	0.0	1.2	1.2	1.2	1.2	2.4	4.7	13.1	7.5	9.5

YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Zone	To Gates										
	13	14	15	16	17	18	19	20	21	22	23
2	9.6	0.0	1.2	1.2	1.2	1.2	2.4	4.7	13.1	7.5	9.5
3	9.6	0.0	1.2	1.2	1.2	1.2	2.4	4.7	13.1	7.5	9.5
4	9.6	0.0	1.2	1.2	1.2	1.2	2.4	4.7	13.1	7.5	9.5
5	9.6	0.0	1.2	1.2	1.2	1.2	2.4	4.7	13.1	7.5	9.5
6	9.6	0.0	1.2	1.2	1.2	1.2	2.4	4.7	13.1	7.5	9.5
7	9.6	0.0	1.2	1.2	1.2	1.2	2.4	4.7	13.1	7.5	9.5
8	0.0	0.0	1.7	1.7	1.7	1.7	0.0	0.0	0.0	57.2	0.0
9	0.0	1.4	1.4	1.4	1.4	1.4	1.2	0.0	1.4	0.0	0.0
10	0.0	0.0	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
11	9.6	0.0	1.2	1.2	1.2	1.2	2.4	4.7	13.1	7.5	9.5
12	0.0	0.0	1.2	1.2	1.2	1.2	0.0	0.0	0.0	0.0	0.0
13	9.6	0.0	1.2	1.2	1.2	1.2	2.4	4.7	13.1	7.5	9.5
14	9.6	0.0	1.2	1.2	1.2	1.2	2.4	4.7	13.1	7.5	9.5
15	9.6	0.0	1.2	1.2	1.2	1.2	2.4	4.7	13.1	7.5	9.5
16	9.6	0.0	1.2	1.2	1.2	1.2	2.4	4.7	13.1	7.5	9.5
17	9.6	0.0	1.2	1.2	1.2	1.2	2.4	4.7	13.1	7.5	9.5
18	0.0	0.0	1.2	1.2	1.2	1.2	0.0	59.7	0.0	0.0	0.0
19	0.0	0.0	1.7	1.7	1.7	1.7	0.0	0.0	57.2	0.0	0.0
20	9.6	0.0	1.2	1.2	1.2	1.2	2.4	4.7	13.1	7.5	9.5
21	59.7	0.0	1.2	1.2	1.2	1.2	0.0	0.0	0.0	0.0	0.0
22	9.6	0.0	1.2	1.2	1.2	1.2	2.4	4.7	13.1	7.5	9.5
23	9.6	0.0	1.2	1.2	1.2	1.2	2.4	4.7	13.1	7.5	9.5
24	0.0	0.0	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	60.6
25	0.0	0.0	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	1.7	1.7	1.7	1.7	0.0	0.0	0.0	0.0	0.0
29	9.6	0.0	1.2	1.2	1.2	1.2	2.4	4.7	13.1	7.5	9.5
30	9.6	0.0	1.2	1.2	1.2	1.2	2.4	4.7	13.1	7.5	9.5
31	9.6	0.0	1.2	1.2	1.2	1.2	2.4	4.7	13.1	7.5	9.5
32	9.6	0.0	1.2	1.2	1.2	1.2	2.4	4.7	13.1	7.5	9.5
33	9.6	0.0	1.2	1.2	1.2	1.2	2.4	4.7	13.1	7.5	9.5
34	9.6	0.0	1.2	1.2	1.2	1.2	2.4	4.7	13.1	7.5	9.5
35	9.6	0.0	1.2	1.2	1.2	1.2	2.4	4.7	13.1	7.5	9.5
36	9.6	0.0	1.2	1.2	1.2	1.2	2.4	4.7	13.1	7.5	9.5
37	9.6	0.0	1.2	1.2	1.2	1.2	2.4	4.7	13.1	7.5	9.5
38	9.6	0.0	1.2	1.2	1.2	1.2	2.4	4.7	13.1	7.5	9.5
39	9.6	0.0	1.2	1.2	1.2	1.2	2.4	4.7	13.1	7.5	9.5
40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Zone	To Gates				
	24	27	28	29	30
1	9.5	1.4	1.4	0.0	0.0
2	9.5	1.4	1.4	0.0	0.0
3	9.5	1.4	1.4	0.0	0.0
4	9.5	1.4	1.4	0.0	0.0
5	9.5	1.4	1.4	0.0	0.0
6	9.5	1.4	1.4	0.0	0.0

YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Zone	To Gates				
	24	27	28	29	30
7	9.5	1.4	1.4	0.0	0.0
8	0.0	1.7	1.7	3.3	5.1
9	0.0	1.4	1.4	1.4	1.4
10	0.0	1.1	1.1	2.2	3.3
11	9.5	1.4	1.4	0.0	0.0
12	0.0	1.2	1.2	2.4	3.6
13	9.5	1.4	1.4	0.0	0.0
14	9.5	1.4	1.4	0.0	0.0
15	9.5	1.4	1.4	0.0	0.0
16	9.5	1.4	1.4	0.0	0.0
17	9.5	1.4	1.4	0.0	0.0
18	0.0	1.2	1.2	2.4	3.6
19	0.0	1.7	1.7	3.3	5.1
20	9.5	1.4	1.4	0.0	0.0
21	0.0	1.2	1.2	2.4	3.6
22	9.5	1.4	1.4	0.0	0.0
23	9.5	1.4	1.4	0.0	0.0
24	0.0	1.1	1.1	2.2	3.3
25	60.6	1.1	1.1	2.2	3.3
28	0.0	1.7	1.7	3.3	5.1
29	9.5	1.4	1.4	0.0	0.0
30	9.5	1.4	1.4	0.0	0.0
31	9.5	1.4	1.4	0.0	0.0
32	9.5	1.4	1.4	0.0	0.0
33	9.5	1.4	1.4	0.0	0.0
34	9.5	1.4	1.4	0.0	0.0
35	9.5	1.4	1.4	0.0	0.0
36	9.5	1.4	1.4	0.0	0.0
37	9.5	1.4	1.4	0.0	0.0
38	9.5	1.4	1.4	0.0	0.0
39	9.5	1.4	1.4	0.0	0.0
40	0.0	0.0	0.0	0.0	0.0

YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Turning Movement Report
 PM PEAK

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 SR 20 / Sunrise													
Base	0	372	0	0	350	13	52	0	10	0	0	0	797
Added	12	697	413	52	612	86	129	146	11	279	84	74	2595
Total	12	1069	413	52	962	99	181	146	21	279	84	74	3392
#2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln													
Base	6	435	0	0	496	276	118	0	7	0	0	0	1338
Added	59	895	0	0	651	78	86	0	42	0	0	0	1811
Total	65	1330	0	0	1147	354	204	0	49	0	0	0	3149
#3 Sioc St / Bridge St (SR 20)													
Base	82	404	68	35	552	17	31	51	116	109	41	59	1565
Added	297	671	14	11	510	94	164	26	194	25	48	16	2070
Total	379	1075	82	46	1062	111	195	77	310	134	89	75	3635
#4 Market St / Bridge St (SR 20)													
Base	301	86	0	0	67	45	31	0	362	0	0	0	892
Added	255	41	60	15	19	14	20	158	241	56	98	20	997
Total	556	127	60	15	86	59	51	158	603	56	98	20	1889
#6 Market St (SR 20)/ 5th St													
Base	48	15	33	59	22	29	14	378	43	20	344	24	1029
Added	120	2	14	4	4	14	22	307	99	17	270	4	877
Total	168	17	47	63	26	43	36	685	142	37	614	28	1906
#8 Market St / 13th St													
Base	11	292	0	0	320	16	22	0	22	0	0	0	683
Added	6	517	0	0	478	46	9	0	16	0	0	0	1072
Total	17	809	0	0	798	62	31	0	38	0	0	0	1755
#9 Main St / 13th St / Lurline St.													
Base	53	261	0	0	272	17	21	0	63	0	0	0	687
Added	148	378	0	0	408	22	20	0	117	0	0	0	1093
Total	201	639	0	0	680	39	41	0	180	0	0	0	1780
#10 Fremont St / 10th St (SR 20)													
Base	29	189	76	85	162	5	4	20	18	69	33	75	765
Added	38	400	162	54	340	4	8	216	64	134	118	88	1626
Total	67	589	238	139	502	9	12	236	82	203	151	163	2391
#11 Will S. Green / SR 20													
Base	9	0	22	0	0	0	0	286	10	25	235	0	587
Added	239	435	171	232	363	72	61	468	218	78	475	211	3023
Total	248	435	193	232	363	72	61	754	228	103	710	211	3610

YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#12													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	24	8	0	0	0	739	869	0	1	0	0	0	1641
Total	24	8	0	0	0	739	869	0	1	0	0	0	1641
#13 SR 20 / railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	315	196	67	239	122	61	72	440	188	59	448	279	2486
Total	315	196	67	239	122	61	72	440	188	59	448	279	2486
#14 Fremont / Bridge (SR 20)													
Base	103	394	0	1	532	29	14	1	128	2	2	5	1211
Added	204	499	0	0	406	18	15	0	219	0	0	0	1361
Total	307	893	0	1	938	47	29	1	347	2	2	5	2572
#15 Market St / 10th St (SR 20)													
Base	87	18	138	12	9	10	7	246	124	87	240	9	987
Added	319	23	112	0	13	14	13	216	265	89	190	1	1255
Total	406	41	250	12	22	24	20	462	389	176	430	10	2242
#19													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	9	4	0	1	44	8	20	111	12	0	64	0	273
Total	9	4	0	1	44	8	20	111	12	0	64	0	273
#25 Fremont / 3rd													
Base	63	25	8	6	21	8	12	177	59	5	165	8	557
Added	60	52	1	6	46	12	7	228	32	1	213	8	666
Total	123	77	9	12	67	20	19	405	91	6	378	16	1223
#28 Main St / 8th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	1	0	0	0	0	23	0	3	31	0	58
Total	0	0	1	0	0	0	0	23	0	3	31	0	58
#30 Main St / 3rd St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	85	1	5	72	15	16	8	0	2	3	7	214
Total	0	85	1	5	72	15	16	8	0	2	3	7	214
#32 Sioc / 3rd													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	45	78	3	15	65	0	0	366	62	6	398	34	1072
Total	45	78	3	15	65	0	0	366	62	6	398	34	1072

YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#33 Sioc / 5th													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	16	38	28	27	40	61	121	373	37	37	390	15	1183
Total	16	38	28	27	40	61	121	373	37	37	390	15	1183
#34 Sioc / 8th													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	18	11	18	79	20	3	3	434	33	19	375	73	1086
Total	18	11	18	79	20	3	3	434	33	19	375	73	1086
#35 (SR 20) 10th / Sioc													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	492	385	85	452	0	0	0	0	287	0	109	1810
Total	0	492	385	85	452	0	0	0	0	287	0	109	1810
#43													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	17	127	24	218	128	71	55	24	10	44	35	102	855
Total	17	127	24	218	128	71	55	24	10	44	35	102	855
#45 Railroad / Wil S Green													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	180	0	3	5	432	0	0	528	190	1338
Total	0	0	0	180	0	3	5	432	0	0	528	190	1338
#48 Wil S Green / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	69	378	0	205	361	92	283	184	151	0	92	184	1999
Total	69	378	0	205	361	92	283	184	151	0	92	184	1999
#50													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	189	6	274	179	0	0	0	0	3	0	223	874
Total	0	189	6	274	179	0	0	0	0	3	0	223	874
#52 Clay St . 8th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	10	18	0	0	25	41	77	12	27	0	6	0	216
Total	10	18	0	0	25	41	77	12	27	0	6	0	216
#54 Ckay St / 3rd St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	29	35	2	10	41	72	116	157	20	3	152	14	651
Total	29	35	2	10	41	72	116	157	20	3	152	14	651

 YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#55 Bridge / Clay													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	130	319	65	21	280	14	23	60	84	60	41	15	1112
Total	130	319	65	21	280	14	23	60	84	60	41	15	1112
#60 East collector													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	220	303	0	0	192	27	49	0	293	0	0	0	1084
Total	220	303	0	0	192	27	49	0	293	0	0	0	1084
#63 sr 20 / local													
Base	0	424	0	0	363	0	0	0	0	0	0	0	787
Added	0	869	14	0	752	0	0	0	0	8	0	0	1643
Total	0	1293	14	0	1115	0	0	0	0	8	0	0	2430
#64 SR 20 / Moon Bend													
Base	0	441	0	0	504	0	0	0	0	0	0	0	945
Added	0	1324	35	150	925	0	0	0	0	54	0	264	2752
Total	0	1765	35	150	1429	0	0	0	0	54	0	264	3697
#71 3rd / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	34	31	0	0	35	259	294	0	10	0	0	0	663
Total	34	31	0	0	35	259	294	0	10	0	0	0	663
#72 5th / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	19	39	5	11	28	55	101	288	7	9	247	37	846
Total	19	39	5	11	28	55	101	288	7	9	247	37	846
#76 8th / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	6	27	8	22	40	4	17	366	3	14	263	45	815
Total	6	27	8	22	40	4	17	366	3	14	263	45	815
#78 8th / N Brookins													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	29	17	10	11	24	22	18	25	16	8	16	5	201
Total	29	17	10	11	24	22	18	25	16	8	16	5	201
#80 8th St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	70	19	12	14	14	21	14	246	39	7	253	24	733
Total	70	19	12	14	14	21	14	246	39	7	253	24	733

YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#81 3rd St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	21	5	15	27	8	9	5	286	23	15	357	55	826
Total	21	5	15	27	8	9	5	286	23	15	357	55	826
#82 5th St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	49	0	5	6	265	0	0	279	108	712
Total	0	0	0	49	0	5	6	265	0	0	279	108	712
#83 Wescott / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	376	398	0	0	216	99	63	0	261	0	0	0	1413
Total	376	398	0	0	216	99	63	0	261	0	0	0	1413
#84 8th / Railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	43	0	16	28	583	0	0	702	72	1444
Total	0	0	0	43	0	16	28	583	0	0	702	72	1444
#95 3rd St / Railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	6	0	7	10	616	0	0	777	11	1427
Total	0	0	0	6	0	7	10	616	0	0	777	11	1427
#99 SR 20 / FARINON													
Base	2	328	0	0	372	6	9	0	3	0	0	0	720
Added	475	839	0	0	741	161	283	0	618	0	0	0	3117
Total	477	1167	0	0	1113	167	292	0	621	0	0	0	3837
#138 sr 20 / Wilson													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	140	0	67	46	559	0	0	725	99	1636
Total	0	0	0	140	0	67	46	559	0	0	725	99	1636
#142 Wescott / Farinon													
Base	0	67	0	0	101	0	0	0	0	0	0	0	168
Added	0	21	601	276	30	6	3	10	0	775	18	502	2242
Total	0	88	601	276	131	6	3	10	0	775	18	502	2410
#147 SR 20 / CIP MF Access													
Base	0	424	0	0	363	0	0	0	0	0	0	0	787
Added	32	868	0	0	733	26	15	0	17	0	0	0	1691
Total	32	1292	0	0	1096	26	15	0	17	0	0	0	2478

 YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#148													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	88	36	54	38	31	44	23	0	33	30	0	21	398
Total	88	36	54	38	31	44	23	0	33	30	0	21	398

YEAR 2030 TOTAL - Pm peak hour
General Plan Update 11/20/06 distribution
PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Signal Warrant Summary Report

Intersection	Base Met [Del / Vol]	Future Met [Del / Vol]
# 1 SR 20 / Sunrise	??? / ???	Yes / Yes
# 2 Wescott Rd / Bridge St (SR 20)/ Tut	??? / ???	Yes / Yes
# 14 Fremont / Bridge (SR 20)	??? / ???	Yes / Yes
# 99 SR 20 / FARINON	??? / ???	Yes / Yes
#142 Wescott / Farinon	??? / ???	Yes / Yes

YEAR 2030 TOTAL - Pm peak hour
General Plan Update 11/20/06 distribution
PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Peak Hour Delay Signal Warrant Report

Intersection #1 SR 20 / Sunrise

Future Volume Alternative: Peak Hour Warrant Met

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Lanes, Initial Vol, and ApproachDel.

Approach[eastbound][lanes=2][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]

SUCCEED - Vehicle-hours >= 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=348]

SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=3392]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=2][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]

SUCCEED - Vehicle-hours >= 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=437]

SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=3392]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

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 YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #1 SR 20 / Sunrise

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1	0	1	0	1	0	1	0	0	1	0	1
Initial Vol:	12	1069	413	52	962	99	181	146	21	279	84	74
Major Street Volume:	2607											
Minor Approach Volume:	437											
Minor Approach Volume Threshold:	-38 [less than minimum of 150]											

SIGNAL WARRANT DISCLAIMER

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YEAR 2030 TOTAL - Pm peak hour
General Plan Update 11/20/06 distribution
PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Peak Hour Delay Signal Warrant Report

Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Future Volume Alternative: Peak Hour Warrant Met

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Lanes, Initial Vol, and ApproachDel.

Approach[eastbound][lanes=2][control=Stop Sign]
Signal Warrant Rule #1: [vehicle-hours=536.4]
SUCCEED - Vehicle-hours >= 5 for two or more lane approach.
Signal Warrant Rule #2: [approach volume=253]
SUCCEED - Approach volume >= 150 for two or more lane approach.
Signal Warrant Rule #3: [approach count=3][total volume=3149]
SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

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 YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound								
Movement:	L	T	R	L	T	R	L	T	R	L	T	R						
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign								
Lanes:	0	1	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0
Initial Vol:	65	1330	0	0	1147	354	204	0	49	0	0	0						
Major Street Volume:	2896																	
Minor Approach Volume:	253																	
Minor Approach Volume Threshold:	-83 [less than minimum of 150]																	

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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YEAR 2030 TOTAL - Pm peak hour
General Plan Update 11/20/06 distribution
PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Peak Hour Delay Signal Warrant Report

Intersection #14 Fremont / Bridge (SR 20)

Future Volume Alternative: Peak Hour Warrant Met

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Lanes, Initial Vol, and ApproachDel.

Approach[eastbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=472.8]

SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=377]

SUCCEED - Approach volume greater than or equal to 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=2572]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]

SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=9]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=2572]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

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 YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #14 Fremont / Bridge (SR 20)

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1	0	0	1	0	0	0	0	1	0	0	1
Initial Vol:	307	893	0	1	938	47	29	1	347	2	2	5
Major Street Volume:	2186											
Minor Approach Volume:	377											
Minor Approach Volume Threshold:	15 [less than minimum of 100]											

SIGNAL WARRANT DISCLAIMER

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 YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Peak Hour Delay Signal Warrant Report

Intersection #99 SR 20 / FARINON

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	1 0 1 0 0	0 0 1 0 1	1 0 0 0 1	0 0 0 0 0
Initial Vol:	477 1167 0	0 1113 167	292 0 621	0 0 0 0
ApproachDel:	xxxxxx	xxxxxx	xxxxxx	xxxxxx

Approach[eastbound][lanes=2][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=OVERFLOW]

SUCCEED - Vehicle-hours >= 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=913]

SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=3837]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #99 SR 20 / FARINON

Future Volume Alternative: Peak Hour Warrant Met

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Lanes:	1	0	1	0	0	1	1	0	0	0	0	0
Initial Vol:	477	1167	0	0	1113	167	292	0	621	0	0	0
Major Street Volume:	2924											
Minor Approach Volume:	913											
Minor Approach Volume Threshold:	-87 [less than minimum of 150]											

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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YEAR 2030 TOTAL - Pm peak hour
General Plan Update 11/20/06 distribution
PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Peak Hour Delay Signal Warrant Report

Intersection #142 Wescott / Farinon

Future Volume Alternative: Peak Hour Warrant Met

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Lanes, Initial Vol, and ApproachDel.

Approach[eastbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=5.9]

SUCCEED - Vehicle-hours greater than or equal to 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=13]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=2410]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

Approach[westbound][lanes=2][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=934.2]

SUCCEED - Vehicle-hours >= 5 for two or more lane approach.

Signal Warrant Rule #2: [approach volume=1295]

SUCCEED - Approach volume >= 150 for two or more lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=2410]

SUCCEED - Total volume greater than or equal to 800 for intersection with four or more approaches.

SIGNAL WARRANT DISCLAIMER

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YEAR 2030 TOTAL - Pm peak hour
General Plan Update 11/20/06 distribution
PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #142 Wescott / Farinon

Future Volume Alternative: Peak Hour Warrant Met

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Approach, Movement, Control, Lanes, and Initial Vol.

Major Street Volume: 1102
Minor Approach Volume: 1295
Minor Approach Volume Threshold: 332

SIGNAL WARRANT DISCLAIMER

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YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Level Of Service Computation Report
 2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 SR 20 / Sunrise

Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1	0	1	0	1	0	1	0	0	1	0	0

Volume Module: PM Peak Hour

Base Vol:	0	372	0	0	350	13	52	0	10	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	372	0	0	350	13	52	0	10	0	0	0
Added Vol:	12	697	413	52	612	86	129	146	11	279	84	74
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	1069	413	52	962	99	181	146	21	279	84	74
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	14	1250	483	61	1125	116	212	171	25	326	98	87
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	14	1250	483	61	1125	116	212	171	25	326	98	87

Critical Gap Module:

Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3

Capacity Module:

Cnflct Vol:	1241	xxxx	xxxxx	1733	xxxx	xxxxx	2859	3008	1125	2681	2641	1250
Potent Cap.:	561	xxxx	xxxxx	363	xxxx	xxxxx	11	13	249	14	23	211
Move Cap.:	561	xxxx	xxxxx	363	xxxx	xxxxx	0	11	249	0	19	211
Volume/Cap:	0.03	xxxx	xxxx	0.17	xxxx	xxxx	xxxxx	15.68	0.10	xxxxx	5.19	0.41

Level Of Service Module:

2Way95thQ:	0.1	xxxx	xxxxx	0.6	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	
Control Del:	11.6	xxxx	xxxxx	16.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	
LOS by Move:	B	*	*	C	*	*	*	*	*	*	*	*	
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	12	xxxx	xxxx	33	
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	25.7	xxxxx	xxxx	22.1	
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	7244	xxxxx	xxxx	2308	
Shared LOS:	*	*	*	*	*	*	*	*	F	*	*	F	
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx			
ApproachLOS:	*			*			F			F			

Note: Queue reported is the number of cars per lane.

YEAR 2030 TOTAL - Pm peak hour
General Plan Update 11/20/06 distribution
PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Average Delay (sec/veh): 613.6 Worst Case Level Of Service: F[7632.4]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Table with 12 columns representing traffic directions. Rows include Volume Module: PM Peak Hour, Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Vol.

Table with 12 columns. Rows include Critical Gap Module: Critical Gp and FollowUpTim.

Table with 12 columns. Rows include Capacity Module: Cnflict Vol, Potent Cap., Move Cap., and Volume/Cap.

Table with 12 columns. Rows include Level Of Service Module: 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

 Intersection #3 Sioc St / Bridge St (SR 20)

Cycle (sec): 80 Critical Vol./Cap.(X): 1.669
 Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 240.5
 Optimal Cycle: 180 Level Of Service: F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	1	0	1	0	1	0	1	0	1	0

Volume Module: PM Peak Hour

Base Vol:	82	404	68	35	552	17	31	51	116	109	41	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	82	404	68	35	552	17	31	51	116	109	41	59
Added Vol:	297	671	14	11	510	94	164	26	194	25	48	16
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	379	1075	82	46	1062	111	195	77	310	134	89	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	443	1257	96	54	1242	130	228	90	363	157	104	88
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	443	1257	96	54	1242	130	228	90	363	157	104	88
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	443	1257	96	54	1242	130	228	90	363	157	104	88

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.83	0.93	0.97	0.97	0.93	0.86	0.86	0.95	0.95	0.83
Lanes:	1.00	1.00	1.00	1.00	0.91	0.09	1.00	0.20	0.80	0.60	0.40	1.00
Final Sat.:	1769	1862	1583	1769	1662	174	1769	326	1313	1086	722	1583

Capacity Analysis Module:

Vol/Sat:	0.25	0.68	0.06	0.03	0.75	0.75	0.13	0.28	0.28	0.14	0.14	0.06
Crit Moves:	****			****			****			****		
Green/Cycle:	0.15	0.57	0.57	0.03	0.45	0.45	0.17	0.17	0.17	0.09	0.09	0.09
Volume/Cap:	1.67	1.18	0.11	1.18	1.67	1.67	0.78	1.67	1.67	1.67	1.67	0.64
Delay/Veh:	350.9	108	7.8	229.8	328	328.3	44.5	350	350.0	363.9	364	45.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	350.9	108	7.8	229.8	328	328.3	44.5	350	350.0	363.9	364	45.2
LOS by Move:	F	F	A	F	F	F	D	F	F	F	F	D
HCM2kAvgQ:	34	57	1	4	102	102	8	35	35	21	21	3

Note: Queue reported is the number of cars per lane.

YEAR 2030 TOTAL - Pm peak hour
General Plan Update 11/20/06 distribution
PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #14 Fremont / Bridge (SR 20)

Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]

Table with 5 columns: Approach, North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Table with 13 columns for volume data. Rows include Volume Module, Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Vol.

Table with 13 columns for critical gap and follow-up time. Rows include Critical Gap Module and FollowUpTim.

Table with 13 columns for capacity data. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Table with 13 columns for level of service data. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #99 SR 20 / FARINON

Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1	0	0	1	0	0	1	0	0	1	0	0

Volume Module:

Base Vol:	2	328	0	0	372	6	9	0	3	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	328	0	0	372	6	9	0	3	0	0	0
Added Vol:	475	839	0	0	741	161	283	0	618	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	477	1167	0	0	1113	167	292	0	621	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	558	1365	0	0	1302	195	342	0	726	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	558	1365	0	0	1302	195	342	0	726	0	0	0

Critical Gap Module:

Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx

Capacity Module:

Cnflct Vol:	1497	xxxx	xxxxx	xxxx	xxxx	xxxxx	3782	xxxx	1302	xxxx	xxxx	xxxxx
Potent Cap.:	448	xxxx	xxxxx	xxxx	xxxx	xxxxx	5	xxxx	197	xxxx	xxxx	xxxxx
Move Cap.:	448	xxxx	xxxxx	xxxx	xxxx	xxxxx	0	xxxx	197	xxxx	xxxx	xxxxx
Volume/Cap:	1.25	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	3.70	xxxx	xxxx	xxxx

Level Of Service Module:

2Way95thQ:	22.9	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	70.1	xxxx	xxxx	xxxxx			
Control Del:	155.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	1261	xxxxx	xxxx	xxxxx			
LOS by Move:	F	*	*	*	*	*	*	*	F	*	*	*			
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx									
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx									
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx									
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx					
ApproachLOS:	*			*			F			*					

Note: Queue reported is the number of cars per lane.

YEAR 2030 TOTAL - Pm peak hour
General Plan Update 11/20/06 distribution
PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #142 Wescott / Farinon

Average Delay (sec/veh): 1405.8 Worst Case Level Of Service: F[2597.1]

Table with 4 columns: North Bound, South Bound, East Bound, West Bound. Rows include Movement, Control, Rights, and Lanes.

Volume Module: Table with 13 columns for traffic flow metrics. Rows include Base Vol, Growth Adj, Initial Bse, Added Vol, PasserByVol, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, and Final Vol.

Critical Gap Module: Table with 13 columns for gap metrics. Rows include Critical Gp and FollowUpTim.

Capacity Module: Table with 13 columns for capacity metrics. Rows include Cnflct Vol, Potent Cap., Move Cap., and Volume/Cap.

Level Of Service Module: Table with 13 columns for LOS metrics. Rows include 2Way95thQ, Control Del, LOS by Move, Movement, Shared Cap., SharedQueue, Shrd ConDel, Shared LOS, ApproachDel, and ApproachLOS.

Note: Queue reported is the number of cars per lane.

Appendix G: Cumulative (Year 2030) Plus Project Results

YEAR 2030 TOTAL - mitigated
General Plan Update 11/20/06 distribution
PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Scenario Report

Scenario: Existing Conditions

Command: Default Command

Volume: existing pm

Geometry: existing

Impact Fee: Default Impact Fee

Trip Generation: pm peak hour

Trip Distribution: cumulative

Paths: current

Routes: Default Routes

Configuration: Default Configuration

YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Trip Generation Report

Forecast for PM PEAK

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	Vann 1 - RES	667.00	SF RES	0.65	0.36	434	240	674	4.3
1	Vann 1 - RES	66.00	MF RES	0.40	0.22	26	15	41	0.3
	Zone 1 Subtotal					460	255	715	4.5
2	Vann 2 - RES	667.00	sf res	0.65	0.36	434	240	674	4.3
2	Vann 2 - RES	66.00	mf res	0.40	0.22	26	15	41	0.3
	Zone 2 Subtotal					460	255	715	4.5
3	Brookins Ran	444.00	SF RES	0.65	0.36	289	160	449	2.8
	Zone 3 Subtotal					289	160	449	2.8
4	Brookins Ran	195.00	SF RES	0.65	0.36	127	70	197	1.2
	Zone 4 Subtotal					127	70	197	1.2
5	Tenant Estat	182.00	SF RES	0.65	0.36	118	66	184	1.2
5	Tenant Estat	0.00	MF RES	0.40	0.22	0	0	0	0.0
	Zone 5 Subtotal					118	66	184	1.2
6	Riverbend Es	331.00	SF RES	0.65	0.36	215	119	334	2.1
6	Riverbend Es	56.00	MF RES	0.40	0.22	22	12	34	0.2
	Zone 6 Subtotal					237	131	368	2.3
7	Halsey	293.00	SF RES	0.65	0.36	190	105	295	1.9
	Zone 7 Subtotal					190	105	295	1.9
8	CIP rezone	12.00	gas	3.34	3.35	40	40	80	0.5
8	CIP rezone	10.00	restaurant	4.66	2.98	47	30	77	0.5
8	CIP rezone	60.00	motel	0.25	0.22	15	13	28	0.2
8	CIP rezone	25.00	office - servi	0.21	1.29	5	32	37	0.2
	Zone 8 Subtotal					107	115	222	1.4
9	Casino Expan	1.00	phase 1	23.00	50.00	23	50	73	0.5
9	Casino Expan	1.00	phase 2	188.00	252.00	188	252	440	2.8
	Zone 9 Subtotal					211	302	513	3.3
10	Reserve_ Ind	139.39	INDUSTRIAL	0.15	0.59	21	82	103	0.7
	Zone 10 Subtotal					21	82	103	0.7
11	NW Reserve	565.00	SF RES	0.65	0.36	367	203	570	3.6
	Zone 11 Subtotal					367	203	570	3.6
12	NORTHWEST	557.29	OP LI	0.27	1.07	150	596	746	4.7
	Zone 12 Subtotal					150	596	746	4.7

YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
13	NW Reserve	70.00	SF RES	0.65	0.36	46	25	71	0.5
	Zone 13 Subtotal					46	25	71	0.5
14	DT	0.00	mf	0.40	0.20	0	0	0	0.0
14	DT	61.00	sf res	0.65	0.36	40	22	62	0.4
	Zone 14 Subtotal					40	22	62	0.4
15	DT	0.00	MF	0.40	0.22	0	0	0	0.0
15	DT	61.00	sf res	0.65	0.36	40	22	62	0.4
	Zone 15 Subtotal					40	22	62	0.4
16		347.00	SF res	0.65	0.36	226	125	351	2.2
16		46.00	MF res	0.40	0.22	18	10	28	0.2
	Zone 16 Subtotal					244	135	379	2.4
17	EASTSIDE 1	1148.00	SF RES	0.65	0.36	746	413	1159	7.3
17	EASTSIDE 1	0.00	MF RES	0.40	0.22	0	0	0	0.0
	Zone 17 Subtotal					746	413	1159	7.3
18	EAST	431.77	OP LI	0.27	1.07	117	462	579	3.7
	Zone 18 Subtotal					117	462	579	3.7
19	CP	326.70	COMM PRO	2.05	2.79	670	911	1581	10.0
	Zone 19 Subtotal					670	911	1581	10.0
20	URBAN RESERV	83.00	A-T	0.65	0.36	54	30	84	0.5
20	URBAN RESERV	7.00	A-G	0.65	0.36	5	3	8	0.1
	Zone 20 Subtotal					59	33	92	0.6
21	SW INDUSTRIA	707.76	OP LI	0.27	1.07	191	757	948	6.0
21	SW INDUSTRIA	312.24	IND	0.13	0.55	41	172	213	1.4
	Zone 21 Subtotal					232	929	1161	7.4
22	Reserve Sout	38.00	SF RES	0.65	0.36	25	14	39	0.2
	Zone 22 Subtotal					25	14	39	0.2
23	URBAN RESERV	38.00	SF RES	0.65	0.36	25	14	39	0.2
	Zone 23 Subtotal					25	14	39	0.2
24	CIP	1478.60	INDUSTRIAL	0.13	0.55	192	813	1005	6.4
	Zone 24 Subtotal					192	813	1005	6.4
25	CIP SOUTH	1478.60	INDUSTRIAL	0.15	0.59	222	872	1094	6.9
	Zone 25 Subtotal					222	872	1094	6.9
28	VANN 3 - NO	272.25	COMM / PRO	2.05	2.79	558	760	1318	8.4

YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
	Zone 28 Subtotal					558	760	1318	8.4
29	EASTSIDE 2	0.00	MF RES	0.40	0.22	0	0	0	0.0
29	EASTSIDE 2	0.00	SF RES	0.65	0.36	0	0	0	0.0
30	NW Reserve	0.00	MF RES	0.40	0.22	0	0	0	0.0
30	NW Reserve	70.00	SF RES	0.65	0.36	46	25	71	0.5
	Zone 30 Subtotal					46	25	71	0.5
31	SO of DT	306.00	sf res	0.65	0.36	199	110	309	2.0
	Zone 31 Subtotal					199	110	309	2.0
32	SO of DT	305.00	SF res	0.65	0.36	198	110	308	2.0
	Zone 32 Subtotal					198	110	308	2.0
33	DT	0.00	MF	0.40	0.22	0	0	0	0.0
33	DT	61.00	sf res	0.65	0.36	40	22	62	0.4
	Zone 33 Subtotal					40	22	62	0.4
34	DT	0.00	mf res	0.40	0.22	0	0	0	0.0
34	DT	61.00	sf res	0.65	0.36	40	22	62	0.4
	Zone 34 Subtotal					40	22	62	0.4
35	DT	61.00	sf	0.65	0.36	40	22	62	0.4
	Zone 35 Subtotal					40	22	62	0.4
36	CIP res	140.00	sf res	0.65	0.36	91	50	141	0.9
36	CIP res	0.00	mf res	0.40	0.22	0	0	0	0.0
	Zone 36 Subtotal					91	50	141	0.9
37	CIP HDR	146.00	HDR	0.40	0.22	58	32	90	0.6
	Zone 37 Subtotal					58	32	90	0.6
38	south estate	88.00	Estates	0.65	0.36	57	32	89	0.6
	Zone 38 Subtotal					57	32	89	0.6
39	So- Central	649.00	sf res	0.65	0.36	422	234	656	4.2
	Zone 39 Subtotal					422	234	656	4.2
40	Thru Traffic	0.81	growth	115.00	135.00	93	109	202	1.3
	Zone 40 Subtotal					93	109	202	1.3
TOTAL						7237	8533	15770	100.0

YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Turning Movement Report
 PM PEAK

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 SR 20 / Sunrise													
Base	0	372	0	0	350	13	52	0	10	0	0	0	797
Added	12	697	413	52	612	86	129	146	11	279	84	74	2595
Total	12	1069	413	52	962	99	181	146	21	279	84	74	3392
#2 Wescott Rd / Bridge St (SR 20) / Tuttle Ln													
Base	6	435	0	0	496	276	118	0	7	0	0	0	1338
Added	59	895	0	0	651	78	86	0	42	0	0	0	1811
Total	65	1330	0	0	1147	354	204	0	49	0	0	0	3149
#3 Sioc St / Bridge St (SR 20)													
Base	82	404	68	35	552	17	31	51	116	109	41	59	1565
Added	297	671	14	11	510	94	164	26	194	25	48	16	2070
Total	379	1075	82	46	1062	111	195	77	310	134	89	75	3635
#4 Market St / Bridge St (SR 20)													
Base	301	86	0	0	67	45	31	0	362	0	0	0	892
Added	255	41	60	15	19	14	20	158	241	56	98	20	997
Total	556	127	60	15	86	59	51	158	603	56	98	20	1889
#6 Market St (SR 20) / 5th St													
Base	48	15	33	59	22	29	14	378	43	20	344	24	1029
Added	120	2	14	4	4	14	22	307	99	17	270	4	877
Total	168	17	47	63	26	43	36	685	142	37	614	28	1906
#8 Market St / 13th St													
Base	11	292	0	0	320	16	22	0	22	0	0	0	683
Added	6	517	0	0	478	46	9	0	16	0	0	0	1072
Total	17	809	0	0	798	62	31	0	38	0	0	0	1755
#9 Main St / 13th St / Lurline St.													
Base	53	261	0	0	272	17	21	0	63	0	0	0	687
Added	148	378	0	0	408	22	20	0	117	0	0	0	1093
Total	201	639	0	0	680	39	41	0	180	0	0	0	1780
#10 Fremont St / 10th St (SR 20)													
Base	29	189	76	85	162	5	4	20	18	69	33	75	765
Added	38	400	162	54	340	4	8	216	64	134	118	88	1626
Total	67	589	238	139	502	9	12	236	82	203	151	163	2391
#11 Will S. Green / SR 20													
Base	9	0	22	0	0	0	0	286	10	25	235	0	587
Added	239	435	171	232	363	72	61	468	218	78	475	211	3023
Total	248	435	193	232	363	72	61	754	228	103	710	211	3610

YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#12													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	24	8	0	0	0	739	869	0	1	0	0	0	1641
Total	24	8	0	0	0	739	869	0	1	0	0	0	1641
#13 SR 20 / railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	315	196	67	239	122	61	72	440	188	59	448	279	2486
Total	315	196	67	239	122	61	72	440	188	59	448	279	2486
#14 Fremont / Bridge (SR 20)													
Base	103	394	0	1	532	29	14	1	128	2	2	5	1211
Added	204	499	0	0	406	18	15	0	219	0	0	0	1361
Total	307	893	0	1	938	47	29	1	347	2	2	5	2572
#15 Market St / 10th St (SR 20)													
Base	87	18	138	12	9	10	7	246	124	87	240	9	987
Added	319	23	112	0	13	14	13	216	265	89	190	1	1255
Total	406	41	250	12	22	24	20	462	389	176	430	10	2242
#19													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	9	4	0	1	44	8	20	111	12	0	64	0	273
Total	9	4	0	1	44	8	20	111	12	0	64	0	273
#25 Fremont / 3rd													
Base	63	25	8	6	21	8	12	177	59	5	165	8	557
Added	60	52	1	6	46	12	7	228	32	1	213	8	666
Total	123	77	9	12	67	20	19	405	91	6	378	16	1223
#28 Main St / 8th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	1	0	0	0	0	23	0	3	31	0	58
Total	0	0	1	0	0	0	0	23	0	3	31	0	58
#30 Main St / 3rd St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	85	1	5	72	15	16	8	0	2	3	7	214
Total	0	85	1	5	72	15	16	8	0	2	3	7	214
#32 Sioc / 3rd													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	45	78	3	15	65	0	0	366	62	6	398	34	1072
Total	45	78	3	15	65	0	0	366	62	6	398	34	1072

YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#33 Sioc / 5th													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	16	38	28	27	40	61	121	373	37	37	390	15	1183
Total	16	38	28	27	40	61	121	373	37	37	390	15	1183
#34 Sioc / 8th													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	18	11	18	79	20	3	3	434	33	19	375	73	1086
Total	18	11	18	79	20	3	3	434	33	19	375	73	1086
#35 (SR 20) 10th / Sioc													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	492	385	85	452	0	0	0	0	287	0	109	1810
Total	0	492	385	85	452	0	0	0	0	287	0	109	1810
#43													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	17	127	24	218	128	71	55	24	10	44	35	102	855
Total	17	127	24	218	128	71	55	24	10	44	35	102	855
#45 Railroad / Wil S Green													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	180	0	3	5	432	0	0	528	190	1338
Total	0	0	0	180	0	3	5	432	0	0	528	190	1338
#48 Wil S Green / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	69	378	0	205	361	92	283	184	151	0	92	184	1999
Total	69	378	0	205	361	92	283	184	151	0	92	184	1999
#50													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	189	6	274	179	0	0	0	0	3	0	223	874
Total	0	189	6	274	179	0	0	0	0	3	0	223	874
#52 Clay St . 8th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	10	18	0	0	25	41	77	12	27	0	6	0	216
Total	10	18	0	0	25	41	77	12	27	0	6	0	216
#54 Ckay St / 3rd St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	29	35	2	10	41	72	116	157	20	3	152	14	651
Total	29	35	2	10	41	72	116	157	20	3	152	14	651

YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#55 Bridge / Clay													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	130	319	65	21	280	14	23	60	84	60	41	15	1112
Total	130	319	65	21	280	14	23	60	84	60	41	15	1112
#60 East collector													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	220	303	0	0	192	27	49	0	293	0	0	0	1084
Total	220	303	0	0	192	27	49	0	293	0	0	0	1084
#63 sr 20 / local													
Base	0	424	0	0	363	0	0	0	0	0	0	0	787
Added	0	869	14	0	752	0	0	0	0	8	0	0	1643
Total	0	1293	14	0	1115	0	0	0	0	8	0	0	2430
#64 SR 20 / Moon Bend													
Base	0	441	0	0	504	0	0	0	0	0	0	0	945
Added	0	1324	35	150	925	0	0	0	0	54	0	264	2752
Total	0	1765	35	150	1429	0	0	0	0	54	0	264	3697
#71 3rd / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	34	31	0	0	35	259	294	0	10	0	0	0	663
Total	34	31	0	0	35	259	294	0	10	0	0	0	663
#72 5th / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	19	39	5	11	28	55	101	288	7	9	247	37	846
Total	19	39	5	11	28	55	101	288	7	9	247	37	846
#76 8th / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	6	27	8	22	40	4	17	366	3	14	263	45	815
Total	6	27	8	22	40	4	17	366	3	14	263	45	815
#78 8th / N Brookins													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	29	17	10	11	24	22	18	25	16	8	16	5	201
Total	29	17	10	11	24	22	18	25	16	8	16	5	201
#80 8th St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	70	19	12	14	14	21	14	246	39	7	253	24	733
Total	70	19	12	14	14	21	14	246	39	7	253	24	733

YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#81 3rd St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	21	5	15	27	8	9	5	286	23	15	357	55	826
Total	21	5	15	27	8	9	5	286	23	15	357	55	826
#82 5th St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	49	0	5	6	265	0	0	279	108	712
Total	0	0	0	49	0	5	6	265	0	0	279	108	712
#83 Wescott / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	376	398	0	0	216	99	63	0	261	0	0	0	1413
Total	376	398	0	0	216	99	63	0	261	0	0	0	1413
#84 8th / Railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	43	0	16	28	583	0	0	702	72	1444
Total	0	0	0	43	0	16	28	583	0	0	702	72	1444
#95 3rd St / Railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	6	0	7	10	616	0	0	777	11	1427
Total	0	0	0	6	0	7	10	616	0	0	777	11	1427
#99 SR 20 / FARINON													
Base	2	328	0	0	372	6	9	0	3	0	0	0	720
Added	475	839	0	0	741	161	283	0	618	0	0	0	3117
Total	477	1167	0	0	1113	167	292	0	621	0	0	0	3837
#138 sr 20 / Wilson													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	140	0	67	46	559	0	0	725	99	1636
Total	0	0	0	140	0	67	46	559	0	0	725	99	1636
#142 Wescott / Farinon													
Base	0	67	0	0	101	0	0	0	0	0	0	0	168
Added	0	21	601	276	30	6	3	10	0	775	18	502	2242
Total	0	88	601	276	131	6	3	10	0	775	18	502	2410
#147 SR 20 / CIP MF Access													
Base	0	424	0	0	363	0	0	0	0	0	0	0	787
Added	32	868	0	0	733	26	15	0	17	0	0	0	1691
Total	32	1292	0	0	1096	26	15	0	17	0	0	0	2478

 YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#148													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	88	36	54	38	31	44	23	0	33	30	0	21	398
Total	88	36	54	38	31	44	23	0	33	30	0	21	398

 YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Impact Analysis Report
 Level Of Service

Intersection		Base		Future		Change in	
		LOS	Del/ Veh	V/ C	LOS		Del/ Veh
# 1 SR 20 / Sunrise	A	8.0	0.171	C	26.8	0.772	+18.786 D/V
# 2 Wescott Rd / Bridge St (SR 20)	A	8.3	0.447	C	30.0	1.021	+21.684 D/V
# 3 Sioc St / Bridge St (SR 20)	B	19.1	0.408	D	48.5	1.039	+29.457 D/V
# 14 Fremont / Bridge (SR 20)	B	12.8	0.511	D	41.3	0.999	+28.435 D/V
# 99 SR 20 / FARINON	A	2.4	0.147	D	35.4	0.940	+32.950 D/V
#142 Wescott / Farinon	A	0.8	0.072	C	23.7	0.860	+22.946 D/V

YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Level Of Service Computation Report
 2000 HCM Operations Method (Future Volume Alternative)

 Intersection #1 SR 20 / Sunrise

Cycle (sec): 100 Critical Vol./Cap. (X): 0.772
 Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 26.8
 Optimal Cycle: 71 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	2	0	1	0	1	0	0	1	0	0

Volume Module: PM Peak Hour

Base Vol:	0	372	0	0	350	13	52	0	10	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	372	0	0	350	13	52	0	10	0	0	0
Added Vol:	12	697	413	52	612	86	129	146	11	279	84	74
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	1069	413	52	962	99	181	146	21	279	84	74
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	14	1250	483	61	1125	116	212	171	25	326	98	87
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	14	1250	483	61	1125	116	212	171	25	326	98	87
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	14	1250	483	61	1125	116	212	171	25	326	98	87

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.93	0.83	0.93	0.96	0.96	0.93	0.91	0.91
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	0.87	0.13	1.00	0.53	0.47
Final Sat.:	1769	3538	1583	1769	3538	1583	1769	1597	230	1769	921	811

Capacity Analysis Module:

Vol/Sat:	0.01	0.35	0.31	0.03	0.32	0.07	0.12	0.11	0.11	0.18	0.11	0.11
Crit Moves:	****			****			****			****		
Green/Cycle:	0.01	0.46	0.70	0.04	0.49	0.49	0.20	0.14	0.14	0.24	0.18	0.18
Volume/Cap:	0.65	0.77	0.44	0.77	0.65	0.15	0.60	0.77	0.77	0.77	0.60	0.60
Delay/Veh:	101.9	25.1	6.9	83.8	19.9	14.1	39.2	55.2	55.2	44.0	41.1	41.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	101.9	25.1	6.9	83.8	19.9	14.1	39.2	55.2	55.2	44.0	41.1	41.1
LOS by Move:	F	C	A	F	B	B	D	E	E	D	D	D
HCM2kAvgQ:	1	18	7	4	14	2	7	8	8	11	6	6

Note: Queue reported is the number of cars per lane.

 YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Level of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Cycle (sec): 100 Critical Vol./Cap.(X): 1.021
 Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 30.0
 Optimal Cycle: 180 Level Of Service: C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	T	R		L	T	R		L	T	R		L	T	R	
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:	Include				Ovl				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	2	0	0	0	1	0	1	0	0	0	0	0	0	0

Volume Module: PM Peak Hour

Base Vol:	6	435	0	0	496	276	118	0	7	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	435	0	0	496	276	118	0	7	0	0	0
Added Vol:	59	895	0	0	651	78	86	0	42	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	65	1330	0	0	1147	354	204	0	49	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	76	1556	0	0	1342	414	239	0	57	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	76	1556	0	0	1342	414	239	0	57	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	76	1556	0	0	1342	414	239	0	57	0	0	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	1.00	1.00	0.98	0.83	0.93	1.00	0.83	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1769	3538	0	0	1862	1583	1769	0	1583	0	0	0

Capacity Analysis Module:

Vol/Sat:	0.04	0.44	0.00	0.00	0.72	0.26	0.13	0.00	0.04	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green/Cycle:	0.04	0.75	0.00	0.00	0.71	0.84	0.13	0.00	0.13	0.00	0.00	0.00
Volume/Cap:	1.02	0.59	0.00	0.00	1.02	0.31	1.02	0.00	0.27	0.00	0.00	0.00
Delay/Veh:	158.1	6.0	0.0	0.0	44.9	1.9	107.7	0.0	39.8	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	158.1	6.0	0.0	0.0	44.9	1.9	107.7	0.0	39.8	0.0	0.0	0.0
LOS by Move:	F	A	A	A	D	A	F	A	D	A	A	A
HCM2kAvgQ:	5	12	0	0	52	3	12	0	2	0	0	0

Note: Queue reported is the number of cars per lane.

YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

 Intersection #3 Sioc St / Bridge St (SR 20)

Cycle (sec): 80 Critical Vol./Cap.(X): 1.039
 Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 48.5
 Optimal Cycle: 180 Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	1	1	0	1	1	0	1	1	0	1

Volume Module: PM Peak Hour

Base Vol:	82	404	68	35	552	17	31	51	116	109	41	59
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	82	404	68	35	552	17	31	51	116	109	41	59
Added Vol:	297	671	14	11	510	94	164	26	194	25	48	16
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	379	1075	82	46	1062	111	195	77	310	134	89	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	443	1257	96	54	1242	130	228	90	363	157	104	88
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	443	1257	96	54	1242	130	228	90	363	157	104	88
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	443	1257	96	54	1242	130	228	90	363	157	104	88

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.92	0.92	0.93	0.92	0.92	0.93	0.98	0.83	0.93	0.91	0.91
Lanes:	1.00	1.86	0.14	1.00	1.81	0.19	1.00	1.00	1.00	1.00	0.54	0.46
Final Sat.:	1769	3251	248	1769	3158	330	1769	1862	1583	1769	941	793

Capacity Analysis Module:

Vol/Sat:	0.25	0.39	0.39	0.03	0.39	0.39	0.13	0.05	0.23	0.09	0.11	0.11
Crit Moves:	****			****			****			****		
Green/Cycle:	0.24	0.57	0.57	0.05	0.38	0.38	0.12	0.08	0.32	0.15	0.11	0.11
Volume/Cap:	1.04	0.67	0.67	0.67	1.04	1.04	1.04	0.59	0.71	0.59	1.04	1.04
Delay/Veh:	84.5	12.7	12.7	57.9	60.5	60.5	106.5	41.7	28.4	35.4	113	112.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	84.5	12.7	12.7	57.9	60.5	60.5	106.5	41.7	28.4	35.4	113	112.7
LOS by Move:	F	B	B	E	E	E	F	D	C	D	F	F
HCM2kAvgQ:	18	13	13	3	27	27	11	3	9	5	10	10

Note: Queue reported is the number of cars per lane.

 YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Level Of Service Computation Report
 2000 HCM Operations Method (Future Volume Alternative)

Intersection #14 Fremont / Bridge (SR 20)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.999
 Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 41.3
 Optimal Cycle: 180 Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	0	1	0	0	0	1	0	0	1	0

Volume Module: >> Count Date: 20 Sep 2006 <<

Base Vol:	103	394	0	1	532	29	14	1	128	2	2	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	103	394	0	1	532	29	14	1	128	2	2	5
Added Vol:	204	499	0	0	406	18	15	0	219	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	307	893	0	1	938	47	29	1	347	2	2	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	359	1044	0	1	1097	55	34	1	406	2	2	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	359	1044	0	1	1097	55	34	1	406	2	2	6
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	359	1044	0	1	1097	55	34	1	406	2	2	6

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	1.00	0.93	0.97	0.97	0.78	0.78	0.83	0.88	0.88	0.88
Lanes:	1.00	1.00	0.00	1.00	0.95	0.05	0.97	0.03	1.00	0.22	0.22	0.56
Final Sat.:	1769	1862	0	1769	1761	88	1424	49	1583	372	372	931

Capacity Analysis Module:

Vol/Sat:	0.20	0.56	0.00	0.00	0.62	0.62	0.02	0.02	0.26	0.01	0.01	0.01
Crit Moves:	****			****					****			
Green/Cycle:	0.20	0.83	0.00	0.00	0.62	0.62	0.05	0.05	0.26	0.05	0.05	0.05
Volume/Cap:	1.00	0.68	0.00	0.68	1.00	1.00	0.45	0.45	1.00	0.12	0.12	0.12
Delay/Veh:	87.2	4.7	0.0	386.9	45.2	45.2	49.9	49.9	81.7	45.7	45.7	45.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	87.2	4.7	0.0	386.9	45.2	45.2	49.9	49.9	81.7	45.7	45.7	45.7
LOS by Move:	F	A	A	F	D	D	D	D	F	D	D	D
HCM2kAvgQ:	17	14	0	0	44	44	2	2	18	0	0	0

Note: Queue reported is the number of cars per lane.

 YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Level Of Service Computation Report
 2000 HCM Operations Method (Future Volume Alternative)

 Intersection #99 SR 20 / FARINON

Cycle (sec): 100 Critical Vol./Cap.(X): 0.940
 Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 35.4
 Optimal Cycle: 132 Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound										
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected			Protected			Split Phase			Split Phase										
Rights:	Include			Include			Ovl			Include										
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0								
Lanes:	2	0	2	0	0	0	0	2	0	1	1	0	0	0	1	0	0	0	0	0

Volume Module:

Base Vol:	2	328	0	0	372	6	9	0	3	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	328	0	0	372	6	9	0	3	0	0	0
Added Vol:	475	839	0	0	741	161	283	0	618	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	477	1167	0	0	1113	167	292	0	621	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	558	1365	0	0	1302	195	342	0	726	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	558	1365	0	0	1302	195	342	0	726	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	558	1365	0	0	1302	195	342	0	726	0	0	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.93	1.00	1.00	0.93	0.83	0.93	1.00	0.83	1.00	1.00	1.00
Lanes:	2.00	2.00	0.00	0.00	2.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	3432	3538	0	0	3538	1583	1769	0	1583	0	0	0

Capacity Analysis Module:

Vol/Sat:	0.16	0.39	0.00	0.00	0.37	0.12	0.19	0.00	0.46	0.00	0.00	0.00
Crit Moves:	****			****			****					
Green/Cycle:	0.17	0.56	0.00	0.00	0.39	0.39	0.32	0.00	0.49	0.00	0.00	0.00
Volume/Cap:	0.94	0.68	0.00	0.00	0.94	0.32	0.61	0.00	0.94	0.00	0.00	0.00
Delay/Veh:	63.9	16.4	0.0	0.0	41.8	21.4	31.1	0.0	43.4	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	63.9	16.4	0.0	0.0	41.8	21.4	31.1	0.0	43.4	0.0	0.0	0.0
LOS by Move:	E	B	A	A	D	C	C	A	D	A	A	A
HCM2kAvgQ:	13	16	0	0	25	4	10	0	26	0	0	0

 Note: Queue reported is the number of cars per lane.

YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

Intersection #142 Wescott / Farinon

Cycle (sec): 100 Critical Vol./Cap.(X): 0.860

Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 23.7

Optimal Cycle: 94 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	1	0	1	0	1	0	0	1	0	1

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Volume Module:

Base Vol:	0	67	0	0	101	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	67	0	0	101	0	0	0	0	0	0	0
Added Vol:	0	21	601	276	30	6	3	10	0	775	18	502
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	88	601	276	131	6	3	10	0	775	18	502
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	0	103	703	323	153	7	4	12	0	906	21	587
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	103	703	323	153	7	4	12	0	906	21	587
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	103	703	323	153	7	4	12	0	906	21	587

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Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.98	0.83	0.93	0.97	0.97	0.93	0.98	1.00	0.93	0.98	0.83
Lanes:	1.00	1.00	1.00	1.00	0.96	0.04	1.00	1.00	0.00	1.00	1.00	1.00
Final Sat.:	1900	1862	1583	1769	1768	81	1769	1862	0	1769	1862	1583

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Capacity Analysis Module:

Vol/Sat:	0.00	0.06	0.44	0.18	0.09	0.09	0.00	0.01	0.00	0.51	0.01	0.37
Crit Moves:	****			****			****			****		
Green/Cycle:	0.00	0.06	0.66	0.21	0.28	0.28	0.01	0.01	0.00	0.60	0.60	0.81
Volume/Cap:	0.00	0.86	0.67	0.86	0.31	0.31	0.32	0.86	0.00	0.86	0.02	0.46
Delay/Veh:	0.0	89.0	12.1	55.7	29.0	29.0	65.1	220	0.0	24.0	8.2	3.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	89.0	12.1	55.7	29.0	29.0	65.1	220	0.0	24.0	8.2	3.1
LOS by Move:	A	F	B	E	C	C	E	F	A	C	A	A
HCM2kAvgQ:	0	6	14	13	4	4	0	1	0	26	0	6

Note: Queue reported is the number of cars per lane.

YEAR 2030 TOTAL - mitigated
General Plan Update 11/20/06 distribution
PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Scenario Report

Scenario: GP AM

Command: Default Command
Volume: existing am
Geometry: existing
Impact Fee: Default Impact Fee
Trip Generation: am peak hour
Trip Distribution: GP AM
Paths: current
Routes: Default Routes
Configuration: Default Configuration

YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Trip Generation Report

Forecast for AM PEAK

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	Vann 1 - RES	667.00	SF RES	0.19	0.56	127	374	501	4.2
1	Vann 1 - RES	66.00	MF RES	0.10	0.41	7	27	34	0.3
	Zone 1 Subtotal					134	401	535	4.4
2	Vann 2 - RES	667.00	sf res	0.19	0.56	127	374	501	4.2
2	Vann 2 - RES	66.00	mf res	0.11	0.40	7	26	33	0.3
	Zone 2 Subtotal					134	400	534	4.4
3	Brookins Ran	444.00	SF RES	0.19	0.56	84	249	333	2.8
	Zone 3 Subtotal					84	249	333	2.8
4	Brookins Ran	195.00	SF RES	0.19	0.56	37	109	146	1.2
	Zone 4 Subtotal					37	109	146	1.2
5	Tenant Estat	182.00	SF RES	0.19	0.56	35	102	137	1.1
5	Tenant Estat	0.00	MF RES	0.10	0.41	0	0	0	0.0
	Zone 5 Subtotal					35	102	137	1.1
6	Riverbend Es	331.00	SF RES	0.19	0.56	63	185	248	2.1
6	Riverbend Es	56.00	MF RES	0.10	0.41	6	23	29	0.2
	Zone 6 Subtotal					69	208	277	2.3
7	Halsey	293.00	SF RES	0.19	0.56	56	164	220	1.8
	Zone 7 Subtotal					56	164	220	1.8
8	CIP rezone	12.00	gas	2.51	2.52	30	30	60	0.5
8	CIP rezone	10.00	restaurant	4.19	3.87	42	39	81	0.7
8	CIP rezone	60.00	motel	0.17	0.28	10	17	27	0.2
8	CIP rezone	25.00	office - servi	1.55	0.19	39	5	44	0.4
	Zone 8 Subtotal					121	91	212	1.8
9	Casino Expan	1.00	phase 1	24.00	30.00	24	30	54	0.4
9	Casino Expan	1.00	phase 2	136.00	192.00	136	192	328	2.7
	Zone 9 Subtotal					160	222	382	3.2
10	Reserve_ Ind	139.39	INDUSTRIAL	0.58	0.11	81	15	96	0.8
	Zone 10 Subtotal					81	15	96	0.8
11	NW Reserve	565.00	SF RES	0.19	0.56	107	316	423	3.5
	Zone 11 Subtotal					107	316	423	3.5
12	NORTHWEST	557.29	OP LI	1.19	0.21	663	117	780	6.5
	Zone 12 Subtotal					663	117	780	6.5

 YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
13	NW Reserve	70.00	SF RES	0.19	0.56	13	39	52	0.4
	Zone 13 Subtotal					13	39	52	0.4
14	DT	0.00	mf	0.11	0.40	0	0	0	0.0
14	DT	61.00	sf res	0.19	0.56	12	34	46	0.4
	Zone 14 Subtotal					12	34	46	0.4
15	DT	0.00	MF	0.11	0.40	0	0	0	0.0
15	DT	61.00	sf res	0.19	0.56	12	34	46	0.4
	Zone 15 Subtotal					12	34	46	0.4
16		347.00	SF res	0.19	0.56	66	194	260	2.2
16		46.00	MF res	0.11	0.40	5	18	23	0.2
	Zone 16 Subtotal					71	212	283	2.3
17	EASTSIDE 1	1148.00	SF RES	0.19	0.56	218	643	861	7.1
17	EASTSIDE 1	0.00	MF RES	0.10	0.41	0	0	0	0.0
	Zone 17 Subtotal					218	643	861	7.1
18	EAST	431.77	OP LI	1.19	0.21	514	91	605	5.0
	Zone 18 Subtotal					514	91	605	5.0
19	CP	326.70	COMM PRO	1.27	0.54	415	176	591	4.9
	Zone 19 Subtotal					415	176	591	4.9
20	URBAN RESERV	83.00	A-T	0.19	0.56	16	46	62	0.5
20	URBAN RESERV	7.00	A-G	0.19	0.56	1	4	5	0.0
	Zone 20 Subtotal					17	50	67	0.6
21	SW INDUSTRIA	707.76	OP LI	1.19	0.21	842	149	991	8.2
21	SW INDUSTRIA	312.24	IND	0.58	0.11	181	34	215	1.8
	Zone 21 Subtotal					1023	183	1206	10.0
22	Reserve Sout	38.00	SF RES	0.19	0.56	7	21	28	0.2
	Zone 22 Subtotal					7	21	28	0.2
23	URBAN RESERV	38.00	SF RES	0.19	0.56	7	21	28	0.2
	Zone 23 Subtotal					7	21	28	0.2
24	CIP	1478.60	INDUSTRIAL	0.58	0.11	858	163	1021	8.5
	Zone 24 Subtotal					858	163	1021	8.5
25	CIP SOUTH	1478.60	INDUSTRIAL	0.58	0.11	858	163	1021	8.5
	Zone 25 Subtotal					858	163	1021	8.5
28	VANN 3 - NO	272.25	COMM / PRO	1.27	0.54	346	147	493	4.1

YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
	Zone 28 Subtotal					346	147	493	4.1
29	EASTSIDE 2	0.00	MF RES	0.10	0.41	0	0	0	0.0
29	EASTSIDE 2	0.00	SF RES	0.19	0.56	0	0	0	0.0
30	NW Reserve	0.00	MF RES	0.11	0.40	0	0	0	0.0
30	NW Reserve	70.00	SF RES	0.19	0.56	13	39	52	0.4
	Zone 30 Subtotal					13	39	52	0.4
31	SO of DT	306.00	sf res	0.19	0.56	58	171	229	1.9
	Zone 31 Subtotal					58	171	229	1.9
32	SO of DT	305.00	SF res	0.19	0.56	58	171	229	1.9
	Zone 32 Subtotal					58	171	229	1.9
33	DT	0.00	MF	0.10	0.40	0	0	0	0.0
33	DT	61.00	sf res	0.19	0.56	12	34	46	0.4
	Zone 33 Subtotal					12	34	46	0.4
34	DT	0.00	mf res	0.11	0.40	0	0	0	0.0
34	DT	61.00	sf res	0.19	0.56	12	34	46	0.4
	Zone 34 Subtotal					12	34	46	0.4
35	DT	61.00	sf	0.19	0.56	12	34	46	0.4
	Zone 35 Subtotal					12	34	46	0.4
36	CIP res	140.00	sf res	0.19	0.56	27	78	105	0.9
36	CIP res	0.00	mf res	0.11	0.40	0	0	0	0.0
	Zone 36 Subtotal					27	78	105	0.9
37	CIP HDR	146.00	HDR	0.11	0.40	16	58	74	0.6
	Zone 37 Subtotal					16	58	74	0.6
38	south estate	88.00	Estates	0.19	0.56	17	49	66	0.5
	Zone 38 Subtotal					17	49	66	0.5
39	So- Central	649.00	sf res	0.19	0.56	123	363	486	4.0
	Zone 39 Subtotal					123	363	486	4.0
40	Thru Traffic	0.81	growth	148.00	165.00	120	134	254	2.1
	Zone 40 Subtotal					120	134	254	2.1
TOTAL						6520	5536	12056	100.0

 YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Turning Movement Report
 AM PEAK

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 SR 20 / Sunrise													
Base	5	294	0	0	218	39	13	0	2	0	0	0	571
Added	9	419	169	30	642	88	46	29	10	365	79	16	1902
Total	14	713	169	30	860	127	59	29	12	365	79	16	2473
#2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln													
Base	6	356	0	0	238	85	161	0	7	0	0	0	853
Added	30	407	0	0	786	84	48	0	47	0	0	0	1402
Total	36	763	0	0	1024	169	209	0	54	0	0	0	2255
#3 Sioc St / Bridge St (SR 20)													
Base	73	384	59	15	223	8	25	25	67	40	17	33	969
Added	119	318	18	12	616	108	39	34	247	6	12	5	1534
Total	192	702	77	27	839	116	64	59	314	46	29	38	2503
#4 Market St / Bridge St (SR 20)													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	152	13	30	19	34	14	8	62	250	44	153	9	788
Total	152	13	30	19	34	14	8	62	250	44	153	9	788
#6 Market St (SR 20)/ 5th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	70	1	6	3	0	23	9	243	112	7	247	2	723
Total	70	1	6	3	0	23	9	243	112	7	247	2	723
#8 Market St / 13th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	25	293	0	0	451	58	8	0	6	0	0	0	841
Total	25	293	0	0	451	58	8	0	6	0	0	0	841
#9 Main St / 13th St / Lurline St.													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	40	261	0	0	358	16	22	0	151	0	0	0	848
Total	40	261	0	0	358	16	22	0	151	0	0	0	848
#10 Fremont St / 10th St (SR 20)													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	47	208	137	74	365	3	2	87	29	125	232	35	1344
Total	47	208	137	74	365	3	2	87	29	125	232	35	1344
#11 Will S. Green / SR 20													
Base	8	0	54	0	0	0	0	309	19	75	287	0	752
Added	152	223	78	105	298	69	63	336	191	263	399	113	2290
Total	160	223	132	105	298	69	63	645	210	338	686	113	3042

 YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#12													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	9	1	0	0	0	767	518	0	1	0	0	0	1296
Total	9	1	0	0	0	767	518	0	1	0	0	0	1296
#13 SR 20 / railroad													
Base	0	0	0	0	0	0	0	328	0	0	295	0	623
Added	135	60	23	215	158	45	28	351	272	94	410	116	1907
Total	135	60	23	215	158	45	28	679	272	94	705	116	2530
#14 Fremont / Bridge (SR 20)													
Base	93	343	6	1	184	22	25	0	64	2	2	1	743
Added	274	223	0	0	450	8	6	0	179	0	0	0	1140
Total	367	566	6	1	634	30	31	0	243	2	2	1	1883
#15 Market St / 10th St (SR 20)													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	158	7	64	0	20	9	10	159	287	126	152	0	992
Total	158	7	64	0	20	9	10	159	287	126	152	0	992
#19													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	11	6	0	0	53	30	7	56	6	0	145	1	315
Total	11	6	0	0	53	30	7	56	6	0	145	1	315
#25 Fremont / 3rd													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	53	63	0	19	122	71	88	165	62	0	235	46	924
Total	53	63	0	19	122	71	88	165	62	0	235	46	924
#28 Main St / 8th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	1	0	3	0	0	0	0	23	2	1	14	0	44
Total	1	0	3	0	0	0	0	23	2	1	14	0	44
#30 Main St / 3rd St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	32	1	11	84	16	8	2	0	0	8	3	165
Total	0	32	1	11	84	16	8	2	0	0	8	3	165
#32 Sioc / 3rd													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	60	94	3	68	115	0	0	248	35	1	215	23	862
Total	60	94	3	68	115	0	0	248	35	1	215	23	862

YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#33 Sioc / 5th													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	31	63	13	10	46	170	41	260	10	9	237	29	919
Total	31	63	13	10	46	170	41	260	10	9	237	29	919
#34 Sioc / 8th													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	12	29	17	57	19	4	3	238	5	20	351	67	822
Total	12	29	17	57	19	4	3	238	5	20	351	67	822
#35 (SR 20) 10th / Sioc													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	346	173	73	446	0	0	0	0	321	0	46	1405
Total	0	346	173	73	446	0	0	0	0	321	0	46	1405
#43													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	6	164	9	70	59	42	58	29	16	54	22	238	767
Total	6	164	9	70	59	42	58	29	16	54	22	238	767
#45 Railroad / Wil S Green													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	144	0	6	2	419	0	0	315	131	1017
Total	0	0	0	144	0	6	2	419	0	0	315	131	1017
#48 Wil S Green / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	160	220	12	165	235	353	92	59	46	4	184	140	1670
Total	160	220	12	165	235	353	92	59	46	4	184	140	1670
#50													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	131	2	121	143	0	0	0	0	7	0	207	611
Total	0	131	2	121	143	0	0	0	0	7	0	207	611
#52 Clay St . 8th St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	36	16	1	0	34	100	30	4	29	2	10	0	262
Total	36	16	1	0	34	100	30	4	29	2	10	0	262
#54 Ckay St / 3rd St													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	11	24	7	7	43	129	40	114	36	19	125	4	559
Total	11	24	7	7	43	129	40	114	36	19	125	4	559

 YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#55 Bridge / Clay													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	41	162	25	9	295	25	9	25	106	57	71	25	850
Total	41	162	25	9	295	25	9	25	106	57	71	25	850
#60 East collector													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	245	96	0	0	257	48	16	0	131	0	0	0	793
Total	245	96	0	0	257	48	16	0	131	0	0	0	793
#63 sr 20 / local													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	502	4	0	732	0	0	0	0	11	0	0	1249
Total	0	502	4	0	732	0	0	0	0	11	0	0	1249
#64 SR 20 / Moon Bend													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	493	46	304	947	0	0	0	0	18	0	148	1956
Total	0	493	46	304	947	0	0	0	0	18	0	148	1956
#71 3rd / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	8	36	0	0	32	296	184	0	20	0	0	0	576
Total	8	36	0	0	32	296	184	0	20	0	0	0	576
#72 5th / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	2	33	6	22	32	87	28	176	11	2	297	5	701
Total	2	33	6	22	32	87	28	176	11	2	297	5	701
#76 8th / Colus Ave													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	12	42	6	18	24	26	7	190	6	2	379	4	716
Total	12	42	6	18	24	26	7	190	6	2	379	4	716
#78 8th / N Brookins													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	7	30	4	7	13	14	14	19	21	8	30	17	184
Total	7	30	4	7	13	14	14	19	21	8	30	17	184
#80 8th St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	18	11	4	16	17	9	21	144	54	12	155	9	470
Total	18	11	4	16	17	9	21	144	54	12	155	9	470

YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#81 3rd St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	18	9	10	49	3	1	3	221	13	11	178	33	549
Total	18	9	10	49	3	1	3	221	13	11	178	33	549
#82 5th St / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	75	0	2	1	162	0	0	173	25	438
Total	0	0	0	75	0	2	1	162	0	0	173	25	438
#83 Wescott / Tenant Dr													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	169	122	0	0	353	23	55	0	261	0	0	0	983
Total	169	122	0	0	353	23	55	0	261	0	0	0	983
#84 8th / Railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	56	0	26	9	554	0	0	420	24	1089
Total	0	0	0	56	0	26	9	554	0	0	420	24	1089
#95 3rd St / Railroad													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	7	0	9	5	614	0	0	430	3	1068
Total	0	0	0	7	0	9	5	614	0	0	430	3	1068
#99 SR 20 / FARINON													
Base	1	290	0	0	215	5	9	0	0	0	0	0	520
Added	491	498	0	0	744	273	97	0	388	0	0	0	2491
Total	492	788	0	0	959	278	106	0	388	0	0	0	3011
#138 sr 20 / Wilson													
Base	0	0	0	0	0	0	0	328	0	0	295	0	623
Added	0	0	0	24	0	49	59	627	0	0	531	59	1349
Total	0	0	0	24	0	49	59	955	0	0	826	59	1972
#142 Wescott / Farinon													
Base	0	79	0	0	32	0	0	0	0	0	0	0	111
Added	0	20	615	439	12	2	5	13	0	416	5	162	1689
Total	0	99	615	439	44	2	5	13	0	416	5	162	1800
#147 SR 20 / CIP MF Access													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	7	473	0	0	734	9	32	0	26	0	0	0	1281
Total	7	473	0	0	734	9	32	0	26	0	0	0	1281

 YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#148													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	10	38	18	17	41	6	18	0	45	54	0	51	298
Total	10	38	18	17	41	6	18	0	45	54	0	51	298

 YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Impact Analysis Report
 Level Of Service

Intersection		Base		Future		Change in
		Del/ LOS	V/ Veh C	Del/ LOS	V/ Veh C	
# 1 SR 20 / Sunrise	A	3.9	0.120	C 23.6	0.638	+19.716 D/V
# 2 Wescott Rd / Bridge St (SR 20)	B	14.6	0.295	C 22.3	0.915	+ 7.698 D/V
# 3 Sioc St / Bridge St (SR 20)	B	15.2	0.237	B 19.7	0.687	+ 4.516 D/V
# 14 Fremont / Bridge (SR 20)	B	12.3	0.276	C 21.2	0.775	+ 8.911 D/V
# 99 SR 20 / FARINON	A	2.5	0.116	C 21.2	0.686	+18.663 D/V
#142 Wescott / Farinon	A	0.8	0.056	D 35.3	0.856	+34.538 D/V

 YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 SR 20 / Sunrise

Cycle (sec): 100 Critical Vol./Cap. (X): 0.638
 Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 23.6
 Optimal Cycle: 52 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	2	0	2	0	1	0	0	1	0	1

Volume Module:

Base Vol:	5	294	0	0	218	39	13	0	2	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	5	294	0	0	218	39	13	0	2	0	0	0
Added Vol:	9	419	169	30	642	88	46	29	10	365	79	16
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	14	713	169	30	860	127	59	29	12	365	79	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	16	834	198	35	1006	149	69	34	14	427	92	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	16	834	198	35	1006	149	69	34	14	427	92	19
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	16	834	198	35	1006	149	69	34	14	427	92	19

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	0.83	0.93	0.93	0.83	0.93	0.94	0.94	0.93	0.96	0.96
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	0.71	0.29	1.00	0.83	0.17
Final Sat.:	1769	3538	1583	1769	3538	1583	1769	1259	521	1769	1510	306

Capacity Analysis Module:

Vol/Sat:	0.01	0.24	0.12	0.02	0.28	0.09	0.04	0.03	0.03	0.24	0.06	0.06
Crit Moves:	****			****			****			****		
Green/Cycle:	0.01	0.42	0.80	0.04	0.45	0.45	0.16	0.04	0.04	0.38	0.26	0.26
Volume/Cap:	0.64	0.56	0.16	0.56	0.64	0.21	0.24	0.64	0.64	0.64	0.24	0.24
Delay/Veh:	92.3	22.2	2.3	57.9	22.4	17.1	36.8	64.1	64.1	27.6	29.7	29.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	92.3	22.2	2.3	57.9	22.4	17.1	36.8	64.1	64.1	27.6	29.7	29.7
LOS by Move:	F	C	A	E	C	B	D	E	E	C	C	C
HCM2kAvgQ:	1	10	1	2	13	3	2	3	3	11	3	3

Note: Queue reported is the number of cars per lane.

YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln

Cycle (sec): 100 Critical Vol./Cap.(X): 0.915
 Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 22.3
 Optimal Cycle: 117 Level Of Service: C

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected				Protected				Split Phase				Split Phase							
Rights:	Include				Ovl				Include				Include							
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	2	0	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0

Volume Module:

Base Vol:	6	356	0	0	238	85	161	0	7	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	356	0	0	238	85	161	0	7	0	0	0
Added Vol:	30	407	0	0	786	84	48	0	47	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	763	0	0	1024	169	209	0	54	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	42	892	0	0	1198	198	244	0	63	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	42	892	0	0	1198	198	244	0	63	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	42	892	0	0	1198	198	244	0	63	0	0	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.93	1.00	1.00	0.98	0.83	0.93	1.00	0.83	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1769	3538	0	0	1862	1583	1769	0	1583	0	0	0

Capacity Analysis Module:

Vol/Sat:	0.02	0.25	0.00	0.00	0.64	0.12	0.14	0.00	0.04	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green/Cycle:	0.03	0.73	0.00	0.00	0.70	0.85	0.15	0.00	0.15	0.00	0.00	0.00
Volume/Cap:	0.92	0.35	0.00	0.00	0.92	0.15	0.92	0.00	0.26	0.00	0.00	0.00
Delay/Veh:	149.0	5.0	0.0	0.0	22.5	1.3	75.3	0.0	38.1	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	149.0	5.0	0.0	0.0	22.5	1.3	75.3	0.0	38.1	0.0	0.0	0.0
LOS by Move:	F	A	A	A	C	A	E	A	D	A	A	A
HCM2kAvgQ:	3	5	0	0	35	1	11	0	2	0	0	0

Note: Queue reported is the number of cars per lane.

YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

 Intersection #3 Sioc St / Bridge St (SR 20)

Cycle (sec): 80 Critical Vol./Cap.(X): 0.687
 Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 19.7
 Optimal Cycle: 55 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Protected				Protected				Protected				Protected							
Rights:	Include				Include				Ovl				Include							
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	1	0	1	1	0	0	1	0

Volume Module:

Base Vol:	73	384	59	15	223	8	25	25	67	40	17	33
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	73	384	59	15	223	8	25	25	67	40	17	33
Added Vol:	119	318	18	12	616	108	39	34	247	6	12	5
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	192	702	77	27	839	116	64	59	314	46	29	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	225	821	90	32	981	136	75	69	367	54	34	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	225	821	90	32	981	136	75	69	367	54	34	44
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	225	821	90	32	981	136	75	69	367	54	34	44

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.92	0.92	0.93	0.91	0.91	0.93	0.98	0.83	0.93	0.90	0.90
Lanes:	1.00	1.80	0.20	1.00	1.76	0.24	1.00	1.00	1.00	1.00	0.43	0.57
Final Sat.:	1769	3140	344	1769	3052	422	1769	1862	1583	1769	737	966

Capacity Analysis Module:

Vol/Sat:	0.13	0.26	0.26	0.02	0.32	0.32	0.04	0.04	0.23	0.03	0.05	0.05
Crit Moves:	****			****			****	****				
Green/Cycle:	0.18	0.61	0.61	0.04	0.47	0.47	0.09	0.15	0.34	0.04	0.10	0.10
Volume/Cap:	0.69	0.43	0.43	0.43	0.69	0.69	0.45	0.24	0.69	0.69	0.45	0.45
Delay/Veh:	36.5	8.3	8.3	41.4	17.9	17.9	36.2	30.2	26.6	60.3	35.6	35.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.5	8.3	8.3	41.4	17.9	17.9	36.2	30.2	26.6	60.3	35.6	35.6
LOS by Move:	D	A	A	D	B	B	D	C	C	E	D	D
HCM2kAvgQ:	7	6	6	1	12	12	2	2	9	3	2	2

Note: Queue reported is the number of cars per lane.

YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

 Intersection #14 Fremont / Bridge (SR 20)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.775
 Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 21.2
 Optimal Cycle: 72 Level Of Service: C

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	T	R		L	T	R		L	T	R		L	T	R					
Control:	Protected				Protected				Permitted				Permitted							
Rights:	Include				Include				Ovl				Include							
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0					
Lanes:	1	0	0	1	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	0

Volume Module:

Base Vol:	93	343	6	1	184	22	25	0	64	2	2	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	93	343	6	1	184	22	25	0	64	2	2	1
Added Vol:	274	223	0	0	450	8	6	0	179	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	367	566	6	1	634	30	31	0	243	2	2	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	429	662	7	1	742	35	36	0	284	2	2	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	429	662	7	1	742	35	36	0	284	2	2	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	429	662	7	1	742	35	36	0	284	2	2	1

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.93	0.98	0.98	0.93	0.97	0.97	0.98	1.00	0.83	0.95	0.95	0.95
Lanes:	1.00	0.99	0.01	1.00	0.95	0.05	1.00	0.00	1.00	0.40	0.40	0.20
Final Sat.:	1769	1841	20	1769	1765	84	1862	0	1583	725	725	362

Capacity Analysis Module:

Vol/Sat:	0.24	0.36	0.36	0.00	0.42	0.42	0.02	0.00	0.18	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green/Cycle:	0.31	0.85	0.85	0.00	0.54	0.54	0.03	0.00	0.34	0.03	0.03	0.03
Volume/Cap:	0.78	0.42	0.42	0.42	0.78	0.78	0.78	0.00	0.53	0.13	0.13	0.13
Delay/Veh:	37.9	1.9	1.9	129.5	21.9	21.9	103.8	0.0	27.7	49.0	49.0	49.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	37.9	1.9	1.9	129.5	21.9	21.9	103.8	0.0	27.7	49.0	49.0	49.0
LOS by Move:	D	A	A	F	C	C	F	A	C	D	D	D
HCM2kAvgQ:	14	5	5	0	20	20	3	0	7	0	0	0

Note: Queue reported is the number of cars per lane.

YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Level Of Service Computation Report
 2000 HCM Operations Method (Future Volume Alternative)

 Intersection #99 SR 20 / FARINON

Cycle (sec): 100 Critical Vol./Cap.(X): 0.686
 Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 21.2
 Optimal Cycle: 58 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Ovl			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2	0	2	0	0	2	1	0	0	0	0	0

Volume Module:

Base Vol:	1	290	0	0	215	5	9	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	290	0	0	215	5	9	0	0	0	0	0
Added Vol:	491	498	0	0	744	273	97	0	388	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	492	788	0	0	959	278	106	0	388	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	575	922	0	0	1122	325	124	0	454	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	575	922	0	0	1122	325	124	0	454	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	575	922	0	0	1122	325	124	0	454	0	0	0

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.93	1.00	1.00	0.93	0.83	0.93	1.00	0.83	1.00	1.00	1.00
Lanes:	2.00	2.00	0.00	0.00	2.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	3432	3538	0	0	3538	1583	1769	0	1583	0	0	0

Capacity Analysis Module:

Vol/Sat:	0.17	0.26	0.00	0.00	0.32	0.21	0.07	0.00	0.29	0.00	0.00	0.00
Crit Moves:	****			****			****					
Green/Cycle:	0.24	0.71	0.00	0.00	0.46	0.46	0.17	0.00	0.42	0.00	0.00	0.00
Volume/Cap:	0.69	0.37	0.00	0.00	0.69	0.44	0.40	0.00	0.69	0.00	0.00	0.00
Delay/Veh:	36.7	5.9	0.0	0.0	22.4	18.6	37.6	0.0	26.8	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.7	5.9	0.0	0.0	22.4	18.6	37.6	0.0	26.8	0.0	0.0	0.0
LOS by Move:	D	A	A	A	C	B	D	A	C	A	A	A
HCM2kAvgQ:	9	6	0	0	15	7	4	0	12	0	0	0

 Note: Queue reported is the number of cars per lane.

YEAR 2030 TOTAL - mitigated
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

Intersection #142 Wescott / Farinon

Cycle (sec): 100 Critical Vol./Cap.(X): 0.856
 Loss Time (sec): 12 (Y+R=4.0 sec) Average Delay (sec/veh): 35.3
 Optimal Cycle: 92 Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	1	0	1	0	1	0	0	1	0	1

Volume Module:

Base Vol:	0	79	0	0	32	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	79	0	0	32	0	0	0	0	0	0	0
Added Vol:	0	20	615	439	12	2	5	13	0	416	5	162
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	99	615	439	44	2	5	13	0	416	5	162
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	0	116	719	513	51	2	6	15	0	487	6	189
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	116	719	513	51	2	6	15	0	487	6	189
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	0	116	719	513	51	2	6	15	0	487	6	189

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.98	0.83	0.93	0.97	0.97	0.93	0.98	1.00	0.93	0.98	0.83
Lanes:	1.00	1.00	1.00	1.00	0.96	0.04	1.00	1.00	0.00	1.00	1.00	1.00
Final Sat.:	1900	1862	1583	1769	1770	80	1769	1862	0	1769	1862	1583

Capacity Analysis Module:

Vol/Sat:	0.00	0.06	0.45	0.29	0.03	0.03	0.00	0.01	0.00	0.28	0.00	0.12
Crit Moves:			****	****				****		****		
Green/Cycle:	0.00	0.21	0.53	0.34	0.55	0.55	0.17	0.01	0.00	0.32	0.16	0.50
Volume/Cap:	0.00	0.30	0.86	0.86	0.05	0.05	0.02	0.86	0.00	0.86	0.02	0.24
Delay/Veh:	0.0	33.7	28.8	42.4	10.5	10.5	34.6	193	0.0	43.9	35.3	14.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	33.7	28.8	42.4	10.5	10.5	34.6	193	0.0	43.9	35.3	14.3
LOS by Move:	A	C	C	D	B	B	C	F	A	D	D	B
HCM2kAvgQ:	0	3	22	18	1	1	0	2	0	17	0	3

Note: Queue reported is the number of cars per lane.

YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Turning Movement By Zone Report
 PM PEAK

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 SR 20 / Sunrise													
	[Base(LOS=C, Del=1.3, V/C=0.000)] [Future(LOS=F, Del=OVRFLW, V/C=0.000)] [+0.000 V/C]												
Base	0	372	0	0	350	13	52	0	10	0	0	0	797
Growth	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
InitBs	0	372	0	0	350	13	52	0	10	0	0	0	797
Zn 1	0	7	0	8	4	2	3	0	0	0	0	15	39
Zn 2	0	10	0	8	6	0	0	0	0	0	0	15	39
Zn 3	0	10	0	5	6	3	5	0	0	0	0	9	38
Zn 4	0	1	0	2	1	1	2	0	0	0	0	4	11
Zn 5	0	6	0	2	3	1	2	0	0	0	0	4	18
Zn 6	0	10	39	8	6	1	2	36	0	21	20	4	147
Zn 7	0	4	35	6	2	2	3	27	0	20	15	3	117
*Zn 8	7	3	0	0	3	19	20	2	8	0	2	0	64
Zn 9	0	51	0	0	72	0	0	0	0	0	0	0	123
Zn 10	0	3	0	0	12	0	0	0	0	0	0	0	15
Zn 11	0	53	0	7	29	15	28	0	0	0	0	12	144
Zn 12	0	11	0	0	44	0	0	0	0	0	0	0	55
Zn 13	0	4	0	0	2	1	2	0	0	0	0	0	9
Zn 14	0	8	0	0	5	2	3	0	0	0	0	0	18
Zn 15	0	12	0	0	6	2	3	0	0	0	0	0	23
Zn 16	0	38	34	0	21	3	5	15	0	19	8	0	143
Zn 17	0	0	227	0	0	0	0	59	0	126	33	0	445
Zn 18	0	9	9	0	34	0	0	0	0	34	0	0	86
Zn 19	0	93	22	0	127	0	0	0	0	31	0	0	273
Zn 20	0	0	23	2	0	0	0	5	0	13	3	1	47
Zn 21	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn 22	0	0	1	0	0	0	0	0	0	2	1	0	4
Zn 23	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn 24	0	19	8	0	4	0	0	0	0	2	0	0	33
Zn 25	0	98	10	0	25	0	0	0	0	2	0	0	135
Zn 28	0	19	0	0	25	0	0	0	0	0	0	0	44
Zn 29	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn 30	0	6	0	0	3	0	1	0	0	0	0	0	10
Zn 31	0	32	0	0	18	4	7	0	0	0	0	0	61
Zn 32	0	27	0	0	15	2	4	0	0	0	0	0	48
Zn 33	0	8	0	0	5	2	3	0	0	0	0	0	18
Zn 34	0	8	0	0	5	2	3	0	0	0	0	0	18
Zn 35	0	6	0	0	4	3	5	0	0	0	0	0	18
*Zn 36	5	3	4	0	6	10	6	2	3	8	3	0	50
*Zn 37	0	20	0	3	11	3	6	0	0	0	0	6	49
Zn 38	0	1	1	0	1	0	0	0	0	2	0	0	5
Zn 39	0	47	0	0	26	9	16	0	0	0	0	0	98
Zn 40	0	70	0	0	82	0	0	0	0	0	0	0	152
Added	12	697	413	52	612	86	129	146	11	279	84	74	2595
PassBy	0	0	0	0	0	0	0	0	0	0	0	0	0
Future	12	1069	413	52	962	99	181	146	21	279	84	74	3392

SR 205 HAMB

3+3+19+20
+ 3+6+10+6
+ 20+3+11+3+6
+ 6

= 119

1069+52+902
+99+181+74

= 4.9%

119

697.52.412.84

129.74

= 7.2%

64+50+49 / 3392 = 4.8%

64+50+49 / 3392-797 = 6.3%

YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#2 Wescott Rd / Bridge St (SR 20)/ Tuttle Ln													
[Base(LOS=E,Del=3.7,V/C=0.000)][Future(LOS=F,Del=613.6,V/C=0.000)][+0.000 V/C]													
Base	6	435	0	0	496	276	118	0	7	0	0	0	1338
Growth	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
InitBs	6	435	0	0	496	276	118	0	7	0	0	0	1338
Zn 1	0	41	0	0	23	0	0	0	0	0	0	0	64
Zn 2	17	26	0	0	14	0	0	0	9	0	0	0	66
Zn 3	9	7	0	0	4	4	2	0	5	0	0	0	31
Zn 4	1	0	0	0	0	1	0	0	1	0	0	0	3
Zn 5	0	0	0	0	0	6	3	0	0	0	0	0	9
Zn 6	0	5	0	0	3	2	3	0	0	0	0	0	13
Zn 7	0	2	0	0	1	1	2	0	0	0	0	0	6
Zn 8	3	20	0	0	19	0	0	0	3	0	0	0	45
Zn 9	0	54	0	0	77	0	0	0	0	0	0	0	131
Zn 10	0	3	0	0	12	0	0	0	0	0	0	0	15
Zn 11	0	146	0	0	81	0	0	0	0	0	0	0	227
Zn 12	0	11	0	0	44	0	0	0	0	0	0	0	55
Zn 13	0	14	0	0	8	0	0	0	0	0	0	0	22
Zn 14	0	18	0	0	10	0	0	0	0	0	0	0	28
Zn 15	0	22	0	0	12	0	0	0	0	0	0	0	34
Zn 16	6	13	0	0	7	2	3	0	11	0	0	0	42
Zn 17	0	0	0	0	0	20	36	0	0	0	0	0	56
Zn 18	0	37	0	0	9	0	0	0	0	0	0	0	46
Zn 19	0	195	0	0	144	0	0	0	0	0	0	0	339
Zn 20	1	1	0	0	3	0	0	0	1	0	0	0	6
Zn 21	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn 22	0	0	0	0	0	1	0	0	0	0	0	0	1
Zn 23	0	0	0	0	0	2	1	0	0	0	0	0	3
Zn 24	0	26	0	0	6	3	14	0	0	0	0	0	49
Zn 25	0	98	0	0	25	0	0	0	0	0	0	0	123
Zn 28	0	7	0	0	10	0	0	0	0	0	0	0	17
Zn 29	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn 30	0	15	0	0	8	0	0	0	0	0	0	0	23
Zn 31	0	0	0	0	0	13	7	0	0	0	0	0	20
Zn 32	21	0	0	0	0	13	7	0	12	0	0	0	53
Zn 33	0	15	0	0	8	0	0	0	0	0	0	0	23
Zn 34	0	18	0	0	10	0	0	0	0	0	0	0	28
Zn 35	0	18	0	0	10	0	0	0	0	0	0	0	28
Zn 36	0	6	0	0	11	0	0	0	0	0	0	0	17
Zn 37	0	5	0	0	10	0	0	0	0	0	0	0	15
Zn 38	0	0	0	0	0	3	2	0	0	0	0	0	5
Zn 39	0	0	0	0	0	7	4	0	0	0	0	0	11
Zn 40	0	70	0	0	82	0	0	0	0	0	0	0	152
Added	59	895	0	0	651	78	86	0	42	0	0	0	1811
PassBy	0	0	0	0	0	0	0	0	0	0	0	0	0
Future	65	1330	0	0	1147	654	204	0	49	0	0	0	3149
UseAdj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total	65	1330	0	0	1147	354	204	0	49	0	0	0	3149

WESCOTT
 20 to 4mths
 PM, 2007 =
 3+3+
 6/
 65+354+204
 +49
 = 0.9%
 NEW
 =
 6/
 -(6+276+118.7)
 6/265 = 2.3

Traffic 7.8.0115 (c) 2006 Dowling Assoc. Licensed to kdANDERSON TRANSP.

$$\frac{45+17+15}{3149} = 2.4\%$$

$$\frac{45+17+15}{3149-1338} = 4.3\%$$

YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

SR 20 thru town?

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#3 Sioc St / Bridge St (SR 20)													
[Base(LOS=C,Del=25.5,V/C=0.739)][Future(LOS=F,Del=240.5,V/C=1.669)][+214.933 D/V													
Base	82	404	68	35	552	17	31	51	116	109	41	59	1565
Growth	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
InitBs	82	404	68	35	552	17	31	51	116	109	41	59	1565
Zn 1	41	0	0	0	0	0	0	6	23	0	11	0	81
Zn 2	26	0	0	0	0	0	0	6	14	0	11	0	57
Zn 3	7	0	2	0	1	1	0	2	4	3	3	0	23
Zn 4	0	0	0	0	0	0	0	1	0	1	2	0	4
Zn 5	0	2	2	0	3	0	0	0	0	3	0	0	10
Zn 6	0	8	0	1	4	0	0	0	0	0	0	1	14
Zn 7	0	5	0	1	3	15	27	0	0	0	0	1	52
Zn 8	5	15	0	0	14	0	0	0	4	0	0	0	38
Zn 9	0	54	0	4	77	0	0	0	0	0	0	3	138
Zn 10	1	3	0	0	10	0	0	0	2	0	0	0	16
Zn 11	63	83	0	0	46	0	0	5	35	0	9	0	241
Zn 12	2	9	0	0	35	0	0	0	9	0	0	0	55
Zn 13	8	6	0	0	3	0	0	1	4	0	1	0	23
Zn 14	0	18	0	1	10	0	0	0	0	0	0	1	30
Zn 15	0	22	0	1	12	0	0	0	0	0	0	1	36
Zn 16	0	16	0	3	9	11	20	0	0	0	0	6	65
Zn 17	0	36	0	1	20	63	114	0	0	0	0	2	236
Zn 18	8	29	0	0	7	0	0	0	2	0	0	0	46
Zn 19	31	164	0	0	121	0	0	0	23	0	0	0	339
Zn 20	1	0	0	0	0	0	0	0	3	0	0	0	4
Zn 21	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn 22	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn 23	0	1	0	0	1	0	0	0	0	1	0	0	3
Zn 24	2	39	0	0	9	0	0	0	0	0	0	0	50
Zn 25	29	68	0	0	17	0	0	0	7	0	0	0	121
Zn 28	7	0	0	0	0	0	0	0	10	0	0	0	17
Zn 29	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn 30	14	1	0	0	0	0	0	1	8	0	1	0	25
Zn 31	0	5	3	0	8	0	0	0	0	5	0	0	21
Zn 32	0	5	3	0	8	0	0	0	0	5	0	0	21
Zn 33	0	15	0	1	8	0	0	0	0	0	0	1	25
Zn 34	18	0	0	0	0	0	0	1	10	0	1	0	30
Zn 35	7	11	0	1	6	0	0	0	4	0	0	1	30
Zn 36	0	5	1	0	9	0	0	0	0	2	0	0	17
Zn 37	2	3	1	0	5	0	0	0	3	1	0	0	15
Zn 38	0	1	1	0	2	0	0	0	0	1	0	0	5
Zn 39	0	3	1	0	5	5	3	4	0	3	8	0	32
Zn 40	23	47	0	0	55	0	0	0	27	0	0	0	152
Added	297	671	14	11	510	94	164	26	194	25	48	16	2070
PassBy	0	0	0	0	0	0	0	0	0	0	0	0	0
Future	379	1075	82	46	1062	111	195	77	310	134	89	75	3635
UseAdj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total	379	1075	82	46	1062	111	195	77	310	134	89	75	3635

SIOC WEST = 5+4+0+2+3 = 14

14

379+111+195 +77+310+89 = 1161

1.2%

14

1161 - 297 = 1.6%

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$\frac{380+17+15}{3635} = 1.9\%$

$\frac{38+17+15}{3635-1565} = 3.4\%$

YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Volume Type	Northbound		Southbound		Eastbound		Westbound		Total Volume				
	Left	Thru Right	Left	Thru Right	Left	Thru Right	Left	Thru Right					
#14 Fremont / Bridge (SR 20)													
[Base(LOS=D, Del=3.8, V/C=0.000)] [Future(LOS=E, Del=OVRFLW, V/C=0.000)] [+0.000 V/C]													
Base	103	394	0	1	532	29	14	1	128	2	2	5	1211
Growth	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
InitBs	103	394	0	1	532	29	14	1	128	2	2	5	1211
Zn 1	0	0	0	0	0	4	2	0	0	0	0	0	6
Zn 2	0	0	0	0	0	5	3	0	0	0	0	0	8
Zn 3	0	1	0	0	2	1	1	0	0	0	0	0	5
Zn 4	0	0	0	0	0	1	1	0	0	0	0	0	2
Zn 5	0	2	0	0	3	0	0	0	0	0	0	0	5
Zn 6	0	9	0	0	5	2	3	0	0	0	0	0	19
Zn 7	6	3	0	0	2	3	5	0	11	0	0	0	30
Zn 8	4	11	0	0	11	0	0	0	4	0	0	0	30
Zn 9	0	56	0	0	80	0	0	0	0	0	0	0	136
Zn 10	0	3	0	0	10	0	0	0	0	0	0	0	13
Zn 11	32	52	0	0	29	0	0	0	18	0	0	0	131
Zn 12	9	0	0	0	0	0	0	0	35	0	0	0	44
Zn 13	6	0	0	0	0	0	0	0	3	0	0	0	9
Zn 14	0	19	0	0	11	0	0	0	0	0	0	0	30
Zn 15	0	23	0	0	13	0	0	0	0	0	0	0	36
Zn 16	9	13	0	0	24	0	0	0	16	0	0	0	62
Zn 17	26	15	0	0	27	0	0	0	48	0	0	0	116
Zn 18	11	18	0	0	4	0	0	0	3	0	0	0	36
Zn 19	62	102	0	0	75	0	0	0	45	0	0	0	284
Zn 20	2	1	0	0	1	0	0	0	4	0	0	0	8
Zn 21	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn 22	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn 23	0	1	0	0	1	0	0	0	0	0	0	0	2
Zn 24	9	30	0	0	7	0	0	0	2	0	0	0	48
Zn 25	5	63	0	0	16	0	0	0	1	0	0	0	85
Zn 28	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn 29	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn 30	1	0	0	0	0	0	0	0	0	0	0	0	1
Zn 31	0	5	0	0	8	0	0	0	0	0	0	0	13
Zn 32	0	5	0	0	8	0	0	0	0	0	0	0	13
Zn 33	0	19	0	0	11	0	0	0	0	0	0	0	30
Zn 34	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn 35	0	12	0	0	7	0	0	0	0	0	0	0	19
Zn 36	0	5	0	0	9	0	0	0	0	0	0	0	14
Zn 37	1	2	0	0	3	0	0	0	2	0	0	0	8
Zn 38	0	1	0	0	2	0	0	0	0	0	0	0	3
Zn 39	0	5	0	0	9	3	1	0	0	0	0	0	18
Zn 40	23	23	0	0	27	0	0	0	27	0	0	0	100
Added	204	499	0	0	406	18	15	0	219	0	0	0	1361
PassBy	0	0	0	0	0	0	0	0	0	0	0	0	0
Future	307	893	0	1	938	47	29	1	347	2	2	5	2572
UseAdj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total	307	893	0	1	938	47	29	1	347	2	2	5	2572

SR 20 ↑
 p401
 11+11+5+2+1+3
 = 41
 41
 893 + 1 + 938
 + 47 + 29 + 5
 = 1913
 = 2.1%
 41
 499 + 406 + 18
 + 15
 = 938
 = 0.4%
 FREMONT
 4 + 4 + 0
 1 + 2
 = 11
 307 + 47 + 29 + 1
 + 347 + 2
 = 733
 = 1.5%
 11
 204 + 18 + 15 + 29
 = 2.4

$$\frac{30 + 14 + 8}{2572} = 2.0\%$$

$$\frac{30 + 14 + 0}{2572 - 1211} = 3.8\%$$

YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Volume Type	Northbound		Southbound		Eastbound		Westbound		Total Volume				
	Left	Thru Right	Left	Thru Right	Left	Thru Right	Left	Thru Right					
#99 SR 20 / FARINON													
[Base(LOS=B,Del=0.3,V/C=0.000)][Future(LOS=F,Del=OVRFLW,V/C=0.000)][+0.000 V/C]													
Base	2	328	0	0	372	6	9	0	3	0	0	0	720
Growth	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
InitBs	2	328	0	0	372	6	9	0	3	0	0	0	720
Zn 1	88	7	0	0	4	0	0	0	49	0	0	0	148
Zn 2	85	10	0	0	6	0	0	0	47	0	0	0	148
Zn 3	50	10	0	0	6	0	0	0	28	0	0	0	94
Zn 4	25	1	0	0	1	0	0	0	14	0	0	0	41
Zn 5	10	6	0	0	3	0	0	0	6	0	0	0	25
Zn 6	0	49	0	0	27	0	0	0	0	0	0	0	76
Zn 7	0	39	0	0	22	0	0	0	0	0	0	0	61
Zn 8	7	7	0	0	8	3	3	0	8	0	0	0	36
Zn 9	0	51	0	0	72	0	0	0	0	0	0	0	123
Zn 10	0	3	0	0	12	0	0	0	0	0	0	0	15
Zn 11	26	50	0	0	28	2	3	0	14	0	0	0	123
Zn 12	11	11	0	0	44	0	0	0	44	0	0	0	110
Zn 13	3	3	0	0	2	0	1	0	1	0	0	0	10
Zn 14	0	5	0	0	3	2	3	0	0	0	0	0	13
Zn 15	0	5	0	0	3	4	6	0	0	0	0	0	18
Zn 16	0	51	0	0	28	12	21	0	0	0	0	0	112
Zn 17	0	154	0	0	85	40	73	0	0	0	0	0	352
Zn 18	0	17	0	0	68	0	0	0	0	0	0	0	85
Zn 19	0	90	0	0	122	35	26	0	0	0	0	0	273
Zn 20	0	12	0	0	7	6	10	0	0	0	0	0	35
Zn 21	34	0	0	0	0	0	0	0	137	0	0	0	171
Zn 22	5	0	0	0	0	2	1	0	3	0	0	0	11
Zn 23	3	0	0	0	0	0	0	0	2	0	0	0	5
Zn 24	21	0	0	0	0	6	27	0	91	0	0	0	145
Zn 25	17	32	0	0	8	19	76	0	65	0	0	0	217
Zn 28	56	19	0	0	25	0	0	0	76	0	0	0	176
Zn 29	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn 30	0	6	0	0	3	0	0	0	0	0	0	0	9
Zn 31	0	22	0	0	12	5	9	0	0	0	0	0	48
Zn 32	0	27	0	0	15	0	0	0	0	0	0	0	42
Zn 33	0	8	0	0	5	0	0	0	0	0	0	0	13
Zn 34	0	8	0	0	5	0	0	0	0	0	0	0	13
Zn 35	0	6	0	0	4	0	0	0	0	0	0	0	10
Zn 36	5	5	0	0	3	14	8	0	3	0	0	0	38
Zn 37	0	6	0	0	4	7	13	0	0	0	0	0	30
Zn 38	6	0	0	0	0	3	2	0	4	0	0	0	15
Zn 39	0	47	0	0	26	0	0	0	0	0	0	0	73
Zn 40	23	70	0	0	82	0	0	0	27	0	0	0	202
Added	475	839	0	0	741	161	283	0	618	0	0	0	3117
PassBy	0	0	0	0	0	0	0	0	0	0	0	0	0
Future	477	1167	0	0	1113	167	292	0	621	0	0	0	3837
UseAdj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total	477	1167	0	0	1113	167	292	0	621	0	0	0	3837

EAST ON 20
 $7+7+8+8$
 $5+5+3+3$
 $4+4+$
 $= 56$

$477+1167+1113$
 $+167$
 $= 1.7\%$

56
 $475+839+741$
 $+618$
 $= 2.1\%$

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$$\frac{36+38+30}{3837} = \frac{104}{3837} = 2.7\%$$

$$\frac{36+38+30}{3837-720} = 3.3\%$$

YEAR 2030 TOTAL - Pm peak hour
 General Plan Update 11/20/06 distribution
 PMC COLUSA GPU 5480-05 ((SWCA CIP RE-ZONE))

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#142 Wescott / Farinon													
[Base(LOS=A,Del=0.0,V/C=0.000)][Future(LOS=F,Del=1405.8,V/C=0.000)][+0.000 V/C]													
Base	0	67	0	0	0	101	0	0	0	0	0	0	168
Growth	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
InitBs	0	67	0	0	0	101	0	0	0	0	0	0	168
Zn 1	0	0	90	0	0	0	0	0	0	163	0	0	253
Zn 2	0	3	82	9	5	0	0	0	0	147	0	16	262
Zn 3	0	5	36	16	9	0	0	0	0	65	0	28	159
Zn 4	0	0	0	24	0	0	0	0	0	0	0	44	68
Zn 5	0	2	0	20	1	0	0	0	0	0	0	36	59
Zn 6	0	0	0	1	0	0	0	0	0	0	0	2	3
Zn 7	0	0	0	1	0	0	0	0	0	0	0	2	3
Zn 8	0	0	8	0	0	0	0	0	0	9	0	0	17
Zn 9	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn 10	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn 11	0	0	25	7	0	0	0	0	0	45	0	12	89
Zn 12	0	0	44	0	0	0	0	0	0	11	0	0	55
Zn 13	0	0	6	1	0	0	0	0	0	9	0	3	19
Zn 14	0	0	0	2	0	0	0	0	0	0	0	4	6
Zn 15	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn 16	0	0	0	1	0	0	0	0	0	0	0	1	2
Zn 17	0	1	6	0	1	0	0	0	0	3	0	0	11
Zn 18	0	0	0	0	1	0	0	0	0	0	0	0	1
Zn 19	0	1	26	0	2	0	0	0	0	35	0	0	64
Zn 20	0	0	5	0	0	0	0	0	0	3	0	0	8
Zn 21	0	0	117	21	0	0	0	0	0	29	0	5	172
Zn 22	0	1	7	0	1	0	0	0	0	12	0	0	21
Zn 23	0	4	5	0	7	0	0	0	0	9	0	0	25
Zn 24	0	0	18	23	0	0	0	0	0	74	0	98	213
Zn 25	0	0	20	7	0	0	0	0	0	78	0	29	134
Zn 28	0	0	46	31	0	0	0	0	0	34	0	22	133
Zn 29	0	0	0	0	0	0	0	0	0	0	0	0	0
Zn 30	0	0	5	1	0	0	0	0	0	9	0	2	17
Zn 31	0	0	0	20	0	0	0	0	0	0	0	36	56
Zn 32	0	0	0	24	0	0	0	0	0	0	0	44	68
Zn 33	0	0	0	2	0	0	0	0	0	0	0	4	6
Zn 34	0	0	0	2	0	0	0	0	0	0	0	4	6
Zn 35	0	0	0	2	0	0	0	0	0	0	0	4	6
Zn 36	0	0	26	3	0	0	0	0	0	14	0	2	45
Zn 37	0	0	4	0	0	0	0	0	0	2	0	0	6
Zn 38	0	0	0	4	0	6	3	10	0	0	18	7	48
Zn 39	0	1	0	53	0	0	0	0	0	0	0	96	150
Zn 40	0	0	27	0	0	0	0	0	0	23	0	0	50
Added	0	21	601	276	30	6	3	10	0	775	18	502	2242
PassBy	0	0	0	0	0	0	0	0	0	0	0	0	0
Future	0	88	601	276	131	6	3	10	0	775	18	502	2410
UseAdj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total	0	88	601	276	131	6	3	10	0	775	18	502	2410

FARINON
 8+9+24+3
 14+2+4R
 = 68

601+276+775
 302

2154 = 3.2%

3.2%

WESCOTT 1004
 8+0+3+2

5/

12/5 =

5/

88+276+131
 +502
 = 0.50% = 1.2

5/ 21+276+30 150
 = 0.50%
 = 14

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$\frac{17+45+6}{2410} = 2.8\%$

$\frac{68}{2410-68} = 3.0\%$

ENVIRONMENTAL NOISE ANALYSIS COLUSA INDUSTRIAL PROPERTIES

Colusa County, California

BBA Project Number 06-226A

Prepared For

SWCA Environmental Consultants
3840 Rosin Court, Suite 130
Sacramento, CA 95834

Revised
March 21, 2007

Prepared By

Brown-Buntin Associates, Inc.
Fair Oaks, California

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INTRODUCTION

This analysis has been prepared to describe the environmental noise setting, evaluate potential impacts, and recommend mitigation measures for the Colusa Industrial Properties development project. Colusa Industrial Properties (CIP) is proposing a Colusa County General Plan Amendment and Zoning Amendment to change land use designations and zoning classifications within the northern portion of the Colusa Industrial Park (Park). The Park is located entirely within unincorporated Colusa County, just south of the City of Colusa and west of State Route (SR) 20.

The project area encompasses approximately 138 acres within the northernmost portion of the 950-acre Park, 13 acres within the Colusa Golf and Country Club, and 30 acres in the central portion of the Park. The proposed development area includes the 138 acres in the north and the 13 acres on the golf course, and the proposed wastewater treatment facilities would be located on the 30-acre site south of the development area. The Colusa County Airport is located south and east of the project area, and the Colusa Golf and Country Club forms the northern boundary of the Park. Surrounding land uses include agriculture fields, industrial facilities, and residential development.

The project would consist of a mixed-use community with approximately 286 residential units, improvements to the existing golf course, various commercial and office uses along SR 20, and wastewater treatment facilities to serve the mixed-use community and other uses in the Park.

SIGNIFICANCE CRITERIA

California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires that significant environmental impacts be identified and that such impacts be eliminated or mitigated to the extent feasible. A significant effect from noise may exist if a project would result in:

- Exposure of persons to, or generation of, noise levels in excess of standards established in the local General Plan or noise ordinance, or applicable standards of other agencies;
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project; or
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

For non-transportation noise sources affecting noise sensitive land uses, most jurisdictions consider an increase in ambient noise levels of 3 dBA¹ to be potentially significant. This amount

¹ For explanation of acoustical terms, refer to Appendix A.

of change in environmental noise levels is generally considered to be perceptible, though not necessarily clearly noticeable, by most people.

Traffic and Aircraft Noise Criteria

Some additional guidance as to the significance of changes in ambient noise levels is provided by the 1992 findings of the Federal Interagency Committee on Noise (FICON), which assessed the annoyance effects of changes in ambient noise levels resulting from aircraft operations. The FICON findings are based upon studies that relate aircraft and traffic noise levels to the percentage of persons highly annoyed by the noise. Annoyance is a summary measure of the general adverse reaction of people to noise that generates speech interference, sleep disturbance, or interference with the desire for a tranquil environment.

The rationale for the FICON findings is that it is possible to consistently describe the annoyance of people exposed to transportation noise in terms of L_{dn} or CNEL. The changes in noise exposure that are shown in Table I are expected to result in equal changes in annoyance at sensitive land uses. Although the FICON findings were specifically developed to address aircraft noise impacts, they are considered as measures of potential noise impacts in this analysis for residential uses affected by traffic and aircraft noise.

TABLE I
POTENTIALLY SIGNIFICANT INCREASES IN CUMULATIVE NOISE EXPOSURE
FOR TRANSPORTATION NOISE SOURCES

Ambient Noise Level Without Project (L_{dn} or CNEL)	Change in Ambient Noise Level Due to Project
<60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more

Source: Federal Interagency Committee on Noise (FICON), 1992, as applied by Brown-Buntin Associates, Inc.

Another measure of annoyance due to aircraft noise is the potential for aircraft noise events to result in awakening. Sleep disturbance may be reasonably predicted in terms of noise levels of individual noise events occurring at night. Research in the United Kingdom² on outdoor noise events below maximum noise levels (L_{max}) of about 80 dBA found that average sleep disturbance rates are unlikely to be affected by aircraft noise. At higher levels (up to 95 dBA L_{max}), the chance of the average person being awakened is about 1 in 75.

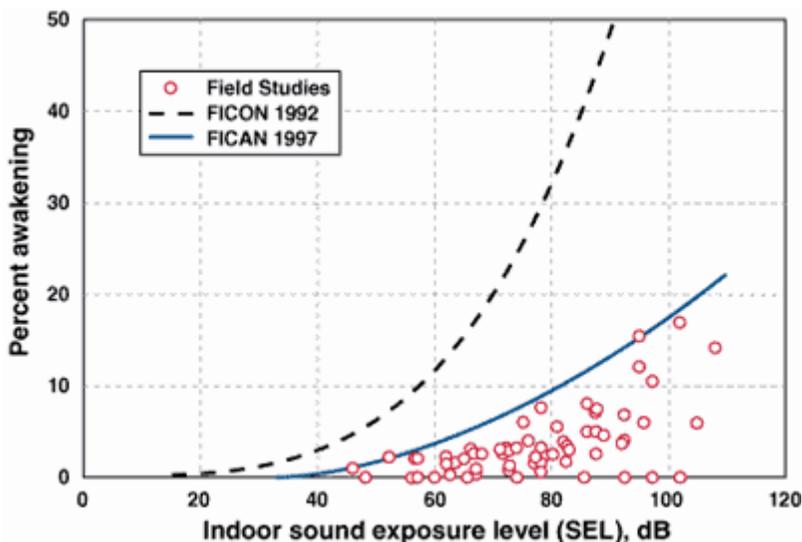
The Federal Interagency Committee on Aviation Noise (FICAN) has recommended a conservative dose-response relationship³ for the combined field data on sleep disturbance due to the Sound Exposure Levels (SEL) measured indoors during aircraft noise events. The curve thus developed represents the upper limit of the observed field data and should be interpreted as predicting the “maximum percent of the exposed population expected to be behaviorally

² Ollerhead, et al. *Report of a Field Study of Aircraft Noise and Sleep Disturbance*. London: Department of Safety Environment and Engineering. 1992.

³ FICAN. *Effects of Aviation Noise on Awakenings from Sleep*. 1997.

awakened” or the “maximum % awakened” for a given residential population. FICAN cautions that the curves should not be applied to campgrounds, trailer parks, or other temporary residences, since the studies were based on long-term residents. Similarly, FICAN states that it cannot be assumed that the curve can be generalized to include children, as only adults were included in the field studies. Figure 1 shows the FICAN curve superimposed on the field data.

**FIGURE 1
RELATIONSHIP OF INDOOR SOUND EXPOSURE LEVELS
AND MAXIMUM PERCENT AWAKENINGS**



To apply the FICAN curve to outdoor SEL values due to aircraft noise events, it is usually assumed that noise levels would be reduced inside a home by at least 15 dBA, which is consistent with a home having windows partially opened for ventilation. Therefore outdoor SEL values would be about 15 dB higher than the corresponding indoor SEL values in the FICAN graph.

FICAN provides no guidance as to the significance of the values obtained from the curve in Figure 1. There are currently no guidelines for the environmental significance of maximum awakening rates of 5%, 10% or other values. However, one may review studies prepared by other jurisdictions to weigh relative measures of significance.

For example, the recent EIR prepared for the LAX Master Plan established an outdoor criterion value of 94 dBA SEL as the limit of funding for airport sound insulation projects. This value was selected assuming that windows would be open and that about 10% of the area population would be awakened at least once in ten days, based upon the assumed frequency of flights by the loudest aircraft type. Using Figure 1, this outdoor noise level would be expected to result in 9.2% maximum awakening.

The Supplemental EIR prepared for the Oakland International Airport ADP (Airport Development Plan) displayed the 80 dBA and 90 dBA SEL contours for different aircraft types, without passing judgment on the significance of those levels. However, the 80 dBA SEL contour

was considered the threshold of potential significance, consistent with the United Kingdom study cited above. This value would yield a maximum awakening rate of 5.1%. The 90 dB SEL value would yield a maximum awakening rate of 7.9%.

For this analysis, an exterior aircraft single event noise exposure of 80 dB SEL is considered the threshold of significance for sleep disturbance in residential areas. This value would yield a maximum awakening rate of 5.1%.

Construction Noise and Vibration Criteria

Noise due to construction activities may be considered to be insignificant in terms of CEQA compliance if:

- the construction activity is temporary;
- use of heavy equipment and noisy activities is limited to daytime hours;
- no pile driving or blasting is planned; and
- all industry-standard noise abatement measures are implemented for noise-producing equipment.

These general parameters acknowledge that people are not as likely to be annoyed by activities that are perceived as being necessary for normal commerce, so long as the inconveniences due to noise are of relatively short duration and that all practical measures are being implemented to reduce the impacts of noise-producing activities.

The vibration assessment methodology and criteria used for this project were derived from the Federal Transit Administration (FTA) document entitled Transit Noise and Vibration Assessment, dated April 1995. In this document, the criteria for ground-borne vibration are expressed in terms of the “vibration velocity level”, in VdB, with a reference velocity of 10^{-6} in/sec.

The threshold of vibration perception is taken by the FTA to be 65 VdB, and the threshold of potential architectural damage to fragile structures is about 100 VdB. For residential uses, vibration levels less than 72 VdB are considered acceptable for exposures to more than 70 vibration events per day, and vibration levels less than 80 VdB are considered acceptable for exposures to fewer than 70 vibration events per day.

Caltrans has prepared guidelines for acceptable vibration limits in terms of the induced peak particle velocity (PPV). Tables II and III represent Tables 19 and 20 of the Caltrans Transportation- and Construction-induced Vibration Guidance Manual⁴.

⁴ Jones & Stokes. 2004. *Transportation- and construction-induced vibration guidance manual*. June. (J&S 02-039.) Sacramento, CA. Prepared for California Department of Transportation, Noise, Vibration, and Hazardous Waste Management Office, Sacramento, CA.

TABLE II
GUIDELINE VIBRATION DAMAGE POTENTIAL THRESHOLD CRITERIA

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.20	0.10
Historic and some old building	0.50	0.25
Older residential structures	0.50	0.30
New residential structures	1.00	0.50
Modern industrial/commercial building	2.00	0.50

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Reproduced from Table 19 of Jones and Stokes 2004.

TABLE III
GUIDELINE VIBRATION ANNOYANCE POTENTIAL CRITERIA

Human Response	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.90	0.10
Severe	2.00	0.40

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Reproduced from Table 20 of Jones and Stokes 2004.

APPLICABLE STANDARDS

California Code of Regulations – Title 21 Subchapter 6. Noise Standards

Section 5012 of the Airport Noise Standard states:

“The standard for the acceptable level of aircraft noise for persons living in the vicinity of airports is hereby established to be a community noise equivalent level of 65 decibels.”

The standard determines that “residences, including but not limited to, detached single-family dwellings, multi-family dwellings, high-rise apartments or condominiums, and mobile homes” within the 65 dB CNEL contour are incompatible land uses. Although this standard is not used for this analysis, it is mentioned for purposes of comparing the local standards with the state standard.

Safety Element of the Colusa County General Plan

The Safety Element contains noise standards to be applied to new projects. Specifically, Policy SAFE-14 states that:

“New projects should be conditioned, improved, or denied according to the standards of Table SAFE-3. When necessary, environmental impact reports should be used to gauge the existing and projected noise environments for proposed projects. All projects in areas above the “conditionally acceptable” noise level shall provide the county with proof from a professional acoustical consultant that occupants of the project will be protected from excessive noise.”

Table SAFE-3 is shown on the following page.

Colusa County Airport Comprehensive Land Use Plan

The Noise Element of the Colusa County Airport Land Use Plan adopts Compatibility Guidelines for Noise. These guidelines indicate that single-family detached and multi-family dwellings are compatible with aircraft noise exposures of 55 dB CNEL or less. Hotels, motels, inns, and bed and breakfast places are considered compatible up to CNEL 80, provided that:

“Measures to achieve an interior noise level of 50 CNEL must be incorporated in the design and construction of portions of buildings where the public is received, office areas, and other areas where people work or congregate.”

Furthermore, the ALUC guidelines require that measures to achieve an interior noise level of 45 dB CNEL must be incorporated into the design and construction of all noise sensitive areas, including sleeping rooms. It is assumed that this standard would apply to residential units and hotels/motels.

The ALUC guidelines included CNEL contours for the Colusa County Airport for the year 1981. Those CNEL contours were subsequently updated in March 2004 by Aries Consultants LTD (refer to Appendix C). The Aries study included projected CNEL contours for the year 2015.

Table SAFE-3: Noise/Land Use Compatibility

LAND USE CATEGORY	RECOMMENDED NOISE LEVELS, Ldn (dBA)							INTERIOR, MAX.
	EXTERIOR RANGE							
	50	55	60	65	70	75		
Residential:								
Low Density								45
Medium to High Density								45
Commercial:								
Hotel								50
Office								55
Restaurant, Retail								60
Other								65
Industrial:								
Light Industrial								55
Manufacturing								50
Other								70
Public/Quasi-Public:								
School, Library, Church, Hospital, Theater								45
Other								55
Open Spaces:								
All Categories								--

KEY:

-  **NORMALLY ACCEPTABLE**
Specified land use is acceptable, assuming standard building construction.
-  **CONDITIONALLY ACCEPTABLE**
Standard building construction is not adequate for specified land use; however, mitigation measures may be easily employed to reduce noise to acceptable levels. An analysis of the measures by a qualified acoustical professional is required, to be approved by the County.
-  **NORMALLY UNACCEPTABLE**
The specified land use should be discouraged unless the County finds the project to be in the public interest and a detailed analysis by a qualified acoustical professional shows that specific measures which are to be included in the project would reduce indoor and outdoor noise to acceptable levels. The analysis and attenuation measures must be approved by the County.

NOISE AND VIBRATION IMPACT THRESHOLDS

For this project, the thresholds of potential noise impacts are assumed to be:

- Exceeding the noise standards of the Colusa County General Plan Noise Element due to project-related activities;
- Changes in median noise levels of more than 3 dBA;
- Construction vibration levels exceeding 100 VdB;
- Exposure of residential land uses to aircraft noise levels exceeding 55 dB CNEL or 80 dB SEL;
- Use of heavy construction equipment and conducting noisy construction activities during nighttime hours; and
- Use of construction equipment that is inconsistent with industry-standard noise abatement measures.

SETTING

The project area includes agricultural, recreational, and office and commercial building uses. The project site is bordered to the north by the Colusa Golf and Country Club, to the northwest by single-family residential uses, and to the south by the Colusa County Airport. Immediately west and east of the project site are agricultural uses. With the exception of aircraft noise due to Colusa County Airport operations, the noise environment on the property itself is that of a quiet rural area. Traffic noise from SR20 and aircraft noise and overflights from Colusa County Airport are the dominant noise sources.

Ambient Noise

To describe the ambient noise environment, Brown-Buntin Associates, Inc., conducted continuous noise measurements on the project site from May 16 through May 23, 2006. Ambient noise levels were obtained for this seven-day period at three separate locations on the project site. Site 1 was located at the northwest corner of the project site, at the property line of the existing single-family residences. Site 2 was located at the southern border of the project site at the northwest boundary of the Colusa County Airport. Site 3 was located adjacent to SR20 at the edge of the existing golf course driving range. The measurement sites are shown in Figure 2. The continuous noise measurements were conducted to describe the day/night distribution of ambient noise levels, and to calculate hourly noise levels and Day/Night Levels. Appendices B-1 through B-21 present the hourly noise measurement data in graphic format.

The sound measurement equipment used consisted of Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters equipped with B&K Type 4176 ½" microphones. This measurement equipment was calibrated immediately before and after measurements using a B&K Type 4230 calibrator. The measurement systems meet the specifications of the American National Standards Institute (ANSI) for Type 1 sound measurement systems.

Noise measurements were conducted in terms of the L_{eq} and other statistical descriptors, which describe trends in ambient noise levels throughout the day and nighttime periods. Table IV summarizes the measured 24-hour noise levels.

**TABLE IV
MEASURED NOISE LEVELS
COLUSA INDUSTRIAL PROPERTIES**

Site No.	Dates	Average L_{dn} , dB	Hourly L_{eq} , dBA		
			Highest Hour	Daytime Average	Nighttime Average
1	May 16-23, 2006	57.5	61.1	54.3	50.1
2	May 16-23, 2006	62.9	68.8	61.6	51.9
3	May 16-23, 2006	74.1	73.0	71.4	66.6

Source: Brown-Buntin Associates, Inc. 2006 site measurements

FIGURE 2
Noise Monitoring Sites
May 16-23, 2006



- Short Term Noise Monitoring Site
- Continuous Noise Monitoring Sites

Sites 1 and 2 were subject to noise exposures from aircraft overflights. At these sites, the noise measurement equipment was set to record noise events exceeding 65 dB for more than 5 seconds. These events were presumed to be caused by aircraft operations.

During the measurement period, a total of 266 presumed aircraft noise events were recorded at Site 1. The average measured Sound Exposure Level (SEL) for these events was 84.4 dB, and the average of the maximum noise levels was 73.7 dB.

At Site 2, 495 presumed aircraft noise events were recorded during the one-week period. The average measured SEL for these events was 93.9 dB, and the average of the maximum noise levels for aircraft-caused events was 74.4 dB.

Traffic Noise

Short-term traffic noise level measurements were conducted adjacent to SR20 on May 16, 2006. The short-term measurement site is shown in Figure 2. The purpose of the noise measurements was to determine the accuracy of the FHWA model in predicting noise levels due to SR20 traffic affecting the project site.

Measurements were taken at microphone heights of 5 feet and fifteen feet to represent ground floor and second floor receivers, respectively. Traffic counts were conducted during the measurement period. The noise measurements were conducted in terms of the Leq, and the measured values were later compared to the values predicted by the FHWA model using the observed traffic volumes, speed, and distance to the microphones. The temperature was 78 degrees Fahrenheit, and the sky was clear. Humidity was low, and the wind was calm.

Table V compares the measured and modeled noise levels for the observed traffic conditions.

**TABLE V
SR20 TRAFFIC NOISE MEASUREMENT SUMMARY**

Microphone Height, feet	Vehicles per Hour			Posted Speed, mph	Distance, feet	Measured Leq, dB	Modeled Leq, dB*
	Autos	Medium Trucks	Heavy Trucks				
5	532	12	32	55	50	69.3	68.7
15						71.2	68.7

* - Acoustically "soft" site assumed.

The FHWA model under-predicted the measured average noise levels for traffic on SR20 by 0.6 dB at the five-foot microphone height and by 2.5 dB at the fifteen-foot height. Given the close agreement between measured and predicted values at the lower (first-floor) receiver height, the FHWA model is expected to be reasonably accurate for first-floor receptor locations. The under-prediction of 2.5 dB at the fifteen-foot microphone height is consistent with Brown-Buntin Associates, Inc. file data which indicates that it is typical to experience a 3 dB increase in sound levels at second floor (and higher) receiver heights due to reduced ground absorption.

POTENTIAL NOISE IMPACTS

Traffic Noise

For this analysis, it was assumed that worst-case noise exposures would occur at a reference distance of 50 feet from the centerline of the arterial roadways. Truck mix for local roadways was estimated from BBA file data. For SR20, Caltrans Vehicle and Data Systems Unit data were used to derive the truck mix factors. Day/evening/night distribution of traffic noise was assumed to be 74%/10%/16%, based on the ambient noise measurement data collected from May 16-23, 2006.

Based upon the traffic volume analysis prepared for this project by KD Anderson & Associates, Inc., the FHWA model was run to predict existing and future traffic noise levels for the roadways included in the traffic analysis. Table VI lists the basic FHWA model input assumptions for existing conditions. Table VII lists the assumed traffic volumes for existing and future traffic on the roadways in the project vicinity. Table VIII shows the predicted noise levels at the reference distance of 50 feet from the roadway centerlines.

**TABLE VI
FHWA MODEL INPUTS
Colusa Industrial Properties Project: Existing Conditions**

Roadway	Between	ADT	Traffic Distribution			Truck Mix %		Assumed Speed (mph)
			Day %	Evening %	Night %	Medium	Heavy	
Highway 20	So. of Will S Green Ave	7500	74	10	16	3.2	4.8	55
Highway 20	So. of Fremont St	7500	74	10	16	3.2	4.8	35
Highway 20	Webster St and Fremont St	21600	74	10	16	3.2	4.8	35
Highway 20	Fremont St and Sioc St	18300	74	10	16	3.2	4.8	35
Highway 20	Sioc St and Sunrise Blvd	9700	74	10	16	3.2	4.8	55
Highway 20	Sunrise Blvd and Farinon Rd	9700	74	10	16	3.2	4.8	55
Fremont Street	Highway 20 and Bridge St	4561	74	10	16	3.2	4.8	35
Sioc Street	Highway 20 and Bridge St	3880	74	10	16	2.5	2.5	35
Will S. Green Ave	Highway 20 and Colusa Ave	770	74	10	16	2.5	2.5	35

TABLE VI
FHWA MODEL INPUTS
Colusa Industrial Properties Project: Existing Conditions

Roadway	Between	ADT	Traffic Distribution			Truck Mix %		Assumed Speed (mph)
			Day %	Evening %	Night %	Medium	Heavy	
Wescott Road	So. of Florimond Drive	1737	74	10	16	2.5	2.5	35

TABLE VII
ASSUMED TRAFFIC VOLUMES (ADT)
Colusa Industrial Properties Project

Roadway	Between	Scenario			Cumulative
		Existing	Existing Plus Project	Future No Project	
Highway 20	So. of Will S Green Ave	7500	7850	23025	23375
Highway 20	So. of Fremont St	7500	7850	25490	25840
Highway 20	Webster St and Fremont St	21600	22890	18730	20020
Highway 20	Fremont St and Sioc St	18300	21380	25310	28390
Highway 20	Sioc St and Sunrise Blvd	9700	14300	25420	30020
Highway 20	Sunrise Blvd and Farinon Rd	9700	11100	27850	29250
Fremont Street	Highway 20 and Bridge St	4561	6361	8425	10225
Sioc Street	Highway 20 and Bridge St	3880	5910	11210	13240
Will S. Green Ave	Highway 20 and Colusa Ave	770	770	14045	14045
Wescott Road	So. of Florimond Drive	1737	2677	8460	9400

**TABLE VIII
PREDICTED TRAFFIC NOISE LEVELS AT RECEIVERS ALONG ROADWAYS
Colusa Industrial Properties Project**

Roadway	Between	L _{dn} , dB				Difference, dB	
		Existing	Existing Plus Project	Future No Project	Cumulative	Project minus Existing	Cumulative minus Future No Project
Highway 20	So. of Will S Green Ave	69.8	70.4	75.1	75.1	0.2	0.1
Highway 20	So. of Fremont St	66.2	66.7	71.9	71.9	0.2	0.1
Highway 20	Webster St and Fremont St	70.8	71.4	70.5	70.8	0.3	0.3
Highway 20	Fremont St and Sioc St	70.1	71.1	71.8	72.3	0.7	0.5
Highway 20	Sioc St and Sunrise Blvd	71.0	73.0	75.5	76.2	1.7	0.7
Highway 20	Sunrise Blvd and Farinon Rd	71.0	71.9	75.9	76.1	0.6	0.2
Fremont Street	Highway 20 and Bridge St	64.0	65.8	67.1	67.9	1.4	0.8
Sioc Street	Highway 20 and Bridge St	61.9	64.1	66.9	67.6	1.8	0.7
Will S. Green Ave	Highway 20 and Colusa Ave	54.9	55.3	67.9	67.9	0.0	0.0
Wescott Road	So. of Florimond Drive	58.5	60.7	65.7	66.1	2.2	0.5

Note: Shaded cells indicate a potentially significant impact.

Future No Project traffic noise levels for the above roadway segments would exceed the Colusa County Noise Element standard of 60 dB L_{dn} at a distance of 50 feet from the roadway centerlines. This condition would occur with or without the project and is not considered to be a significant effect associated with the project.

New noise sensitive uses located within about 500 feet of SR20 would receive traffic noise exposures exceeding 60 dB L_{dn}. In accordance with the Colusa County Safety Element, acoustical analyses would be required for these uses by Policy SAFE-14 to demonstrate compliance with the standards shown by Table SAFE-3.

As compared to existing conditions, project-related traffic would cause traffic noise levels to increase by up to 2.2 dB. These increases would occur in the near-term and would eventually be

overtaken by future traffic with or without the project. Using the FICON significance guidance, the predicted project-related increases in traffic noise in the near-term would be potentially significant for sensitive land uses along SR20 between Sioc Street and Sunrise Boulevard.

The current land use on the east side of this roadway segment is predominantly agricultural or industrial and is not considered to be noise-sensitive. On the west side of the roadway, the land use is primarily residential, and those receivers would be exposed to potentially significant increases in traffic noise in the near-term. However, since the predicted changes in traffic noise levels over the short-term would be overtaken by future traffic with or without the project, the short-term traffic noise impact is considered less than significant.

Using the FICON significance guidance, the project-related increases in traffic noise under future (cumulative) conditions would be less than significant.

Colusa County Airport Noise

To define potential noise impacts resulting from aircraft operations at the Colusa County Airport, Brown-Buntin Associates, Inc., conducted a peer review of the June 1, 2005 report prepared by Bollard and Brennan Inc. for the *Residential Development Near Colusa County Airport – Colusa, California* (see Appendix D). The report presented an analysis of proposed residential development immediately to the northwest of the Airport.

The Bollard and Brennan analysis applied the cumulative noise exposure criteria established by the Colusa County General Plan Noise Element, and by State and Federal Guidelines. Based on a continuous 24-hour noise measurement at a site located to the north-northwest of the departure end of Runway 31 (approximately mid-distance to the southeast corner of the existing single-family residential land uses), the cumulative aircraft noise level at that location was approximately 69 dB L_{dn} . This measurement was consistent with the CY2015 noise exposure contour map for the Colusa County Airport, which indicates the measurement site was near the 70 dB L_{dn} noise contour. The Bollard and Brennan report recommended that the CY2015 CNEL contours be used for land use planning in the Airport's vicinity.

The Bollard & Brennan analysis further explained that more than 70% of the then-proposed project area would be exposed to aircraft noise levels of 65 dB L_{dn} /CNEL, and at least 15% of the site would be exposed to 70 dB L_{dn} /CNEL or greater by the year 2015. It was estimated that the majority of the aircraft noise exposure at the proposed project site was (and would be in 2015) generated by crop duster aircraft departing Runway 31 and turning left (west) over the project site.

The noise contour produced for the June 2005 Bollard and Brennan report appears to validate the general location and shape of the CNEL contours projected by Aries Consultants LTD for the year 2015. The projected future cumulative aircraft noise exposures would result in a significant noise impact on the proposed residential uses.

Crop duster activity is typically concentrated in spring and summer months, during the morning hours of the day, beginning at first light. This means that, during the crop dusting season, aircraft

may fly over the proposed project site beginning as early as 5:30 a.m. These early morning flights (before 7 a.m.) would introduce the potential for sleep disturbance.

Based upon the noise measurements performed by BBA, residents of the project would be exposed to single event noise levels ranging from 84 dB SEL to 94 dB SEL during crop duster overflights. Based upon the FICAN findings describing the potential for awakening due to aircraft noise events, these values would correspond to a range of maximum likelihood of awakening of 6% to 9%. This potential for sleep disturbance would be associated with each early morning flight. This would be considered a significant impact.

Wastewater Treatment Plant Noise

The proposed wastewater treatment facility (WWTP) would be an activated sludge process plant sized to accommodate a peak daily flow of 200,000 gallons. The plant would be housed in a block building that would incorporate an office and a laboratory. The system would include several pumps and blowers. Potential noise sources include the pump motors and blowers, as well as the motors fitted with Variable frequency Drives (VFDs). The motor sizes would range from 2.5 to 10 horsepower. The design plans indicate that the pumps and blowers would be enclosed in the building.

A 100 kW emergency generator is also specified, though its location is not known. This type of generator is typically powered by a diesel engine and may be fitted with silencers for engine intake and cooling air, as well as for the engine exhaust.

The WWTP would be located in the existing industrial park and would be surrounded by industrial and agricultural land uses. The nearest proposed residential development associated with the project is about 0.7-mile north of the WWTP. No existing residential uses are located nearby.

The WWTP facility description states that noise control measures would be incorporated into the project design, presumably to ensure satisfaction of occupational noise exposure requirements. The relatively small motors and blowers used for the WWTP are not expected to produce significant noise exposures for adjacent properties, especially if they are enclosed.

Noise produced by the emergency generator could be significant if noise sensitive uses were located nearby. Emergency operation of such a unit is not usually considered to be subject to noise standards, but the routine exercising of the unit to ensure fluid circulation could be of concern to nearby sensitive uses. Routine exercising is usually conducted during daytime hours, typically for about one hour each month.

Given the facility design and the location of the WWTP, the noise produced by the WWTP pumps and blowers, and by the emergency generator, is expected to be less than significant.

Construction Noise

During the construction phase of the project, noise from construction would dominate the noise environment in the immediate area. The nearest potentially affected sensitive receivers would be the homes northwest of the project site. Equipment used for construction on this project would be expected to generate noise levels in the range indicated in Table IX. Maximum noise levels from different types of equipment under different operating conditions could range from 70 dBA to 90 dBA at a distance of 50 feet, which would correspond to the locations of the nearest houses under worst-case conditions.

**TABLE IX
REFERENCE NOISE EMISSION LEVELS AND USAGE FACTORS
FOR CONSTRUCTION EQUIPMENT**

Equipment Description	Impact Device?	Typical Use Factor %	Predicted Lmax @ 50 ft (dBA, slow)	Average Measured Lmax @ 50 ft (dBA, slow)	No. of Data Samples
All Other Equipment > 5 HP	No	50	85	-- N/A --	0
Auger Drill Rig	No	20	85	84	36
Backhoe	No	40	80	78	372
Boring Jack Power Unit	No	50	80	83	1
Compactor (ground)	No	20	80	83	57
Compressor (air)	No	40	80	78	18
Concrete Mixer Truck	No	40	85	79	40
Concrete Pump Truck	No	20	82	81	30
Concrete Saw	No	20	90	90	55
Crane	No	16	85	81	405
Dozer	No	40	85	82	55
Drill Rig Truck	No	20	84	79	22
Dump Truck	No	40	84	76	31
Excavator	No	40	85	81	170
Flat Bed Truck	No	40	84	74	4
Front End Loader	No	40	80	79	96
Generator	No	50	82	81	19
Generator (<25KVA, VMS signs)	No	50	70	73	74
Gradall	No	40	85	83	70
Grader 19	No	40	85	-- N/A --	0
Horizontal Boring Hydraulic Jack	No	25	80	82	6
Jackhammer	Yes	20	85	89	133
Mounted Impact Hammer (hoe ram)	Yes	20	90	90	212
Pavement Scarifier	No	20	85	90	2
Paver	No	50	85	77	9
Pickup Truck	No	40	55	75	1
Pneumatic Tools	No	50	85	85	90
Roller	No	20	85	80	16

TABLE IX
REFERENCE NOISE EMISSION LEVELS AND USAGE FACTORS
FOR CONSTRUCTION EQUIPMENT

Equipment Description	Impact Device?	Typical Use Factor %	Predicted Lmax @ 50 ft (dBA, slow)	Average Measured Lmax @ 50 ft (dBA, slow)	No. of Data Samples
Sand Blasting (Single Nozzle)	No	20	85	96	9
Scraper	No	40	85	84	12
Tractor	No	40	84	-- N/A --	0
Ventilation Fan	No	100	85	79	13
Warning Horn	No	5	85	83	12
Welder / Torch	No	40	73	74	5

Source: FHWA Roadway Construction Noise Model, February 15, 2006.

The actual noise effects at any given sensitive receiver in the vicinity would be the result of a series of construction tasks. For example, land clearing would be followed by trenching. The trenching could be performed by a backhoe or by boring. Other equipment would deliver and install building materials. Workers would use power tools to complete the construction. Compressors and generators could be used at any time. For any given receiver, the total time of exposure to heavy construction noise would likely be in the range of less than one week. Noise due to framing and construction of houses would be typically spread over a period of about one month.

Construction noise impacts could be significant, as nighttime operations or use of unusually noisy equipment could result in annoyance or sleep disruption for nearby residences.

Construction Vibration

Construction activities such as bulldozer and heavy truck movements, use of jackhammers, impact hammers, and compactors may produce detectable levels of vibration at nearby sensitive land uses. Ground vibrations due to construction activities very rarely reach the levels that can damage structures, but they can cause levels that are perceptible in buildings close to the site⁵. Exceptions may occur where fragile historical buildings are close to the site, as these structures may be more susceptible to vibration-induced damage than modern buildings.

Vibration levels caused by representative construction equipment have been published by the Federal Transit Administration⁶, as shown in Table X. Based upon these values, vibration due to the operation of equipment such as heavy trucks and bulldozers associated with the project could be perceptible and could result in annoyance for residents in homes located within about 60 feet of the construction site. Structural damage due to construction-related vibration is unlikely within 25 feet of the construction site.

⁵ U.S Department of Transportation, Transit Noise and Vibration Impact Assessment, Federal Transit Administration, April 1995.

⁶ Ibid.

The majority of construction activity is expected to occur at distances greater than 60 feet from sensitive structures. The use of heavy equipment that would produce the highest vibration levels would be intermittent and would be limited to daytime hours. As a result, construction-related vibration is expected to be less than significant.

**TABLE X
VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT**

Equipment	Peak Particle Velocity at 25 feet (inches/second)	Approximate Vibration Level (VdB) at 25 feet
Large bulldozer	0.089	87
Caisson drilling	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

Source: U.S Department of Transportation, Transit Noise and Vibration Impact Assessment, Federal Transit Administration, April 1995.

RECOMMENDED MITIGATION

Traffic Noise

New noise sensitive uses located within about 500 feet of SR20 would receive traffic noise exposures exceeding 60 dB L_{dn} . In accordance with the Colusa County Safety Element, acoustical analyses would be required for these uses by Policy SAFE-14 to demonstrate compliance with the standards shown by Table SAFE-3. The specific mitigation measures for these uses would depend upon the site layout, building orientation, and building design. In general, it can be anticipated that suitable noise mitigation measures would include building setbacks, traffic noise barriers, and acoustical design of building facades. In most cases, acoustical design features for residential building facades would include conformance with modern energy-conserving building practices, the use of acoustically-rated window assemblies and stucco (or similarly massive) siding.

Colusa County Airport Noise

A potential noise mitigation measure for Colusa County Airport operations would be to re-route aircraft so that they would not fly over the proposed residential areas. The June 2005 Bollard and Brennan analysis stated, "If instead, these (*crop duster*) operations turned right (east), then noise exposure on the project site would be significantly reduced. In this case, ... the CY2015 Colusa County Airport noise exposure would not exceed 70 dB L_{dn} /CNEL on the project site; and much of the proposed residential project site would be outside of the 65 dB L_{dn} /CNEL aircraft noise exposure contour."

In July 2005, Bollard and Brennan conducted an additional analysis of projected year 2015 CNEL contours after making the assumption that agriculture related aircraft would use only

eastbound departure flight tracks so that there would be no flights directly over the project area (see Appendix E). Making that assumption, the projected noise exposure at the proposed residential site would be less than 65 dB CNEL. However, the aircraft noise exposure would continue to exceed the 55 dB CNEL guideline of the Airport Land Use Commission, so that residential land uses would remain incompatible. This would be considered a significant and unavoidable impact.

If the noise standards of the Colusa County Safety Element were applied to this project instead of the ALUC guidelines, an exterior noise exposure in the range of 55 to 65 dB CNEL would be considered to be “conditionally acceptable.” In this range of noise exposures, the County standards indicate that standard building construction may not be adequate to achieve acceptable interior noise levels, and that mitigation measures may be easily employed. An analysis of mitigation measures by a qualified acoustical professional would be required, to be approved by the County.

The redirection of aircraft away from the residential areas would ensure that single event noise levels experienced during crop duster overflights would be reduced to less than 80 dB SEL. This would be considered a less than significant impact.

To implement this mitigation measure, the Airport proprietor (Colusa County) would have to place departure path restrictions on all agricultural aircraft operations so as to preclude overflight of the proposed residential sites by these aircraft. It is not known whether this practice would be consistent with safe and orderly operation of the airport, or whether an effective mechanism could be put in place to enforce this type of restriction.

If the redirection of aircraft were achieved, and if the County Safety Element noise standards were applied, noise mitigation could be implemented to achieve the interior noise standard of 45 dB CNEL, and to ensure that single event noise levels would not exceed 65 dB SEL inside the noise sensitive rooms. The specific measures to be employed would depend upon the construction details for the proposed residential buildings, but would typically include specifications for insulation of roof/ceiling assemblies and exterior walls, and for acoustically-rated windows and doors.

Construction Noise

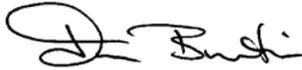
Noise and vibration effects due to the project will be less than significant if construction noise is managed to the maximum practical extent. The following mitigation measures are recommended:

1. Construction should be limited to daytime hours (7 a.m. to 10 p.m.).
2. Construction contractors shall maintain all manufacturer-installed engine mufflers and enclosures on powered construction equipment in proper working order. Impact tools shall be fitted with adequate mufflers and shrouding.
3. Construction contractors shall locate construction staging areas as far as possible from sensitive receivers.
4. Construction contractors shall locate fixed powered construction equipment such as generators and compressors as far as possible from sensitive receivers. Contractors shall

provide shielding or enclosures for fixed equipment as necessary to reduce noise exposures at sensitive receivers.

5. Construction contractors shall implement all practical techniques to minimize ground-borne vibration at sensitive structures, including the use of setbacks.

Respectfully Submitted,
Brown-Buntin Associates, Inc.

A handwritten signature in black ink, appearing to read "J. Buntin". The signature is fluid and cursive, with a large initial "J" and "B".

Jim Buntin
Vice President

APPENDIX A

FUNDAMENTALS OF ACOUSTICS

Noise is often described as unwanted sound, and thus is a subjective reaction to the physical phenomenon of sound. **Sound** is variations in air pressure that the ear can detect.

The ear responds to pressure changes over a range of 10^{14} to 1. This is roughly equivalent to the range of 1 second as compared to 3.2 million years, or 1 square yard compared to the entire surface area of the earth. To deal with the extreme range of pressures which the ear can detect, researchers express the amount of acoustical energy of a sound by comparing the measured sound pressure to a reference pressure, then taking the logarithm (base 10) of the square of that number. This original unit of sound measurement, named the **bel** after Alexander Graham Bell, corresponded well to human hearing characteristics if it was divided by a factor of 10. The resulting unit, one tenth of a bel, is called the **decibel**, and is abbreviated as **dB**.

The threshold of hearing is considered to be zero (0) dB, and the range of sounds in normal human experience is 0 to 140 dB.

Because sound pressure levels are defined as logarithmic numbers, the values cannot be directly added or subtracted. For example, two sound sources, each producing 50 dB, will produce 53 dB when combined, not 100 dB. This is because two sources have two times the energy of one source, and 10 times the logarithm of 2 equals 3. Similarly, ten sources produce a 10 dB higher sound pressure level than one source, as ten times the logarithm of 10 equals 10.

The ear responds to pressure variations in the air from about 20 times per second to about 20,000 times per second. The frequency of the variations is described in terms of **hertz (Hz)**, formerly called cycles per second. The ear does not respond equally to all frequencies. For example, we do not hear very low frequency sounds as well as we hear higher frequency sounds, nor do we hear very high frequency sounds very well. This difference in perceived loudness varies with the sound pressure level of the sound. In general, the maximum sensitivity of the ear occurs at frequencies between about 500 and 8000 Hz.

To compensate for the fact that the ear is not as sensitive at some frequencies and sound pressure levels as at others, a number of frequency weighting scales have been developed. The "**A**" **weighting** scale is most commonly used for environmental noise assessment, as sound pressure levels measured using an A-weighting filter correlate well with community response to noise sources such as aircraft and traffic.

When an A-weighting filter is used to measure sound pressure levels, the results may be expressed as *sound levels*, in decibels (dB). It is sufficient to use the abbreviation "dB" if these terms are well defined, but many people prefer to use the expressions **dB(A)** or **dB(A)** for clarity. For convenience, many people use the term "noise level" interchangeably with "sound level." Table A-1 shows typical sound levels and relative loudness for various types of noise environments.

The **ambient noise level** is defined as the noise from all sources near and far. This term usually refers the ambient noise level that is present before a noise source being studied is introduced. A synonymous term is **pre-project noise level**.

Noise exposure contours or **noise contours** are lines drawn about a noise source representing constant levels of noise exposure. CNEL or Ldn (DNL) contours are frequently utilized to graphically portray community noise exposure. The terms CNEL and Ldn (DNL) are defined in the following section.

TABLE A-1
EXAMPLES OF A-WEIGHTED SOUND LEVELS AND RELATIVE LOUDNESS

Sound Source	Sound Level (dBA)	Relative Loudness (approximate)	Relative Sound Energy
Jet aircraft, 100 feet	130	128	10,000,000
Rock music with amplifier	120	64	1,000,000
Thunder, snowmobile (operator)	110	32	100,000
Boiler shop, power mower	100	16	10,000
Orchestral crescendo at 25 feet, noisy kitchen	90	8	1,000
Busy street	80	4	100
Interior of department store	70	2	10
Ordinary conversation, 3 feet away	60	1	1
Quiet automobile at low speed	50	1/2	.1
Average office	40	1/4	.01
City residence	30	1/8	.001
Quiet country residence	20	1/16	.0001
Rustle of leaves	10	1/32	.00001
Threshold of hearing	0	1/64	.000001

Source: U.S. Department of Housing and Urban Development, "Aircraft Noise Impact -- Planning Guidelines for Local Agencies," 1972.

Environmental Noise Descriptors

Most environmental noise sources produce varying amounts of noise over time, so the measured sound levels also vary. For example, noise produced during a train passage will vary from relatively quiet background levels before the event to a maximum value when the train passes by, then returning down to background levels as the train leaves the observer's vicinity. Similarly, noise from traffic varies with the number and types of vehicles, speed, and proximity to the observer.

Variations in sound levels may be addressed by statistical methods. The simplest of these are the **maximum (L_{max})** and **minimum (L_{min})** noise levels, which are the highest and lowest levels observed. To describe less extreme variations in sound levels, other statistical descriptors may be used, such as the **L₁₀** and **L₅₀** and **L₉₀**. The L₁₀ is the A-weighted sound level equaled or exceeded during 10 percent of a time period. Similarly, the L₅₀ and L₉₀ are the sound levels

equaled or exceeded during 50 and 90 percent of a time period. The most common time period used with these statistical descriptors is 1 hour, although any time period could be used so long as it is stated.

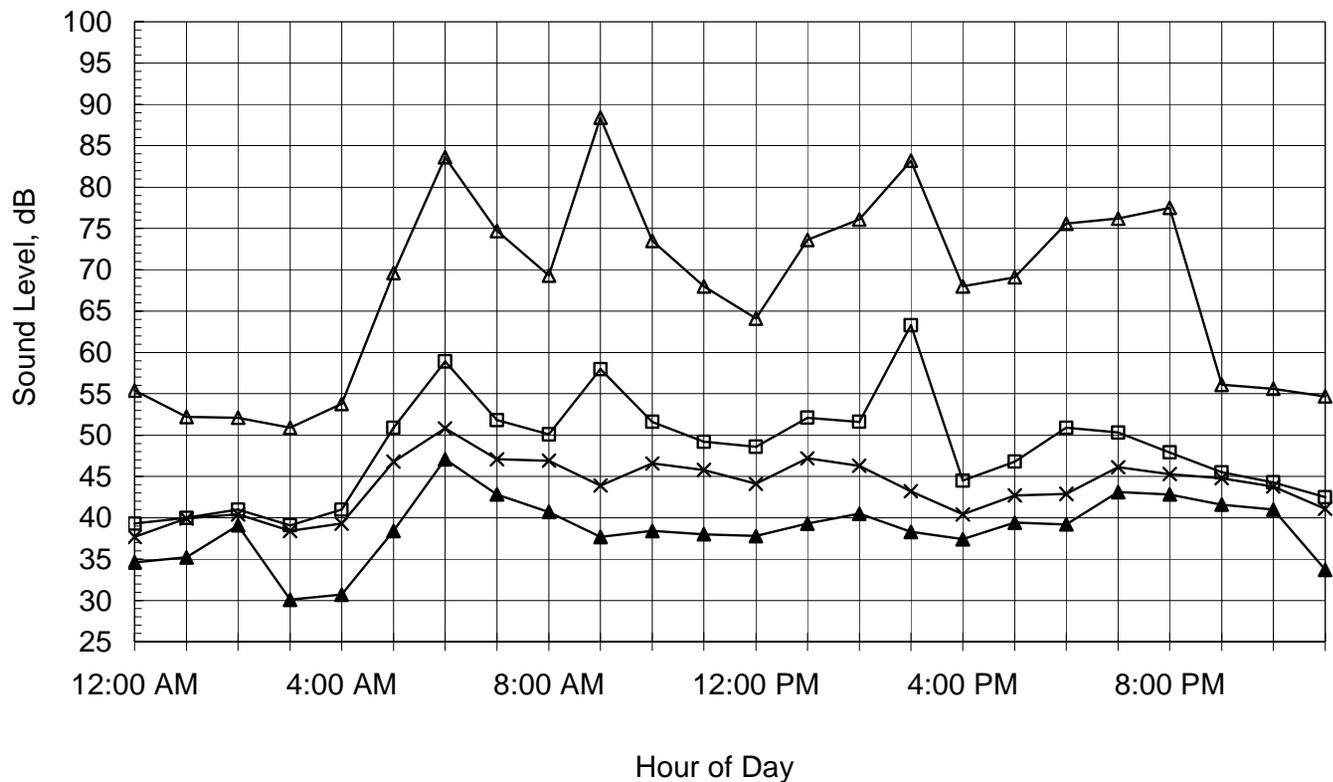
Because statistical descriptors such as L_{10} , L_{50} , etc. are sometimes cumbersome to calculate, the **equivalent sound level (L_{eq})** or **energy average sound level** is often used to describe the “average” sound level during stated time period, usually 1 hour.

The Community Noise Equivalent Level (CNEL) is calculated from hourly L_{eq} values, after adding a “penalty” to the noise levels measured during the evening (7 p.m. to 10 p.m.) and nighttime (10 p.m. to 7 a.m.) periods. The penalty for evening hours is a factor of 3, which is equivalent to 4.77 dB. The penalty for nighttime hours is a factor of 10, which is equivalent to 10 dB. To calculate L_{dn} (also called DNL), the evening penalty is omitted.

Appendix B-1: Measured Hourly Noise Levels

Site 1 - Existing Single Family Property Line

May 17, 2006



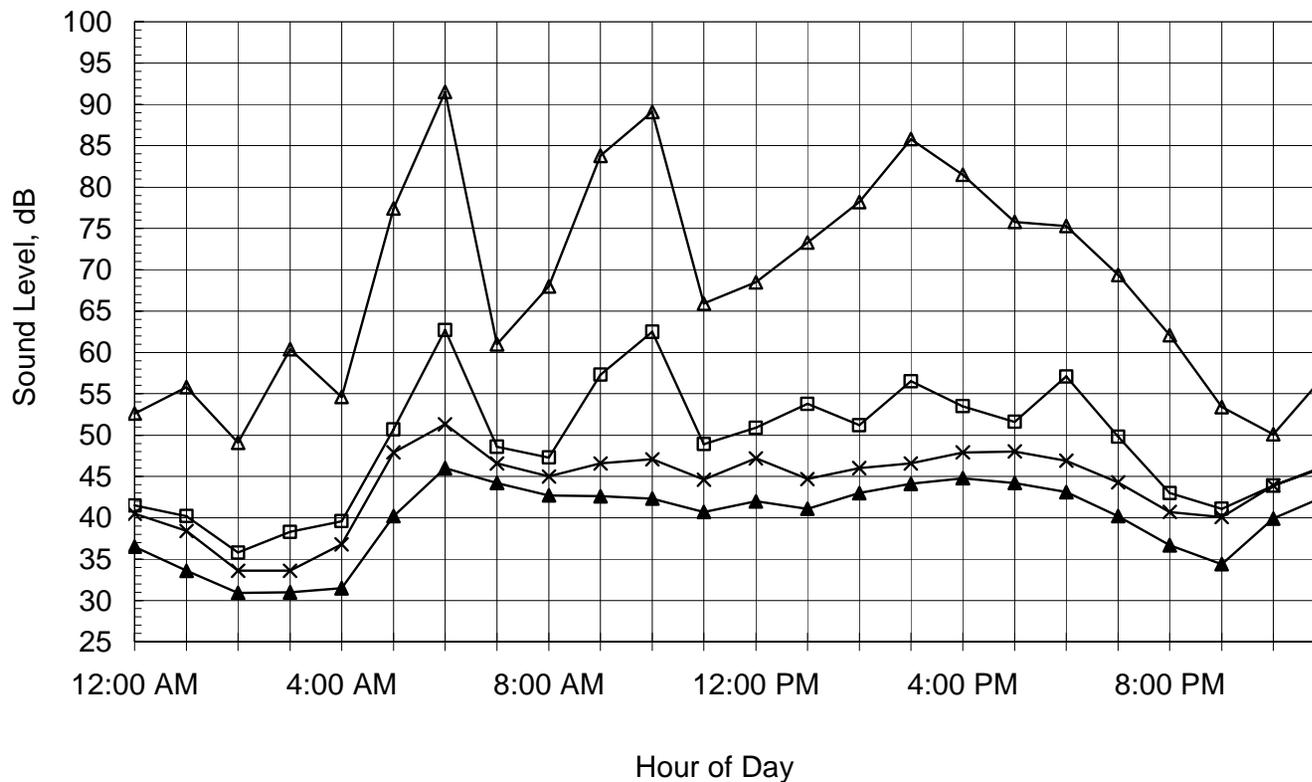
Ldn = 57.7 dB



Appendix B-2: Measured Hourly Noise Levels

Site 1 - Existing Single Family Property Line

May 18, 2006



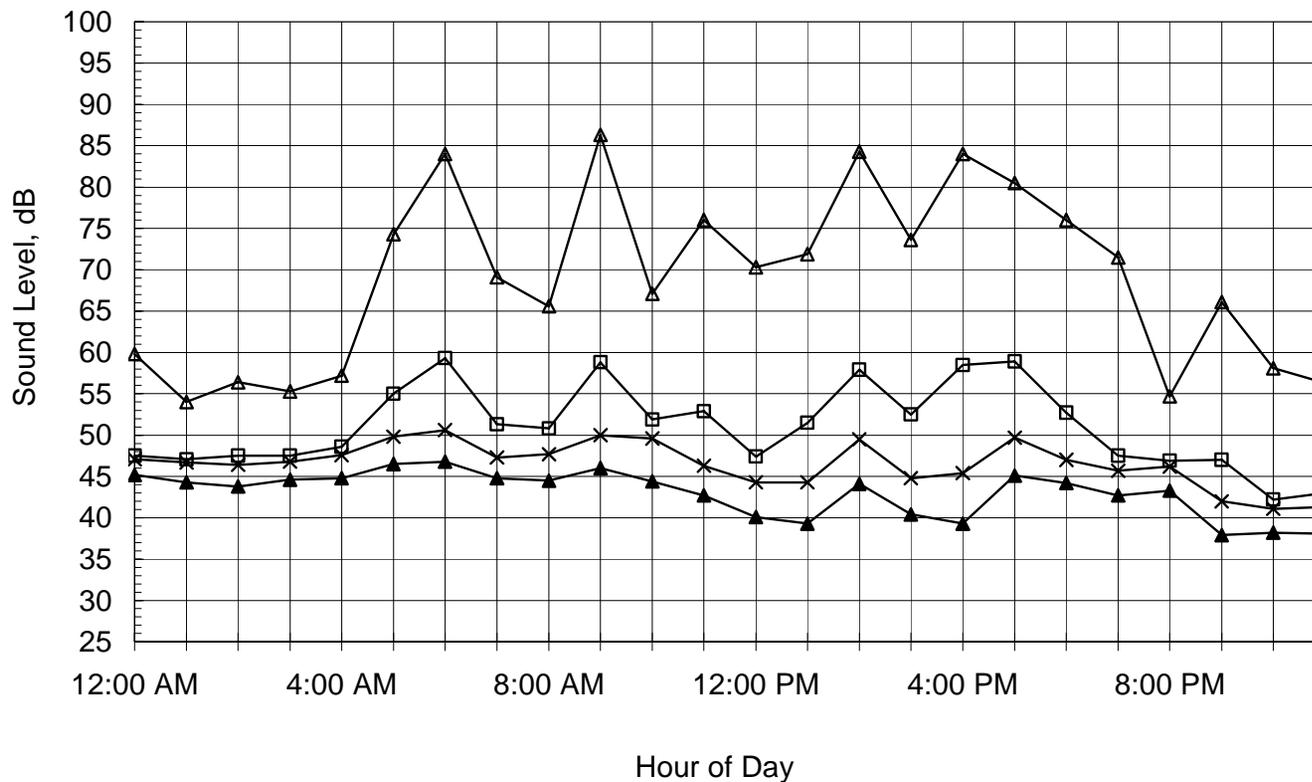
Ldn = 60.2 dB



Appendix B-3: Measured Hourly Noise Levels

Site 1 - Existing Single Family Property Line

May 19, 2006



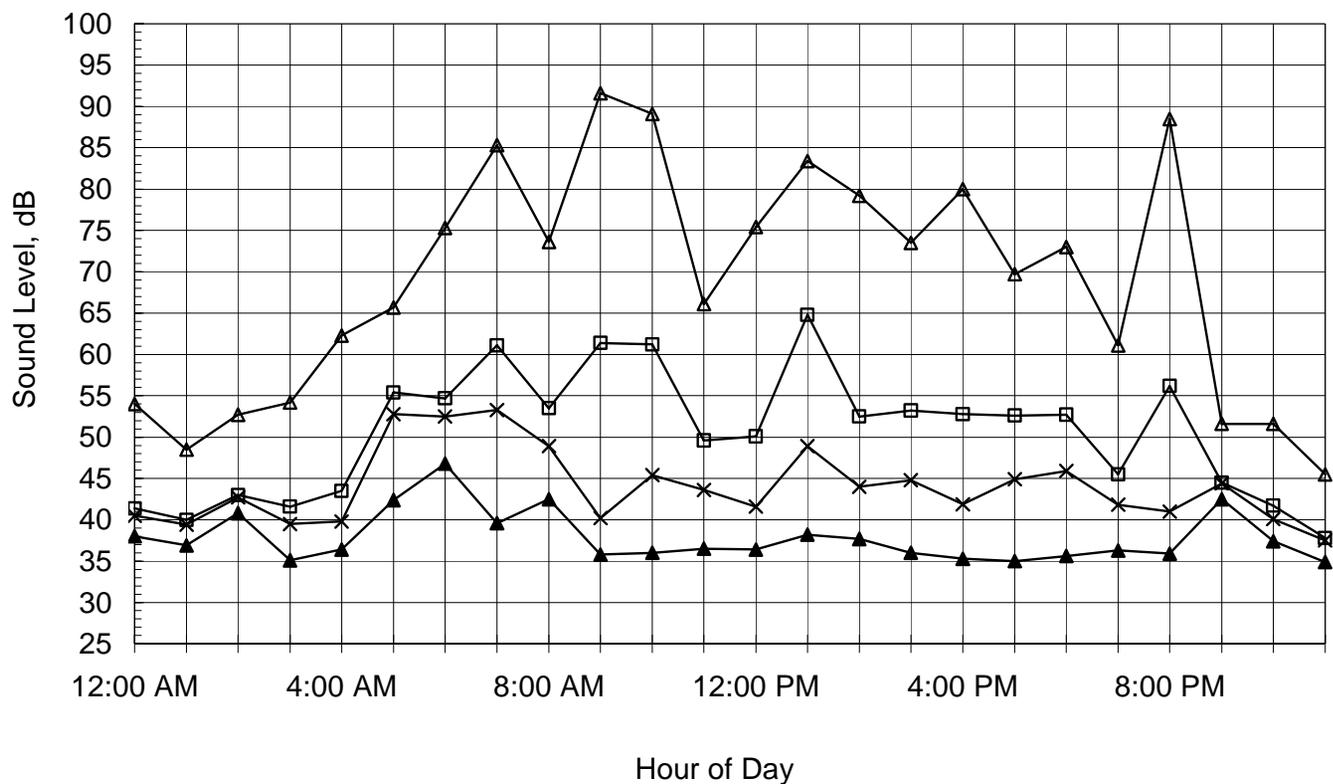
Ldn = 59.0 dB



Appendix B-4: Measured Hourly Noise Levels

Site 1 - Existing Single Family Property Line

May 20, 2006



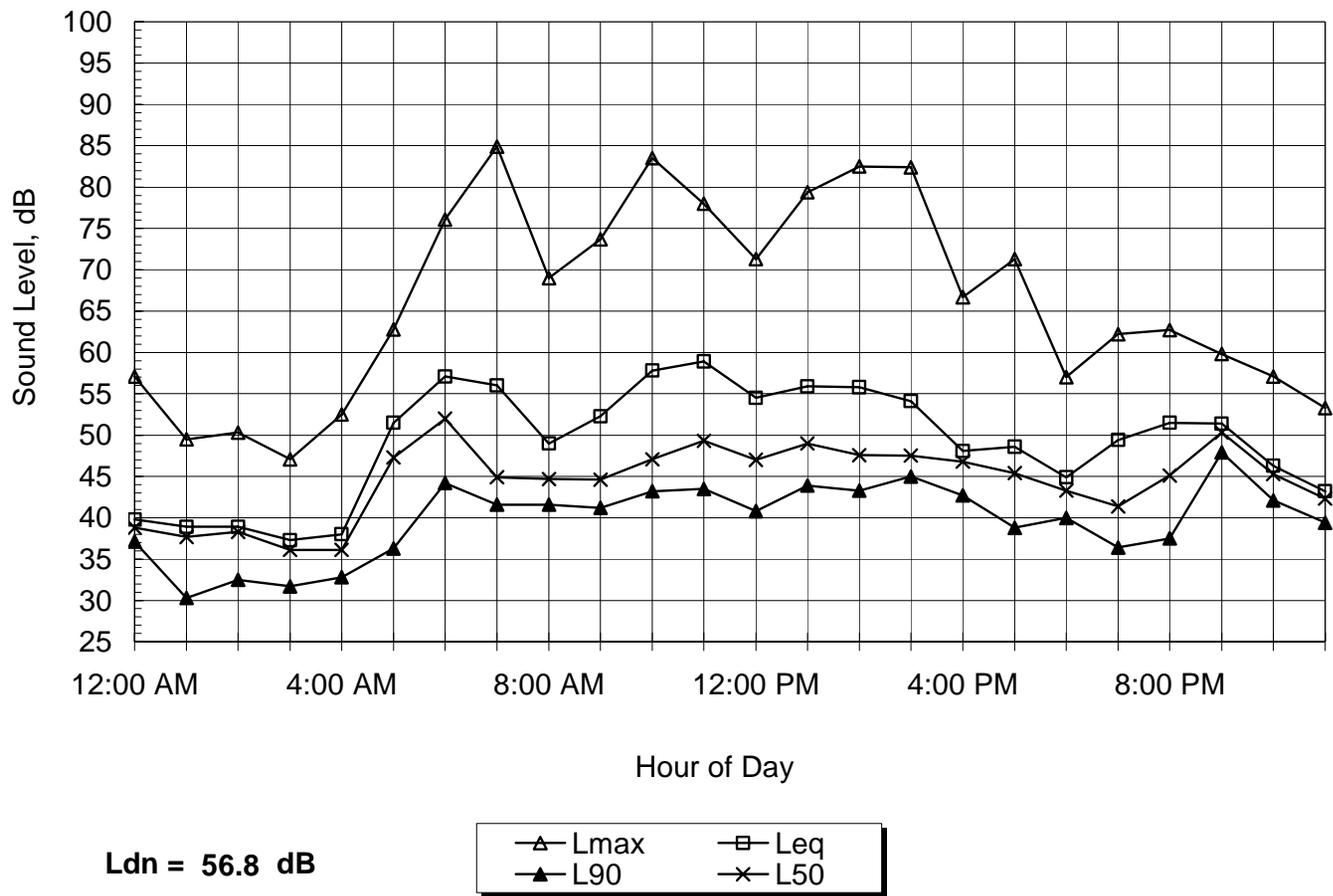
Ldn = 58.3 dB



Appendix B-5: Measured Hourly Noise Levels

Site 1 - Existing Single Family Property Line

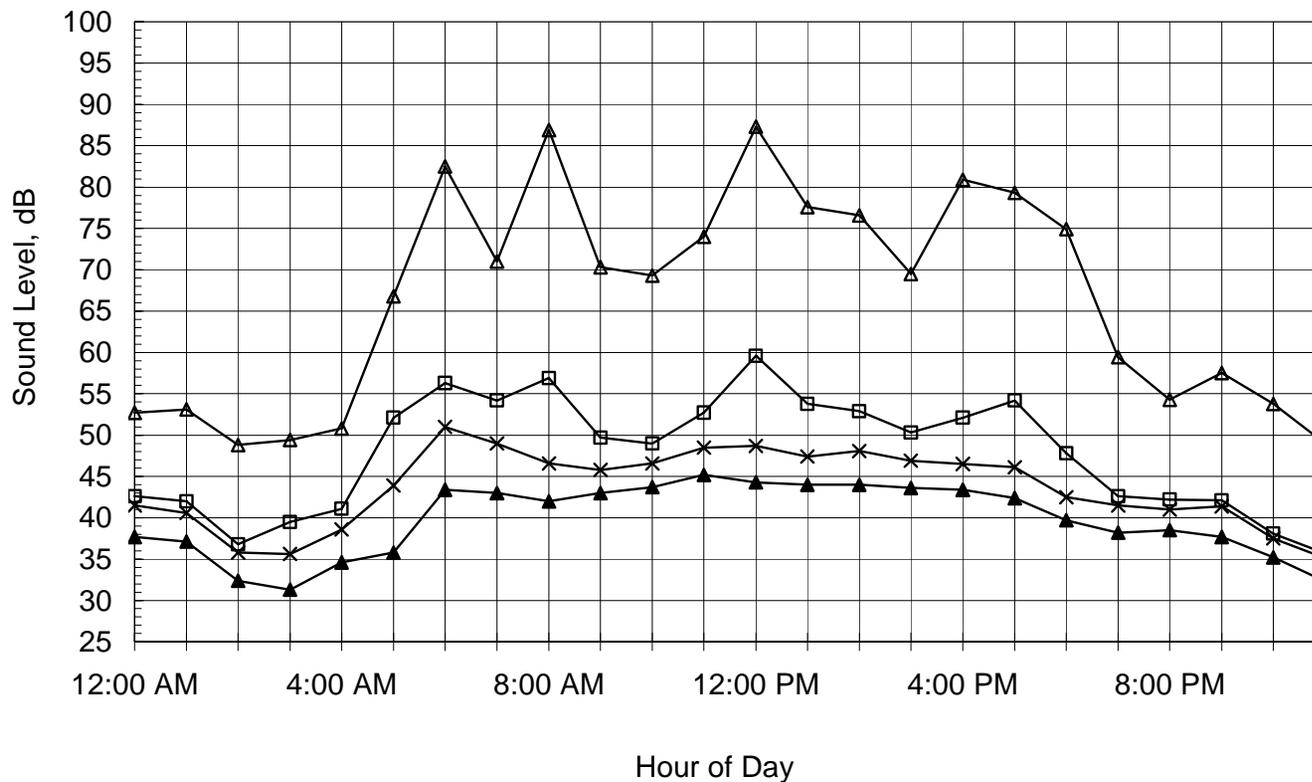
May 21, 2006



Appendix B-6: Measured Hourly Noise Levels

Site 1 - Existing Single Family Property Line

May 22, 2006



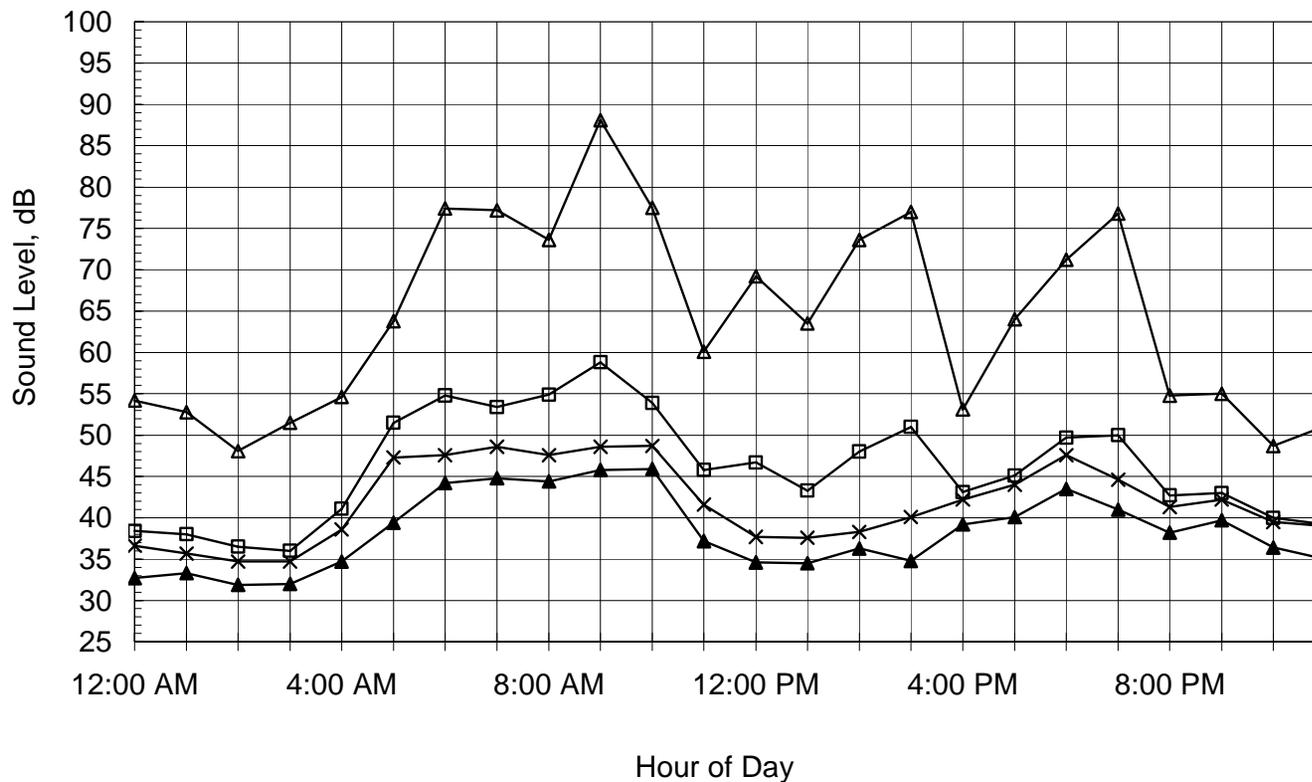
Ldn = 56.1 dB



Appendix B-7: Measured Hourly Noise Levels

Site 1 - Existing Single Family Property Line

May 23, 2006



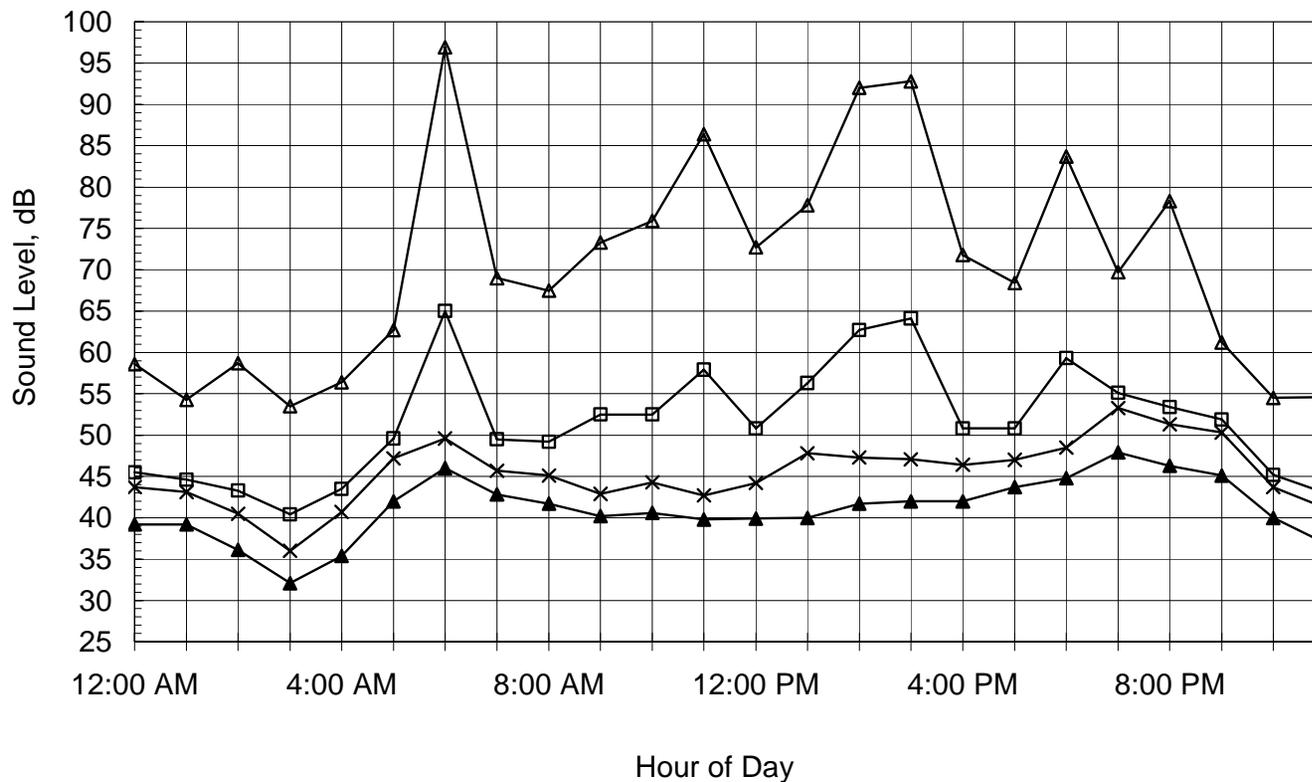
Ldn = 54.7 dB



Appendix B-8: Measured Hourly Noise Levels

Site 2 - Airport Boundary

May 17, 2006



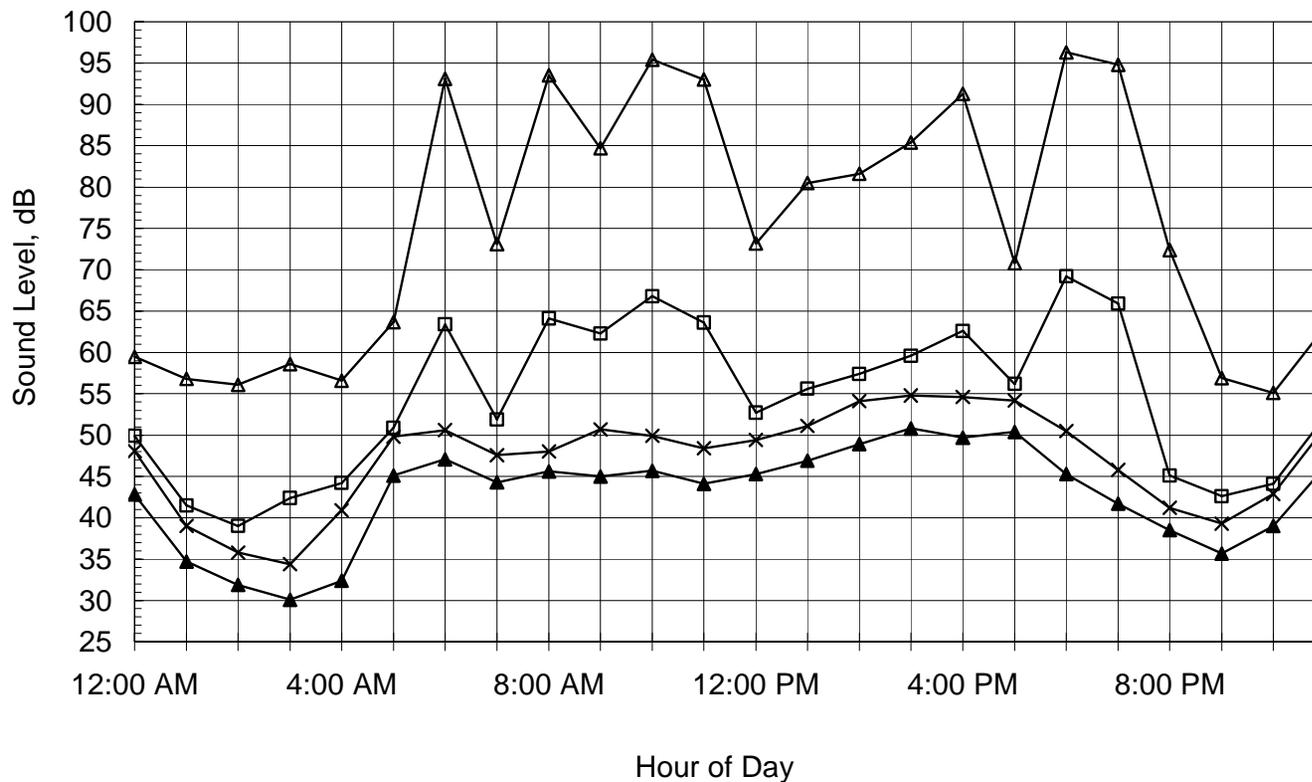
Ldn = 62.4 dB



Appendix B-9: Measured Hourly Noise Levels

Site 2 - Airport Boundary

May 18, 2006



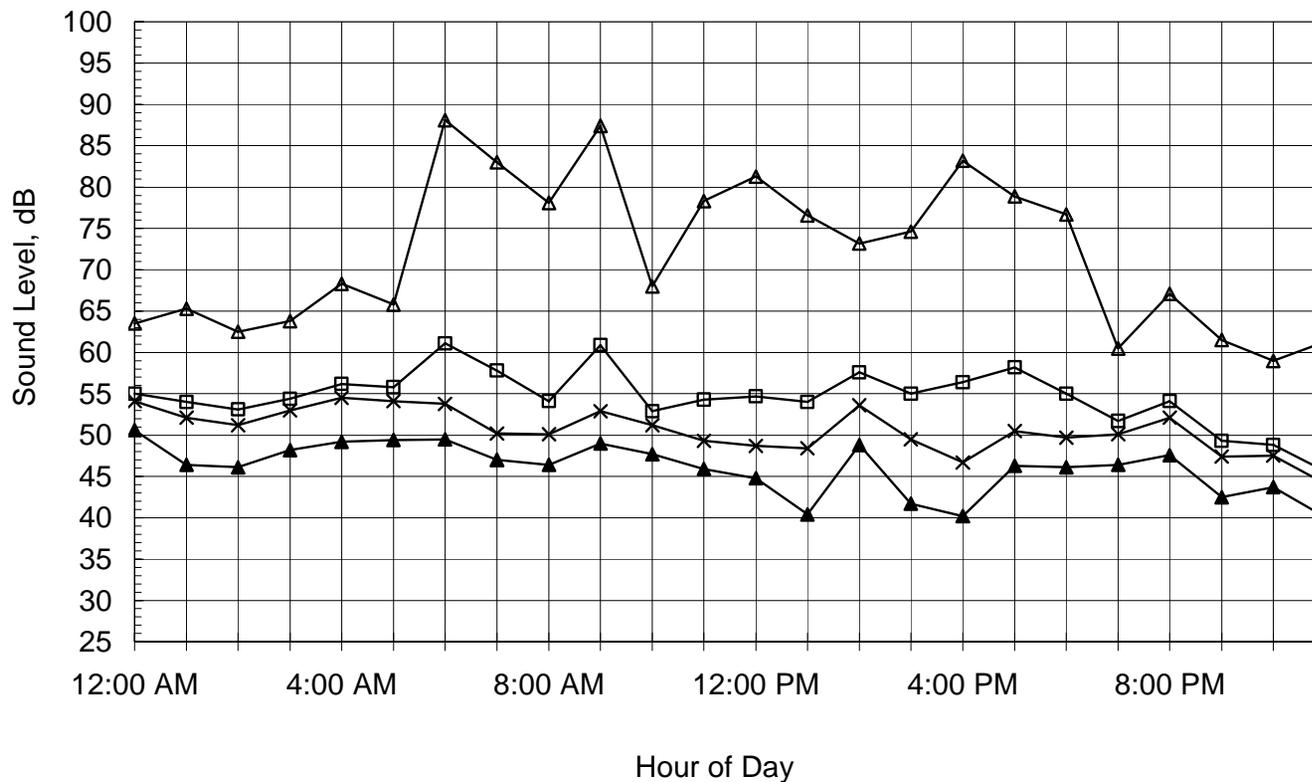
Ldn = 63.6 dB



Appendix B-10: Measured Hourly Noise Levels

Site 2 - Airport Boundary

May 19, 2006

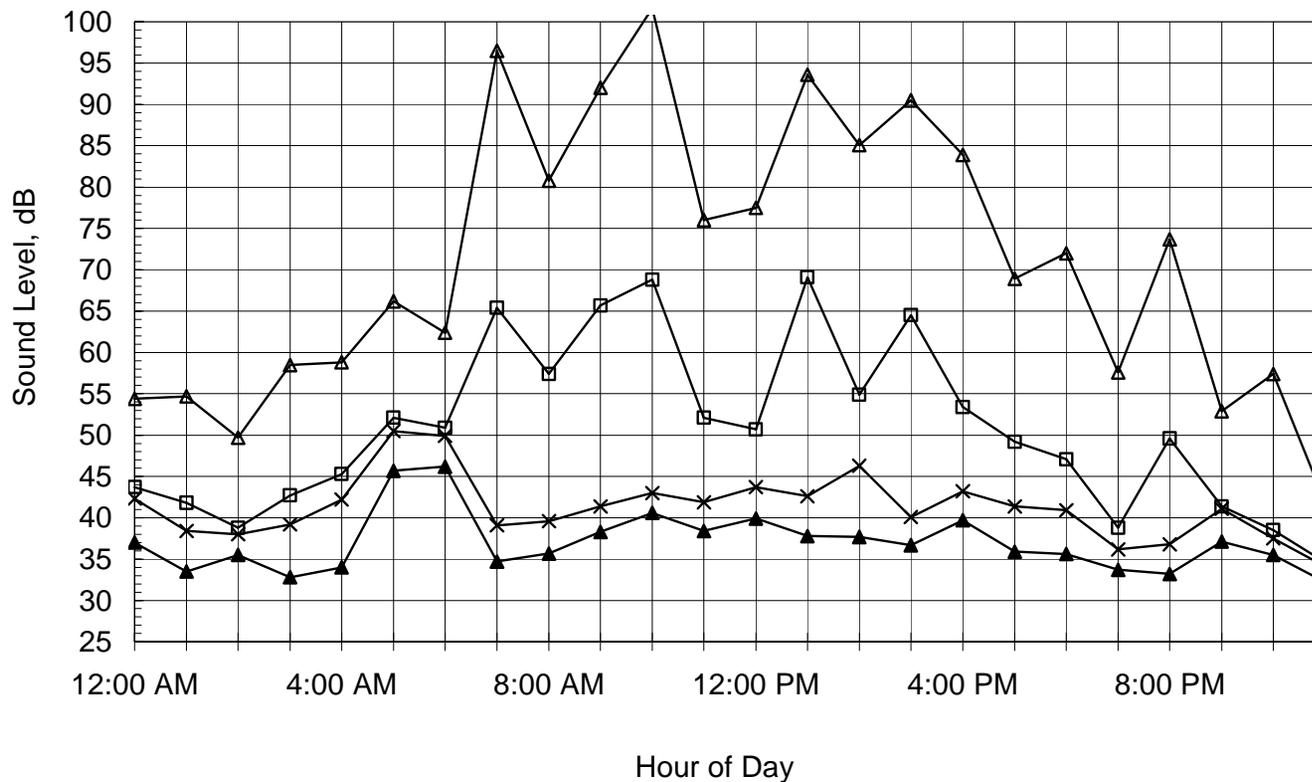


Ldn = 62.0 dB



Appendix B-11: Measured Hourly Noise Levels

Site 2 - Airport Boundary
May 20, 2006



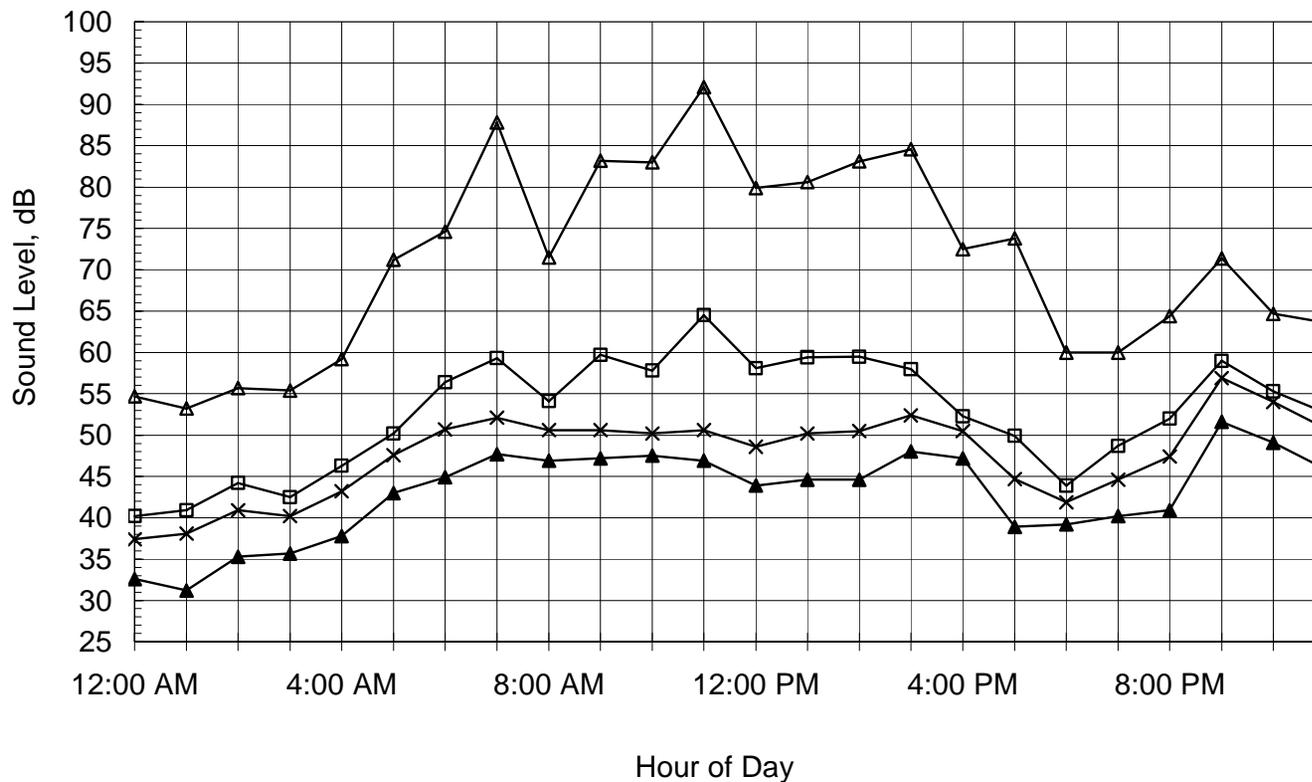
Ldn = 61.1 dB



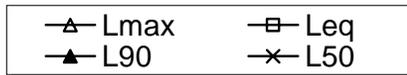
Appendix B-12: Measured Hourly Noise Levels

Site 2 - Airport Boundary

May 21, 2006



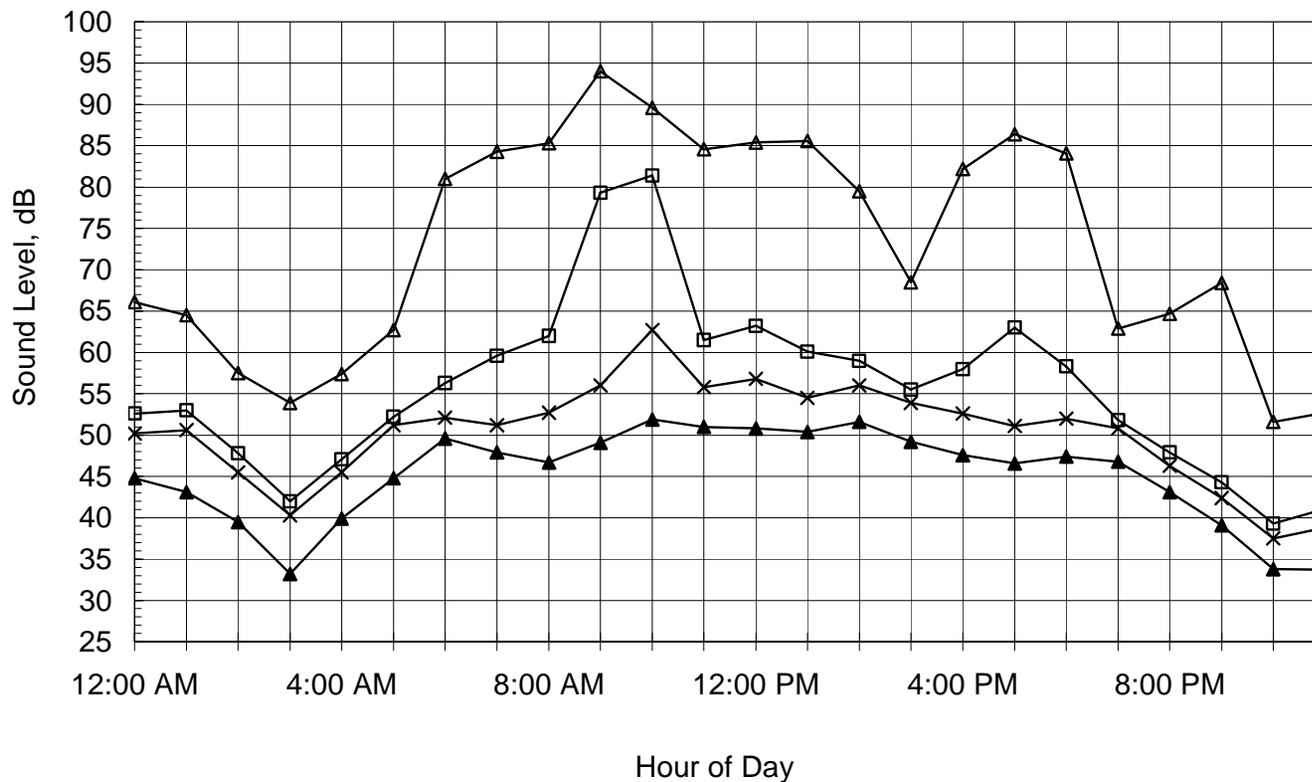
Ldn = 59.5 dB



Appendix B-13: Measured Hourly Noise Levels

Site 2 - Airport Boundary

May 22, 2006



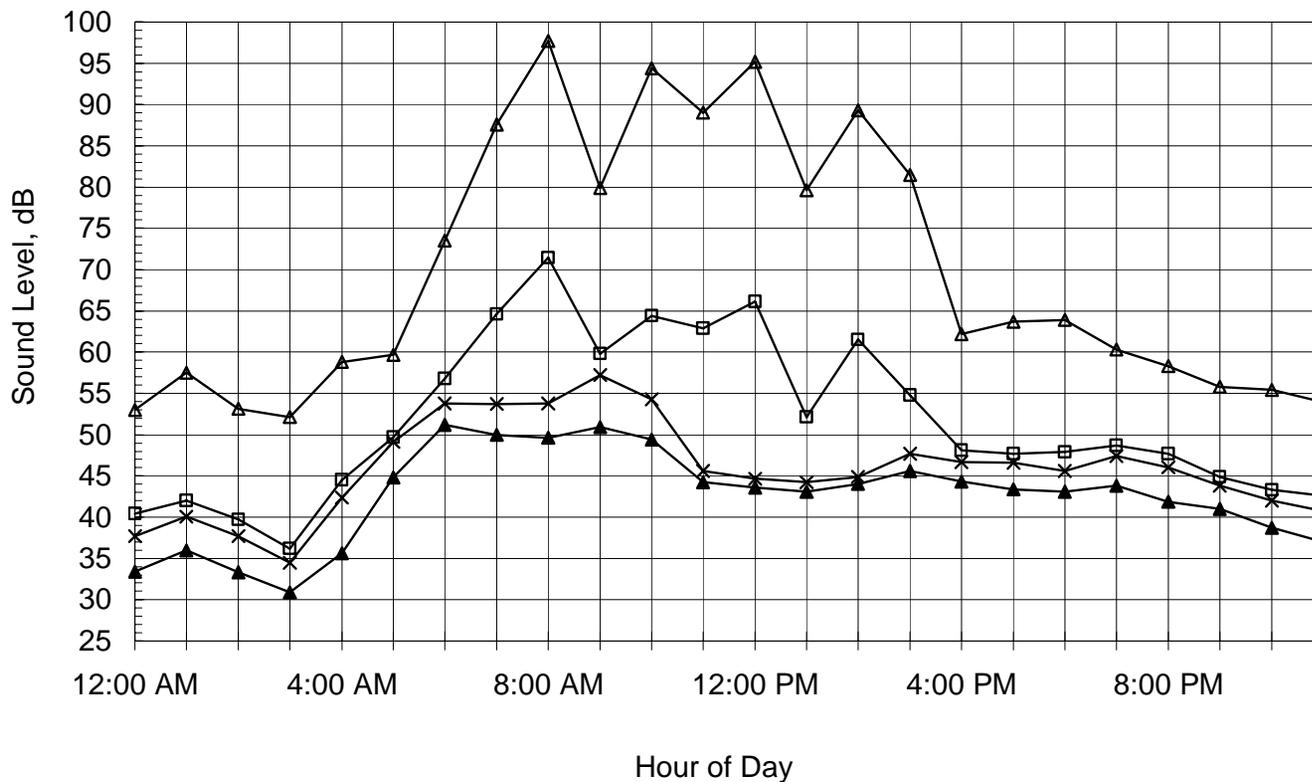
Ldn = 70.1 dB



Appendix B-14: Measured Hourly Noise Levels

Site 2 - Airport Boundary

May 23, 2006



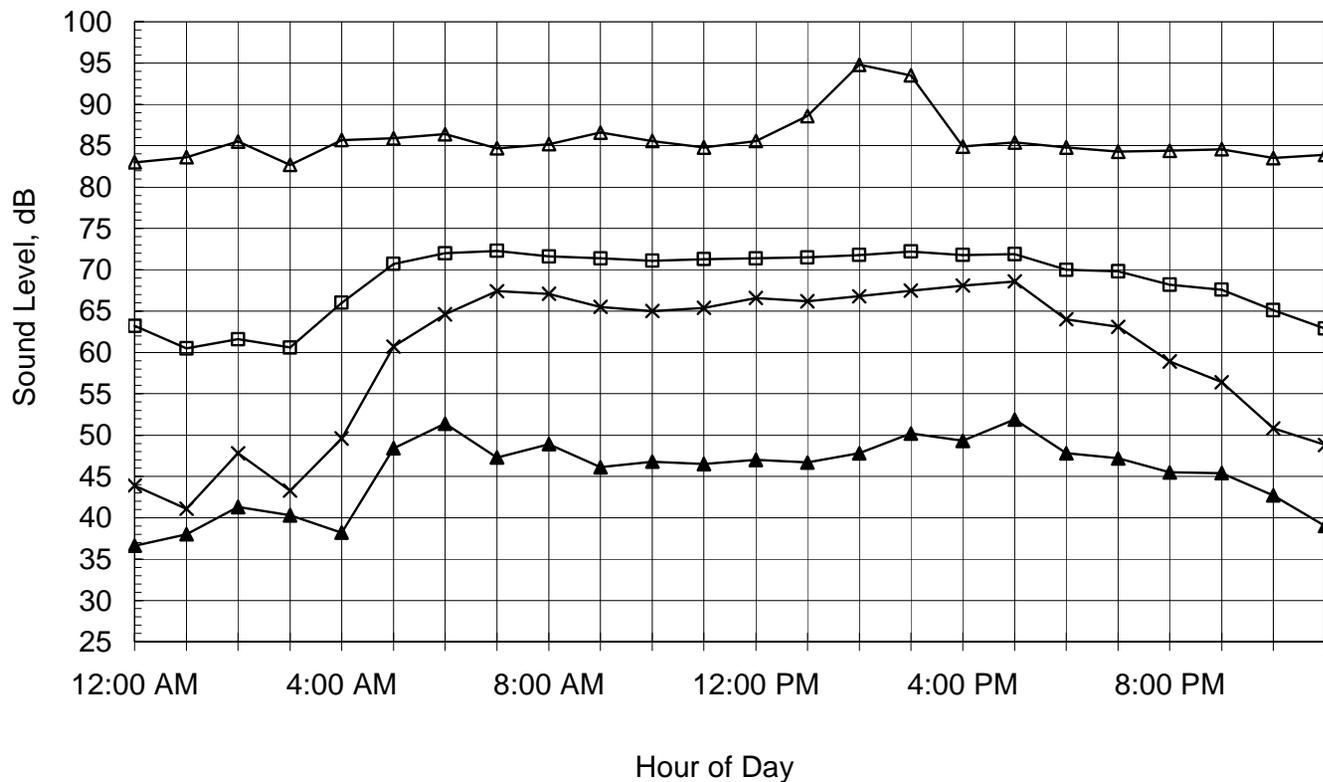
Ldn = 61.7 dB



Appendix B-15: Measured Hourly Noise Levels

Site 3 - Existing Driving Range / SR 20

May 17, 2006



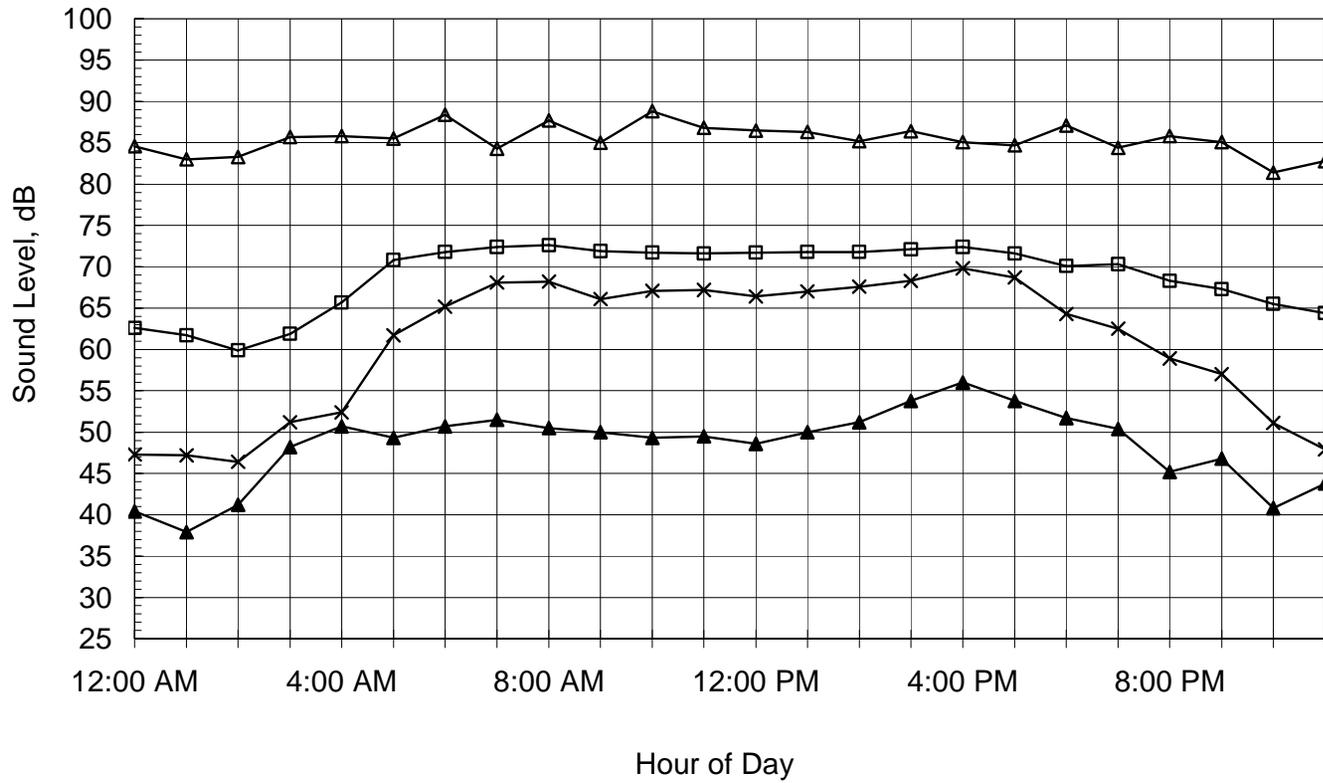
Ldn = 74.1 dB



Appendix B-16: Measured Hourly Noise Levels

Site 3 - Existing Driving Range / SR 20

May 18, 2006



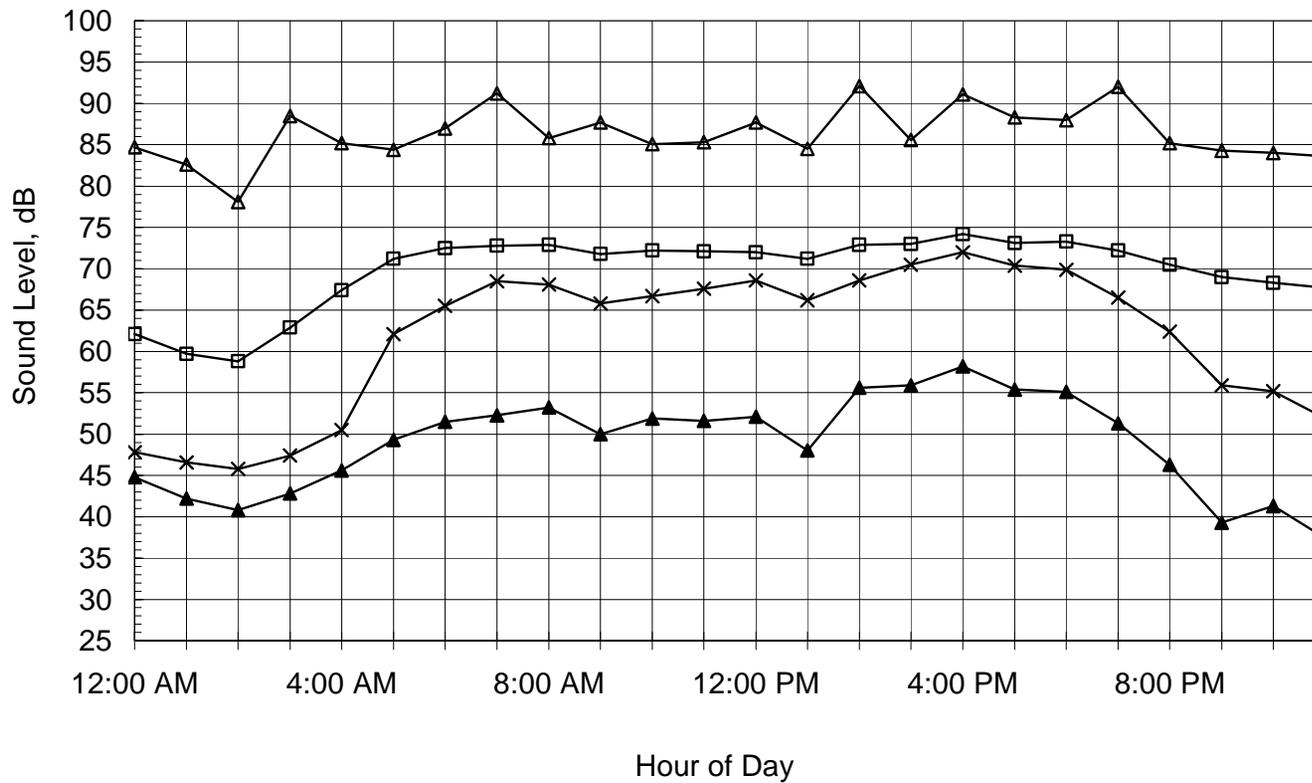
Ldn = 74.2 dB



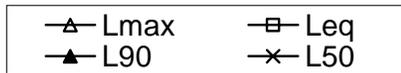
Appendix B-17: Measured Hourly Noise Levels

Site 3 - Existing Driving Range / SR 20

May 19, 2006



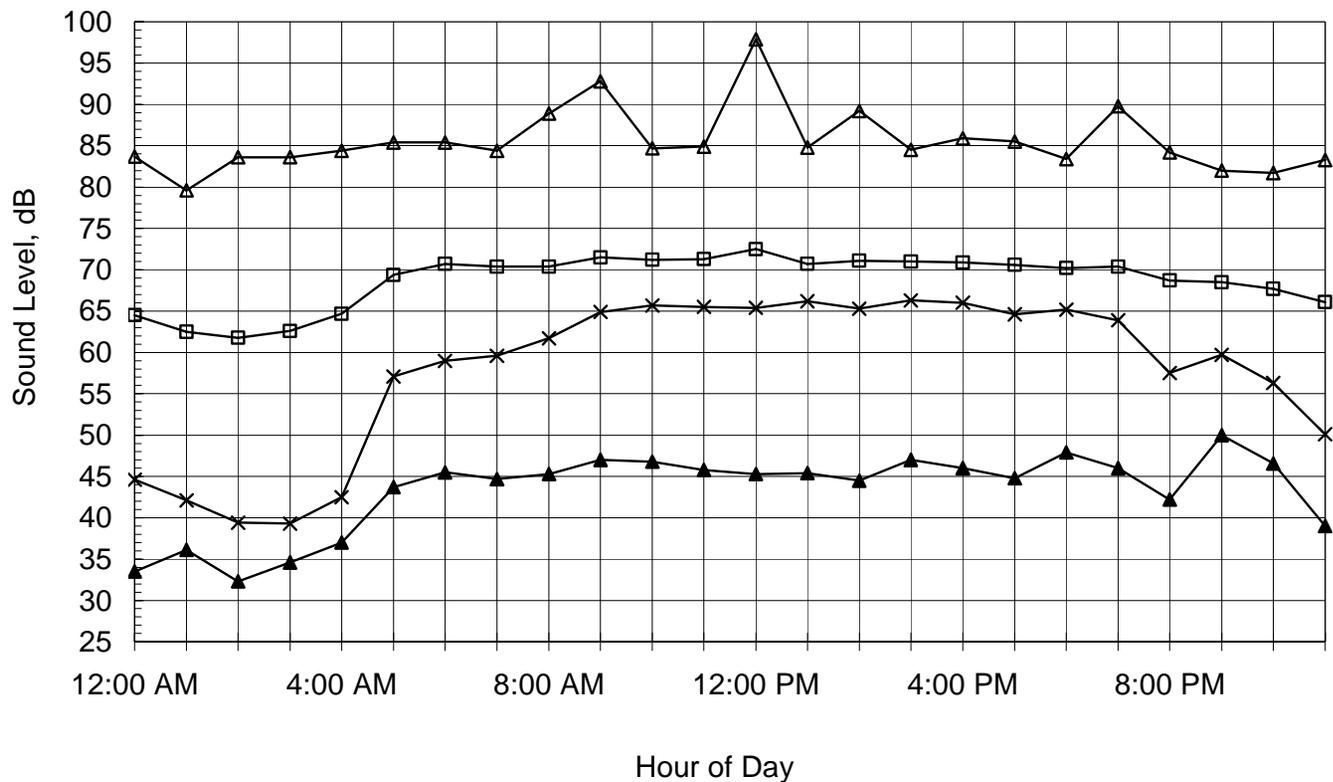
Ldn = 75.2 dB



Appendix B-18: Measured Hourly Noise Levels

Site 3 - Existing Driving Range / SR 20

May 20, 2006



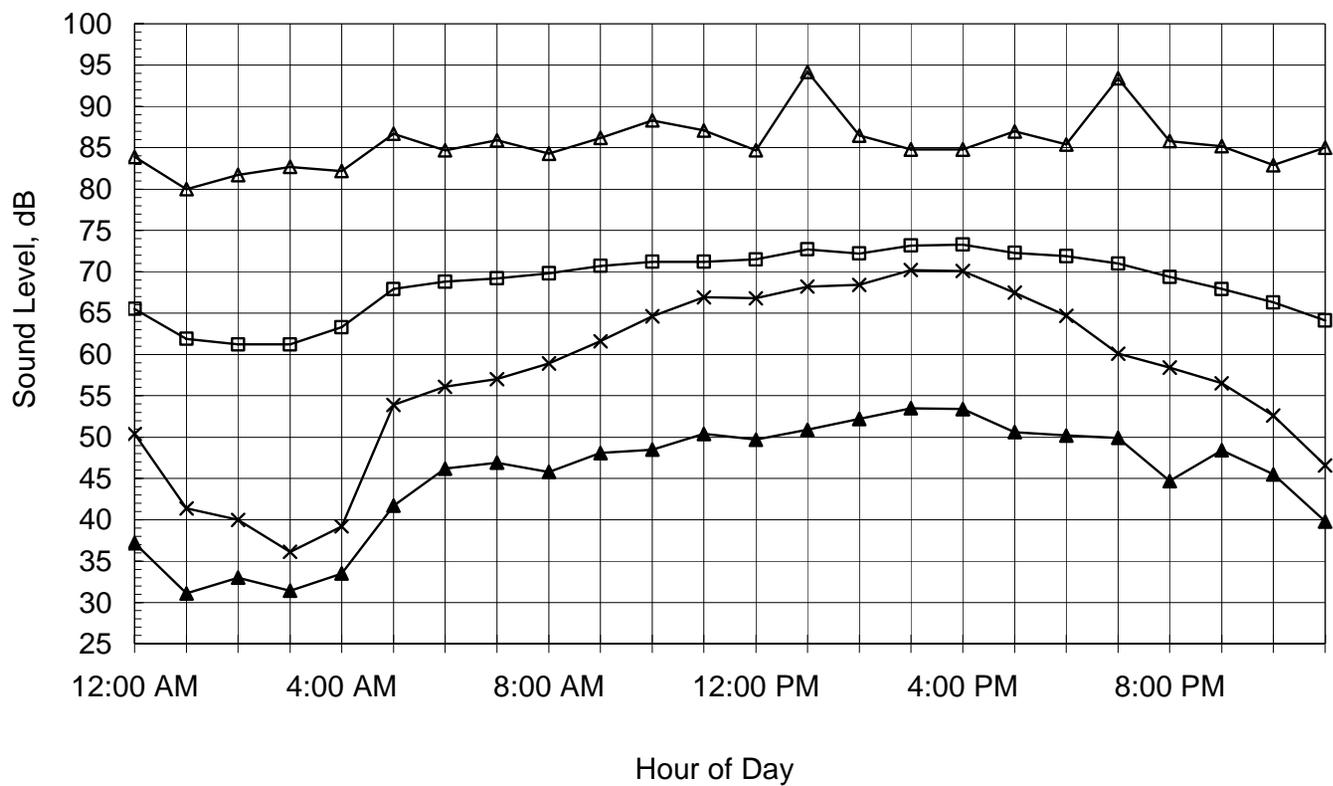
Ldn = 73.9 dB



Appendix B-19: Measured Hourly Noise Levels

Site 3 - Existing Driving Range / SR 20

May 21, 2006



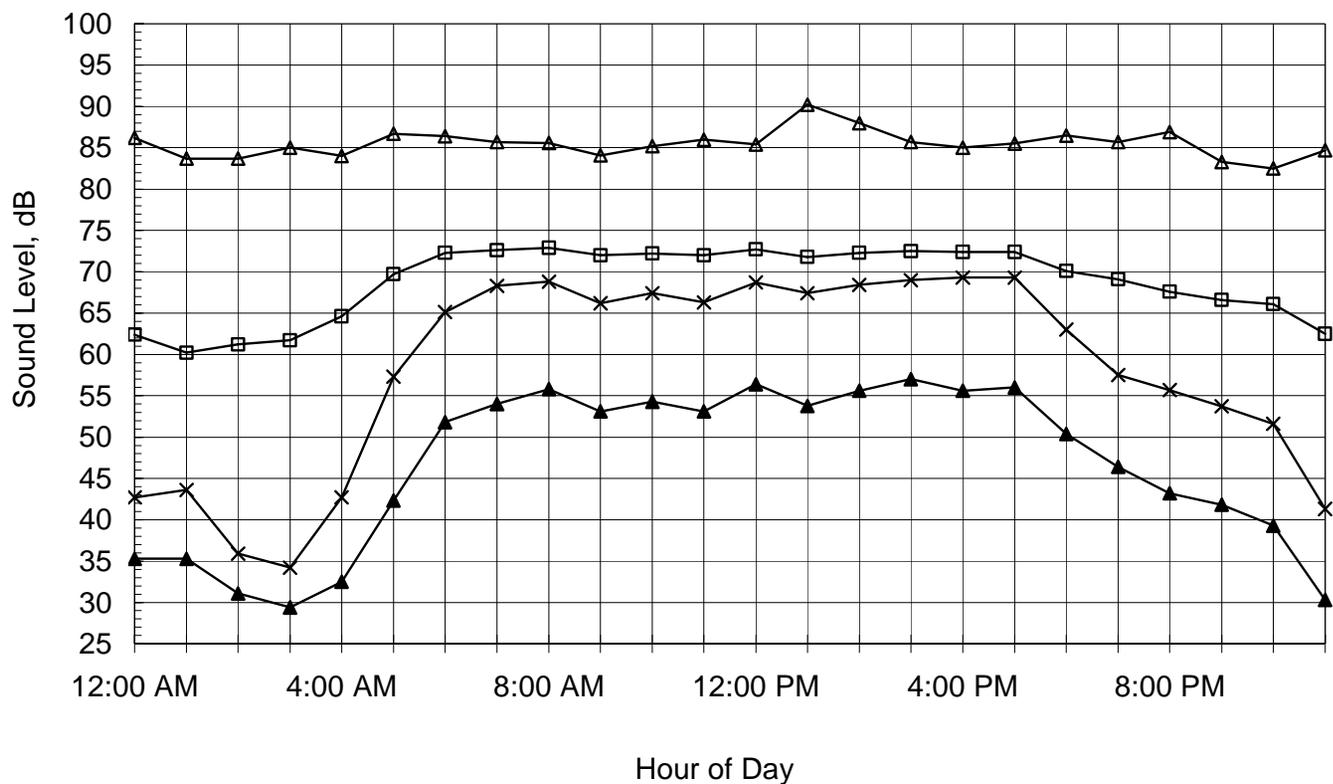
Ldn = 73.3 dB



Appendix B-20: Measured Hourly Noise Levels

Site 3 - Existing Driving Range / SR 20

May 22, 2006



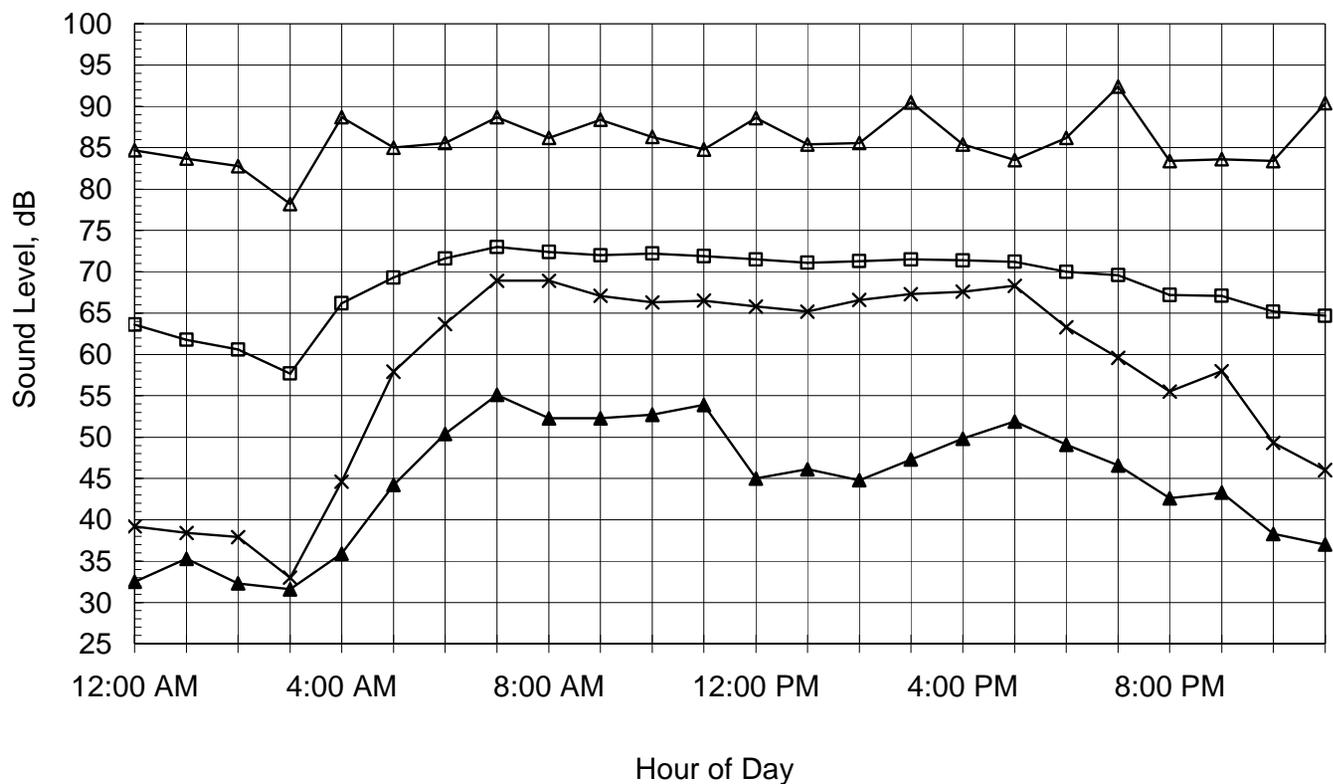
Ldn = 74.2 dB



Appendix B-21: Measured Hourly Noise Levels

Site 3 - Existing Driving Range / SR 20

May 23, 2006



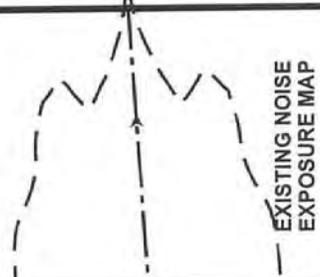
Ldn = 73.9 dB



**Noise Study Appendix C:
Existing Noise Exposure Map**



COLUSA COUNTY
AIRPORT



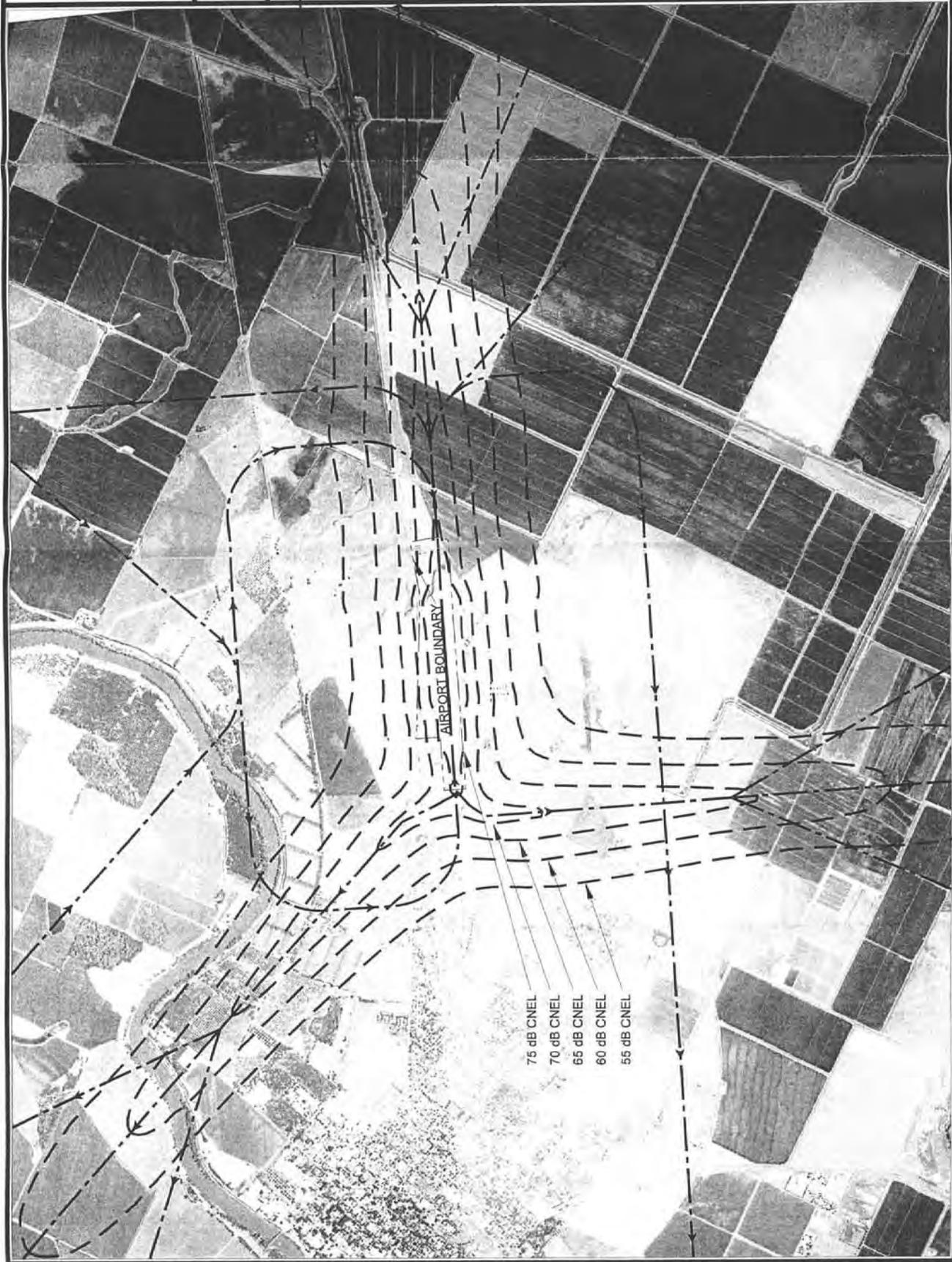
EXISTING NOISE
EXPOSURE MAP



NOTE
THIS DRAWING IS FOR PLANNING PURPOSES ONLY AND
IS NOT BEING USED FOR CONSTRUCTION OR ENVIRONMENTAL
PURPOSES.

T ARIES CONSULTANTS LTD.

COLUSA COUNTY AIRPORT
COLUSA COUNTY, CALIFORNIA
NAME: COLUSA COUNTY AIRPORT NO. 4420-07
DATE: 03-31-2004 PLOT SCALE: 1"=2,000'



- 75 dB CNEL
- 70 dB CNEL
- 65 dB CNEL
- 60 dB CNEL
- 55 dB CNEL

AIRPORT BOUNDARY

**Noise Study Appendix D:
Bollard and Brennan
June 2005**

Bollard & Brennan, Inc.

Consultants in Acoustics and Noise Control Engineering

June 1, 2005

Mr. Jacob H. Kley
Colusa Industrial Properties
50 Sunrise Boulevard
Colusa, California 95932

**RE: RESIDENTIAL DEVELOPMENT NEAR COLUSA COUNTY AIRPORT – COLUSA,
CALIFORNIA**

Dear Mr. Kley:

Bollard & Brennan, Inc. has completed acoustical measurements, analysis, and recommendations for the above-referenced project in accordance with our agreement dated March 29, 2005. The following is based on acoustical measurements recorded on the project site on May 10-11, 2005, applicable Colusa County noise exposure criteria, and the CY2015 noise exposure contour map for the Colusa County Airport.

The proposed project site is located north/northwest of Colusa County Airport (O08), as shown in the attached graphic. The project site is primarily impacted by Airport aircraft departures from Runway 31 turning left (west) over the project site. Significant impacts are expected during peak crop-duster activities, such as those recording during our noise measurement session in May 2005.

Applicable Noise Exposure Criteria:

For the purposes of evaluating noise impacts due to new projects, the criteria contained within the Colusa County Noise Element of the General Plan are used. The General Plan establishes a “normally acceptable” exterior noise level standard for residential uses of 60 dB L_{dn}, which is applied in all outdoor activity areas. A “conditionally acceptable” exterior noise level standard of 70 dB L_{dn} is applied only after careful study and determination of protective measures has been completed.

Mr. Jacob H. Kley
Colusa Industrial Properties
June 1, 2005
Page 2

The County has also established an interior noise level criterion of 45 dB L_{dn} . This standard has been established as a means of providing an acceptable noise environment for indoor communication and sleep. The 45 dB L_{dn} interior noise exposure standard is consistent with State and Federal guidelines.

Local, State, and Federal guidelines typically use the 65 dB L_{dn} (or CNEL) as a criterion for significance with respect to aircraft noise exposure and residential land uses. Typically, residential construction is not recommended in locations where aircraft noise exposure exceeds (or will exceed) 65 dB L_{dn} /CNEL. Although the County does offer a "conditionally acceptable" range (60-70 dB L_{dn}), the Colusa County Noise Element does not specifically state that new residential developments will be allowed where the exterior noise exposure is, or is expected to be, in this range.

Noise Level Measurements:

Noise level measurements were conducted on or near the residential project site by Bollard & Brennan, Inc. staff on May 10 & 11, 2005. Long-term (24-hour) automated noise level measurements were conducted at Site 1, while short-term measurements were conducted at Site 2. Please see the attached graphic for locations of the measurement sites. The sound level meter at Site 1 was programmed to collect single-event data (aircraft overflights), as well as hourly noise levels. The instrumentation used to complete these measurements included Larson-Davis Laboratories (LDL) Model 820 sound level meters fitted with a LDL Model 2560 ½" free-field microphones. These systems were calibrated in the field using a LDL Model CAL200 acoustical calibrator.

At Site 1, aircraft noise exposure was measured to be approximately 69 dB L_{dn} , with maximum recorded noise levels (L_{max}) of 66-107 dB for individual aircraft operations. Generally speaking, typical crop-duster operations over the project site generated noise levels of 95-107 dB L_{max} at Site 1. It is estimated, based on the short-term measurements collected at Site 2, that aircraft noise exposure during peak crop-dusting periods is approximately 16 dB less at Site 2 than at Site 1. Therefore, an exposure of approximately 53 dB L_{dn} is expected at Site 2 during current worst-case crop-dusting activity at the Colusa County Airport.

Colusa County Airport CY2015 Aircraft Noise Contours

The most recent Colusa County Airport noise contours, produced using CY2015 assumptions (i.e., operations, flight patterns, fleet mix, etc.), are presented in the attached graphic. As shown, the

Mr. Jacob H. Kley
Colusa Industrial Properties
June 1, 2005
Page 3

project site is expected to be impacted by aircraft noise exposure between 55-70+ dB L_{dn} /CNEL. It is estimated that more than 70% of the project site will be exposed to aircraft noise exposure of 65 dB L_{dn} /CNEL or more by 2015: Therefore, it is estimated that more than 70% of the project site will experience aircraft noise exposure in excess of the accepted significance criterion. As shown in the attached graphic, it is estimated that at least 15% of the project site will experience aircraft noise exposure of 70 dB L_{dn} /CNEL or greater. The highest exterior aircraft noise exposure on the proposed residential project site is expected to be approximately 75 dB L_{dn} /CNEL.

The aircraft noise exposure expressed by the CY2015 Airport noise contours is higher than that recorded during our noise measurement session of May 2005. We recommend that these contours be used for land use planning in the Airport's vicinity.

Analysis:

Standard residential construction, including that proposed for this project, will generally provide no less than 25 dB of exterior-to-interior noise level reduction (NLR) with all exterior doors and windows closed. Therefore, exterior noise exposure greater than 70 dB L_{dn} /CNEL would be required to exceed the 45 dB L_{dn} interior noise exposure criterion.

Maximum Aircraft Noise Levels:

It is expected that worst-case maximum aircraft noise exposure will be near 82 dB L_{max} (107 dB L_{max} - 25 dB NLR = 82 dB L_{max}) within noise-sensitive project rooms on the east side of the project site (under the flight path). This level of exposure will likely be viewed by building occupants as extreme noise intrusion. Typical conversation/speech generally lies in the range of 50-70 dB, and would be significantly impacted by individual aircraft noise events. Without significant building construction improvements, there would likely be high levels of aircraft-related noise complaints from occupants of the proposed project dwellings.

Average Aircraft Noise Level:

Based on the CY2015 aircraft noise contours presented in the attached graphic, the calculated worst-case aircraft noise exposure within project homes on the east side of the project site (under the flight

Mr. Jacob H. Kley
Colusa Industrial Properties
June 1, 2005
Page 4

path) is expected to be approximately 50 dB L_{dn} /CNEL (75 dB L_{dn} /CNEL - 25 dB NLR = 50 dB L_{dn} /CNEL). This level exceeds the applicable interior noise exposure criterion by 5 dB. It is expected that construction improvements, beyond typical residential construction practices, may provide the exterior-to-interior NLR required to meet the applicable 45 dB L_{dn} interior noise exposure criterion. However, residential building construction inside of the 70 dB L_{dn} /CNEL noise contour is not recommended for this project.

Crop Duster Flight Path:

Based on our site observations and noise exposure measurements, Bollard & Brennan, Inc. estimates that a majority of the aircraft noise exposure on the project site is (and will be in 2015) generated by crop duster aircraft departing Runway 31 and turning left (west) over the project site. If instead, these operations turned right (east), then noise exposure on the project site would be significantly reduced. In this case, it could be argued that CY2015 Colusa County Airport noise exposure would not exceed 70 dB L_{dn} /CNEL on the project site; and much of the proposed residential project site would be outside of the 65 dB L_{dn} /CNEL aircraft noise exposure contour.

Recommendations:

Bollard & Brennan, Inc. recommend the following with respect Colusa County Airport aircraft noise exposure on the proposed residential project site.

- Residential construction should not be considered within the 70 dB L_{dn} /CNEL CY2015 Colusa County Airport aircraft noise exposure contour.
- An interpretation from the County should be requested as to precisely what exterior noise standard should be applied to residential development on this site.
- If residential dwellings are allowed within the 65-70 dB L_{dn} /CNEL CY2015 Colusa County Airport aircraft noise exposure contours, the dwellings should incorporate several building construction improvements to mitigate interior aircraft noise exposure. The improvements include the following.
 - All exterior wall construction should be stucco. A standard three-coat system is acceptable. If a single-coat system is desired, then one layer of ½" + exterior gypsum board or plywood sheathing is required under the foam exterior foam board.

All exterior doors (including sliding-glass doors) and windows, and their associated hardware, should provide sound insulation performance of STC 40 or better. A laboratory test should be required to prove this performance rating.

- All attic vents (eave or gable) should be acoustically baffle to minimize sound flaking through the ceiling. Bollard & Brennan, Inc. staff would be happy to help the project architect/contractor with these baffle designs.
- All project buildings should be provided with adequate and appropriately designed mechanical ventilation systems (i.e., air conditioning) so that exterior doors and windows may remain closed during worst-case noise exposure times.
- A qualified acoustical consultant should review all project architectural drawings, details, and notes to verify incorporation of the above-described construction elements.
- The project developer should inform all prospective home owners of the aircraft noise exposure issues associated with the project using appropriate documentation. In addition, the project developer and County should seek legal advise and require the appropriate legal documentation from project home owners to mitigate future legal action with respect to noise exposure and other issues associated with the operations of the Airport.

It should be noted that any residential construction on the proposed project site, regardless of noise mitigation efforts, will likely produce aircraft noise exposure complaints from future residents. The measures presented above are intended to reduce the potential for these complaints; but given the subjective nature of human reaction to noise, no guarantee can be provided that complaints will not arise.

Please contact me at (530) 745-0550 if you have any questions or require additional information.

Sincerely,

Jason T. Mirise
Senior Consultant

JTM
attachment

Residential Development Near Colusa County Airport
Colusa County, CA
Site Plan & CY2015 Airport Noise Contours



- : Residential Project Border
- △ : Continuous Hourly Noise Measurement Site
- : Short-Term Noise Measurement Site



**Noise Study Appendix E:
Bollard Acoustical Consultants
July 2005**



July 29, 2005

Mr. Jacob H. Kley
Colusa Industrial Properties
50 Sunrise Boulevard
Colusa, California 95932

**RE: RESIDENTIAL DEVELOPMENT NEAR COLUSA COUNTY AIRPORT – COLUSA,
CALIFORNIA**

Dear Mr. Kley:

Bollard Acoustical Consultants, Inc. has completed Colusa County Airport aircraft noise modeling as requested by Colusa Industrial Properties. The purpose of this study was to determine the future aircraft noise impact on the project property assuming that agriculture-related aircraft (crop dusters) would utilize eastbound departure flight tracks only (no flights directly over the project property), and compare this impact with the published CY2015 Colusa County Airport aircraft noise exposure contours. This exercise was completed for both the existing 3,000-foot runway system and the proposed future 3,700-foot runway system.

The proposed project site is located north/northwest of Colusa County Airport (O08) as shown in the attached graphics. The project site is primarily impacted by Airport aircraft departures from Runway 31 turning left (west) over the project site.

The following is based on Integrated Noise Model (INM) Version 6.1 study files for the Colusa County Airport provided by Brown-Buntin Associates, Inc. This INM study was altered with respect to runway length and flight track allocation where needed to provide for the above-described comparison.

Applicable Noise Exposure Criteria:

For the purposes of evaluating noise impacts due to new projects, the criteria contained within the Colusa County Noise Element of the General Plan are used. The General Plan establishes a “normally acceptable” exterior noise level standard for residential uses of 60 dB L_{dn} , which is

applied within all outdoor activity areas (backyards). A “conditionally acceptable” exterior noise level standard of 70 dB L_{dn} is applied only after careful study and determination of protective measures has been completed.

The County has also established an interior noise level criterion of 45 dB L_{dn} . This standard has been established as a means of providing an acceptable noise environment for indoor communication and sleep. The 45 dB L_{dn} interior noise exposure standard is consistent with State and Federal guidelines.

Local, state, and federal guidelines typically use 65 dB L_{dn} (or CNEL) as a criterion for significance with respect to aircraft noise exposure and residential land uses. Typically, residential construction is not recommended in locations where aircraft noise exposure is expected to exceed 65 dB L_{dn} /CNEL. Although the County does offer a “conditionally acceptable” range (60-70 dB L_{dn} /CNEL), the Colusa County Noise Element does not specifically state that new residential developments will be allowed where the exterior noise exposure is expected to be in this range.

Colusa County Airport CY2015 Aircraft Noise Modeling:

The aircraft noise exposure modeling described below was completed using the Federal Aviation Administration’s (FAA) Integrated Noise Model (INM) software, Version 6.1. This is the latest version of the software.

The most recent Colusa County Airport noise contours produced using CY2015 assumptions (i.e., operations, flight patterns, fleet mix, etc.) and both the existing 3,000-foot and proposed future 3,700-foot runway systems are attached. As shown, the project site is expected to be impacted by aircraft noise exposure between 55-75 dB CNEL. It is estimated that more than 70% of the project site will be exposed to aircraft noise exposure of 65 dB CNEL or more by 2015. Therefore, it is estimated that more than 70% of the project site will experience aircraft noise exposure in excess of the accepted significance criterion. As shown in the attached graphics, it is estimated that as-much-as 20% of the project site may experience aircraft noise exposure of 70 dB CNEL or greater. The highest exterior aircraft noise exposure on the proposed residential project site is expected to be between 70-75 dB CNEL.

Bollard Acoustical Consultants, Inc. completed additional aircraft noise modeling assuming that all agriculture-related aircraft would utilize eastbound departure flight tracks only. This analysis was also completed for both the existing 3,000-foot runway system and the proposed future 3,700-foot runway system. The resulting noise contour maps (attached) show that, under this hypothetical

Mr. Jacob H. Kley
Colusa Industrial Properties
July 29, 2005
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flight track allocation scenario, future CY2015 Colusa County Airport aircraft noise exposure on the project site would not be expected to exceed 65 dB CNEL. This is below the established significance criterion and within the County's "conditionally acceptable" noise exposure range.

Please contact me at (530) 745-0550 or jasonm@bacnoise.com if you have any questions or require additional information.

Sincerely,

Jason T. Mirise
Vice President

JTM
Attachments

Residential Project Site

- Ag Aircraft Departures
- Departures (Other Aircraft)
- Arrivals (All)

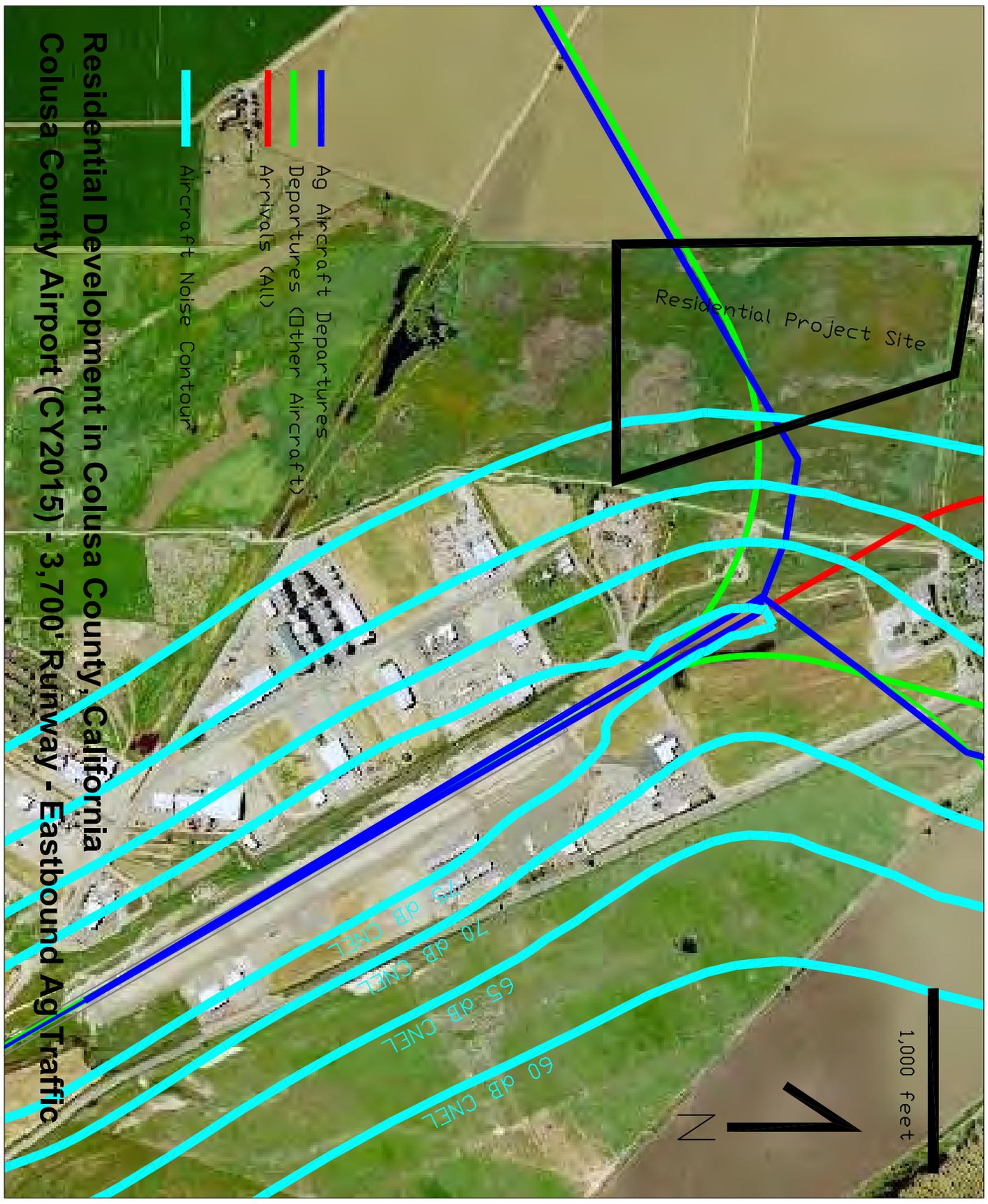
Aircraft Noise Contour

75 dB CNEL
70 dB CNEL
65 dB CNEL
60 dB CNEL

1,000 feet



**Residential Development in Colusa County, California
Colusa County Airport (CY2015) - 3,700' Runway - Eastbound Ag Traffic**



**AERIAL APPLICATION OPERATIONAL ANALYSIS
FOR
COLUSA COUNTY AIRPORT**

October 19, 2007

The following analysis was prepared by Mead & Hunt, Inc. under contract to SWCA Environmental Consultants. The purpose of this analysis is to assess the potential operational interaction and impacts of a proposed residential / commercial development on aerial application operations at the Colusa County Airport. This analysis will be considered in the preparation of the Environmental Impact Report for the proposed development located northwest of the Colusa County Airport. In preparing this analysis, the consultant interviewed several individuals and agencies with an interest in and knowledge of aerial application operations at the Colusa County Airport (see Attachment 1).

Overview / Description of Aerial Application Operational Factors

Aerial application operations (also referred to as “agricultural aircraft operations”, “crop dusting”, “ag flying”, etc.) have been conducted at the Colusa County Airport for many decades. It is considered by many to be a primary use of the County’s general aviation airport and a vital component of the region’s important agricultural economy. The Federal Aviation Administration (CFR Part 137) defines such activity as:

Agricultural aircraft operation means the operation of an aircraft for the purpose of (1) dispensing any economic poison, (2) dispensing any other substance intended for plant nourishment, soil treatment, propagation of plant life, or pest control, or (3) engaging in dispensing activities directly affecting agriculture, horticulture, or forest preservation, but not including the dispensing of live insects.

The Federal Aviation Administration regulates all civilian aviation activity in the United States. The regulations specific to aerial application operations are detailed in the Code of Federal Regulations – Part 137 – Agricultural Aircraft Operations (see Attachment 2).

The State of California’s State Aeronautics Act provides rules and regulations for the operation of all civilian aircraft within the state. The State of California has not promulgated any aeronautical regulations specific to the operation of aerial application aircraft.

Approximately one dozen operators make use of the Colusa County Airport for the purposes of aerial application operations. One operator, Valley Air, is based at the Airport and another operator, Martin’s Dusters, has its facilities located adjacent to the Airport and operates on a “through-the-fence” basis. During the rainy season, operators of aerial application aircraft who typically operate at outlying unimproved private airfields will occasionally make use of the Colusa County Airport because of its paved all-weather runway/taxiway system.

Aerial application operations occur throughout the year with increased activity during specific time periods. Due to the nature of the application process, aerial application operations typically occur during early morning/dawn and late afternoon/dusk. The aircraft seldom fly higher than 500 feet above the ground while enroute to the fields, and when working the fields, they operate at very low altitudes – literally mere feet above the fields. Much of this low altitude flying involves relatively slow speeds, steep turns, and other maneuvers required to efficiently position the aircraft for the application process. The aircraft generally depart the Airport fully loaded with chemicals or other agricultural agents and return to the Airport empty having discharged their loads onto the target fields. The aircraft utilized for aerial applications are primarily relatively noisy, single-engine, propeller-driven, fixed-wing airplanes (e.g., Grumman/Schweizer Ag Cat, Air Tractor 301, Ayers Thrush, Cessna Ag Truck, etc.). Some of these airplanes are powered by older-style large radial piston engines and some are powered by more modern turboprop engines. In addition, light helicopters are used for aerial application. Helicopters' vertical takeoff and landing capabilities make them less dependent upon the availability of a nearby airport.

Some of the chemicals and agricultural agents carried by aerial application aircraft are hazardous to people and animals if improperly dispersed. In this regard, any overflight of residential / commercial areas by aerial application aircraft carrying hazardous materials poses a potential threat in the event of an aircraft accident or inadvertent chemical discharge. Therefore, wherever possible, overflight of residential / commercial areas by aerial application aircraft carrying hazardous materials should be avoided. Aerial application operators, as normal operating practice, endeavor to avoid such flight operations over or in the vicinity of people and animals. (It should be noted that in May of this year, an aerial application airplane fatally crashed near the south end of Wescott Road just west of the Colusa County Airport.)

The Airport utilizes a standard left-hand traffic pattern for Runway 13 operations and a standard right-hand traffic pattern for Runway 31 operations in accordance with the Federal Aviation Administration's recommended procedures (see Attachment 3). The traffic pattern altitude is 800 feet above airport elevation. These traffic patterns and their relationship to the proposed development area are depicted in Attachment 4. Presented in Attachment 5 are a series of aerial photographs taken of the subject development area and its relationship to Colusa County Airport's traffic patterns. These aerial photographs were taken from a typical small general aviation airplane (Cessna 182 Skylane) flying the standard traffic patterns at the Colusa County Airport.

It can be anticipated that general aviation aircraft operating in the traffic patterns at the Colusa County Airport will regularly overfly the proposed development area at low altitudes and at high engine power settings. In addition, sideline noise from such aircraft operations may be a source of considerable annoyance for both the proposed development's residential users and commercial users (e.g., hotel, restaurant, etc.). On an aircraft's initial climb-out, immediately following lift-off from the departure runway, pilots frequently adjust their engine's power setting by changing the propeller speed and/or throttle setting. Similarly, during the final stages of an aircraft's approach to a landing, pilots frequently adjust engine power and/or the aircraft's configuration. The result of these actions is a noticeable change in the sound of the aircraft. This change in sound is often perceived by persons on the ground as disturbing and/or

threatening. This factor will also prove problematic for both the proposed development’s residential users and commercial users (e.g., hotel, restaurant, etc.).

Aerial application operators typically do not utilize an airport’s standard traffic patterns. In fact, they typically avoid interacting with the general aviation operations at an airport. Aerial application aircraft are permitted by CFR Part 137.45 (see Attachment 2) to approach the airport from virtually any direction and at much lower altitudes than those altitudes used by other general aviation aircraft. As a normal mode of operation, the aerial application operators at the Colusa County Airport endeavor to avoid overflying noise sensitive areas – part of their “Good Neighbor” effort. The operators adjust their approach and departure paths as much as is safe and practical to avoid creating unwanted noise exposure or overflight hazard.

Fixed-wing airplane aerial application operations at the Colusa County Airport are conducted utilizing the Airport’s single paved runway – Runway 13/31. According to the *Colusa County Airport Environmental Assessment and Environmental Impact Report* (prepared in 2004), “Cropdusters” utilize the runway on a balanced basis. That is, each runway end sees an equal amount of takeoffs and landings (see Table 4-1 below).

Table 4-1
RUNWAY UTILIZATION ASSUMPTIONS
Colusa County Airport

Runway No.	General Aviation and Air Taxi		Cropdusters	
	Takeoffs	Landings	Takeoffs	Landings
13	70	70	50	50
31	30	30	50	50
Total	100%	100%	100%	100%

SOURCE: Aries Consultants Ltd. – Excerpted from “Colusa County Airport Environmental Assessment and Environmental Impact Report” (April 2004)

Aerial application aircraft generally depart the Airport heavily loaded. As a result, their climb performance and maneuverability are limited. It is not advisable for aircraft departing under such conditions to make sharp turns or maneuver excessively during departure. Generally, it is advisable for such aircraft to climb straight-out until a safe altitude is reached or make gentle turns prior to proceeding on course. In addition, such takeoffs require the use of maximum rated engine power and the resultant high levels of noise (primarily propeller tip noise and engine exhaust noise). Aerial application aircraft typically create more of a noise impact on nearby land uses than similarly-sized general aviation aircraft due to the aerial application aircrafts’ larger engines, higher propeller tip speeds, compromised climb capability, and lower operating altitudes. In addition, aerial application aircraft may be carrying chemicals or other agricultural agents that if improperly dispersed, could pose a health hazard to persons on the ground.

The *Colusa County Airport Environmental Assessment and Environmental Impact Report* (prepared in 2004), projects that the Existing and Year 2015 CNEL noise levels in the proposed development area will be in the range of 60 dB CNEL – 65 dB CNEL. We believe that aircraft making the departure turns as depicted in the *Report's* figures will, in fact, fly directly over the proposed development area. As a result, we anticipate that the noise levels impacting the proposed development area will be significant due to low altitude overflight and sideline noise. These noise levels would be in excess of those noise levels considered compatible with development of residential uses and other noise-sensitive activities (e.g., hotel, restaurant, etc.). Furthermore, such low altitude operations by aerial application aircraft directly over populated areas (e.g., such as the proposed residential / commercial areas) should be avoided due to the potential, albeit small, for an aircraft accident or inadvertent chemical discharge.

The Colusa County Airport is currently served by three nonprecision instrument approach procedures (VOR-A, GPS Rwy 13, and GPS Rwy 31) – see Attachment 6. All three of these instrument approaches bring aircraft into the airport environs at low altitudes (approximately 500 feet above airport elevation) during inclement weather conditions. The procedure for the VOR-A approach requires aircraft executing a Missed Approach to fly directly over the proposed residential development area at low altitude and at high engine power settings. Similarly, the procedure for the GPS Rwy 31 approach requires aircraft executing a Missed Approach to fly over the proposed commercial development area at low altitude and at high engine power settings. Although the Airport will likely have a low number of instrument approaches during the course of a year and aerial application aircraft do not typically utilize an airport's instrument approach capability, it can be anticipated that the noise and aircraft overflights associated with these instrument approach operations will negatively impact the proposed development area.

Analysis of Alternative Flight Paths and Procedures for Aerial Application Aircraft Operations at the Colusa County Airport

CFR Part 137.49 and 137.51 (see Attachment 2) specify the federal regulations that apply to aerial application operations over “other than congested areas” and over “congested areas”. (Note that the Federal Aviation Administration does not formally define the term “congested areas”. However, any assemblage of residential units and/or commercial development accommodating groups of people would likely be viewed by the Federal Aviation Administration as a “congested area”).

At the present time, virtually all of the area in the immediate vicinity of the Colusa County Airport would likely be considered by the Federal Aviation Administration as “other than congested area”. Therefore, there has been no reason for Airport's aerial application operators to formally submit and comply with the requirements (e.g., coordinate, advertise, plan, avoid, etc.) identified in CFR 137.51 - *Operation over Congested Areas: General*. If the proposed development were to be implemented, it is likely that this new development area would be considered a “congested area” for the purposes of this federal regulation. If overflight of this new development area by aerial application aircraft were to then occur, the requirements of CFR 137.51 would apply. CFR Part 137.51 specifies the following (specific excerpts relevant to this analysis have been highlighted):

(a) Notwithstanding Part 91 of this chapter, an aircraft may be operated over a congested area at altitudes required for the proper accomplishment of the agricultural aircraft operation if the operation is conducted—

(1) With the maximum safety to persons and property on the surface, consistent with the operation; and

(2) In accordance with the requirements of paragraph (b) of this section.

(b) No person may operate an aircraft over a congested area except in accordance with the requirements of this paragraph.

(1) Prior written approval must be obtained from the appropriate official or governing body of the political subdivision over which the operations are conducted.

(2) Notice of the intended operation must be given to the public by some effective means, such as daily newspapers, radio, television, or door-to-door notice.

(3) A plan for each complete operation must be submitted to, and approved by appropriate personnel of the FAA Flight Standards District Office having jurisdiction over the area where the operation is to be conducted. The plan must include consideration of obstructions to flight; the emergency landing capabilities of the aircraft to be used; and any necessary coordination with air traffic control.

(4) Single engine aircraft must be operated as follows:

(i) Except for helicopters, no person may take off a loaded aircraft, or make a turnaround over a congested area.

(ii) No person may operate an aircraft over a congested area below the altitudes prescribed in Part 91 of this chapter except during the actual dispensing operation, including the approaches and departures necessary for that operation.

(iii) No person may operate an aircraft over a congested area during the actual dispensing operation, including the approaches and departures for that operation, unless it is operated in a pattern and at such an altitude that the aircraft can land, in an emergency, without endangering persons or property on the surface.

As noted previously, there is no such operational plan in effect at the Colusa County Airport nor is one required at present. If the proposed residential / commercial development were to be implemented, then such an operational plan would likely be required by the Federal Aviation Administration in accordance with CFR 137.51.

Under certain circumstances, it is possible for alternative flight paths and/or procedures to be locally developed that can somewhat mitigate the noise and overflight impacts of aerial

application aircraft operations. All such paths and procedures must comply with Federal Aviation Administration rules, regulations, and operating standards.

The recommended paths and procedures must be “voluntary” in that these paths and procedures cannot be “required” by the local airport owner/operator. As the overseer of the nation’s aviation system, only the Federal Aviation Administration can “require” unique flight paths and non-standard operational procedures. The development and implementation of such “required” procedures is typically a lengthy and costly process. The local airport owner/operator can “encourage” the voluntary use of some procedures, but does so at some liability risk. In all cases, the safety of flight operations remains paramount at all times.

The project proponent has suggested that one or more “overflight corridors” could be established that would channel or otherwise route aerial application aircraft so as to avoid direct overflight of the proposed residential / commercial development area (see Attachment 4). Our analysis concludes that the suggested “overflight corridors” are neither practical nor safe as proposed. The proposed corridors are positioned too close to the airport for safe aircraft maneuvering, are too narrow to have any meaningful effect, are too difficult for pilots to consistently see and use, and do not realistically provide any meaningful noise or safety enhancement. We do not believe that there is any practical corridor routing or configuration that would effectively mitigate the potential hazard associated with aerial application aircraft overflight of the proposed development area.

Analysis of Five Potential Operational Procedures

In the specific case of Colusa County Airport’s aerial application operations and their relationship to the proposed residential/commercial development area, the following five potential operational procedures were explored:

1. *Encourage aerial application operators to utilize the runway direction and traffic pattern which minimizes noise and overflight exposure in the proposed development area.*

This could be accomplished by requesting that noisy and/or potentially hazardous aircraft takeoff to the south (depart on Runway 13) and land to the north (on Runway 31) whenever winds, weather, air traffic, and safety considerations permit. Air traffic and wind permitting, this procedure is already used by some aerial application operators at the Airport as part of their “Good Neighbor” effort. Generally speaking, this procedure is not a desirable operational scenario at a public-use airport like Colusa County Airport. Aircraft, particularly small general aviation aircraft and heavily-loaded aerial application aircraft, seek to takeoff and land into the wind as much as possible. Therefore, wind and weather conditions dictate the appropriate runway to use. This is an important flight safety issue. The imposition of the nonstandard, designated runway use procedure noted above introduces the potential for counter-flow of aircraft within the Airport’s traffic patterns. Aircraft may find themselves operating head-to-head in the traffic patterns while maneuvering to approach/depart conflicting runways. This is also an important flight safety issue. Such a designated runway use procedure is also inefficient in terms of aircraft operating time and fuel consumption. Aircraft departing Runway 13 will continue to produce significant departure noise reverberating back from the approach end of Runway 13 into the proposed development area.

2. Encourage aerial application operators to execute an early turn (left or right) during departure from Runway 31.

As noted earlier in this analysis, aerial application aircraft generally depart the Airport heavily loaded with chemicals or other agricultural agents. As a result, their climb performance and maneuverability are limited. They are operating at low altitudes with high engine power settings. It is not advisable for aircraft departing under such conditions to make sharp turns or maneuver excessively during departure. Generally, it is advisable for such aircraft to climb straight-out until a safe altitude is reached or make gentle turns prior to proceeding on course. An early turn to the west would result in the departing aircraft flying directly over the proposed residential development area at low altitude and at high engine power. An early turn to the east would result in the departing aircraft flying directly over the proposed commercial development area at low altitude and at high engine power. None of these scenarios is operationally desirable, significantly reduces noise exposure, or is safe. The overflight accident potential and sideline noise impacting the proposed development area would still be considerable irrespective of the early turn location or direction.

3. Encourage aerial application operators to execute straight-out departures for Runway 31 operations.

This procedure avoids the negative safety and operational implications associated with early turns at low altitudes and direct overflight of the proposed residential / commercial development areas. However, it can be anticipated that the departure sideline noise impacting the proposed development area will be considerable and unsuitable for development of residential uses and noise-sensitive commercial activities (e.g., hotel, restaurant, etc.). Furthermore, any extended straight-out departure from Runway 31 will likely result in exposing the existing residential areas located in the southern portion of the City of Colusa to increased aircraft noise and low altitude overflight.

4. Encourage aerial application operators to execute an engine power reduction on departure from Runway 31.

While somewhat decreasing propeller and engine noise levels, this procedure also potentially decreases the climb rate, altitude, and speed of the departing aircraft. As a result, the time that the aircraft spends overflying the development area is increased, thus potentially exacerbating the noise exposure and potential safety hazard. In addition, the operating manuals for many aircraft types specify the use of high engine power for the initial takeoff roll and climb-out so as to maximize the attainment of altitude and airspeed during the initial stages of the departure. Some pilots view any significant reduction in the aircraft manufacturer's specified takeoff power during a departure as potentially compromising flight safety.

5. Require aerial application operators to comply with the requirements of CFR 137.5 - Operation over Congested Areas: General

As noted previously, if the proposed residential / commercial development were to be implemented, it is likely that this new development area would be considered a "congested area" for the purposes of CFR 137.51. Accordingly, aerial application operations at the Airport would

have to comply with the provisions of CFR 137.51. The County, Airport, associated political subdivision, and aerial application operators would have to jointly develop a set of operational procedures that would comply with CFR 137.51 and be approved by the Federal Aviation Administration. Such operational procedures would likely prohibit aerial application aircraft loaded with hazardous chemicals or other agricultural agents from overflying the proposed residential / commercial development areas at low altitude. Such a prohibition would significantly degrade the safety of Airport operations by imposing artificially derived, nonstandard runway use assignments such as those previously described in alternative operational procedure #1 above. To avoid overflight of the proposed residential / commercial development area, the CFR 137.51 procedures could require loaded aerial application aircraft to depart on Runway 13 irrespective of wind conditions and the traffic pattern in use at the time. The imposition of this nonstandard operational procedure could result in counter-flow (i.e., head-to-head) aircraft traffic within the traffic pattern and a resultant reduction in the safety of Airport operations. In addition, the resultant departure with a tailwind component has the potential of further degrading aircraft operational safety.

Conclusions

This analysis concludes that there are no reasonably implementable alternative flight paths and/or practical operational procedures that could be implemented at the Colusa County Airport that would sufficiently mitigate the negative impact that the proposed residential/commercial development area would have on the Airport's aerial application aircraft operations. The proposed development area is to be situated in an area that will be exposed on a regular and continuing basis to significant aircraft noise and low altitude overflights during both normal general aviation aircraft operations and aerial application aircraft operations. It can be anticipated that some of these aerial application aircraft-related noise impacts will occur at times that are most sensitive to residential land uses – early morning/dawn and late afternoon/dusk. No alternative flight paths and/or operational procedures were identified that would meaningfully mitigate or significantly reduce this negative noise impact and overflight exposure.

ATTACHMENT 1

Aerial Application Operational Analysis for Colusa County Airport

The following individuals and agencies with an interest in and knowledge of aerial application operations at the Colusa County Airport were interviewed as part of this analysis:

Dan Abdon – Inspector
Federal Aviation Administration
Sacramento Flight Standards District Office

Patrick Miles – Aviation Safety Officer
California Division of Aeronautics

Harry Krug – Agricultural Commissioner / Director of Airport Operations
County of Colusa

John Carrion – Owner / Operator of Valley Air and
Member of the Colusa County Airport Advisory Committee

Rick Richter – Owner / Operator of Richter Aviation and
President of California Aerial Applicator Association

In addition, we endeavored to contact two other informed individuals, John Goodman (Chairman of the Colusa County Airport Advisory Committee) and Frank Martin (Owner / Operator of Martin's Dusters and member of the Colusa County Airport Advisory Committee). However, neither of these individuals responded to our inquiries.

Electronic Code of Federal Regulations

e-CFR

TM

e-CFR Data is current as of October 12, 2007

Title 14: Aeronautics and Space

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PART 137—AGRICULTURAL AIRCRAFT OPERATIONS

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§ 137.77 Termination of operations.

Authority: 49 U.S.C. 106(g), 40103, 40113, 44701–44702.

Source: Docket No. 1464, 30 FR 8106, June 24, 1965, unless otherwise noted.

Subpart A—General

 top

§ 137.1 Applicability.

 top

(a) This part prescribes rules governing—

(1) Agricultural aircraft operations within the United States; and

(2) The issue of commercial and private agricultural aircraft operator certificates for those operations.

(b) In a public emergency, a person conducting agricultural aircraft operations under this part may, to the extent necessary, deviate from the operating rules of this part for relief and welfare activities approved by an agency of the United States or of a State or local government.

(c) Each person who, under the authority of this section, deviates from a rule of this part shall, within 10 days after the deviation send to the nearest FAA Flight Standards District Office a complete report of the aircraft operation involved, including a description of the operation and the reasons for it.

[Doc. No. 1464, 30 FR 8106, June 24, 1965, as amended by Amdt. 137–13, 54 FR 39294, Sept. 25, 1989]

§ 137.3 Definition of terms.

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For the purposes of this part—

Agricultural aircraft operation means the operation of an aircraft for the purpose of (1) dispensing any economic poison, (2) dispensing any other substance intended for plant nourishment, soil treatment, propagation of plant life, or pest control, or (3) engaging in dispensing activities directly affecting agriculture, horticulture, or forest preservation, but not including the dispensing of live insects.

Economic poison means (1) any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any insects, rodents, nematodes, fungi, weeds, and other forms of plant or animal life or viruses, except viruses on or in living man or other animals, which the Secretary of Agriculture shall declare to be a pest, and (2) any substance or mixture of substances intended for use as a plant regulator, defoliant or desiccant.

[Doc. No. 1464, 30 FR 8106, June 24, 1965, as amended by Amdt. 137–3, 33 FR 9601, July 2, 1968]

Subpart B—Certification Rules

 top

§ 137.11 Certificate required.



(a) Except as provided in paragraphs (c) and (d) of this section, no person may conduct agricultural aircraft operations without, or in violation of, an agricultural aircraft operator certificate issued under this part.

(b) Notwithstanding part 133 of this chapter, an operator may, if he complies with this part, conduct agricultural aircraft operations with a rotorcraft with external dispensing equipment in place without a rotorcraft external-load operator certificate.

(c) A Federal, State, or local government conducting agricultural aircraft operations with public aircraft need not comply with this subpart.

(d) The holder of a rotorcraft external-load operator certificate under part 133 of this chapter conducting an agricultural aircraft operation, involving only the dispensing of water on forest fires by rotorcraft external-load means, need not comply with this subpart.

[Doc. No. 1464, 30 FR 8106, June 24, 1965, as amended by Amdt. 137-3, 33 FR 9601, July 2, 1968; Amdt. 137-6, 41 FR 35060, Aug. 19, 1976]

§ 137.15 Application for certificate.



An application for an agricultural aircraft operator certificate is made on a form and in a manner prescribed by the Administrator, and filed with the FAA Flight Standards District Office that has jurisdiction over the area in which the applicant's home base of operations is located.

[Doc. No. 1464, 30 FR 8106, June 24, 1965, as amended by Amdt. 137-13, 54 FR 39294, Sept. 25, 1989]

§ 137.17 Amendment of certificate.



(a) An agricultural aircraft operator certificate may be amended—

(1) On the Administrator's own initiative, under section 609 of the Federal Aviation Act of 1958 (49 U.S.C. 1429) and part 13 of this chapter; or

(2) Upon application by the holder of that certificate.

(b) An application to amend an agricultural aircraft operator certificate is submitted on a form and in a manner prescribed by the Administrator. The applicant must file the application with the FAA Flight Standards District Office having jurisdiction over the area in which the applicant's home base of operations is located at least 15 days before the date that it proposes the amendment become effective, unless a shorter filing period is approved by that office.

(c) The Flight Standards District Office grants a request to amend a certificate if it determines that safety in air commerce and the public interest so allow.

(d) Within 30 days after receiving a refusal to amend, the holder may petition the Director, Flight Standards Service, to reconsider the refusal.

[Doc. No. 1464, 30 FR 8106, June 24, 1965, as amended by Amdt. 137-9, 43 FR 52206, Nov. 9, 1978; Amdt. 137-11, 45 FR 47838, July 17, 1980; Amdt. 137-13, 54 FR 39294, Sept. 25, 1989]

§ 137.19 Certification requirements.



(a) *General.* An applicant for a private agricultural aircraft operator certificate is entitled to that certificate if he shows that he meets the requirements of paragraphs (b), (d), and (e) of this section. An applicant for a commercial agricultural aircraft operator certificate is entitled to that certificate if he shows that he meets the requirements of paragraphs (c), (d), and (e) of this section. However, if an applicant applies for an agricultural aircraft operator certificate containing a prohibition against the dispensing of economic poisons, that applicant is not required to demonstrate the knowledge required in paragraphs (e)(1) (ii) through (iv) of this section.

(b) *Private operator—pilot.* The applicant must hold a current U.S. private, commercial, or airline transport pilot certificate and be properly rated for the aircraft to be used.

(c) *Commercial operator—pilots.* The applicant must have available the services of at least one person who holds a current U.S. commercial or airline transport pilot certificate and who is properly rated for the aircraft to be used. The applicant himself may be the person available.

(d) *Aircraft.* The applicant must have at least one certificated and airworthy aircraft, equipped for agricultural operation.

(e) *Knowledge and skill tests.* The applicant must show, or have the person who is designated as the chief supervisor of agricultural aircraft operations for him show, that he has satisfactory knowledge and skill regarding agricultural aircraft operations, as described in paragraphs (e) (1) and (2) of this section.

(1) The test of knowledge consists of the following:

(i) Steps to be taken before starting operations, including survey of the area to be worked.

(ii) Safe handling of economic poisons and the proper disposal of used containers for those poisons.

(iii) The general effects of economic poisons and agricultural chemicals on plants, animals, and persons, with emphasis on those normally used in the areas of intended operations; and the precautions to be observed in using poisons and chemicals.

(iv) Primary symptoms of poisoning of persons from economic poisons, the appropriate emergency measures to be taken, and the location of poison control centers.

(v) Performance capabilities and operating limitations of the aircraft to be used.

(vi) Safe flight and application procedures.

(2) The test of skill consists of the following maneuvers that must be shown in any of the aircraft specified in paragraph (d) of this section, and at that aircraft's maximum certificated take-off weight, or the maximum weight established for the special purpose load, whichever is greater:

(i) Short-field and soft-field takeoffs (airplanes and gyroplanes only).

(ii) Approaches to the working area.

(iii) Flare-outs.

(iv) Swath runs.

(v) Pullups and turnarounds.

(vi) Rapid deceleration (quick stops) in helicopters only.

[Doc. No. 1464, 30 FR 8106, June 24, 1965, as amended by Amdt. 137–1, 30 FR 15143, Dec. 8, 1965; Amdt. 137–7, 43 FR 22643, May 25, 1978]

§ 137.21 Duration of certificate.

An agricultural aircraft operator certificate is effective until it is surrendered, suspended, or revoked. The holder of an agricultural aircraft operator certificate that is suspended or revoked shall return it to the Administrator.

§ 137.23 Carriage of narcotic drugs, marihuana, and depressant or stimulant drugs or substances.

If the holder of a certificate issued under this part permits any aircraft owned or leased by that holder to be engaged in any operation that the certificate holder knows to be in violation of §91.19(a) of this chapter, that operation is a basis for suspending or revoking the certificate.

[Doc. No. 12035, 38 FR 17493, July 2, 1973, as amended by Amdt. 137–12, 54 FR 34332, Aug. 18, 1989]

Subpart C—Operating Rules**§ 137.29 General.**

(a) Except as provided in paragraphs (d) and (e) of this section, this subpart prescribes rules that apply to persons and aircraft used in agricultural aircraft operations conducted under this part.

(b) [Reserved]

(c) The holder of an agricultural aircraft operator certificate may deviate from the provisions of part 91 of this chapter without a certificate of waiver, as authorized in this subpart for dispensing operations, when conducting nondispensing aerial work operations related to agriculture, horticulture, or forest preservation in accordance with the operating rules of this subpart.

(d) Sections 137.31 through 137.35, §§137.41, and 137.53 through 137.59 do not apply to persons and aircraft used in agricultural aircraft operations conducted with public aircraft.

(e) Sections 137.31 through 137.35, §§137.39, 137.41, 137.51 through 137.59, and subpart D do not apply to persons and rotorcraft used in agricultural aircraft operations conducted by a person holding a certificate under part 133 of this chapter and involving only the dispensing of water on forest fires by rotorcraft external-load means. However, the operation shall be conducted in accordance with—

(1) The rules of part 133 of this chapter governing rotorcraft external-load operations; and

(2) The operating rules of this subpart contained in §§137.29, 137.37, and §§137.43 through 137.49.

[Doc. No. 1464, 30 FR 8106, June 24, 1965, as amended by Amdt. 137–3, 33 FR 9601, July 2, 1968; Amdt. 137–6, 41 FR 35060, Aug. 19, 1976]

§ 137.31 Aircraft requirements.

No person may operate an aircraft unless that aircraft—

- (a) Meets the requirements of §137.19(d); and
- (b) Is equipped with a suitable and properly installed shoulder harness for use by each pilot.

§ 137.33 Carrying of certificate.



(a) No person may operate an aircraft unless a facsimile of the agricultural aircraft operator certificate, under which the operation is conducted, is carried on that aircraft. The facsimile shall be presented for inspection upon the request of the Administrator or any Federal, State, or local law enforcement officer.

(b) Notwithstanding part 91 of this chapter, the registration and airworthiness certificates issued for the aircraft need not be carried in the aircraft. However, when those certificates are not carried in the aircraft they shall be kept available for inspection at the base from which the dispensing operation is conducted.

[Doc. No. 1464, 30 FR 8106, June 24, 1965, as amended by Amdt. 137–3, 33 FR 9601, July 2, 1968]

§ 137.35 Limitations on private agricultural aircraft operator.



No person may conduct an agricultural aircraft operation under the authority of a private agricultural aircraft operator certificate—

- (a) For compensation or hire;
- (b) Over a congested area; or
- (c) Over any property unless he is the owner or lessee of the property, or has ownership or other property interest in the crop located on that property.

§ 137.37 Manner of dispensing.



No persons may dispense, or cause to be dispensed, from an aircraft, any material or substance in a manner that creates a hazard to persons or property on the surface.

[Doc. No. 1464, 30 FR 8106, June 24, 1965, as amended by Amdt. 137–3, 33 FR 9601, July 2, 1968]

§ 137.39 Economic poison dispensing.



(a) Except as provided in paragraph (b) of this section, no person may dispense or cause to be dispensed from an aircraft, any economic poison that is registered with the U.S. Department of Agriculture under the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 135–135k)—

- (1) For a use other than that for which it is registered;
- (2) Contrary to any safety instructions or use limitations on its label; or
- (3) In violation of any law or regulation of the United States.

(b) This section does not apply to any person dispensing economic poisons for experimental purposes under—

(1) The supervision of a Federal or State agency authorized by law to conduct research in the field of economic poisons; or

(2) A permit from the U.S. Department of Agriculture issued pursuant to the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 135–135k).

[Amdt. 137–2, 31 FR 6686, May 5, 1966]

§ 137.41 Personnel.



(a) *Information.* The holder of an agricultural aircraft operator certificate shall insure that each person used in the holder's agricultural aircraft operation is informed of that person's duties and responsibilities for the operation.

(b) *Supervisors.* No person may supervise an agricultural aircraft operation unless he has met the knowledge and skill requirements of §137.19(e).

(c) *Pilot in command.* No person may act as pilot in command of an aircraft unless he holds a pilot certificate and rating prescribed by §137.19 (b) or (c), as appropriate to the type of operation conducted. In addition, he must demonstrate to the holder of the Agricultural Aircraft Operator Certificate conducting the operation that he has met the knowledge and skill requirements of §137.19(e). If the holder of that certificate has designated a person under §137.19(e) to supervise his agricultural aircraft operations the demonstration must be made to the person so designated. However, a demonstration of the knowledge and skill requirement is not necessary for any pilot in command who—

(1) Is, at the time of the filing of an application by an agricultural aircraft operator, working as a pilot in command for that operator; and

(2) Has a record of operation under that applicant that does not disclose any question regarding the safety of his flight operations or his competence in dispensing agricultural materials or chemicals.

§ 137.42 Fastening of safety belts and shoulder harnesses.



No person may operate an aircraft in operations required to be conducted under part 137 without a safety belt and shoulder harness properly secured about that person except that the shoulder harness need not be fastened if that person would be unable to perform required duties with the shoulder harness fastened.

[Amdt. 137–10, 44 FR 61325, Oct. 25, 1979]

§ 137.43 Operations in controlled airspace designated for an airport.



(a) Except for flights to and from a dispensing area, no person may operate an aircraft within the lateral boundaries of the surface area of Class D airspace designated for an airport unless authorization for that operation has been obtained from the ATC facility having jurisdiction over that area.

(b) No person may operate an aircraft in weather conditions below VFR minimums within the lateral boundaries of a Class E airspace area that extends upward from the surface unless authorization for that operation has been obtained from the ATC facility having jurisdiction over that area.

(c) Notwithstanding §91.157(a)(2) of this chapter, an aircraft may be operated under the special VFR weather minimums without meeting the requirements prescribed therein.

[Amdt. 137-14, 56 FR 65664, Dec. 17, 1991, as amended by Amdt. 137-14, 58 FR 32840, June 14, 1993]

§ 137.45 Nonobservance of airport traffic pattern.



Notwithstanding part 91 of this chapter, the pilot in command of an aircraft may deviate from an airport traffic pattern when authorized by the control tower concerned. At an airport without a functioning control tower, the pilot in command may deviate from the traffic pattern if—

- (a) Prior coordination is made with the airport management concerned;
- (b) Deviations are limited to the agricultural aircraft operation;
- (c) Except in an emergency, landing and takeoffs are not made on ramps, taxiways, or other areas of the airport not intended for such use; and
- (d) The aircraft at all times remains clear of, and gives way to, aircraft conforming to the traffic pattern for the airport.

§ 137.47 Operation without position lights.



Notwithstanding part 91 of this chapter, an aircraft may be operated without position lights if prominent unlighted objects are visible for at least 1 mile and takeoffs and landings at—

- (a) Airports with a functioning control tower are made only as authorized by the control tower operator; and
- (b) Other airports are made only with the permission of the airport management and no other aircraft operations requiring position lights are in progress at that airport.

§ 137.49 Operations over other than congested areas.



Notwithstanding part 91 of this chapter, during the actual dispensing operation, including approaches, departures, and turnarounds reasonably necessary for the operation, an aircraft may be operated over other than congested areas below 500 feet above the surface and closer than 500 feet to persons, vessels, vehicles, and structures, if the operations are conducted without creating a hazard to persons or property on the surface.

[Amdt. 137-3, 33 FR 9601, July 2, 1968]

§ 137.51 Operation over congested areas: General.



(a) Notwithstanding part 91 of this chapter, an aircraft may be operated over a congested area at altitudes required for the proper accomplishment of the agricultural aircraft operation if the operation is conducted—

(1) With the maximum safety to persons and property on the surface, consistent with the operation; and

(2) In accordance with the requirements of paragraph (b) of this section.

(b) No person may operate an aircraft over a congested area except in accordance with the requirements of this paragraph.

(1) Prior written approval must be obtained from the appropriate official or governing body of the political subdivision over which the operations are conducted.

(2) Notice of the intended operation must be given to the public by some effective means, such as daily newspapers, radio, television, or door-to-door notice.

(3) A plan for each complete operation must be submitted to, and approved by appropriate personnel of the FAA Flight Standards District Office having jurisdiction over the area where the operation is to be conducted. The plan must include consideration of obstructions to flight; the emergency landing capabilities of the aircraft to be used; and any necessary coordination with air traffic control.

(4) Single engine aircraft must be operated as follows:

(i) Except for helicopters, no person may take off a loaded aircraft, or make a turnaround over a congested area.

(ii) No person may operate an aircraft over a congested area below the altitudes prescribed in part 91 of this chapter except during the actual dispensing operation, including the approaches and departures necessary for that operation.

(iii) No person may operate an aircraft over a congested area during the actual dispensing operation, including the approaches and departures for that operation, unless it is operated in a pattern and at such an altitude that the aircraft can land, in an emergency, without endangering persons or property on the surface.

(5) Multiengine aircraft must be operated as follows:

(i) No person may take off a multiengine airplane over a congested area except under conditions that will allow the airplane to be brought to a safe stop within the effective length of the runway from any point on takeoff up to the time of attaining, with all engines operating at normal takeoff power, 105 percent of the minimum control speed with the critical engine inoperative in the takeoff configuration or 115 percent of the power-off stall speed in the takeoff configuration, whichever is greater, as shown by the accelerate stop distance data. In applying this requirement, takeoff data is based upon still-air conditions, and no correction is made for any uphill gradient of 1 percent or less when the percentage is measured as the difference between elevation at the end points of the runway divided by the total length. For uphill gradients greater than 1 percent, the effective takeoff length of the runway is reduced 20 percent for each 1-percent grade.

(ii) No person may operate a multiengine airplane at a weight greater than the weight that, with the critical engine inoperative, would permit a rate of climb of at least 50 feet per minute at an altitude of at least 1,000 feet above the elevation of the highest ground or obstruction within the area to be worked or at an altitude of 5,000 feet, whichever is higher. For the purposes of this subdivision, it is assumed that the propeller of the inoperative engine is in the minimum drag position; that the wing flaps and landing gear are in the most favorable positions; and that the remaining engine or engines are operating at the maximum continuous power available.

(iii) No person may operate any multiengine aircraft over a congested area below the altitudes prescribed in part 91 of this chapter except during the actual dispensing operation, including the approaches, departures, and turnarounds necessary for that operation.

[Doc. No. 1464, 30 FR 8106, June 24, 1965, as amended by Doc. No. 8084, 32 FR 5769, Apr. 11, 1967; Amdt. 137-13, 54 FR 39294, Sept. 25, 1989]

§ 137.53 Operation over congested areas: Pilots and aircraft.



(a) *General.* No person may operate an aircraft over a congested area except in accordance with the pilot and aircraft rules of this section.

(b) *Pilots.* Each pilot in command must have at least—

(1) 25 hours of pilot-in-command flight time in the make and basic model of the aircraft, at least 10 hours of which must have been acquired within the preceding 12 calendar months; and

(2) 100 hours of flight experience as pilot in command in dispensing agricultural materials or chemicals.

(c) *Aircraft.* (1) Each aircraft must—(i) If it is an aircraft not specified in paragraph (c)(1)(ii) of this section, have had within the preceding 100 hours of time in service a 100-hour or annual inspection by a person authorized by part 65 or 145 of this chapter, or have been inspected under a progressive inspection system; and

(ii) If it is a large or turbine-powered multiengine civil airplane of U.S. registry, have been inspected in accordance with the applicable inspection program requirements of §91.409 of this chapter.

(2) If other than a helicopter, it must be equipped with a device capable of jettisoning at least one-half of the aircraft's maximum authorized load of agricultural material within 45 seconds. If the aircraft is equipped with a device for releasing the tank or hopper as a unit, there must be a means to prevent inadvertent release by the pilot or other crewmember.

[Doc. No. 1464, 30 FR 8106, June 24, 1965, as amended by Amdt. 137–5, 41 FR 16796, Apr. 22, 1976; Amdt. 137–12, 54 FR 34332, Aug. 18, 1989]

§ 137.55 Business name: Commercial agricultural aircraft operator.



No person may operate under a business name that is not shown on his commercial agricultural aircraft operator certificate.

§ 137.57 Availability of certificate.



Each holder of an agricultural aircraft operator certificate shall keep that certificate at his home base of operations and shall present it for inspection on the request of the Administrator or any Federal, State, or local law enforcement officer.

§ 137.59 Inspection authority.



Each holder of an agricultural aircraft operator certificate shall allow the Administrator at any time and place to make inspections, including on-the-job inspections, to determine compliance with applicable regulations and his agricultural aircraft operator certificate.

Subpart D—Records and Reports



§ 137.71 Records: Commercial agricultural aircraft operator.



(a) Each holder of a commercial agricultural aircraft operator certificate shall maintain and keep current, at the home base of operations designated in his application, the following records:

- (1) The name and address of each person for whom agricultural aircraft services were provided;
- (2) The date of the service;
- (3) The name and quantity of the material dispensed for each operation conducted; and
- (4) The name, address, and certificate number of each pilot used in agricultural aircraft operations and the date that pilot met the knowledge and skill requirements of §137.19(e).

(b) The records required by this section must be kept at least 12 months and made available for inspection by the Administrator upon request.

§ 137.75 Change of address.



Each holder of an agricultural aircraft operator certificate shall notify the FAA in writing in advance of any change in the address of his home base of operations.

§ 137.77 Termination of operations.



Whenever a person holding an agricultural aircraft operator certificate ceases operations under this part, he shall surrender that certificate to the FAA Flight Standards District Office last having jurisdiction over his operation.

[Doc. No. 1464, 30 FR 8106, June 24, 1965, as amended by Amdt. 137-13, 54 FR 39294, Sept. 25, 1989; 54 FR 52872, Dec. 22, 1989]

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Section 508 / Accessibility

February 16, 2006

Federal Aviation Administration

ATTACHMENT 3

Aeronautical

Information

Manual

Official Guide to
Basic Flight Information and ATC
Procedures

Includes Change 1 effective August 3, 2006,
Change 2 effective March 15, 2007,
and Change 3 effective August 30, 2007

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Chapter 10	Helicopter Operations
Appendices	Bird/Other Wildlife Strike Report, Volcanic Activity Reporting Form, Laser Beam Exposure Questionnaire, Abbreviations/Acronyms

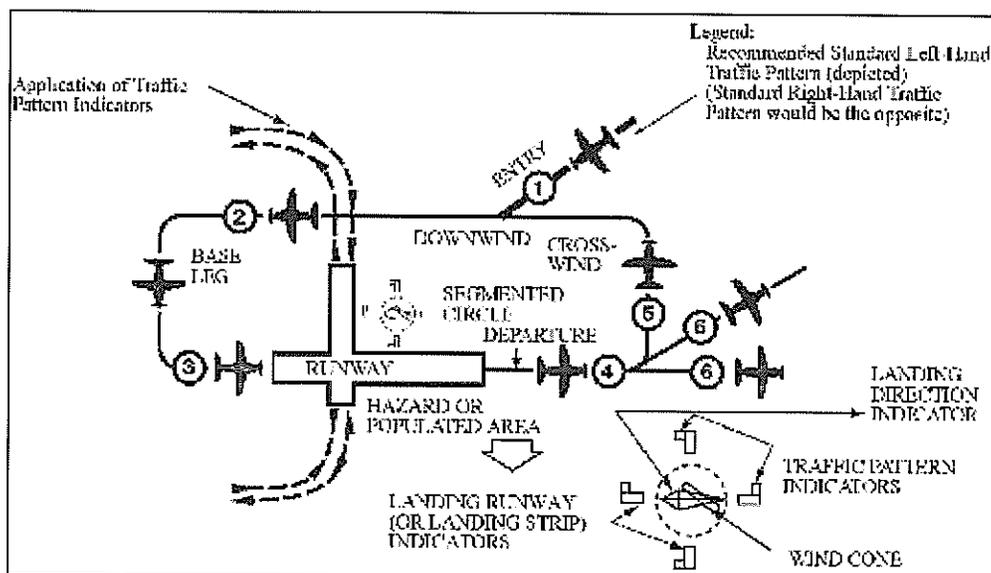
Return to Air Traffic Publications Library Home Page	Link to Pilot/Controller Glossary
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4-3-3. Traffic Patterns

At most airports and military air bases, traffic pattern altitudes for propeller-driven aircraft generally extend from 600 feet to as high as 1,500 feet above the ground. Also, traffic pattern altitudes for military turbojet aircraft sometimes extend up to 2,500 feet above the ground. Therefore, pilots of en route aircraft should be constantly on the alert for other aircraft in traffic patterns and avoid these areas whenever possible. Traffic pattern altitudes should be maintained unless otherwise required by the applicable distance from cloud criteria (14 CFR Section 91.155). (See FIG 4-3-2 and FIG 4-3-3.)

FIG 4-3-2

Traffic Pattern Operations Single Runway



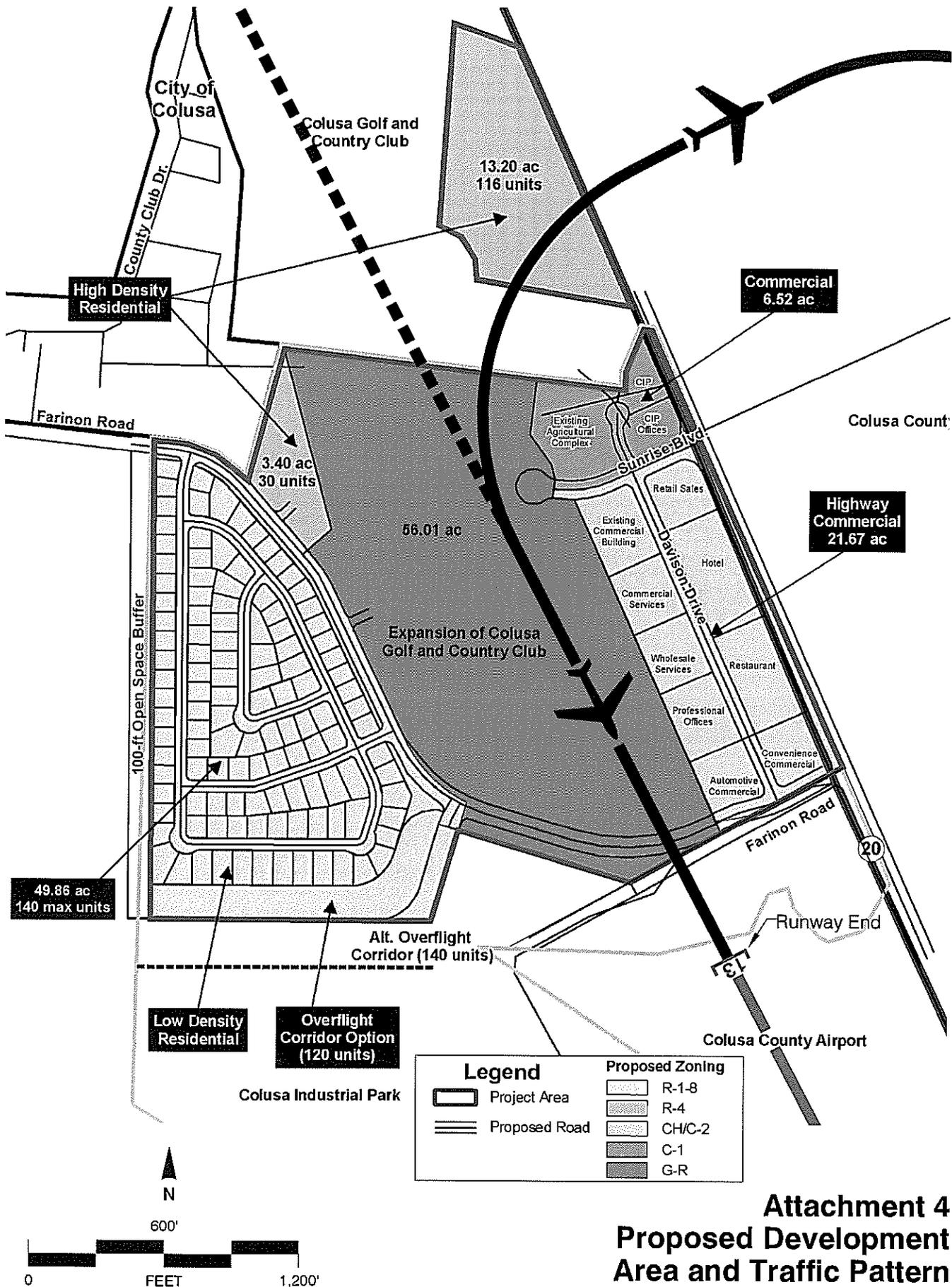
EXAMPLE-

Key to traffic pattern operations

1. Enter pattern in level flight, abeam the midpoint of the runway, at pattern altitude. (1,000' AGL is recommended pattern altitude unless established otherwise. . .)
2. Maintain pattern altitude until abeam approach end of the landing runway on downwind leg.
3. Complete turn to final at least $\frac{1}{4}$ mile from the runway.
4. Continue straight ahead until beyond departure end of runway.
5. If remaining in the traffic pattern, commence turn to crosswind leg beyond the departure end of the runway within 300 feet of pattern altitude.
6. If departing the traffic pattern, continue straight out, or exit with a 45 degree turn

(to the left when in a left-hand traffic pattern; to the right when in a right-hand traffic pattern) beyond the departure end of the runway, after reaching pattern altitude.

X:\19518-00\07001\TECH\Cadd\COL-DWG\19518-07001 GR1.dwg Oct 15, 2007 - 2:26pm



Attachment 4 Proposed Development Area and Traffic Pattern

Colusa County Airport



Overview of Airport and Proposed Development Area



Entering left Downwind for Runway 13



Descending on Left Base for Runway 13



Descending and Turning on Final for Runway 13



Climbing Out on Departure from Runway 31



Descending on GPS Runway 13 Instrument Approach

X:\19518-00-07001\TECH\Cadd\CAL\DWG\19518-07001 GR1.dwg Oct 15, 2007 - 2:27pm

Attachment 5 Aerial Photos

Colusa County Airport

COLUSA, CALIFORNIA

AL-5147 (FAA)

VORTAC ILA 114.4 Chan 91	APP CRS 356°	Rwy Idg TDZE Apl Elev N/A N/A 47
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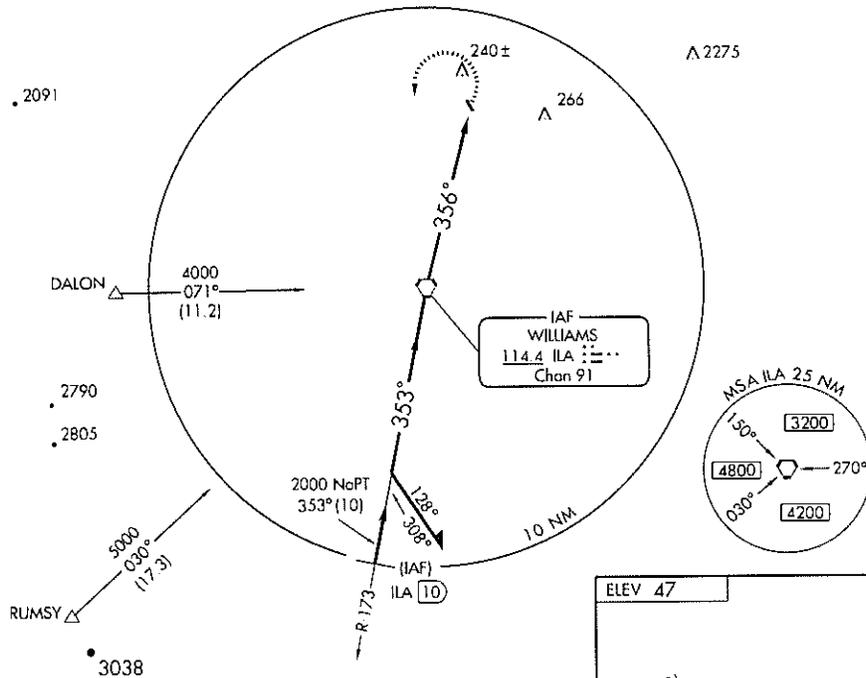
VOR-A
COLUSA COUNTY (008)

Obtain local altimeter setting on CTAF, when not received, use Sacramento Intl altimeter setting
MISSED APPROACH: Climbing left turn to 4000 direct ILA VORTAC

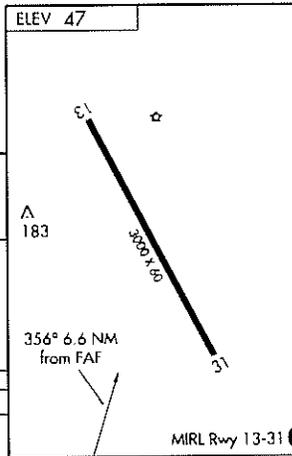
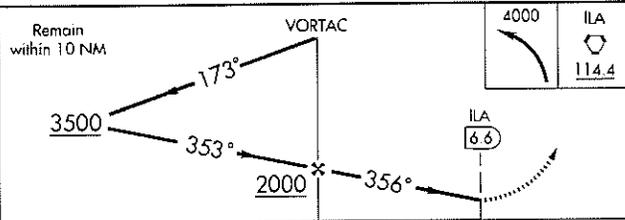
OAKLAND CENTER
132.2 350.3

UNICOM
122.8 (CTAF) 0

SW-2, 27 SEP 2007 to 25 OCT 2007



SW-2, 27 SEP 2007 to 25 OCT 2007



CATEGORY	A	B	C	D	
CIRCLING	600-1	553 (600-1)		NA	
SACRAMENTO INTL ALTIMETER SETTING MINIMUMS					
CIRCLING	680-1	633 (700-1)		NA	
FAF to MAP 6.6 NM					
Knots	60	90	120	150	180
Min:Sec	6:36	4:24	3:18	2:38	2:12

COLUSA, CALIFORNIA
Amdt 4C 03135

39°11'N · 122°00'W

COLUSA COUNTY (008)
VOR-A

COLUSA, CALIFORNIA

AL-5147 (FAA)

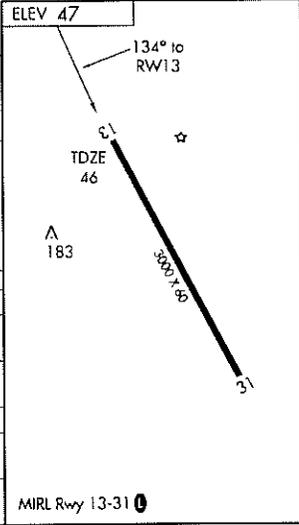
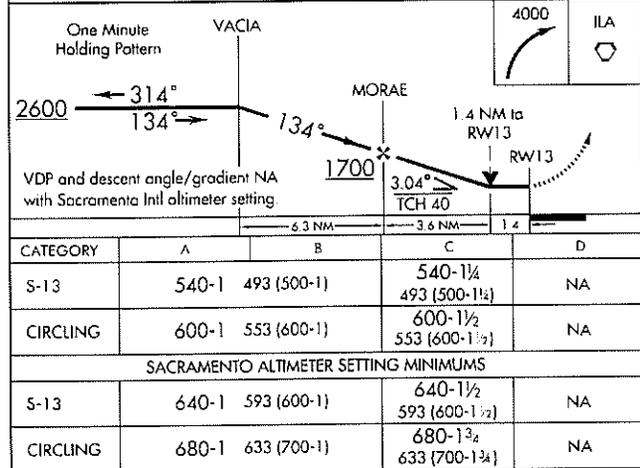
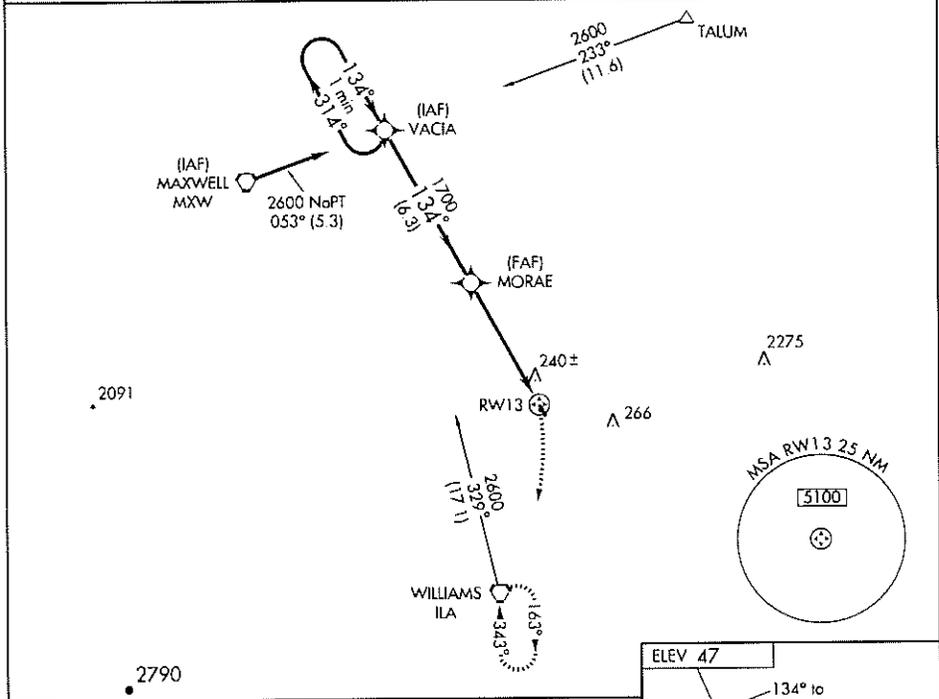
GPS RWY 13
COLUSA COUNTY (088)

APP CRS	Rwy Idg	3000
134°	TDZE	46
	Apt Elev	47

<p>▽ △NA Obtain local altimeter setting on CTAF; when not received, use Sacramento Intl altimeter setting.</p>	<p>MISSED APPROACH: Climbing right turn to 4000 direct ILA VORTAC and hold.</p>
<p>OAKLAND CENTER 132.2 350.3</p>	<p>UNICOM 122.8 (CTAF) 0</p>

SW-2, 27 SEP 2007 to 25 OCT 2007

SW-2, 27 SEP 2007 to 25 OCT 2007



COLUSA, CALIFORNIA
Orig 03135

39°11'N-122°00'W

COLUSA COUNTY (088)
GPS RWY 13

COLUSA, CALIFORNIA

AL-5147 (FAA)

GPS RWY 31
COLUSA COUNTY (008)

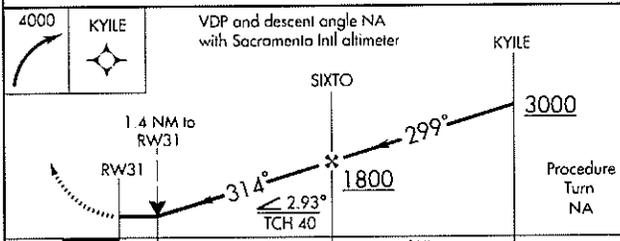
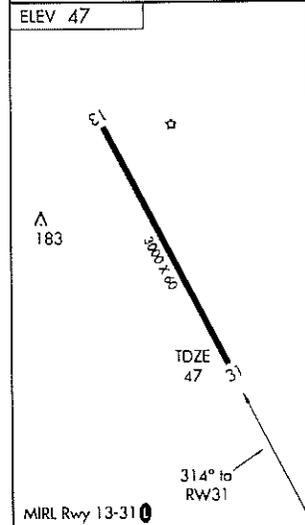
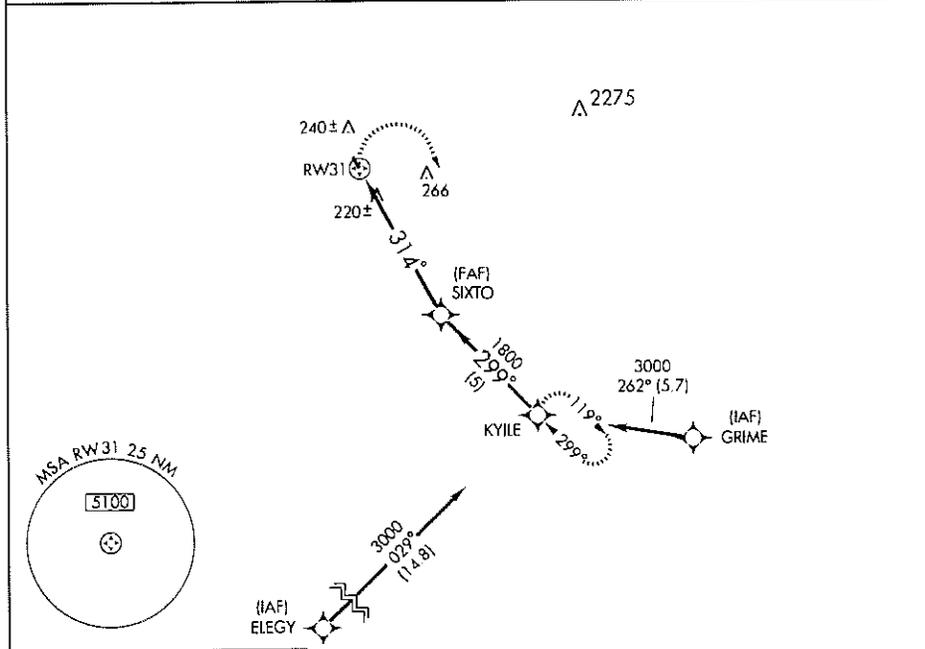
APP CRS	Rwy Idg	3000
314°	TDZE	47
	Apt Elev	47

⚠️ NA Obtain local altimeter setting on CTAF, when not received, use Sacramento Intl altimeter setting. MISSED APPROACH: Climbing right turn to 4000 direct to KYILE WP and hold

OAKLAND CENTER 132.2 350.3 UNICOM 122.8 (CTAF) 0

SW-2, 27 SEP 2007 to 25 OCT 2007

SW-2, 27 SEP 2007 to 25 OCT 2007



CATEGORY	A	B	C	D
S-31	520-1	473 (500-1)	520-1½ 473 (500-1.4)	NA
CIRCLING	600-1	553 (600-1)	600-1½ 553 (600-1.2)	NA
SACRAMENTO INTL ALTIMETER SETTING MINIMUMS				
S-31	620-1	573 (600-1)	620-1½ 573 (600-1½)	NA
CIRCLING	680-1	633 (700-1)	680-1¾ 633 (700-1¾)	NA

COLUSA, CALIFORNIA
Orig-A 03359

39°11'N-122°00'W

COLUSA COUNTY (008)
GPS RWY 31