

GENTRY - SUISUN

SCH# 2004092077

VOLUME I

DRAFT ENVIRONMENTAL IMPACT REPORT

PREPARED FOR
THE CITY OF SUISUN CITY
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APRIL 2006

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**Gentry-Suisun Project
Draft
Environmental Impact Report**

SCH# 2004092077

Prepared For
the City of Suisun

Prepared By
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1. INTRODUCTION

1. INTRODUCTION

INTRODUCTION

This Draft Environmental Impact Report (Draft EIR) was prepared in accordance with the California Environmental Quality Act of 1970 (CEQA) as amended. The City of Suisun City is the lead agency for the environmental review of the proposed Gentry Property Annexation Project evaluated herein and has the principal responsibility for approving the project. As required by Section 15121 of the CEQA Guidelines, this EIR will (a) inform public agency decision-makers, and the public generally, of the significant environmental effects of a project, (b) identify possible ways to minimize the significant effects, and (c) describe reasonable alternatives to the project. The public agency shall consider the information in the EIR along with other information that may be presented to the agency.

PROJECT DESCRIPTION

The proposed Gentry-Suisun project improvements would consist of the following: 1) the annexation of approximately 171.50 gross acres of land from Solano County into the City of Suisun City (the “Annexation Properties”; 2) and a Mixed Use Development component which consists of the subdivision and development of a mixed use project on an approximately 88.82-acre mixed use site. The Mixed Use Site is comprised of Planning Area 1, Planning Area 2, and Planning Area 3. The total Project Area of approximately 493 acres consists of 5 planning areas comprising approximately 479 acres, the Gilbert and Ardave parcels comprising approximately 5.6 acres, Pennsylvania Avenue and Cordelia Road rights of way comprising approximately 5.6 acres, and the Union Pacific Railroad right of way comprising approximately 2.7 acres. Wetlands mitigation areas would be created on Planning Area 4 and Planning Area 5 for impacts of the Mixed Use Development component of the project. Planning Area 4 includes 5.11 acres that is currently in the Suisun City limits and already zoned. Although this 5.11 acres is part of the project area, it is not a part of the annexation or zoning change request.

PURPOSE OF THE EIR

As provided in the CEQA Guidelines Section 15021, public agencies are charged with the duty to avoid or minimize environmental damage where feasible. The public agency has an obligation to balance a variety of public objectives, including economic, environmental, and social issues.

CEQA requires the preparation of an EIR prior to approving any project that may have a significant effect on the environment. For the purposes of CEQA, the term *project* refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]). With respect to the proposed Gentry Property Annexation project, the City has determined that the proposed annexation and Mixed Use Development is a *project* within the

definition of CEQA, which has the potential for resulting in significant environmental effects.

The EIR is an informational document that apprises decision makers and the general public of the potential significant environmental effects of a proposed project. The City of Suisun City is the lead agency for this project and is required to consider the information in the EIR in deciding whether to approve the project. The basic requirements for an EIR include discussions of the environmental setting, environmental impacts, mitigation measures, alternatives, growth inducing impacts, and cumulative impacts.

TYPE OF DOCUMENT

The CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a *project-level EIR*, pursuant to CEQA Guidelines Section 15161, which examines the environmental impacts of a specific project. The project-level EIR should focus primarily on changes in the environment, which result from the development of the project. All phases of the project, including planning, construction, and operation, should be included in the analysis. Unlike many EIRs, which provide very detailed analysis for the “proposed project” but much less detail for project alternatives (as permitted by CEQA), this EIR provides very detailed analysis not only for the proposed project (or Base Project) but also for Alternatives 1 and 2. Alternative 1 and 2 would include the development of the same total area, but would include varied proportions of residential, commercial and light industrial land uses. The City’s reason for providing more analysis than is minimally required by law for Alternatives 1 and 2 is to give the City Council discretion to choose either Alternative 1 or Alternative 2 without having to worry that the EIR does not provide sufficient detail to support such action.

EIR PROCESS

The EIR process begins with the decision by the lead agency to prepare an EIR, either during a preliminary review of a project or at the conclusion of an Initial Study. The City of Suisun City made the decision to prepare an EIR, and released a Notice of Preparation (NOP) on February 24, 2005 for a 30-day review. Prior to the release of this project-level NOP, an NOP was released for a program-level analysis of this project. After public review of the program-level NOP, the program-level analysis was discarded and this Draft EIR follows the project-level NOP released in February 24, 2005. In addition, a public scoping meeting to solicit input on the scope of the EIR was held on March 22, 2005. The NOP is included as Appendix A of the Draft EIR.

As soon as the Draft EIR is completed, a notice of completion is filed with the OPR and public notice is published to inform interested parties that a Draft EIR is available for agency and/or public review and providing information regarding location of drafts and any public meetings or hearings that are scheduled. The Draft EIR is circulated for a period of 45 days, during which time reviewers may make comments. The lead agency must evaluate and respond to comments in writing, describing the disposition of any significant environmental issues raised and explaining in detail the reasons for not accepting any specific comments concerning major environmental issues. When comments received result in the addition of significant new information to an EIR, after public notice is given, the revised EIR or affected chapters must be

recirculated for another public review period with related comments and responses.

Once the lead agency is satisfied that the EIR has adequately addressed the pertinent issues in compliance with CEQA, a Final EIR will be prepared, which is made available for review by the public or commenting agencies. Before approving a project, the lead agency shall certify that the Final EIR has been completed in compliance with CEQA and has been presented to the decision-making body of the lead agency and has been reviewed and considered by that body, and that the Final EIR reflects the lead agency's independent judgment and analysis.

Before approving a project for which a certified Final EIR has identified significant environmental impacts, the lead agency must make one or more specific written findings for each of the identified significant impacts. These findings include and are limited to:

- Find that the Proposed Project has been changed to avoid or substantially lessen its significant impacts;
- Determine whether any changes to the Proposed Project necessary to avoid or substantially lessen any significant impacts are within another agency's jurisdiction, and find that such changes have been or should be adopted by such other agency; and/or
- Find that specific economic, social, or other considerations make infeasible any mitigation measures or project alternatives that would avoid or substantially lessen any significant impacts.

The findings of fact prepared by the lead agency must be based on substantial evidence in the administrative record and must include an explanation that bridges the gap between evidence in the record and the conclusions required by CEQA.

Based on these findings, the lead agency may also prepare a Statement of Overriding Considerations (Statement) as part of the project approval process. If the decision-making body elects to proceed with a project that would have unavoidable significant impacts, then a statement explaining the decision to balance the benefits of the project against unavoidable environmental impacts must be prepared.

SCOPE OF THE DRAFT EIR

State CEQA Guidelines § 15126.2(a) states, in pertinent part:

An EIR shall identify and focus on the significant environmental effects of the proposed project. In assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced.

Pursuant to these guidelines, the scope of this Draft EIR includes specific issues and concerns identified as potentially significant in the Initial Study prepared for the proposed project. The Initial Study, conducted prior to the initiation of the EIR in order to focus the environmental

analysis, concluded that several environmental issues would result in a *less-than-significant* impact. The complete text of the Initial Study is contained in Appendix C.

Resources identified for study in this Draft EIR include:

- Land Use
- Aesthetics
- Air Quality
- Noise
- Traffic and Circulation
- Biological Resources
- Hydrology and Water Quality
- Public Services and Utilities
- Energy
- Socio-Economic

The evaluation of effects is presented on a resource-by-resource basis in Subchapters 4.1 through 4.10. Each subchapter is divided into four sections: Introduction, Environmental Setting, Regulatory Context, and Impacts and Mitigation Measures.

Impacts that are determined to be significant in Chapter 4 and for which no feasible mitigation measures are available to reduce those impacts to a less-than-significant level are identified as significant and unavoidable. Chapter 6 in the Draft EIR presents a discussion and comprehensive list of all significant and unavoidable impacts identified in Chapter 4.

COMMENTS RECEIVED ON THE NOTICE OF PREPARATION

During the open comment period, the City of Suisun City received 10 comment letters on the Notice of Preparation for the Gentry Property Annexation Project EIR. A copy of each letter is provided in Appendix B of this EIR. The letters listed below were authored by representatives of state and local agencies and other interested parties. In addition, a public scoping meeting was held on March 22, 2005, and a transcription was prepared (Appendix B).

Notice of Preparation Commenters

State and Local Agencies

- Sable, Timothy – Department of Transportation
- Floerke, Robert – Department of Fish & Game
- Totschinger, Emi – Suisun-Solano Water Authority
- Morgan, Scott – State of California Governor’s Office of Planning and Research State Clearinghouse and Planning Unit
- Quinn, Sean – City of Fairfield Department of Planning and Development
- Miller, Steven – City of Fairfield Department of Planning and Development
- Finney, Kenneth – Heller Ehrman White & McAuliffe LLP
- Chappell, Steven – Suisun Resource Conservation District

- Jansen, Eric – City of Vallejo Utilities Department, Water Division
- Broadbent, Jack – Bay Area Air Quality Management District
- Blegen, Jon A. – Solano County Mosquito Abatement District
- Boles, Kevin – Public Utilities Commission
- Munoz, Rosa – Public Utilities Commission

Residents and Other Interested Parties

- Bruce, Kristin – Representative of Resident
- Ardave, Bob – Nor Cal Concrete

The following list, categorized by issue, summarizes the concerns presented in the comment letters and at the public scoping meeting:

Land Use:

(Chapter 4.1)

Concerns related to:

- Proposed project appears to encourage “leapfrog development” by placing a commercial center and housing near Pennsylvania Avenue, while setting aside a large track of land designated agriculture between Suisun City proper and the project.

Aesthetics

(Chapter 4.2)

Concerns related to:

- Impacts of development on aesthetics and open space and views from the Suisun Marsh.

Air Quality

(Chapter 4.3)

Concerns related to:

- Development of the project site will increase automobile trips, creating additional emissions in the area, ultimately affecting air quality conditions.
- Construction related activities which could create fugitive dust emissions from grading, construction, and demolition.
- The potential to expose sensitive receptors or the general public to substantial levels of criteria pollutant or toxic air contaminants.

Noise

(Chapter 4.4)

Concerns related to:

- Noise impacts from the Union Pacific Railroad track affecting residential development.

Transportation and Circulation:

(Chapter 4.5)

Concerns related to:

- Improvements to existing at-grade highway-rail crossings due to increase in traffic volume and appropriate fencing to limit access of pedestrians onto the UPRR right-of-way.
- Residential and commercial development will increase traffic volumes at streets, intersections, and at at-grade highway-rail crossings. Specifically, what would be the impacts to Highway 12, Pennsylvania Avenue, and Cordelia Road.
- Effects of future development increasing traffic volume and congestion.
- Consistency with the Countywide Traffic Model.

- Impact of the direct connection (right-in, right-out) from the Super Center to Highway 12. This connection will require CALTRANS approval.
- How development of the project site would create more local traffic on Highway 12 and Cordelia Road in the greater regional transportation system.

Biological Resources:
(Chapter 4.6)

Concerns related to:

- Impacts to flora and fauna on the project site because the project site has a high number of known special status species including State and Federally endangered and the fully protected salt marsh harvest mouse and the Federally endangered Contra Costa goldfields.
- Activities that would divert or obstruct natural flow, or change the bed, channel, or bank (which may include associated riparian resources) of a river or stream, or use material from a streambed.
- Project site contains significant wetlands and proposed development may further impact wetlands.
- Project site falls within the Habitat Conservation Plan (HCP) because the property is one of the primary preserves for the Contra Costa Goldfields.

Hydrology and Water Quality:
(Chapter 4.7)

Concerns related to:

- The Suisun City water allocation is fully utilized and all additional supply is from the District's allocation. Developer will need to seek an annexation to the District and shall be required according to District rules, regulations, and standards.
- Project site may lie within a federally designated 100-year floodplain.
- Potential flood impacts as a result of development because this may interfere with natural and piped drainage from the north.
- Hydrological impacts on designated wetlands within the City of Fairfield, including seasonal wetlands north of Highway 12.
- Addressing water quality issues and the 401 Certification process.
- How the project will manage storm water runoff, particularly in a sensitive environment adjacent to the Suisun Marsh.
- Proximity of LedgeWood Creek in relation to the project site.
- Development of the project site could affect Vallejo's water main which runs through the project site.

Public Services and Utilities
(Chapter 4.8)

Concerns related to:

- Adequate sewer capacity for the proposed project.
- Water supply for the project site. If new water lines affect the City of Fairfield rights-of-way, encroachment permits shall be required.
- Utility connections between Spyglass Hill and the project must be coordinated with the Fairfield Public Work Department and CALTRANS.

-
- New residential development impacting the existing recreational facilities, parks, and services.
 - Impact to major utilities (PG&E overhead power poles, Vallejo Water line, FSSD sewer mains, and 2 PG&E gas mains) that cross or are alongside the project site.

Socioeconomic
(Chapter 4.10)

Concerns related to:

- Impacts of the proposed shopping center to other commercial districts in Suisun City and Fairfield, including both downtowns, Fairfield Gateway, West Texas Street, North Texas Street, and Green Valley Crossings.

ORGANIZATION OF THE DRAFT EIR

The Gentry –Suisun Project Draft EIR is organized into the following sections:

Chapter 1 – Introduction and Executive Summary of EIR

Provides an introduction and overview describing the intended use of the EIR and the review and certification process, as well as summaries of the chapters included in the EIR and summaries of the environmental resources that would be impacted by the project.

Chapter 2 – Summary of Impacts and Mitigation Measures

Summarizes the elements of the project and the environmental impacts that would result from implementation of the proposed project, describes proposed mitigation measures and indicates the level of significance of impacts after mitigation. Acknowledges alternatives that would reduce or avoid significant impacts. This chapter also includes a table summarizing all of the impacts and mitigation measures contained in the Draft EIR. In addition, it summarizes the areas of controversy known to the lead agency.

Chapter 3 – Project Description

Provides a detailed description of the proposed project, including its location, background information, major objectives, and technical characteristics.

Chapter 4 – Environmental Setting, Impacts and Mitigation

Contains a Project-level analysis of environmental issue areas. The subsection for each environmental issue contains an introduction and description of the setting of the project site, identifies impacts and recommends appropriate mitigation measures.

Chapter 5 – Alternative Analysis

Describes the alternatives to the proposed project, their respective environmental effects, and a determination of the environmentally superior alternative.

Chapter 6 – Statutorily Required Sections

Provides discussions required by CEQA regarding impacts that would result from the proposed project, including a summary of cumulative impacts, potential growth-inducing impacts, significant and unavoidable impacts, and significant irreversible changes to the environment.

Chapter 7 – EIR Authors / Persons Consulted

Lists report authors who provided technical assistance in the preparation and review of the EIR.

Chapter 8 – References

Provides bibliographic information for all references and resources cited.

Appendices

Includes the NOP, responses to the NOP, the Initial Study and additional technical information.

2. EXECUTIVE SUMMARY

2. EXECUTIVE SUMMARY

INTRODUCTION

The Summary chapter provides an overview of the Gentry-Suisun Project (described in detail in Chapter 3 – Project Description), and summarizes the conclusions of the environmental analysis, provided in detail in Chapter 4. This chapter also reviews the alternatives to the proposed project that are described in Chapter 5, *Alternatives Analysis*, and identifies the Environmentally Superior Alternative. Table 2-1, at the end of this chapter, provides a summary of the environmental effects of the proposed project identified in each technical issue section of Chapter 4. The table contains the environmental impacts, the significance of the impacts, the proposed mitigation measures, and the significance of the impacts after the mitigation measures are implemented.

PROJECT DESCRIPTION AND LOCATION

The total Project Area consists of five Planning Areas, the Pennsylvania Avenue and Cordelia Road rights of way, the Gilbert and Ardave parcels, and the Union Pacific Railroad right of way, all together totaling approximately 497.61 acres. The proposed annexation properties would involve the northerly portions of the Project Area, which consist of 171.50 acres currently within the jurisdiction of Solano County and planned to be annexed to the City of Suisun City as part of the project (See Figure 3-1). Along with Planning Area 4, the 321 acres located south of the Annexation Properties (Planning Area 5) is owned by the project applicant and is planned for on-site wetlands mitigation uses. Located nearly 45 miles northeast of San Francisco and 45 miles southwest of the City of Sacramento, Solano County is bordered by Napa, Yolo, San Joaquin, and Contra Costa Counties and covers 823 square miles, about half of which lies in the Sacramento Valley.

The project site is located within the Suisun City Sphere of Influence (SOI). Although the northeast corner of the project site crosses into the Suisun City limits, the majority of the project area is located west of the Suisun City limits in the northwest corner of a junction in the Union Pacific Railroad (UPRR) tracks.

This Draft EIR analyzes the Base Project (proposed project) as well as two project alternatives at an equal-level. The basic differences among these three variations are detailed below:

Base Project

Planning Area 1 (approximately 70.71 gross acres) encompasses the northern portion of the Mixed-Use Site and is intended primarily for the development of a major retail center to meet the retail and commercial needs of residents of Suisun City and the

region. Planning Area 1 would have a mix of retail tenants, which may include small shops, general merchandise stores, “big box” establishments such as a supercenter¹ and/or a home improvement center, and service providers.

Planning Area 2 (approximately 13.1 gross acres) encompasses the southern portion of the Mixed-Use Site, and is intended for the development of approximately 275 medium- to high-density residential dwelling units. Current development plans for this Planning Area include two- and three-story single family attached and/or detached for sale housing. Designed around pedestrian walkways weaving through village-type housing connected to pocket parks, the project is oriented towards first time buyers. Planning Area 2 includes the 0.393 acre parcel owned by Sheldon Oil, referred to herein as the “Sheldon Oil Parcel.”

Planning Area 3 (approximately 4.0 gross acres) is located just northeast of the intersection of Pennsylvania Avenue and the existing UPRR tracks, and is intended for the development of approximately 84 residential dwelling units. Current plans for this area are similar to those for Planning Area 2.

Alternative 1

Planning Area 1 is intended primarily for the development of a major retail center and an approximately 120-unit high-density residential component to meet the retail, commercial, and residential needs of residents of Suisun City and the region. Planning Area 1 would have a mix of retail tenants, which may include small shops, general merchandise stores, “big box” establishments such as a supercenter and/or a home improvement center, and service providers. Current development plans for residential component of this Planning Area is for medium- to high-density residential units, which would include two- and three-story single family attached and/or detached for sale housing.

Planning Area 2 is intended for the development of approximately 196 units of medium- to high-density residential units. Current development plans for this Planning Area include two- and three-story single family attached and/or detached for sale housing.

Planning Area 3 is intended for the development of approximately 84 medium- to high-density residential units which would include two- and three-story single family attached and/or detached for sale housing.

Alternative 2

Planning Area 1 is intended for the development of approximately 42.04 acres of retail and commercial space as well as the development of an approximately 250-unit residential component to meet the retail, commercial, and residential needs of residents of Suisun City and the region. Planning Area 1 would have a mix of retail tenants, which may include small shops, general merchandise stores, a “big box” establishment such as a supercenter and/or a home improvement center, and service

providers. Current development plans for the residential component of this Planning Area is for medium- to high-density residential units which would include two- and three-story single family attached and/or detached for sale housing.

Planning Area 2 is intended for the development of approximately 196 units of medium- to high-density residential units. Current development plans for this Planning Area include two- and three-story single family attached and/or detached for sale housing.

Planning Area 3 is intended for the development of approximately 84 medium- to high-density residential units. Current plans for this area are similar to those for Planning Area 2.

ENVIRONMENTAL IMPACTS AND MITIGATION

Under CEQA, a significant effect on the environment is defined as a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, mineral, flora, fauna, ambient noise, and objects of historic or aesthetic significance. Implementation of the Proposed Project could result in significant impacts on those resource areas listed below.

This Draft EIR discusses mitigation measures that could be implemented by the City to reduce potential adverse impacts to a level that is considered less-than-significant. Impacts which cannot be mitigated to a level that is less-than-significant are identified as significant and unavoidable. Such mitigation measures are noted in this Draft EIR and are found in the following sections: Land Use, Aesthetics, Air Quality, Noise, Traffic and Circulation, Biological Resources, Hydrology and Water Quality, Public Services and Utilities, Energy, and Socio-economic. If an impact is determined to be significant, applicable mitigation measures are identified as appropriate. These mitigation measures are also summarized in Table 2-1 below. The mitigation measures presented in the Draft EIR will form the basis of the Mitigation Monitoring Plan.

Land Use

The Land Use chapter evaluates the consistency of the proposed project with the City's adopted plans and policies. The evaluation is based upon a thorough review of the City's General Plan and Zoning Ordinance, as well as any other appropriate documents, to address consistency issues. The Land Use chapter further assesses the compatibility of the proposed project with the surrounding land uses, both existing and proposed.

The Draft EIR concludes that the proposed project would have a less-than-significant impact regarding the loss of prime farmland and conflicts with existing on-site and adjacent land use designations under both the project-specific and cumulative conditions. Additionally, the project was found to have a less-than-significant impact in regards to conflicts with current agricultural zoning and consistency with Solano County Local Agency Commission (LAFCO) standards.

Aesthetics

The Aesthetics chapter of the EIR summarizes existing regional and project area aesthetics, including a description of the existing visual character or quality of the site. This chapter also includes an analysis of whether any scenic vistas, scenic highways, or scenic resources, such as trees and/or historic resources exist within the project area. Creation of new sources of light and glare by the project and their effects upon the surrounding vicinity are also evaluated in the Aesthetics chapter.

The Draft EIR found that the proposed project would have a significant and unavoidable impact to existing scenic vistas and the visual character and quality of the site and surroundings for both the project-specific and the cumulative scenarios. Additionally, the analysis found that the project would create a potentially significant impact related to light and glare from the proposed project; however, these impacts would be reduced to less-than-significant through the implementation of required mitigation measures.

Air Quality

The Air Quality chapter is based on an air quality assessment prepared for the project site and summarizes the regional air quality setting, including climate and topography, ambient air quality, and regulatory setting. The chapter utilizes the URBEMIS-2002 program to evaluate anticipated airborne pollutant emissions from the project, from both direct sources (project vehicle emissions) and indirect sources (i.e., stationary sources such as fireplaces and mechanical equipment). The calculated emissions are compared to the thresholds of significance recommended by the Bay Area Air Quality Management District (BAAQMD). The Air Quality chapter also addresses carbon monoxide impacts and impacts associated with project construction activities, as well as cumulative air quality impacts.

The Air Quality analysis found that the proposed project would result in less-than-significant impacts related to construction dust and toxic air contaminant (TAC) emissions. The analysis also found that there would be a less-than-significant impact related to increases in carbon monoxide that would result from increased traffic at local intersections, idling delivery trucks, and stationary TAC sources on the project site. Additionally, the Draft EIR concludes that in both the project-specific and cumulative conditions, the increase in total vehicle trips to and from the project site would result in a potentially significant impact that, though reduced in intensity through the implementation of suggested mitigation, would remain significant and unavoidable.

Noise

The Noise chapter of the Draft EIR is based upon an environmental noise assessment prepared for the project site. The noise assessment includes an analysis of the existing noise setting, including measurements of existing traffic and general ambient noise levels in and near the project area. The Noise chapter also identifies all significant noise impacts

upon, and generated by, the proposed project. Determination of significance is based on the criteria set forth in the City of Suisun General Plan Noise Element and City of Suisun Zoning Code, as well as applicable State guidelines. In addition, the Noise chapter evaluates noise levels associated with the construction and operation of the proposed project and the resulting impacts to sensitive receptors in the vicinity of the project site.

The Draft EIR concludes that the proposed project would have a less-than-significant impact to existing land uses in regard to an increase in existing noise along surrounding roadways. However, traffic noise generated by the project would create impacts to future residences on the project site. The EIR also found that the project would result in potentially significant impacts in regard to short-term construction noise and future on-site operational noise generation on the project site. However, the mitigation measures included in the Draft EIR would reduce these impacts to a less-than-significant level.

Traffic and Circulation

The Transportation and Circulation chapter of the Draft EIR is based on a traffic study prepared for the project site. This chapter describes existing traffic conditions, summarizes the existing and planned regional and local transportation network, and describes the traffic load and capacity of street systems, including level of service standards for critical street segments and intersections. The Transportation and Circulation chapter also includes an analysis of the Existing Plus Project scenario and the Cumulative traffic scenario (Cumulative No Project and Cumulative Plus Project). Other issues addressed in this chapter include traffic hazards due to design features, emergency access, and transit and bicycle facilities.

The Draft EIR concluded that the proposed project would have potentially significant impacts at 10 of 23 study intersections under the project-specific scenario; of these intersections, the study found that six would result in potentially significant and unavoidable impacts, and one would result in significant and unavoidable impacts. The traffic study also found that, under the cumulative plus project condition, the proposed project would be expected to have a potentially significant impact at 21 of the 23 study intersections. Suggested mitigation measures included in the chapter would mitigate the impacts at 8 of these intersections to less-than-significant levels. Impacts to the remaining 13 intersections would remain potentially significant and unavoidable under the cumulative plus project condition.

Impacts related to conflicts with proposed interchanges and intersections (such as SR 12/Pennsylvania Avenue), interference with transit plans or policies, and increased demand on public transit (including pedestrian and bicycle facilities) were found to be less-than-significant.

Impacts related to potential conflicts with existing and adopted plans and policies regarding roadways surrounding the proposed project, construction-related traffic, strain on existing transit systems, disruption of bicycle and pedestrian infrastructure plans, on-site circulation and access, and the maintainance of access management standards were

found to be less-than-significant with the implementation of suggested mitigation measures.

Biological Resources

The Biological Resources chapter of the Draft EIR summarizes the existing biological resources setting for the project area. Data from the California Department of Fish and Game (DFG) and the U.S. Fish and Wildlife Service (USFWS) are analyzed and reviewed. The chapter presents the results of a records search of the California Natural Diversity Database (CNDDDB), which was conducted to determine the potential of the project area to support rare, threatened, endangered, or otherwise sensitive species. In addition, the Biological Resources chapter includes the results of a preliminary wetland assessment. The chapter also provides the results of on-site field studies pertaining to the identification of potential habitats for special-status species and wetlands. Finally, the chapter identifies the biological resources-related permits required as part of the development process.

The Draft EIR found that implementation of the proposed project would result in less-than-significant impacts related to loss of annual grassland habitat and loss of wildlife corridors. The Draft EIR found that required mitigation measures would reduce impacts on the following resources to less-than-significant levels: wetlands, vernal pools (and associated crustacean habitats), Contra Costa Goldfields, riparian habitats within the project area, as well as impacts to special-status plant species, including saline clover and Suisun Marsh aster. Additionally, impacts to California Tiger salamander, nesting populations of state and federal species of concern, the burrowing owl, Swainson's hawk, black rail, clapper rail, salt marsh harvest mouse, and Suisun shrews would also be reduced to less-than-significant levels through the implementation of mitigation measures suggested in the Draft EIR. However, the Draft EIR determined that even with implementation of applicable mitigation measures, the proposed project would result in significant and unavoidable project-level impacts to alkali milk-vetch. As a result, the project's incremental contribution to cumulative biology impacts would be significant and unavoidable.

Hydrology and Water Quality

The Hydrology, Water Quality, and Drainage chapter summarizes setting information and identifies potential project-associated impacts pertaining to irrigation drainage, stormwater drainage, flooding, groundwater, seepage, and water quality. The analysis includes on-site as well as off-site infrastructure facilities.

The Draft EIR determined that impacts relating to existing drainage facilities from increased stormwater runoff, placement of structures within a 100-year floodplain, degradation of water quality, and long-term degradation of water quality would be reduced to less-than-significant through the implementation of suggested mitigation measures.

Public Services and Utilities

The Public Services and Facilities chapter of the Draft EIR summarizes setting information and identifies potential new demand for services on the domestic water supply, wastewater treatment systems, fire protection, law enforcement, solid waste disposal, public schools and recreation facilities.

The Draft EIR found that the proposed project would be expected to have a less-than-significant impact to existing water supply and distribution facilities, wastewater and sewer infrastructure, and solid waste disposal services. The EIR also found that the project would result in a potentially significant impact in regard to adequate numbers of police, fire, school, and recreational facilities; however, these impacts were found to be less-than-significant after the implementation of proposed mitigation measures. Cumulative long-term impacts related to public services and facilities were found to be less-than-significant.

Energy

Energy resources chapter of the Draft EIR describes the current energy and electrical utilities needs of the City of Suisun City as well as potential impacts associated with the development of the proposed project. This section also discusses energy consumption and addresses the issue of potential for wasteful, inefficient, or unnecessary use of energy from implementation of the proposed project.

The Draft EIR concluded that the proposed project would have less-than-significant impacts related to wasteful inefficient energy usage both during construction and in the operational phase. However, despite the less-than-significant conclusion, the City has included a mitigation measure to further ensure that adequate energy conservation practices would be implemented for the proposed project.

Socio-economic

The Socio-economic chapter the EIR considers whether the proposed project would result in significant adverse physical deterioration of properties or structures, or urban decay, due to economic impacts on existing businesses and the inability of property owners to lease existing vacant buildings and buildings that may be vacated as a consequence of economic impacts resulting from the proposed project.

The Draft EIR concluded that impacts related to competition with existing commercial businesses in the City of Suisun, which would have the potential to result in urban decay, would result in a less-than-significant impact.

SUMMARY OF PROJECT ALTERNATIVES

As noted in Chapter 1, the base project plus two alternatives were studied at an equal level in the EIR. The following summary provides brief descriptions of the three

alternatives to the proposed project that are evaluated in this Draft EIR in addition to the two alternatives that are analyzed on an equal-level analysis throughout this Draft EIR. For a more thorough discussion of project alternatives, please refer to Chapter 5, *Alternatives Analysis*.

Alternatives Considered but Dismissed

Off-Site Alternative

Sites within the City of Suisun, which would be large enough to accommodate the proposed project, are not available. One site that contains 30 acres is located at the intersection of SR 12 and Marina. This site has an application for development already pending, and is too small to accommodate the proposed development.

Two potential alternative annexation locations exist. One is located at Railroad Avenue/Blossom Avenue; however, this property is residentially zoned, only contains 26 acres and currently has an application pending. The second potential annexation site is 20 acres and is located between the Lambrecht Sports Complex and the City's eastern boundary on the north side of Peterson Road. The northern portion of this property contains a safety zone restriction area from Travis Air Force Base. Because of the small size and safety restrictions, the second potential annexation site is not adequate for the proposed development.

Alternative site locations may be available outside of the City's Sphere of Influence; however, development of these sites would not meet the project objectives. Therefore, off-site alternatives outside of the City's Sphere of Influence are dismissed from further consideration.

Alternatives Considered in the Alternatives Analysis

No Project Alternative

CEQA requires the evaluation of the comparative impacts of the "No Project" alternative (CEQA Guidelines Section 15126.6 (e)). Analysis of the No Project Alternative "shall discuss . . . existing conditions . . . as well as 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." (*Id.*, subd. (e)(2).) "If the project is other than a land use or regulatory plan, for example a development project on identifiable property, the "no project" alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in its existing state against environmental effects which would occur if the project is approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this "no project" consequence should be discussed. In certain instances, the no project alternative means "no build" wherein the existing environmental setting is maintained. However, where failure to proceed with the project will not result in preservation of existing

environmental conditions, the analysis should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment.” (*Id.*, subd. (e)(3)(B).)

Here, the City has concluded that a “no development” alternative is the appropriate “no project” alternative in light of the nature of the approvals and entitlements sought by the project as proposed. These include a proposed annexation, which cannot be taken for granted under a “no project” scenario reflecting “current plans.” Therefore, under the No Project Alternative, the project site would remain agricultural land and wetlands. Furthermore, because the project site would not be developed, the site would not to be annexed to the City of Suisun.

Buildout Pursuant to Existing City Designations

The Suisun City General Plan designations for the project site include 10 acres of General Commercial and 162 acres of Limited Industrial/Business Park. Based upon an estimated floor area ratio (FAR) of 0.3 for the General Commercial and 0.4 for the Limited Industrial/Business Park, the Alternative would contain 130,680 square feet of commercial area and 2.8 million square feet of business park uses. The FAR assumed (0.4) for the Limited Industrial/Business Park portion of the site is consistent with the FAR specified in the Suisun City General Plan for the Limited Industrial/Business Park land use designation. The Suisun City General Plan states that the average FAR for General Commercial uses is 0.35 FAR. Though the FAR used for this analysis is slightly less at 0.3, an FAR of 0.3 is consistent with what is allowed in the General Plan for the General Commercial designation. Under the Buildout Pursuant to Existing City Designations Alternative, the entire 171.50-acre annexation area would be developed, compared to the proposed project which would result in the development of Planning Areas 1 through 3, which consists of approximately 88 acres. As with the project as proposed, annexation to the City is a necessary aspect of this alternative. (See Figure 4.1-1 for land use diagram).

Resource Avoidance Alternative

The Resource Avoidance Alternative would result in a reduced level of development on the project site. More specifically, this Alternative is designed to avoid the wetland habitats located on the 171.50-acre annexation site. As illustrated in Figure 5-1, the buildout under this Alternative would be limited to non-wetland areas on Planning Area 1, Planning Area 2, and Planning Area 3. The total development area consists of 49.61 acres. As indicated in Figure 5-1, a 25-foot buffer would be located around the development area, in order to decrease edge effects associated with the placement of commercial and residential uses in the immediate vicinity of sensitive wetland habitats. For the sake of analysis, this discussion assumes that the buildout of the Alternative would include a land use ratio similar to that of the proposed project (commercial and residential land uses with a small portion of industrial/business park development.)

SUMMARY OF IMPACTS AND MITIGATION MEASURES

The following Table (Table 2-1) summarizes the impacts identified in the environmental section of this Draft EIR. The proposed project impacts are identified for each environmental analysis section (4.1 – 4.10) in the Draft EIR in Table 2-1 below. The level of significance of each impact, any mitigation measures required for each impact, and the resultant level of significance after mitigation are also given below.

In the Introduction (Section 1.0) the areas of controversy known to the lead agency include the issues raised by agencies and the public were summarized. These include, but are not limited to, concerns about traffic and circulation, biological resources and urban decay.

**TABLE 2-1
 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
4.1 Land Use			
4.1-1 Compatibility with surrounding land uses.			
Base Project	LS	4.1-1 None Required.	N/A
Alternative 1	LS	4.1-1 None Required.	N/A
Alternative 2	LS	4.1-1 None Required.	N/A
4.1-2 Consistency with the City of Suisun City General Plan.			
Base Project	LS	4.1-2 None Required.	N/A
Alternative 1	LS	4.1-2 None Required.	N/A
Alternative 2	LS	4.1-2 None Required.	N/A
4.1-3 Consistency with existing zoning.			
Base Project	LS	4.1-3 None Required.	N/A
Alternative 1	LS	4.1-3 None Required.	N/A

PSU = Potentially Significant and Unavoidable; SU = Significant and Unavoidable; S = Significant;
 LS = Less-Than-Significant; NI = No Impact; N/A = Not Applicable

**TABLE 2-1
 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
Alternative 2	LS	4.1-3 <i>None Required.</i>	N/A
4.1-4 Consistency with Solano County LAFCo Standards.			
Base Project	LS	4.1-4 <i>None Required</i>	N/A
Alternative 1	LS	4.1-4 <i>None Required</i>	N/A
Alternative 2	LS	4.1-4 <i>None Required</i>	N/A
4.1-5 Cumulative Land Use Impacts			
Base Project	LS	4.1-5 <i>None Required</i>	N/A
Alternative 1	LS	4.1-5 <i>None Required</i>	N/A
Alternative 2	LS	4.1-5 <i>None Required</i>	N/A
4.1-6 Loss of Prime Agricultural Farmland and conflicts with existing agricultural zoning.			
Base Project	LS	4.1-6 <i>None Required</i>	N/A
Alternative 1	LS	4.1-6 <i>None Required</i>	N/A

PSU = Potentially Significant and Unavoidable; SU = Significant and Unavoidable; S = Significant;
 LS = Less-Than-Significant; NI = No Impact; N/A = Not Applicable

**TABLE 2-1
 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
Alternative 2	LS	4.1-6 <i>None Required</i>	N/A
4.1-7 Cumulative loss of Prime Agricultural Farmland.			
Base Project	LS	4.1-7 <i>None Required</i>	N/A
Alternative 1	LS	4.1-7 <i>None Required</i>	N/A
Alternative 2	LS	4.1-7 <i>None Required</i>	N/A
4.2 Aesthetics			
4.2-1 Impacts related to scenic vistas and visual resources.			
Base Project	S	4.2-1 <i>None Available</i>	SU
Alternative 1	S	4.2-1 <i>None Available</i>	SU
Alternative 2	S	4.2-1 <i>None Available</i>	SU
4.2-2 Impacts related to existing visual character or quality of the site and its surroundings.			
Base Project	S	4.2-2 <i>None Available</i>	SU

PSU = Potentially Significant and Unavoidable; SU = Significant and Unavoidable; S = Significant;
 LS = Less-Than-Significant; NI = No Impact; N/A = Not Applicable

**TABLE 2-1
 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
Alternative 1	S	4.2-2 <i>None Available</i>	SU
Alternative 2	S	4.2-2 <i>None Available</i>	SU
4.2-3 Impacts related to light and glare.			
Base Project	PS	4.2-3 <i>Prior to the issuance of building permits, the developer shall submit a lighting plan for the review and approval of the Building Official and Community Development Director of the City of Suisun. The lighting plan shall include shielding on all light fixtures and shall address limiting light trespass and glare through the use of shielding and directional lighting methods, including but not limited to, fixture location and height and shall comply with the standards set forth in the PUD Guidelines prepared for the project.</i>	LS
Alternative 1	PS	4.2-3 <i>Implement MM 4.2-3 identified for the Base Project above</i>	LS
Alternative 2	PS	4.2-3 <i>Implement MM 4.2-3 identified for the Base Project above</i>	LS

PSU = Potentially Significant and Unavoidable; SU = Significant and Unavoidable; S = Significant;
 LS = Less-Than-Significant; NI = No Impact; N/A = Not Applicable

**TABLE 2-1
 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
4.2-4 Long-term impacts to the visual character of the region from the proposed project in combination with existing and future developments in the Suisun area.			
Base Project	S	4.2-4 None Available	SU
Alternative 1	S	4.2-4 None Available	SU
Alternative 2	S	4.2-4 None Available	SU
4.3 Air Quality			
4.3-1 Impacts related to construction dust emissions.			
Base Project	LS	4.3-1 None Required	N/A
Alternative 1	LS	4.3-1 None Required	N/A
Alternative 2	LS	4.3-1 None Required	N/A
4.3-2 Impacts related to construction TAC emissions.			
Base Project	LS	4.3-2 None Required	N/A
Alternative 1	LS	4.3-2 None Required	N/A

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**TABLE 2-1
 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
Alternative 2	LS	4.3-2 <i>None Required</i>	N/A
4.3-3 Increased carbon monoxide concentrations at project-area intersections.			
Base Project	LS	4.3-3 <i>None Required</i>	N/A
Alternative 1	LS	4.3-3 <i>None Required</i>	N/A
Alternative 2	LS	4.3-3 <i>None Required</i>	N/A
4.3-4 New air pollutant emissions within the air basin resulting from vehicle trips to and from the project site and area source emissions.			
Base Project	PS	4.3-4 <i>In conjunction with submittal of a Final Map and Building Permits, the applicant shall include in the project design the following measures to the satisfaction of the Community Development Director and the Public Works Director:</i> <ul style="list-style-type: none"> • <i>Provide bicycle lanes, sidewalks and/or paths within the Mixed Use Project area, connecting project residences to schools, parks, the nearest transit stop and nearby commercial areas. Provide a satellite tele-commute center within or near the development.</i> 	SU

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		<ul style="list-style-type: none"> • <i>Provide secure and conveniently placed bicycle parking and storage facilities at parks and other facilities.</i> • <i>Allow only natural gas fireplaces, pellet stoves or EPA-Certified wood-burning fireplaces or stoves in single-family houses. Conventional open-hearth fireplaces should not be permitted. EPA-Certified fireplaces and fireplace inserts are 75 percent effective in reducing emissions from this source.</i> • <i>Use electric lawn and garden equipment for landscaping.</i> • <i>Construct transit amenities such as bus turnouts/bus bulbs, benches, shelters, etc.</i> • <i>Provide direct, safe, attractive pedestrian access from project land uses to transit stops and adjacent development.</i> • <i>Utilize reflective (or high albedo) and emissive roofs and light colored construction materials to increase the reflectivity of roads, driveways, and other paved surfaces, and include shade trees near buildings to directly shield them from the sun's rays and reduce local air temperature and cooling energy demand.</i> 	

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		<ul style="list-style-type: none"> • <i>Provide physical improvements, such as sidewalk improvements, landscaping and bicycle parking that would act as incentives for pedestrian and bicycle modes of travel.</i> • <i>Connect site with regional bikeway/pedestrian trail system.</i> • <i>Provide transit information kiosks.</i> • <i>Implement feasible travel demand management (TDM) measures for a project of this type. This would include a ride-matching program, guaranteed ride home programs, coordination with regional ridesharing organizations and transit incentives program.</i> • <i>Provide showers and lockers for employees bicycling or walking to work.</i> • <i>Provide secure and conveniently located bicycle parking and storage for workers and patrons.</i> • <i>Provide electric vehicle charging facilities.</i> • <i>Provide preferential parking for Low Emission Vehicles (LEVs).</i> • <i>Specialty equipment (utility carts, forklifts, etc.) should be electrically, CNG or propane powered.</i> 	

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		<ul style="list-style-type: none"> Utilize reflective (or high albedo) and emissive roofs and light colored construction materials to increase the reflectivity of roads, driveways, and other paved surfaces, and include shade trees near buildings to directly shield them from the sun's rays and reduce local air temperature and cooling energy demand. 	
Alternative 1	PS	4.3-4 Implement MM 4.3-4 identified for the Base Project above	SU
Alternative 2	PS	4.3-4 Implement MM 4.3-4 identified for the Base Project above	SU
4.3-5 Impacts from delivery truck idling during project operations related to TACs.			
Base Project	LS	4.3-5 None Required	N/A
Alternative 1	LS	4.3-5 None Required	N/A
Alternative 2	LS	4.3-5 None Required	N/A
4.3-6 Impacts related to stationary sources of TAC on project specific sensitive receptors.			
Base Project	LS	4.3-6 None Required	N/A

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Alternative 1	LS	4.3-6 <i>None Required</i>	N/A
Alternative 2	LS	4.3-6 <i>None Required</i>	N/A
4.3-7 Cumulative regional air quality impacts.			
Base Project	PS	4.3-7 <i>Implement Mitigation Measure 4.3-4.</i>	SU
Alternative 1	PS	4.3-7 <i>Implement Mitigation Measure 4.3-4</i>	SU
Alternative 2	PS	4.3-7 <i>Implement Mitigation Measure 4.3-4</i>	SU
4.4 Noise			
4.4-1 An increase in existing traffic noise levels on existing land uses within the project vicinity.			
Base Project	LS	4.4-1 <i>None Required</i>	N/A
Alternative 1	LS	4.4-1 <i>None Required</i>	N/A
Alternative 2	LS	4.4-1 <i>None Required</i>	N/A
4.4-2 An increase in future traffic noise levels on proposed residential land uses within the project site.			

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Base Project	PS	<p>4.4-2(a) <i>Prior to occupancy of residential units, sound walls shall be constructed along the major project-area roadways, adjacent to proposed residential uses. Data contained in Table 4.4-7 shall be consulted to determine appropriate barrier heights. The final location and height of barriers shall be determined by the Community Development Director prior to issuance of building permits.</i></p> <p>4.4-2(b) <i>In order to ensure compliance with an interior noise level standard of 45 dB L_{dn}, a detailed analysis of interior noise levels should be conducted for proposed residential uses constructed in areas with unmitigated first-floor exterior noise levels of 67 dB CNEL/L_{dn} or greater. This conclusion is based upon a typical exterior-to-interior noise level reduction of 25 dB provided by standard construction practices, consistent with the Uniform Building Code (UBC), and the fact that second-story noise levels are typically 2-3 dB higher than first floor levels due to reduced ground attenuation. Therefore, a first-floor floor noise exposure of 67 dB CNEL/L_{dn} would likely result in a second-story exterior exposure of 70 dB CNEL/L_{dn} and an interior noise level of 45 dB CNEL/L_{dn}.</i></p>	LS

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Alternative 1	PS	4.4-2 <i>Implement MM 4.4-2 identified for the Base Project above</i>	LS
Alternative 2	PS	4.4-2 <i>Implement MM 4.4-2 identified for the Base Project above</i>	LS
4.4-3 Union Pacific Railroad noise levels on the project site.			
Base Project	LS	4.4-3 <i>None Required</i>	N/A
Alternative 1	LS	4.4-3 <i>None Required</i>	N/A
Alternative 2	LS	4.4-3 <i>None Required</i>	N/A
4.4-4 Future noise-producing uses developed within the project area.			
Base Project	LS	4.4-4(a) <i>The Covenants, Conditions, and Restrictions (CC&R) developed for the planned retail area shall require all uses developed within the area to generate noise levels which comply with the City of Suisun City Noise Element standards.</i>	LS

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		<p>4.4-4(b) <i>During project review, the Community Development Director shall make a determination as to whether or not the proposed use would likely generate noise levels which could adversely affect the adjacent residential areas. If it is determined from this review that proposed uses could generate excessive noise levels at noise-sensitive uses, the applicant shall be required to prepare an acoustical analysis to ensure that all appropriate noise control measures are incorporated into the project design so as to mitigate any noise impacts. Such noise control measures include, but are not limited to, use of noise barriers, site redesign, silencers, partial or complete enclosures of critical equipment, etc.</i></p> <p>4.4-4(c) <i>In order to minimize the risk for annoyance, buyer/renter notification shall be implemented for all residential uses adjacent to commercial areas. The buyer/renter notification shall inform residents that every attempt has been made to ensure compliance with the applicable City of Suisun noise standards, however, periods of elevated noise levels may occur.</i></p>	

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Alternative 1	LS	4.4-4 Implement MM 4.4-4 identified for the Base Project above	LS
Alternative 2	LS	4.4-4 Implement MM 4.4-4 identified for the Base Project above	LS
4.4-5 Short-term noise impacts from construction activities.			
Base Project	PS	4.4-5 Construction activities shall adhere to the requirements of the City of Suisun City/Solano County with respect to hours of operation. In addition, all heavy construction equipment and all stationary noise sources (such as diesel generators) shall be fitted with factory-specified mufflers.	LS
Alternative 1	PS	4.4-5 Implement MM 4.4-5 identified for the Base Project above	LS
Alternative 2	PS	4.4-5 Implement MM 4.4-5 identified for the Base Project above	LS
4.4-6 Cumulative Increase in Traffic Noise Levels.			
Base Project	LS	4.4-6 None Required	N/A
Alternative 1	LS	4.4-6 None Required	N/A
Alternative 2	LS	4.4-6 None Required	N/A

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4.5 Traffic			
4.5-1 Impacts to the Texas Street/I-80 WB Ramp Intersection under Existing Plus Base Project, Existing Plus Alternative 1, and Existing Plus Alternative 2 conditions.			
Base Project	S	<p><i>4.5-1 The developer(s) of the Gentry property shall be responsible for the project's fair share of all feasible physical improvements necessary and available to reduce the severity of the project's significant transportation-related impacts. Where the project creates the entire need for such improvements, the developer(s) shall either build such facilities or shall pay the entire costs of the facilities. Where the project creates only part of the need for such improvements, the project shall either build the improvements, subject to fee credits or reimbursement from future development or other sources, or shall pay impact fees to the City of Suisun ("City" or "Suisun") in amounts that reflect the project's fair share contributions. Such fees shall be collected by the City at the time of the issuance of building permits, and shall apply not only to improvements required on transportation facilities subject to the City's sole control, but shall also apply to facilities controlled in full or in part by the City of Fairfield ("Fairfield") and/or the</i></p>	PSU

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		<p><i>California Department of Transportation (“Caltrans”), provided that, as set forth below, the City is successful in entering into agreements with these two entities permitting the expenditures of funds collected on facilities controlled by the two entities.</i></p> <p><i>In order to facilitate the construction of such improvements on transportation facilities located within the City’s boundaries and subject to its sole jurisdiction, the City, consistent with Goal 5, Policy 2, of the Circulation and Transportation Element of its General Plan, shall undertake as soon as reasonably possible the creation of a Capital Improvement Program (“CIP”) by which the City shall assess future development projects, costs of physical transportation improvements required in whole or in part because of the impacts of such projects. To the extent that, even with the CIP in place, the City cannot collect sufficient funds from new development to pay the full costs of the improvements at issue, the City shall make up funding shortfalls from other sources, including, but not limited to, the City’s General Fund as augmented by revenues derived from</i></p>	

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		<p><i>the Gentry project or federal, state, or regional funds made available by the Solano County Transportation Authority. In the event that, five years after the issuance of building permits for the Gentry project, the City has been unable to obtain the funds needed to fully finance improvements included within the CIP and for which the City has charged impact fees, the City shall take one of the following actions: (i) reimburse the developer(s) of the Gentry project for some or all of the moneys collected; (ii) spend the moneys collected on the highest priority improvements while abandoning plans to construct lower priority improvements, reimbursing the developer(s) for any unspent moneys; or (iii) identify a credible strategy by which the remaining necessary funds needed for all identified improvements can be obtained within a reasonable time frame. If the City exercises the third option, it must obtain all necessary funding within an additional two-year time frame, after which the City must exercise one of the first two options.</i></p> <p><i>In order to facilitate the construction of improvements on transportation facilities within the partial or full control of Fairfield, the City shall pursue in good faith, on as</i></p>	

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		<p><i>expeditious a schedule as is reasonably possible, an agreement with Fairfield pursuant to which each jurisdiction shall agree to accept “fair share” contributions from projects occurring in the other jurisdiction in order to mitigate the impacts of such projects occurring within its own jurisdiction. In other words, Suisun would agree to accept fees collected by Fairfield from projects in Fairfield causing impacts within Suisun, and Fairfield would agree to accept fees collected by Suisun from projects in Suisun causing impacts within Fairfield. The agreement should identify key improvements of benefit to both jurisdictions, and should spell out the details regarding a mutually acceptable methodology for calculating fair share contributions for the funding of such improvements. The City should strive to employ methodologies under this arrangement consistent with those the City will use for its own CIP. In the event that Fairfield does not agree to enter into an agreement with the City, the developer(s) of the Gentry project shall be absolved of any obligation to contribute to the financing of improvements within the City of Fairfield.</i></p>	

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		<p><i>In order to facilitate the construction of improvements on transportation facilities under the partial or full control of Caltrans, the City shall pursue in good faith, on as expeditious a schedule as is reasonably possible, an agreement with Caltrans that, to the extent permitted by state law, will allow expenditures of moneys collected by the City from projects in the City, including the Gentry project, that cause impacts on Caltrans facilities and thus create part of the demand for new improvements on such facilities. To the extent that the participation of Fairfield in an agreement with Caltrans will facilitate the construction of desired improvements, the City shall use its best efforts to include the City of Fairfield in its agreement with Caltrans. The agreement shall exclude funding for any improvements unacceptable to Caltrans, and shall provide that, in the event that Caltrans and/or Fairfield cannot identify a source of matching funds to fully finance improvements Caltrans considers desirable, the City, and thus the developers paying fees to the City for improvements requiring Caltrans approval or cooperation, shall be absolved of its obligation to fund</i></p>	

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		<p><i>portions of the costs of such facilities. In the event that the City has collected funds from developers prior to a determination by Caltrans that matching funds are not available, the City shall reimburse such developers for any and all fees paid towards the construction of such improvements.</i></p> <p><i>Consistent with this cost sharing mechanism identified above, the applicant shall pay to the City fees representing the project's fair share contribution to:</i></p> <ul style="list-style-type: none"> <i>• The addition of an exclusive southbound left-turn lane at Texas Street/I-80 WB Ramp intersection.</i> <p><i>According to a review of the field conditions, sufficient right-of-way would be adequate for the construction of this improvement. However, this improvement would appear to be fiscally infeasible in that the project contribution to the specified improvement would be insufficient to assure completion of the improvement. Therefore, this impact is considered significant and unavoidable, even if the cost sharing mechanism presented above is successfully implemented.</i></p>	

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Alternative 1	S	4.5-1 Implement MM 4.5-1 identified for the Base Project above	PSU
Alternative 2	S	4.5-1 Implement MM 4.5-1 identified for the Base Project above	PSU
4.5-2 Impacts to the Texas Street/Beck Street Intersection under Existing Plus Base Project, Existing Plus Alternative 1, and Existing Plus Alternative 2 conditions.			
Base Project	S	<p>4.5-2(a) Consistent with the funding mechanism outlined in Mitigation Measure 4.5-1 the applicant shall pay to the City fees representing the project's fair share contribution to prior to the completion of the commercial buildings within Planning Area 1:</p> <ul style="list-style-type: none"> The modification of the westbound right-turn movement from permitted to free movement at the Texas Street/Beck Street intersection. <p>4.5-2(b) Prior to the completion of the commercial buildings within Planning Area 1, the applicant shall pay for a traffic operations analysis for the optimization of the signal timings at the Texas Street/Beck Street intersection.</p>	PSU
Alternative 1	S	4.5-2 Implement MM 4.5-2 identified for the Base Project above	PSU

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Alternative 2	S	4.5-2 Implement MM 4.5-2 identified for the Base Project above	PSU
4.5-3 Impacts to the Texas Street/Pennsylvania Avenue Intersection under Existing Plus Base Project, Existing Plus Alternative 1, and Existing Plus Alternative 2 conditions.			
Base Project	S	4.5-3(a) Consistent with the funding mechanism outlined in Mitigation Measure 4.5-1 the applicant shall pay to the City fees representing the project's fair share contribution to prior to the completion of the commercial buildings within Planning Area 1. 4.5-3(b) Prior to approval of improvement plans, the applicant shall submit to the City Engineer, for review and approval, plans for the restriping of the existing shared through/right-turn lane to the exclusive through lane on the southbound approach.	SU
Alternative 1	S	4.5-3 Implement MM 4.5-3 identified for the Base Project above	SU
Alternative 2	S	4.5-3 Implement MM 4.5-3 identified for the Base Project above	SU
4.5-4 Impacts to the SR 12/Beck Avenue Intersection under Existing Plus Base Project, Existing Plus Alternative 1, and Existing Plus Alternative 2 conditions.			

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Base Project	S	4.5-4 <i>Consistent with the funding mechanism outlined in Measure 4.5-1 the applicant shall pay to the City fees prior to the completion of all commercial buildings within Planning Area 1 representing the project's fair share contribution to:</i> <ul style="list-style-type: none"> • <i>The addition of an exclusive right-turn lane and the addition of the second left-turn lane on the southbound approach at SR 12/Beck Avenue intersection;</i> • <i>The restriping of the existing shared through/right-turn lane to the exclusive through lane on the westbound approach.</i> 	PSU
Alternative 1	S	4.5-4 <i>Implement MM 4.5-4 identified for the Base Project above</i>	PSU
Alternative 2	S	4.5-4 <i>Implement MM 4.5-4 identified for the Base Project above</i>	PSU
4.5-5 Impacts to the SR 12/Pennsylvania Avenue Intersection under Existing Plus Base Project, Existing Plus Alternative 1, and Existing Plus Alternative 2 conditions.			
Base Project	S	4.5-5(a)(1) <i>Prior to approval of improvement plans, the applicant shall submit to the City Engineer for review and approval, plans for the addition of lanes on all approaches to the SR12/Pennsylvania Avenue intersection. Some of the improvements required would</i>	PSU

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		<p><i>include the addition of a through lane on SR 12, additional lanes on the northbound approach to the intersection, additional westbound turn lanes, and other improvements. Alternately, one or more of the movements could require grade separation. An urban interchange would fully mitigate the deficient conditions at this intersection.</i></p> <p><i>4.5-5(a)(2) Prior to approval of improvement plans, the applicant shall submit to the City Engineer for review and approval, plans for the reconstruction of the northbound approach of the SR12/Pennsylvania Avenue intersection to include two left-turn lanes, two through, and a free-right-turn lane. Two southbound receiving lanes shall also be constructed. The traffic consultant also recommends that Pennsylvania Avenue be constructed as a four-lane roadway along the project frontage. At a minimum, this widening should extend to the project entrance at Driveway #4. In conjunction with the widening on Pennsylvania Avenue, an additional westbound left-turn lane on SR 12 should be provided to facilitate access to the project. The reconstruction and construction of the lanes shall be complete prior to initial occupancy of a commercial building or residential unit.</i></p>	

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Alternative 1	S	4.5-5(b) <i>Prior to approval of improvement plans, the applicant shall submit to the City Engineer, for review and approval, plans for the addition of lanes on all approaches to the SR 12/Pennsylvania Avenue intersection. These additional lanes would include turn lanes on the eastbound and westbound approaches and additional through lanes on Pennsylvania Avenue. The installation of the additional lanes shall be complete prior to initial occupancy of a commercial building or residential unit.</i>	PSU
Alternative 2	S	4.5-5(b) <i>Implement MM 4.5-5(b) identified for the Alternative 1 Project above</i>	PSU
4.5-6 Impacts to the SR 12/Sunset Avenue Intersection under Existing Plus Base Project, Existing Plus Alternative 1, and Existing Plus Alternative 2 conditions.			
Base Project	S	4.5-6 <i>Prior to the completion of all commercial buildings within Planning Area 1, the applicant shall pay for a traffic operations analysis for the optimization of the signal timings at the SR 12/Sunset Avenue intersection. Any changes to signal timings would require approval from the California Department of Transportation.</i>	PSU

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Alternative 1	S	4.5-6 <i>Implement MM 4.5-6 identified for the Base Project above</i>	PSU
Alternative 2	S	4.5-6 <i>Implement MM 4.5-6 identified for the Base Project above</i>	PSU
4.5-7 Impacts to the Cordelia Road/Pennsylvania Avenue intersection under Existing Plus Base Project, Existing Plus Alternative 1, and Existing Plus Alternative 2 conditions.			
Base Project	PS	<p>4.5-7a) <i>Prior to installation of a traffic signal, a complete signal warrant analysis should be conducted to verify the need for a traffic signal. If it is determined that a traffic signal is required the applicant shall fully fund the installation of a traffic signal at Cordelia Road/Pennsylvania Avenue. Prior to the completion of all commercial buildings within Planning Area 1, the applicant shall submit design plans for this improvement to the City Engineer for his review and approval.</i></p> <p>4.5-7(b) <i>Prior to the completion of all commercial buildings within Planning Area 1, the applicant shall submit to the City Engineer, for review and approval, plans for the widening of Pennsylvania Avenue to four travel lanes along the project frontage north and south of this location appropriate transitions for these travel lanes. The design for this intersection is complicated by the</i></p>	PSU

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**TABLE 2-1
 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
		<i>proximate location to the adjacent railroad track. Improving Pennsylvania Avenue over the railroad tracks would require the approval of the California Public Utilities Commission (CPUC). The applicant would be responsible for the construction of this improvement.</i>	
Alternative 1	PS	4.5-7 <i>Implement MM 4.5-7 identified for the Base Project above</i>	PSU
Alternative 2	PS	4.5-7 <i>Implement MM 4.5-7 identified for the Base Project above</i>	PSU
4.5-8 Impacts to the Pennsylvania Avenue/Driveway #4 intersection under Existing Plus Base Project, Existing Plus Alternative 1, and Existing Plus Alternative 2 conditions.			
Base Project	PS	4.5-8(a) <i>Prior to approval of improvement plans, the applicant shall submit to the City Engineer, for review and approval, plans for the widening of Pennsylvania Avenue/Driveway #4 entrance and additional turn lanes, such as an additional left-turn lane outbound from the project, and an additional right-turn lane entering the project. The applicant would be responsible for the funding and construction for widening Pennsylvania Avenue through this intersection and modifications to the site plan to provide the necessary turn lanes at this intersection which shall be complete prior to initial occupancy of a commercial building or residential unit.</i>	LS

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 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
		4.5-8(b) <i>The applicant shall fully fund the installation of a traffic signal at Pennsylvania Avenue/Driveway #4. Prior to initial occupancy of a commercial building or residential unit, the signal at Pennsylvania Avenue/Driveway #4 shall be installed and operational as determined by the City Engineer.</i>	
Alternative 1	PS	4.5-8 <i>Implement MM 4.5-8 identified for the Base Project above</i>	LS
Alternative 2	PS	4.5-8 <i>Implement MM 4.5-8 identified for the Base Project above</i>	LS
4.5-9 Impacts to the Pennsylvania Avenue/Driveway #5 intersection under Existing Plus Base Project, Existing Plus Alternative 1, and Existing Plus Alternative 2 conditions.			
Base Project	S	4.5-9 <i>Prior to approval of improvement plans, the applicant shall submit to the City Engineer, for review and approval, plans for the widening of Pennsylvania Avenue and changes in the access control at Pennsylvania Avenue/Driveway #5 location. This driveway would have to operate as right-in/right-out driveways only. The widening of Pennsylvania Avenue/Driveway #5 shall be complete prior to initial occupancy of a commercial building or residential unit.</i>	LS

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**TABLE 2-1
 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
Alternative 1	S	4.5-9 Implement MM 4.5-9 identified for the Base Project above	LS
Alternative 2	LS	4.5-9 None Required	N/A
4.5-10 Impacts to the Driveway #4/Internal Roadway intersection under Existing Plus Base Project, Existing Plus Alternative 1, and Existing Plus Alternative 2 conditions.			
Base Project	PS	4.5-10(a) The applicant shall fully fund the installation of a traffic signal at Driveway #4/Internal Roadway. Prior to initial occupancy of a commercial building or residential unit, the signal at Driveway #4/Internal Roadway shall be installed and operational by the City Engineer. 4.5-10(b) Prior to approval of improvement plans, the applicant shall submit to the City Engineer, for review and approval, plans for the modification to have two lanes on all approaches. The project applicant would be responsible for the funding and construction of the acceleration/deceleration lane which shall be complete prior to initial occupancy of a commercial building or residential unit.	LS
Alternative 1	PS	4.5-10 Implement MM 4.5-10 identified for the Base Project above	LS
Alternative 2	PS	4.5-10 Implement MM 4.5-10 identified for the Base Project above	LS

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 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
4.5-11 Cumulative impacts to the Texas Street/I-80 WB Ramp intersection for the Base Project, Alternative 1, and Alternative 2 conditions.			
Base Project	S	<p>4.5-11(a) <i>Implement the physical improvement referenced in mitigation measure 4.5-1.</i></p> <p>4.5-11(b) <i>Prior to the completion of all commercial buildings within Planning Area 1, the applicant shall pay to the City fees representing the project's fair share contribution based on the cost sharing mechanism outlined in MM 4.5-1 for the following improvement:</i></p> <ul style="list-style-type: none"> • <i>A second exclusive southbound left-turn lane in addition to implementation of MM 4.5-1.</i> 	PSU
Alternative 1	S	4.5-11 <i>Implement MM 4.5-11 identified for the Base Project above</i>	PSU
Alternative 2	S	4.5-11 <i>Implement MM 4.5-11 identified for the Base Project above</i>	PSU
4.5-12 Cumulative impacts to the Texas Street/I-80 EB Ramp intersection for the Base Project, Alternative 1, and Alternative 2 conditions.			
Base Project	S	4.5-12 <i>Prior to the completion of all commercial buildings within Planning Area 1, the applicant shall pay for a traffic operations analysis for the optimization of the signal timings at the Texas Street/I-80 EB ramp intersection. In addition, this improvement would require</i>	PSU

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 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
		<i>the approval of the California Department of Transportation.</i>	
Alternative 1	S	4.5-12 <i>Implement MM 4.5-12 identified for the Base Project above</i>	PSU
Alternative 2	S	4.5-12 <i>Implement MM 4.5-12 identified for the Base Project above</i>	PSU
4.5-13 Cumulative impacts to the Texas Street/Beck Avenue intersection for the Base Project, Alternative 1, and Alternative 2 conditions.			
Base Project	S	4.5-13(a) <i>Implement mitigation measures 4.5-2a and 4.5-2b.</i> 4.5-13(b) <i>Prior to the completion of all commercial buildings within Planning Area 1, the applicant shall pay to the City fees representing the project's fair share contribution based on the cost sharing mechanism outlined in MM 4.5-1 for the following improvements:</i> <ul style="list-style-type: none"> • <i>Constructing two additional eastbound through lanes;</i> • <i>Constructing one additional through lane and left-turn lane on the westbound approach; and providing a free right-turn lane.</i> • <i>In addition, the applicant shall submit plans for restriping the shared through/right-turn lane to through lane on the northbound approach.</i> 	PSU

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 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
Alternative 1	S	4.5-13 Implement MM 4.5-13 identified for the Base Project above	PSU
Alternative 2	S	4.5-13 Implement MM 4.5-13 identified for the Base Project above	PSU
4.5-14 Cumulative impacts to the Texas Street/Pennsylvania Avenue intersection for the Base Project, Alternative 1, and Alternative 2 conditions.			
Base Project	S	4.5-14(a) Implement mitigation measures 4.5-3a(1) and 4.5-3a(2). 4.5-14(b) Prior to the completion of all commercial buildings within Planning Area 1, the applicant shall pay to the City fees representing the project's fair share contribution based on the cost sharing mechanism outlined in MM 4.5-1 for the following improvements: <ul style="list-style-type: none"> • Construction of one additional left-turn and through lane on the eastbound and northbound approaches at the Texas Street/Pennsylvania Avenue intersection. 	PSU
Alternative 1	S	4.5-14 Implement MM 4.5-14 identified for the Base Project above	PSU
Alternative 2	S	4.5-14 Implement MM 4.5-14 identified for the Base Project above	PSU
4.5-15 Cumulative impacts to the Texas Street/Jackson Street intersection for the Base Project, Alternative 1, and Alternative 2 conditions.			

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**TABLE 2-1
 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
Base Project	S	4.5-15 Prior to the completion of the commercial buildings within Planning Area 1, the applicant shall pay to the City fees representing the project's fair share contribution based on the cost sharing mechanism outlined in MM 4.5-1 for the following improvements: <ul style="list-style-type: none"> • Add one eastbound through lane along Texas Street. 	PSU
Alternative 1	S	4.5-15 Implement MM 4.5-15 identified for the Base Project above	PSU
Alternative 2	S	4.5-15 Implement MM 4.5-15 identified for the Base Project above	PSU
4.5-16 Cumulative impacts to the Texas Street/Webster Street intersection for the Base Project, Alternative 1, and Alternative 2 conditions.			
Base Project	S	4.5-16 Prior to the completion of the commercial buildings within Planning Area 1, the applicant shall pay to the City fees representing the project's fair share contribution based on the cost sharing mechanism outlined in MM 4.5-1 for the following improvements: <ul style="list-style-type: none"> • Construction of an additional through lane on Texas Street 	PSU
Alternative 1	S	4.5-16 Implement MM 4.5-16 identified for the Base Project above	PSU

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 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
Alternative 2	S	4.5-16 Implement MM 4.5-16 identified for the Base Project above	PSU
4.5-17 Cumulative impacts to the Woolner Avenue/Beck Avenue intersection for the Base Project, Alternative 1, and Alternative 2 conditions.			
Base Project	S	4.5-17 Prior to the completion of the commercial buildings within Planning Area 1, the applicant shall pay to the City fees representing the project's fair share contribution based on the cost sharing mechanism outlined in MM 4.5-1 for the following improvements: <ul style="list-style-type: none"> The addition of a second left-turn lane on the southbound approach and an exclusive right-turn lane on the northbound approach at the Woolner Avenue/Beck Avenue intersection. 	PSU
Alternative 1	S	4.5-17 Implement MM 4.5-17 identified for the Base Project above	PSU
Alternative 2	S	4.5-17 Implement MM 4.5-17 identified for the Base Project above	PSU
4.5-18 Cumulative impacts to the SR 12/Beck Avenue intersection for the Base Project, Alternative 1, and Alternative 2 conditions.			
Base Project	S	4.5-18(a) Implement mitigation measures 4.5-4a and 4.5-4b 4.5-18(b) Prior to the completion of the commercial buildings within Planning Area 1, the applicant shall pay to the City fees representing the project's fair share	PSU

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<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
		<p><i>contribution based on the cost sharing mechanism outlined in MM 4.5-1 for the following improvements:</i></p> <ul style="list-style-type: none"> <i>• Two additional through travel lanes along SR 12, providing an exclusive right-turn lane on the northbound approach, and providing an exclusive free right-turn lane on the southbound approach.</i> 	
Alternative 1	S	4.5-18 <i>Implement MM 4.5-18 identified for the Base Project above</i>	PSU
Alternative 2	S	4.5-18 <i>Implement MM 4.5-18 identified for the Base Project above</i>	PSU
4.5-19 Cumulative impacts to the SR 12/Pennsylvania Avenue intersection for the Base Project, Alternative 1, and Alternative 2 conditions.			
Base Project	S	4.5-19 <i>Prior to the completion of the commercial buildings within Planning Area 1, the applicant shall pay to the City fees representing the project's fair share contribution based on the cost sharing mechanism</i>	PSU
		<p><i>outlined in MM 4.5-1 for the following improvements:</i></p> <ul style="list-style-type: none"> <i>• A grade separation of one or more movements. An urban interchange would fully mitigate the deficient conditions at this intersection.</i> 	
Alternative 1	S	4.5-19 <i>Implement MM 4.5-19 identified for the Base Project above</i>	PSU

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 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
Alternative 2	S	4.5-19 <i>Implement MM 4.5-19 identified for the Base Project above</i>	PSU
4.5-20 Cumulative impacts to the SR 12/Marina Blvd intersection for the Base Project, Alternative 1, and Alternative 2 conditions.			
Base Project	S	4.5-20 <i>Prior to the completion of the commercial buildings within Planning Area 1, the applicant shall pay to the City fees representing the project's fair share contribution based on the cost sharing mechanism outlined in MM 4.5-1 for the following improvements:</i> <ul style="list-style-type: none"> • <i>Additional two through travel lanes along SR 12 and additional left and right-turn lanes on nearly all approaches. Alternately, one or more of the movements could require grade separation.</i> 	PSU
Alternative 1	S	4.5-20 <i>Implement MM 4.5-20 identified for the Base Project above</i>	PSU
Alternative 2	S	4.5-20 <i>Implement MM 4.5-20 identified for the Base Project above</i>	PSU
4.5-21 Cumulative impacts to the SR 12/Sunset Avenue intersection for the Base Project, Alternative 1, and Alternative 2 conditions.			
Base Project	S	4.5-21 <i>Implement mitigation measure 4.5-8</i> <i>Prior to the completion of the commercial buildings within Planning Area 1, the applicant shall pay to the City fees representing the project's fair share contribution based on the cost sharing mechanism</i>	PSU

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 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
		<p><i>outlined in MM 4.5-1 for the following improvements:</i></p> <ul style="list-style-type: none"> <i>Two additional through travel lanes along SR 12, construction of an exclusive left-turn lane on the northbound approach, providing an exclusive left-turn lane and a free right-turn lane on the southbound approach.</i> 	
Alternative 1	S	4.5-21 <i>Implement MM 4.5-21 identified for the Base Project above</i>	PSU
Alternative 2	S	4.5-21 <i>Implement MM 4.5-21 identified for the Base Project above</i>	PSU
4.5-22 Cumulative impacts to the Cordelia Road/Beck Avenue intersection for the Base Project, Alternative 1, and Alternative 2 conditions.			
Base Project	S	4.5-22 <i>Prior to the completion of the commercial buildings within Planning Area 1, the applicant shall pay to the City fees representing the project's fair share contribution based on the cost sharing mechanism outlined in MM 4.5-1 for the following improvements:</i> <ul style="list-style-type: none"> <i>Installation of a traffic signal at the Cordelia Road/Beck Avenue location.</i> 	PSU
Alternative 1	S	4.5-22 <i>Implement MM 4.5-22 identified for the Base Project above</i>	PSU

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 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
Alternative 2	S	4.5-22 <i>Implement MM 4.5-22 identified for the Base Project above</i>	PSU
4.5-23 Cumulative impacts to the Cordelia Road/Pennsylvania Avenue intersection for the Base Project, Alternative 1, and Alternative 2 conditions.			
Base Project	S	4.5-23(a) <i>Implement mitigation measure 4.5-9a.</i> 4.5-23(b) <i>Prior to the completion of the commercial buildings within Planning Area 1, the applicant shall submit to the City Engineer, for review and approval, plans for the addition of an exclusive northbound left-turn lane in addition to mitigation measure 4.5-9a under Existing Plus Project Scenario. The applicant would be responsible for the funding of the construction of this improvement.</i>	LS
Alternative 1	S	4.5-23 <i>Implement MM 4.5-23 identified for the Base Project above</i>	LS
Alternative 2	S	4.5-23 <i>Implement MM 4.5-23 identified for the Base Project above</i>	LS
4.5-24 Cumulative impacts to the Cordelia Road/Main Street intersection for the Base Project, Alternative 1, and Alternative 2 conditions.			
Base Project	S	4.5-24(a) <i>The applicant shall fully fund the installation of a traffic signal the Cordelia Road/Main Street intersection. Prior</i>	LS

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<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
		<p><i>to installation of a traffic signal, a complete signal warrant analysis should be conducted to verify the need for a traffic signal. This traffic signal will be installed prior to the completion of the commercial buildings within Planning Area 1.</i></p> <p><i>4.5-24(b) Prior to approval of improvement plans, the applicant shall submit to the City Engineer, for review and approval, plans for the addition of an exclusive eastbound left-turn lane. The project would be responsible for the funding of the construction of this improvement. These plans will be prepared prior to the completion of the commercial buildings within Planning Area 1.</i></p>	
Alternative 1	S	4.5-24 Implement MM 4.5-24 identified for the Base Project above	LS
Alternative 2	S	4.5-24 Implement MM 4.5-24 identified for the Base Project above	LS
4.5-25 Cumulative impacts to the Lotz Way/Civic Center Boulevard intersection for the Base Project, Alternative 1, and Alternative 2 conditions.			

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Base Project	S	<p>4.5-25(a) <i>The applicant shall fully fund the installation of a traffic signal at the Lotz Way/Civic Center Boulevard. Prior to installation of a traffic signal, a complete signal warrant analysis should be conducted to verify the need for a traffic signal. Prior to the completion of the commercial buildings in Planning Area 1, the signal at the Lotz Way/Civic Center Boulevard intersection shall be installed as determined by the City Engineer.</i></p> <p>4.5-25(b) <i>Prior to the completion of the commercial buildings in Planning Area 1, the applicant shall submit to the City Engineer, for review and approval, plans for the addition of an exclusive eastbound left-turn lane. The applicant would be responsible for the funding and construction of this improvement which shall be complete prior to initial occupancy of a commercial building or residential unit.</i></p>	PSU
Alternative 1	S	4.5-25 <i>Implement MM 4.5-25 identified for the Base Project above</i>	PSU
Alternative 2	S	4.5-25 <i>Implement MM 4.5-25 identified for the Base Project above</i>	PSU
4.5-26 Cumulative impacts to the Cordelia Road/Driveway #1 intersection for the Base Project, Alternative 1, and Alternative 2 conditions.			

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<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
Base Project	PS	<p>4.5-26(a)(1) <i>Prior to installation of a traffic signal, a complete signal warrant analysis should be conducted to verify the need for a traffic signal. In addition, the applicant shall fully fund the installation of a traffic signal at the Cordelia Road/Driveway #1 intersection if necessary. Prior to initial occupancy of the adjacent residential units, the signal at the Cordelia Road/Driveway #1 intersection shall be installed as determined by the City Engineer.</i></p> <p>4.5-26(a)(2) <i>Prior to approval of improvement plans, the applicant shall submit to the City Engineer, for review and approval, plans for an exclusive right-turn lane on Cordelia Road. The applicant would be responsible for the funding and construction of this improvement which shall be complete prior to initial occupancy of the adjacent residences.</i></p>	LS
Alternative 1	PS	<p>4.5-26(b) <i>Prior to installation of a traffic signal, a complete signal warrant analysis should be conducted to verify the need for a traffic signal. In addition, the applicant shall fully fund the installation of a traffic signal at the Cordelia Road/Driveway #1 intersection if necessary. Prior to initial occupancy of the adjacent residential units, the</i></p>	LS

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<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
		<i>signal at the Cordelia Road/Driveway #1 intersection shall be installed as determined by the City Engineer.</i>	
Alternative 2	PS	<i>4.5-26(c) Prior to installation of a traffic signal, a complete signal warrant analysis should be conducted to verify the need for a traffic signal. In addition, the applicant shall fully fund the installation of a traffic signal at the Cordelia Road/Driveway #1 intersection if necessary. Prior to initial occupancy of the adjacent residential units, the signal at the Cordelia Road/Driveway #1 intersection shall be installed as determined by the City Engineer.</i>	LS
4.5-27 Cumulative impacts to the Cordelia Road/Driveway #2 intersection for the Base Project, Alternative 1, and Alternative 2 conditions.			
Base Project	PS	<i>4.5-27 Prior to approval of improvement plans, the applicant shall submit to the City Engineer, for review and approval, plans for turn restrictions at the Cordelia Road/Driveway #2 intersection, such as restricting left-out movements. The applicant would be responsible for the implementation of this improvement at the Pennsylvania Avenue/Driveway #2 intersection and shall be complete prior to initial occupancy of any adjacent residential unit.</i>	LS

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Alternative 1	PS	4.5-27 <i>Implement MM 4.5-27 identified for the Base Project above</i>	LS
Alternative 2	PS	4.5-27 <i>Implement MM 4.5-27 identified for the Base Project above</i>	LS
4.5-28 Cumulative impacts to the Pennsylvania Avenue/Driveway #3 intersection for the Base Project, Alternative 1, and Alternative 2 conditions.			
Base Project	S	4.5-28 <i>Prior to approval of improvement plans, the applicant shall submit to the City Engineer, for review and approval, plans for the construction of a driveway which would have to operate as a right-in/right-out driveway only. Construction of a driveway shall be complete prior to initial occupancy of any adjacent commercial building or residential unit.</i>	LS
Alternative 1	S	4.5-28 <i>Implement MM 4.5-28 identified for the Base Project above</i>	LS
Alternative 2	S	4.5-28 <i>Implement MM 4.5-28 identified for the Base Project above</i>	LS
4.5-29 Cumulative impacts to the Pennsylvania Avenue/Driveway #4 intersection for the Base Project, Alternative 1, and Alternative 2 conditions.			
Base Project	S	4.5-29 <i>Implement Mitigation Measure 4.5-8b.</i>	LS
Alternative 1	S	4.5-29 <i>Implement MM 4.5-29 identified for the Base Project above</i>	LS

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Alternative 2	S	4.5-29 <i>Implement MM 4.5-29 identified for the Base Project above</i>	LS
4.5-30 Cumulative impacts to the Pennsylvania Avenue/Driveway #5 intersection for the Base Project, Alternative 1, and Alternative 2 conditions.			
Base Project	PS	4.5-30(a) <i>Prior to approval of improvement plans, the applicant shall submit to the City Engineer, for review and approval, plans for the modification of access control to right-in/right-out only at the Pennsylvania Avenue/Driveway #5 intersection. This improvement shall be complete prior to initial occupancy of a commercial building or residential unit.</i>	LS
Alternative 1	PS	4.5-30(b)(1) <i>Prior to approval of improvement plans, the applicant shall submit to the City Engineer, for review and approval, plans for the modification of access control to right-in/right-out only at the Pennsylvania Avenue/Driveway #5 intersection. This improvement shall be complete prior to initial occupancy of a commercial building or residential unit.</i> 4.5-30(b)(2) <i>Prior to approval of improvement plans, the applicant shall submit to the City Engineer, for review and approval, plans for the additional through lane of Pennsylvania Avenue if mitigation measure 4.5-36(b) is</i>	LS

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 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
		<i>implemented (the intersection would operate at LOS D during the PM period, which is indicative of deficient operations). This additional through lane would create a six-lane section of Pennsylvania Avenue, south of the intersection with SR 12. This improvement shall be complete prior to initial occupancy of a commercial building or residential unit.</i>	
Alternative 2	PS	4.5-30 <i>Implement MM 4.5-30(a) identified for the Base Project above</i>	LS
4.5-31 Cumulative impacts to the Driveway #4/Internal Roadway intersection for the Base Project, Alternative 1, and Alternative 2 conditions.			
Base Project	PS	4.5-31 <i>Implement Mitigation Measure 4.5-10(a) and 4.5-10(b)</i>	LS
Alternative 1	PS	4.5-31 <i>Implement MM 4.5-31 identified for the Base Project above</i>	LS
Alternative 2	PS	4.5-31 <i>Implement MM 4.5-31 identified for the Base Project above</i>	LS
4.5-32 Impacts to planned roadway improvements for the Base Project, Alternative 1, and Alternative 2			
Base Project	LS	4.5-32 <i>None Required</i>	N/A
Alternative 1	LS	4.5-32 <i>None Required</i>	N/A
Alternative 2	LS	4.5-32 <i>None Required</i>	N/A
4.5-33 Impacts to adopted plans and policies regarding roadways for the Base Project, Alternative 1, and Alternative 2.			
Base Project	PS	4.5-33 <i>Prior to issuance of building permits, the applicant shall</i>	LS

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 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
		<i>submit to the City Engineer, for review and approval, revisions to the project site plans to confirm the presence or absence of sidewalks along Pennsylvania Avenue and Cordelia Road. Including sidewalks would allow Fehr & Peers to confirm that the sidewalks meet AASHTO standards. Alternately, the project applicant could prepare a cross-section for Pennsylvania Avenue and Cordelia Road to demonstrate that the major cross-section elements are consistent with AASHTO standards.</i>	
Alternative 1	PS	4.5-33 <i>Implement MM 4.5-33 identified for the Base Project above</i>	LS
Alternative 2	PS	4.5-33 <i>Implement MM 4.5-33 identified for the Base Project above</i>	LS
4.5-34 Impacts to the Base Project, Alternative 1, and Alternative 2 as a result of construction traffic.			
Base Project	PS	4.5-34 <i>Prior to issuance of building permits, the applicant shall submit to the City Engineer, for review and approval, a construction traffic management plan. It is anticipated that this Construction Traffic Management Plan will be developed in the context of a larger Construction Management Plan, which will address other issues such as hours of construction on site, limitations on noise and dust emissions, and other applicable items. This plan shall include the following items:</i>	LS

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		<ul style="list-style-type: none"> • <i>A map documenting material and equipment staging and storage locations for all phases of construction (must be located on the project site).</i> • <i>A map documenting worker parking locations for all phases of construction (must be located on the project site).</i> • <i>Notification procedures for adjacent businesses, residents, property owners, and public safety personnel for all major deliveries, detours, and land and/or street closures that would affect traffic in the vicinity of the project.</i> • <i>Provisions for monitoring surface streets used for truck routes so that any damage and debris attributable to the trucks would be identified and corrected.</i> • <i>Signage plans documenting any detours for bicycle and pedestrian traffic.</i> 	

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		<ul style="list-style-type: none"> Routing plans for construction vehicles and construction equipment from the project site. 	
Alternative 1	PS	4.5-34 Implement MM 4.5-34 identified for the Base Project above	LS
Alternative 2	PS	4.5-34 Implement MM 4.5-34 identified for the Base Project above	LS
4.5-35 Impacts to existing transit services.			
Base Project	PS	4.5-35 Prior to issuance of building permits, the applicant shall submit to the City Engineer, for review and approval, the proposed project's construction traffic management plan, as discussed in Mitigation Measure 4.5-13. The plan should include a provision that the project applicant notify and coordinate construction activities along Pennsylvania Avenue with the Fairfield/Suisun Transit System.	LS
Alternative 1	PS	4.5-35 Implement MM 4.5-35 identified for the Base Project above	LS
Alternative 2	PS	4.5-35 Implement MM 4.5-35 identified for the Base Project above	LS
4.5-36 Impacts that would interfere with planned transit services.			

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Base Project	LS	4.5-36 None Required	N/A
Alternative 1	LS	4.5-36 None Required	N/A
Alternative 2	LS	4.5-36 None Required	N/A
4.5-37 Impacts related to project conflicts or inconsistencies with adopted transit system plans, guidelines, policies, or standards.			
Base Project	NI	4.5-37 None Required	N/A
Alternative 1	NI	4.5-37 None Required	N/A
Alternative 2	NI	4.5-37 None Required	N/A
4.5-38 Impacts related to the demand for public transit services above capacity.			
Base Project	LS	4.5-38 None Required	N/A
Alternative 1	LS	4.5-38 None Required	N/A
Alternative 2	LS	4.5-38 None Required	N/A
4.5-39 Impacts related to the disruption of existing bicycle facilities.			
Base Project	NI	4.5-39 None Required	N/A
Alternative 1	NI	4.5-39 None Required	N/A
Alternative 2	NI	4.5-39 None Required	N/A
4.5-40 Impacts related to interference with planned bicycle facilities.			
Base Project	NI	4.5-40 None Required	N/A
Alternative 1	NI	4.5-40 None Required	N/A
Alternative 2	NI	4.5-40 None Required	N/A
4.5-41 Impacts related to project conflicts or inconsistencies with adopted bicycle system plans, guidelines, policies, or standards.			

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Base Project	PS	4.5-41 Prior to issuance of building permits, the applicant shall submit to the City Engineer, for review and approval, revisions to the site plans to indicate bicycle facilities. Possible options would include an off-street path along Pennsylvania Avenue or including in-street bicycle lanes on Pennsylvania Avenue and Cordelia Road.	LS
Alternative 1	PS	4.5-41 Implement MM 4.5-41 identified for the Base Project above	LS
Alternative 2	PS	4.5-41 Implement MM 4.5-41 identified for the Base Project above	LS
4.5-42 Impacts related to the disruption of existing pedestrian facilities.			
Base Project	NI	4.5-42 None Required	N/A
Alternative 1	NI	4.5-42 None Required	N/A
Alternative 2	NI	4.5-42 None Required	N/A
4.5-43 Impacts related to interference with planned pedestrian facilities.			
Base Project	NI	4.5-43 None Required	N/A
Alternative 1	NI	4.5-43 None Required	N/A
Alternative 2	NI	4.5-43 None Required	N/A
4.5-44 Impacts related to project conflicts or inconsistencies with adopted pedestrian system plans, guidelines, policies, or standards.			

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Base Project	PS	4.5-44 <i>Prior to issuance of building permits, the applicant shall submit to the City Engineer, for review and approval, revisions to the project site plans to include pedestrian facilities on Pennsylvania Avenue.</i>	LS
Alternative 1	PS	4.5-44 <i>Implement MM 4.5-44 identified for the Base Project above</i>	LS
Alternative 2	PS	4.5-44 <i>Implement MM 4.5-44 identified for the Base Project above</i>	LS
4.5-45 Impacts related to on-site circulation and access.			
Base Project	PS	4.5-45 <i>Prior to issuance of building permits, the applicant shall submit to the City Engineer, for review and approval, revisions to the project site plans to include traffic control devices on internal roadways. Concurrently, the applicant shall revise the project site plan to provide the necessary turn lanes at the major internal intersection, project driveways, and to provide at least 150 feet of separation between driveways along the internal roadway.</i>	LS
Alternative 1	PS	4.5-45 <i>Implement MM 4.5-45 identified for the Base Project above</i>	LS
Alternative 2	PS	4.5-45 <i>Implement MM 4.5-45 identified for the Base Project above</i>	LS

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4.5-46 Impacts related to on-site parking for vehicles.			
Base Project	NI	4.5-46 <i>None Required</i>	N/A
Alternative 1	NI	4.5-46 <i>None Required</i>	N/A
Alternative 2	NI	4.5-46 <i>None Required</i>	N/A
4.5-47 Impacts related to on-site parking for bicycles.			
Base Project	PS	4.5-47 <i>Prior to issuance of building permit, the applicant shall submit to the City Engineer, for review and approval, revisions to the project site plans to include bicycle parking facilities.</i>	LS
Alternative 1	PS	4.5-47 <i>Implement MM 4.5-47 identified for the Base Project above</i>	LS
Alternative 2	PS	4.5-47 <i>Implement MM 4.5-47 identified for the Base Project above</i>	LS
4.5-48 Impacts related to on-site and off-site pedestrian connections.			
Base Project	PS	4.5-48 <i>Prior to issuance of building permits, the applicant shall submit to the City Engineer, for review and approval, revisions of the project site plans to indicated pedestrian connections to adjacent streets with a focus on Pennsylvania Avenue.</i>	LS
Alternative 1	PS	4.5-48 <i>Implement MM 4.5-48 identified for the Base Project above</i>	LS

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Alternative 2	PS	4.5-48 <i>Implement MM 4.5-48 identified for the Base Project above</i>	LS
4.5-49 Impacts related to delivery vehicle access and circulation.			
Base Project	LS	4.5-49 <i>None Required</i>	N/A
Alternative 1	LS	4.5-49 <i>None Required</i>	N/A
Alternative 2	LS	4.5-49 <i>None Required</i>	N/A
4.5-50 Impacts related to access management standards.			
Base Project	PS	4.5-50 <i>Prior to issuance of building permits the applicant shall submit to City Engineer, for review and approval, revisions to the project site plans to indicate any applicable restrictions on visually obstructive signage and landscaping at driveway locations.</i>	LS
Alternative 1	PS	4.5-50 <i>Implement MM 4.5-50 identified for the Base Project above</i>	LS
Alternative 2	PS	4.5-50 <i>Implement MM 4.5-50 identified for the Base Project above</i>	LS
Biological Resources			
4.6-1 Impacts to Annual Grassland Habitat.			
Base Project	LS	4.6-1 <i>None Required</i>	N/A
Alternative 1	LS	4.6-1 <i>None Required</i>	N/A

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Alternative 2	LS	4.6-1 None Required	N/A
4.6-2 Impacts to wetlands within the project area.			
Base Project	PS	<p>4.6-2(a) Prior to the issuance of grading permits, the project applicant shall provide a detailed preliminary wetland delineation assessment for all areas that were not part of the verified wetland delineation proposed for development. The preliminary wetland assessment shall indicate the presence of wetlands potentially under state or federal jurisdiction, as well as Corps verification of wetland delineations for any wetlands subject to federal jurisdiction.</p> <p>4.6-2(b) Prior to the issuance of grading permits, the project applicant shall obtain a 404 permit(CWA) from the Corps. If a 404 permit is obtained, the applicant must also obtain a water quality certification from RWQCB under Section 401 of the CWA.</p>	LS

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		<p>4.6-2(c) <i>Prior to the issuance of grading permits, the project applicant shall compensate for the loss of wetland habitat to ensure no net loss of habitat functions and values. To mitigate for the direct loss of 35.72 acres of jurisdictional wetlands, the applicant shall create/restore wetlands at a ratio of 1:1 (1 acre created/restored for every acre lost) and the preservation of wetlands at a ratio of 2:1, either on the Tooby and Barnfield properties, or at a nearby location. Created/restored wetlands and preserved wetlands shall generally be in-kind for wetlands lost. In the event that the Corps, USFWS, or RWQCB, in granting approvals necessary to fill wetlands subject to federal and/or state jurisdiction, require ratios higher than those set forth in this measure, compliance with the 1:1 and 2:1 ratios set forth in this measure shall count as credit towards compliance with any such higher ratios imposed by the Corps or RWQCB.</i></p> <p><i>A detailed wetland mitigation plan shall be required that includes monitoring and reporting requirements, responsibilities, performance success criteria, and contingency requirements. Mitigation lands would be subject to a conservation easement and an agency</i></p>	

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		<p><i>approved long-term management plan. The conservation easement would ensure that the wetlands were protected in perpetuity. The wetland mitigation plans would require approval by the City, the Corps, and the RWQCB.</i></p> <p><i>Alternately, with Corps and RWQCB approval, the applicant can satisfy the wetland mitigation requirement in part, or in full, by purchasing wetland creation/restoration credits at a 1.5:1 ratio and preservation credits at a 2:1 ratio at an approved wetland mitigation bank.</i></p> <p><i>4.6-2(d) Prior to the issuance of grading permits, the project applicant shall provide temporary fencing around all areas scheduled for development to provide an additional barrier for the unauthorized movement of people, pets, and wildlife associated with human development into the wetland areas and to keep sensitive species from entering the construction area. Fencing during construction will ensure that construction related disturbances such as soil compaction, fuel spills, and dust generation will not occur beyond the boundaries of the permanent riparian</i></p>	

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		<p><i>protection buffer. The location of the fencing shall be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications should include clear language that prohibits construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced area. This fencing will be replaced with permanent fencing as soon as it is practicable to do so. This fencing should be adequate to deter people and domestic animals from entering the property and have provisions for maintenance. Signage should be provided, directing people to keep out of natural areas and mitigation sites. In addition, the project applicant shall be required to post signage stating that dogs, horses, and off-road vehicles are not permitted in these areas and will take all necessary measures to physically prevent them from entering. The fence will impede wildlife movement into the developed area, which is a desirable effect, as wildlife moving into the developed area would likely be killed by domestic pets or vehicle traffic. Additionally, there will be no suitable habitat or refuge for them in the developed area therefore in this case a barrier to movement is</i></p>	

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		<p><i>beneficial. Barriers to movement are negative when they restrict movement among/between areas with suitable habitats and/or viable populations.</i></p> <p><i>4.6.2(e) Prior to the issuance of a grading permit, the project applicant shall provide an unmowed buffer having a minimum average width of 25 feet along the north boundary of Planning Area 3 where wetlands occur adjacent to the boundary, to avoid potential indirect impacts to the alkali seasonal marsh adjacent to the northern boundary of Planning Area 3.</i></p> <p><i>Alternatively, if the unmowed buffer is not feasible, wetlands within 25 feet of the northern boundary of Planning Area 3 would be considered indirectly impacted, and would require mitigation at a 1:1 ratio. Approximately 0.29 acre of alkali seasonal marsh lies within this 25-foot buffer area on the northern border and would require mitigation if indirectly impacted.</i></p> <p><i>4.6.2(f) Prior to the issuance of grading permits, the project applicant shall indicate on the improvement plans, a minimum 25-foot buffer from the perennial brackish</i></p>	

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		<p><i>marsh drainage ditch at the eastern boundary of Planning Area 3. In addition to the 25-foot unmowed buffer, the fire department may require a 30-foot mowed firebreak adjacent to the residential fence line.</i></p> <p>4.6.2(g) <i>To avoid impacts to wetlands and special status plants outside of the Mixed-Use Site, the applicant will provide construction worker training and exclusionary fencing near wetlands and Contra Costa goldfield populations adjacent to the work zone.</i></p>	
Alternative 1	PS	4.6-2 <i>Implement MM 4.6-2 identified for the Base Project above</i>	LS
Alternative 2	PS	4.6-2 <i>Implement MM 4.6-2 identified for the Base Project above</i>	LS
4.6-3 Impacts to vernal pools located within the proposed project site.			
Base Project	PS	<p>4.6-3(a) <i>Implement mitigation measures 4.6-2(a) through 4.6-2(d).</i></p> <p>4.6.3(b) <i>Prior to the issuance of a grading permit, the project applicant shall indicate on the improvement plans, a minimum buffer of 250 feet from the vernal pool located north of Planning Area 3.</i></p>	LS

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		<p><i>Alternatively, if the unmowed buffer is not feasible, vernal pools within 250 feet of the northern boundary of Planning Area 3 would be considered indirectly impacted, and would require mitigation at a 1:1 ratio.</i></p> <p><i>4.6-3(d) Implement mitigation measure 4.6-11(a-f).</i></p>	
Alternative 1	PS	<i>4.6-3 Implement MM 4.6-3 identified for the Base Project above</i>	LS
Alternative 2	PS	<i>4.6-3 Implement MM 4.6-3 identified for the Base Project above</i>	LS
4.6-4 Impacts to riparian habitat.			
Base Project	PS	<p><i>4.6-4 (a) Prior to the issuance of a grading permit, the project applicant shall indicate on the improvement plans, a buffer that shall be set back on average 50 feet from the top of the bank or outside edge of riparian vegetation within Ledgewood Creek and Planning Area 2, whichever distance is greater.</i></p> <p><i>4.6-4 (b) In addition to maintaining a riparian protection buffer average of 50 feet from the top of the bank or outside edge of riparian vegetation, the project applicant shall also install temporary fencing along the boundary of the riparian protection zone adjacent to construction</i></p>	LS

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		<p><i>activities during the construction of the project in the vicinity of the riparian area in Planning Areas 1 and 2, prior to the issuance of grading permits. Fencing during construction would ensure that construction related disturbances such as soil compaction, fuel spills, and dust generation will occur beyond the boundaries of the permanent riparian protection buffer. The location of the fencing shall be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications should include clear language that prohibits construction-related activities vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced area. Furthermore, signs and necessary fencing shall be constructed directing people to keep out of natural areas and mitigation sites, prior to obtaining any permits. In addition, the project applicant shall be required to post signage stating that dogs, horses, and off-road vehicles are not permitted in these areas and will take all necessary measures to physically prevent them from entering them.</i></p> <p><i>4.6-4 (c) Prior to the issuance of grading permits, the project</i></p>	

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		<p><i>applicant shall install permanent fencing within Planning Areas 1 and 2 to avoid intrusion into the adjacent riparian areas. The fence shall be placed along the riparian setback (50-feet from top of bank or outside edge of riparian vegetation). This fencing should be adequate to deter people and domestic animals from entering the property and have provisions for maintenance. The existing permanent fencing may be sufficient for this purpose. In addition, prior to obtaining any permits, signs and if necessary fencing shall be constructed directing people to keep out of natural areas and mitigation sites. In addition, the project applicant shall be required to post signage stating that dogs, horses, and off-road vehicles are not permitted in these areas and to take all necessary measures to physically prevent them from entering them.</i></p> <p><i>4.6-4(d) Implement mitigation measure 4.6-2(c).</i></p> <p><i>4.6-4 (e) Prior to any construction activities, the project applicant shall consult with the Community Development Director to develop Best Management Practices (BMPs) to prevent erosion, blowing dust, and increased</i></p>	

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		<p><i>sedimentation for the proposed project. The proposed project shall comply with all designed and implemented Best Management Practices. Examples of these BMP's are described in the California Stormwater Quality Association (CASWQA)'s California Stormwater Best Management Practice Handbook: New Development and Redevelopment (CASWQA 2003).</i></p> <p><i>4.6-4(f) All fueling and maintenance of vehicles and other equipment as well as locations of staging areas shall occur at least 75 feet from any riparian area proposed to be preserved (including those adjacent to the western boundaries of Planning Areas 1 and 2) and other wetlands proposed to be preserved (wetlands not within the mixed-use site). All workers shall be informed, by the project contractor, of the importance of preventing spills and of the appropriate measures to take should a spill occur.</i></p> <p><i>4.6-4(g) The number of access routes, and number and size of staging areas shall be limited to the minimum necessary to achieve the project goal. Routes and boundaries shall be clearly marked/flagged. These areas shall be outside</i></p>	

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		<p><i>of wetland areas and other sensitive areas proposed for preservation as determined by the Public Works Director.</i></p> <p><i>4.6-4(h) Food, trash, and other solid wastes shall be disposed of in properly contained, covered refuse containers and regularly removed from the construction site. The project contractor shall be responsible for the above requirements during the full length of project construction.</i></p>	
Alternative 1	PS	<i>4.6-4 Implement MM 4.6-4 identified for the Base Project above</i>	LS
Alternative 2	PS	<i>4.6-4 Implement MM 4.6-4 identified for the Base Project above</i>	LS
4.6-5 Impacts to loss of wildlife corridor.			
Base Project	LS	<i>4.6-5 None Required</i>	N/A
Alternative 1	LS	<i>4.6-5 None Required</i>	N/A
Alternative 2	LS	<i>4.6-5 None Required</i>	N/A
4.6-6 General Impacts to Special-Status Plant Species.			
Base Project	PS	<i>4.6-6(a) Prior to construction, surveys for special-status plant species shall be undertaken in areas not previously surveyed, if development is proposed to occur in suitable</i>	LS

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**TABLE 2-1
 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
		<i>habitat for special-status plant species. If additional locations of species are identified in these surveys, mitigation for those species shall be implemented as indicated below. Although not anticipated, if special-status species not discussed under impacts 4.6-7 through 4.6-10, are found then mitigation in the form of on-site protection, transplantation, or through purchasing mitigation credits in an authorized mitigation bank may be used to off-set impacts as necessary., as applicable for federally listed or state listed species (or state Species of Special Concern), respectively.</i>	
Alternative 1	PS	4.6-6 <i>Implement MM 4.6-6 identified for the Base Project above</i>	LS
Alternative 2	PS	4.6-6 <i>Implement MM 4.6-6 identified for the Base Project above</i>	LS
4.6-7 Impacts to Contra Costa Goldfields.			
Base Project	PS	4.6-7(a) <i>In coordination with a botanist familiar with Contra Costa goldfields salvage and relocation programs, the applicant shall attempt to establish new populations of Contra Costa goldfields that result in a net increase in plant numbers and/or areal extent of occupied habitat(resulting in a net increase in habitat) based on</i>	LS

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 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
		<p><i>average populations derived from the 2000 – 2002 and 2005 surveys conducted by Vollmar Consulting. Establishing new populations may be accomplished by collecting seed from existing populations and salvaging seed and topsoil from occupied wetlands within the impacted area. The restored or new Contra Costa goldfields populations may be established in constructed/restored and existing enhanced wetlands. A plan for the relocation and monitoring efforts shall be coordinated with the U. S. Fish and Wildlife Service.</i></p> <p><i>4.6-7(b) The applicant shall preserve potential Contra Costa goldfields habitat at a ratio of 2:1 either on the Tooby and Barnfield property or at a nearby site (2 acres preserved for each acre lost) with the same general type of wetlands habitat as is found within the impacted site. The USFWS shall be consulted to determine the suitability of the preservation area to support Contra Costa Goldfields. This 71.44-acre wetland preservation area shall be protected in perpetuity by a conservation easement.</i></p>	
Alternative 1	PS	4.6-7 Implement MM 4.6-7 identified for the Base Project above	LS

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 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
Alternative 2	PS	4.6-7 <i>Implement MM 4.6-7 identified for the Base Project above</i>	LS
4.6-8 Impacts to Alkali Milk-Vetch.			
Base Project	PS	4.6-8 <i>The preservation of seasonally saturated annual grassland habitat within the wetland habitat complex provided on the Barnfield property or other site as partial mitigation for the loss of potential habitat for the Contra Costa goldfields (MM 4.6-7(a) and 4.6-7(b)) would also serve as mitigation for the loss of potential alkali milk-vetch habitat. The preservation area shall be protected in perpetuity by a conservation easement. It should be noted that a salvage and relocation program is not considered a feasible mitigation measure for the alkali milk-vetch.</i>	SU
Alternative 1	PS	4.6-8 <i>Implement MM 4.6-8 identified for the Base Project above</i>	SU
Alternative 2	PS	4.6-8 <i>Implement MM 4.6-8 identified for the Base Project above</i>	SU
4.6-9 Impacts to Saline Clover.			
Base Project	PS	4.6-9(a) <i>In coordination with a botanist familiar with salvage and relocation programs, the applicant shall attempt to establish new populations of saline clover that result in a net increase in plant numbers and/or occupied available</i>	LS

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 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
		<p><i>habitat. Reestablishment shall be accomplished through collection of seed from extant populations and salvage of seed and top soil from occupied wetlands within the impacted area. The restored or new saline clover populations may be established in constructed/restored and enhanced wetlands.</i></p> <p><i>4.6-9(b) The preservation of vernal pool, seasonally saturated annual grassland habitat, and alkali seasonal marsh on the Barnfield property or other nearby site as determined by USFWS as partial mitigation for the loss of potential habitat for Contra Costa goldfields (MM 4.6-7(a) and 4.6-7(b)), would also serve as mitigation for loss of potential saline clover habitat. A conservation easement shall be placed on this preservation area and it shall be protected in perpetuity.</i></p>	
Alternative 1	PS	<i>4.6-9 Implement MM 4.6-9 identified for the Base Project above</i>	LS
Alternative 2	PS	<i>4.6-9 Implement MM 4.6-9 identified for the Base Project above</i>	LS
4.6-10 Impacts to Suisun Marsh Aster.			
Base Project	PS	<i>4.6-10 Implement Mitigation Measure 4.6-2(f).</i>	LS

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<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
Alternative 1	PS	4.6-10 Implement MM 4.6-10 identified for the Base Project above	LS
Alternative 2	PS	4.6-10 Implement MM 4.6-10 identified for the Base Project above	LS
4.6-11 Impacts to Vernal Pool Habitat and Crustaceans.			
Base Project	PS	<p>4.6-11(a) Prior to the issuance of a grading permit, the project applicant shall coordinate with the U.S. Fish and Wildlife Service to obtain approval for updated protocol-level surveys in 2006 for vernal pool crustaceans on the project site to fulfill any additional survey requirements of the USFWS.</p> <p>If two consecutive protocol-level surveys are conducted and completed in accordance with USFWS Interim Survey Guidelines and the results are negative, no further mitigation is required.</p> <p>If survey results indicate the presence of listed vernal pool crustaceans, mitigation measures 4.6-11(b-f) shall be implemented, subject to approval of the USFWS, through the consultation process under Section 7 of the Endangered Species Act. The consultation with the USFWS shall be initiated by the Corps as part of the</p>	LS

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<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
		<p><i>Corps permit process under Section 404 of the Clean Water Act.</i></p> <p><i>4.6-11(b) For every acre of habitat directly or indirectly impacted, at least two vernal pool credits shall be dedicated within a USFWS approved ecosystem preservation bank, or, based on USFWS evaluation of site-specific conservation values, 2 acres of vernal pool habitat may be preserved within the project area.</i></p> <p><i>4.6-11(c) For every acre of habitat directly impacted, at least one vernal pool creation credit shall be dedicated within a USFWS approved habitat mitigation bank, or, based on Service evaluation of site-specific conservation values, one acre of vernal pool habitat will be created and monitored within the project area as approved by the USFWS.</i></p> <p><i>4.6-11(d) Vernal pool habitat and associated upland habitat used as on-site mitigation shall be protected from adverse impacts and managed in perpetuity or until the Corps, the applicant and the USFWS agree on a process to exchange such area for credits within a USFWS-</i></p>	

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<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
		<p><i>approved mitigation banking system.</i></p> <p><i>4.6-11(e) If habitat is avoided (preserved) on-site, then a USFWS-approved biological monitor will inspect any construction-related activities at the project site to ensure that no unnecessary take of listed species or destruction of their habitat occurs.</i></p> <p><i>4.6-11(f) Fencing shall be placed and maintained around any avoided (preserved) vernal pool habitat to prevent impacts from vehicles.</i></p>	
Alternative 1	PS	<i>4.6-11 Implement MM 4.6-11 identified for the Base Project above</i>	LS
Alternative 2	PS	<i>4.6-11 Implement MM 4.6-11 identified for the Base Project above</i>	LS
4.6-12 Impacts to California Tiger Salamander.			
Base Project	PS	<i>4.6-12(a) If the Corps and USFWS determine that protocol-level surveys are necessary, then prior to the issuance of a grading permit the project applicant shall have a qualified, permitted biologist conduct protocol-level surveys in area subject to development for California Tiger Salamander according protocols (USFWS & CDFG 2003). If the survey results are negative, no</i>	LS

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		<p><i>further mitigation measures will be necessary.</i></p> <p><i>4.6-12(b) If California Tiger Salamanders are detected on the project site during protocol-level surveys, the project applicant shall consult with the USFWS and CDFG regarding appropriate measures to mitigate any potential impacts. These measures may include:</i></p> <ul style="list-style-type: none"> <i>• Conduct preconstruction surveys to find individuals and relocate them prior to ground disturbance activities;</i> <i>• Set up construction zone limits using silt fencing to restrict salamander access onto construction areas;</i> <i>• Mark exclusion areas with signs that identify protected habitat;</i> <i>• Provide a qualified Biological Monitor during construction within potential California tiger salamander habitat;</i> <i>• Find and relocate individuals prior to ground disturbance activities, and relocate to safe areas outside the construction zone limits.</i> 	

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Alternative 1	PS	4.6-12 Implement MM 4.6-12 identified for the Base Project above	LS
Alternative 2	PS	4.6-12 Implement MM 4.6-12 identified for the Base Project above	LS
4.6-13 Impacts to nesting populations of state and federal species of concern.			
Base Project	PS	<p>4.6-13(a) <i>If construction activities are scheduled to occur during the breeding season (between February 1 and August 1), a qualified ornithologist shall conduct preconstruction surveys of all potentially active nest sites within 0.25 mile of the project site for the species listed above to ensure impacts to these species do not occur during the nesting season. The preconstruction surveys shall be conducted prior to the issuance of grading permit and shall be submitted to the Community Development Director. The presence of nests of these species may require delay of construction until young have fledged.</i></p> <p><i>Surveys would not be required if construction activities are scheduled to occur during the non-nesting season. Clearing and grubbing and grading the project site during the non-nesting season would help to reduce the potential for nesting birds. Furthermore, mitigation would not be required if surveys indicate that nests are</i></p>	LS

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		<p><i>inactive or potential habitat is unoccupied during the construction period.</i></p> <p><i>4.6-13 (b) If active nests are found and construction activities are scheduled to occur during the breeding season (February 1 – August 1), the project applicant shall establish buffers around active nests until a biologist determines that young have fledged. Buffers for raptors shall have a 300-foot radius; buffers for the migratory birds listed above should have a radius of 50 feet.</i></p> <p><i>The size of individual buffers can be adjusted based on an evaluation of the project site by a qualified biologist. The evaluation would include identifying topographic features that obstruct the line of site from construction activities to the nest and observing the sensitivity of the nesting pair to construction activities (road traffic for example). Evaluations and buffer adjustments should be done in consultation with appropriate resource agencies (CDFG, USFWS). No construction activities shall occur within the approved buffer unless resource agencies allow specified construction activities based on site-specific conditions and the particular species in question</i></p>	

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<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
		<i>If construction activities occur only during the non-breeding season (between August 1 and February 1), no surveys would be conducted and no buffers would be required.</i>	
Alternative 1	PS	4.6-13 <i>Implement MM 4.6-13 identified for the Base Project above</i>	LS
Alternative 2	PS	4.6-13 <i>Implement MM 4.6-13 identified for the Base Project above</i>	LS
4.6-14 Impacts to Burrowing Owls.			
Base Project	PS	4.6-14(a) <i>The Staff Report on Burrowing Owl Mitigation, published by CDFG (1995), recommends pre-construction surveys shall be conducted to locate active burrowing owl burrows. Prior to issuance of grading permits, this preconstruction survey shall be conducted by a qualified biologist or ornithologist during both the wintering and nesting season, unless the species is detected on the first survey. If possible, the winter survey shall be conducted between December 1 and January 31 (when wintering owls are most likely to be present) and the nesting season survey should be conducted between April 15 and July 15 (the peak of breeding season). Surveys conducted from two hours before sunset to one hour after, or from one hour before to two hours after sunrise, are preferable.</i>	LS

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		<p><i>The survey techniques shall be consistent with the Staff Report survey protocol and include a 260-foot-wide buffer zone surrounding the project area. Repeat surveys should also be conducted not more than 30 days prior to initial ground disturbance to inspect for re-occupation and the need for additional protection measures. The survey(s) shall be paid by the applicant and approved by the City.</i></p> <p><i>4.6-14(b) Occupied burrows shall not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist approved by the Department verifies through non-invasive methods that either: (1) the birds have not begun egg-laying and incubation; or (2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.</i></p> <p><i>4.6-14(c) Occupied burrows shall not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist approved by the Community Development Director verifies through non-invasive methods that either: (1) the birds have not begun egg-laying and incubation; or (2) that juveniles from the</i></p>	

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		<p><i>occupied burrows are foraging independently and are capable of independent survival.</i></p> <p><i>4.6-14(d) If destruction of occupied burrows is unavoidable, during the non-breeding season, existing suitable burrows shall be enhanced or new burrows created at a ratio of 2:1 on the protected lands on-site or a site within a reasonable distance of the project area. If passive relocation of the owls is conducted, passive relocation techniques should be used, as described in the CDFG Staff Report.</i></p> <p><i>4.6-14(e) The project sponsor shall provide funding for long-term management and monitoring of the protected lands.</i></p>	
Alternative 1	PS	<i>4.6-14 Implement MM 4.6-14 identified for the Base Project above</i>	LS
Alternative 2	PS	<i>4.6-14 Implement MM 4.6-14 identified for the Base Project above</i>	LS
4.6-15 Impacts to Swainson's Hawk.			
Base Project	PS	<i>4.6-15(a) If construction occurs during the breeding season (March-September 15), the project proponent shall conduct CDFG-recommended protocol-level surveys prior to construction per the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in</i>	LS

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		<p><i>California's Central Valley (CDFG 2000b). The area to be surveyed shall include a 0.5-mile radius area including and surrounding the project site and a qualified biologist should conduct the surveys. If no active nests are found during the protocol-level surveys, no further mitigation shall be required. If active nests are found, mitigation measures consistent with the Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California (CDFG 1994) shall be incorporated in the following manner:</i></p> <ul style="list-style-type: none"> <li>• <i>No construction activities or other project-related activities that may cause nest abandonment or forced fledging, shall take place within 0.25 miles (buffer zone) of an active nest until the young have fledged. Weekly monitoring reports summarizing nest activities shall be submitted to the City of Davis and CDFG until the young have fledged and the nest is determined to be inactive.</i> <li>• <i>Nest trees shall not be removed unless there is no feasible way of avoiding it. If a nest tree must be removed, a Management Authorization (including</i> 	

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		<i>conditions to offset the loss of the nest tree) must be obtained from CDFG with the tree removal period specified in the management Authorization, generally between October 1 and February 1.</i>	
Alternative 1	PS	4.6-15 <i>Implement MM 4.6-15 identified for the Base Project above</i>	LS
Alternative 2	PS	4.6-15 <i>Implement MM 4.6-15 identified for the Base Project above</i>	LS
4.6-16 Impacts to Black Rail, Clapper Rail, and Salt Marsh Harvest Mouse.			
Base Project	PS	4.6-16(a) <i>Implement Mitigation Measure 4.6-2 (d) and (e).</i> 4.6-16(b) <i>The existing culvert and slough channel that flows between the Tooby and Barnfield properties under Cordelia Road and the UPRR Railroad shall be maintained and not blocked or hindered by any project activities. Any future modifications of this culvert or Cordelia Road between the eastern boundary of the project site and the eastern boundary of the intersection of Cordelia Road and Pennsylvania Avenue shall be designed to avoid impacts or mitigate any impacts to movement of this species, for review and approval of the Public Works Director.</i> 4.6-16(c) <i>The Wetland Mitigation Plan, required in Mitigation</i>	LS

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		<p><i>Measure 4.6-2(c) shall include components for providing either natural or artificial high water refuges in areas subject to complete inundation in a high water event.</i></p> <p><i>4.6-16(d) The applicant shall submit a plan, prior to initial occupancy, for review and approval of the Community Development Director, which shall include:</i></p> <ul style="list-style-type: none"> <i>• Appropriate waste disposal procedures shall be adopted and enforced in the commercial and residential development of Planning Area 1-3 (i.e., all garbage will need to be placed in cans with lids) and regularly cleaned from adjacent parking areas.</i> <i>• Trees and shrubs that produce nuts or edible fruits shall be prohibited in the commercial and residential development of Planning Area 1-3 landscaping plan because they can provide forage for crows.</i> <i>• Landscape trees in the commercial and residential development of Planning Area 1-3 shall be ones that are relatively short at maturity, with sparse, spindly branches.</i> <i>• Buildings shall not provide sheltered perch sites or shall</i> 	

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		<p><i>have such sites covered with anti-perching materials to discourage crows and ravens from roosting.</i></p> <p><i>4.6-16(e) Prior to construction activities areas supporting potential habitat including areas of brackish marsh a qualified biologist in coordination with the USFWS shall conduct trapping surveys within the marsh. Pending approval by the USFWS all individuals captured shall be re-located to nearby habitat on the Barnfield or Tooby properties that is to be preserved in perpetuity.</i></p> <p><i>4.6-16(f) A qualified biologist shall monitor construction activities when they are scheduled to occur within brackish marsh habitat. They shall inspect the site prior to work and be present during work. If a salt marsh harvest mouse is detected, work activities shall stop until the mouse is captured and removed from the work area to nearby habitat on the Barnfield or Tooby properties that is to be preserved in perpetuity.</i></p>	
Alternative 1	PS	4.6-16 Implement MM 4.6-16 identified for the Base Project above	LS
Alternative 2	PS	4.6-16 Implement MM 4.6-16 identified for the Base Project above	LS

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4.6-17 Impacts to Suisun Shrew.			
Base Project	PS	4.6-17 Implement mitigation measures 4.6-2(d), 4.6-5(a), 4.6-16(a-d).	LS
Alternative 1	PS	4.6-17 Implement MM 4.6-17 identified for the Base Project above	LS
Alternative 2	PS	4.6-17 Implement MM 4.6-17 identified for the Base Project above	LS
4.6-18 Cumulative Impacts.			
Base Project	PS	4.6-18 Implement Mitigation Measures 4.6-2 to 4.6-4 and 4.6-6 to 4.6-17.	SU
Alternative 1	PS	4.6-18 Implement MM 4.6-18 identified for the Base Project above	SU
Alternative 2	PS	4.6-18 Implement MM 4.6-18 identified for the Base Project above	SU

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4.7 Hydrology and Water Quality			
4.7-1 Impact to the Existing Drainage from increased stormwater run-off.			
Base Project	PS	<i>4.7-1 Prior to the issuance of grading permits, the developer shall submit to the City Engineer for review and approval a final design-level hydrology study for the on-site drainage and detention basins prepared by a registered Civil Engineer (State of California), including but not limited to basin capacity and basin depth.</i>	LS
Alternative 1	PS	<i>4.7-1 Implement MM 4.7-1 identified for the Base Project above</i>	LS
Alternative 2	PS	<i>4.7-1 Implement MM 4.7-1 identified for the Base Project above</i>	LS
4.7-2 Placement of structures with a 100-year floodplain potentially impeding flood flows and exposing people/structures to loss, injury, or death involving flooding.			
Base Project	PS	<i>4.7-2 Prior to issuance of any grading permits, in accordance with FEMA standards, all building pad elevations shall be designed to be at least one-foot above the 100-year flood plain or drainage release path (100-year flood elevation), whichever is greater, and the applicant shall submit to the City Engineer a CLOMR obtained for the proposed project.</i>	LS

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Alternative 1	PS	4.7-2 <i>Implement MM 4.7-2 identified for the Base Project above</i>	LS
Alternative 2	PS	4.7-2 <i>Implement MM 4.7-2 identified for the Base Project above</i>	LS
4.7-3 Degradation of water quality.			
Base Project	PS	<p>4.7-3(a) <i>Prior to occupancy, the project applicant shall produce an operational stormwater quality monitoring plan for review and approval of the City Engineer. The monitoring plan shall include but not be limited to monitoring locations, intervals, and duration. Should the monitoring show that the applicable water quality standards are not being met, additional BMPs shall be added, such as fossil filters with filter media on inlet structures, as approved by the City Engineer to meet applicable water quality standards. However, should monitoring show stormwater quality to meet the applicable water quality standards for two consecutive wet seasons, further monitoring would not be required with the approval of the City Engineer.</i></p> <p>4.7-3(b) <i>Prior to issuance of grading permits, the applicant shall obtain applicable NPDES permits from the San Francisco Bay Regional Water Quality Control Board</i></p>	LS

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**TABLE 2-1
 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
		<i>and comply with all applicable programs.</i>	
Alternative 1	PS	<i>4.7-3 Implement MM 4.7-3 identified for the Base Project above</i>	LS
Alternative 2	PS	<i>4.7-3 Implement MM 4.7-3 identified for the Base Project above</i>	LS
4.7-4 Long-term increased stormwater drainage into the existing drainage system.			
Base Project	LS	<i>4.7-4 None Required</i>	N/A
Alternative 1	LS	<i>4.7-4 None Required</i>	N/A
Alternative 2	LS	<i>4.7-4 None Required</i>	N/A
4.7-5 Long-term degradation of water quality.			
Base Project	PS	<i>4.7-5 Implement Mitigation Measure 4.7-3.</i>	LS
Alternative 1	PS	<i>4.7-5 Implement MM 4.7-5 identified for the Base Project above</i>	LS
Alternative 2	PS	<i>4.7-5 Implement MM 4.7-5 identified for the Base Project above</i>	LS
Public Services and Utilities			
4.8-1 Impact to existing water supply and distribution facilities			
Base Project	LS	<i>4.8-1 None Required</i>	N/A
Alternative 1	LS	<i>4.8-1 None Required</i>	N/A
Alternative 2	LS	<i>4.8-1 None Required</i>	N/A

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**TABLE 2-1
 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
4.8-2 Increased demand for wastewater and sewer infrastructure.			
Base Project	LS	4.8-2 <i>None Required</i>	N/A
Alternative 1	LS	4.8-2 <i>None Required</i>	N/A
Alternative 2	LS	4.8-2 <i>None Required</i>	N/A
4.8-3 Adequate ratio of fire department personnel to residents.			
Base Project	PS	4.8-3 <i>Prior to the issuance of any building permits, the project applicant shall pay impact fees towards the construction of a new fire station as well as hiring additional personnel and acquiring needed equipment. The fee amount for the above shall be determined by the Suisun Fire Department and the City Manager.</i>	SU
Alternative 1	PS	4.8-3 <i>Implement MM 4.8-3 identified for the Base Project above</i>	SU
Alternative 2	PS	4.8-3 <i>Implement MM 4.8-3 identified for the Base Project above</i>	SU
4.8-4 Adequate ratio of law enforcement personnel to residents.			
Base Project	LS	4.8-4 <i>None Required</i>	N/A
Alternative 1	LS	4.8-4 <i>None Required</i>	N/A
Alternative 2	LS	4.8-4 <i>None Required</i>	N/A
4.8-5 Increased demand for solid waste disposal services.			
Base Project	LS	4.8-5 <i>None Required</i>	N/A
Alternative 1	LS	4.8-5 <i>None Required</i>	N/A

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**TABLE 2-1
 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
Alternative 2	LS	4.8-5 <i>None Required</i>	N/A
4.8-6 Increased demand for park and recreation services and facilities.			
Base Project	PS	4.8-6 <i>The developer shall dedicate parkland in accordance with the provisions of State law and city ordinances and/or pay associated Public Facilities Fees, which include Park Improvement Plan Fees. The City shall determine appropriate acreage or in-lieu fees in accordance with City Council Resolution No. 94-6, prior to approval of the Final Map(s).</i>	LS
Alternative 1	PS	4.8-6 <i>Implement MM 4.8-6 identified for the Base Project above</i>	LS
Alternative 2	PS	4.8-6 <i>Implement MM 4.8-6 identified for the Base Project above</i>	LS
4.8-7 Increased demand for library services and facilities.			
Base Project	LS	4.8-7 <i>None Required</i>	N/A
Alternative 1	LS	4.8-7 <i>None Required</i>	N/A
Alternative 2	LS	4.8-7 <i>None Required</i>	N/A
4.8-8 Impacts to school facilities.			
Base Project	PS	4.8-8 <i>Prior to approval of the Final Map(s), the developer shall pay fees to the Fairfield-Suisun Unified School District in accordance with the “per square-foot” fee in effect at the time of approval of Final Map(s).</i>	LS

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**TABLE 2-1
 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
Alternative 1	PS	4.8-8 <i>Implement MM 4.8-8 identified for the Base Project above</i>	LS
Alternative 2	PS	4.8-8 <i>Implement MM 4.8-8 identified for the Base Project above</i>	LS
4.8-9 Long-term impacts to public services and facilities from the proposed project in combination with existing and future developments in the Suisun area.			
Base Project	LS	4.8-9 <i>None Required</i>	N/A
Alternative 1	LS	4.8-9 <i>None Required</i>	N/A
Alternative 2	LS	4.8-9 <i>None Required</i>	N/A
4.9 Energy			
4.9-1 Project impacts concerning wasteful, inefficient, or unnecessary consumption of energy by residential, commercial, industrial, or public uses.			
Base Project	LS	4.9-1 <i>Prior to the issuance of any building permits for the commercial component of the development, the applicant shall demonstrate to the City Building Official that building plans comply with Title 24. In addition, measures beyond Title 24 shall be implemented to further increase energy efficiency. The proposed measures shall be reviewed and approved by the City Building Official. Such measures could include the use of skylights, energy-efficient HVAC units, solar-reflective roofing materials, energy-efficient lighting systems, and the reclamation of</i>	LS

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**TABLE 2-1
 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
		<i>the “heat of rejection” from refrigeration equipment to generate hot water, among other things.</i>	
Alternative 1	LS	<i>4.9-1 Implement MM 4.9-1 identified for the Base Project above</i>	LS
Alternative 2	LS	<i>4.9-1 Implement MM 4.9-1 identified for the Base Project above</i>	LS
4.9-2 Project-related construction of additional energy infrastructure facilities, the construction of which could cause significant environmental effects.			
Base Project	LS	<i>4.9-2 None Required</i>	N/A
Alternative 1	LS	<i>4.9-2 None Required</i>	N/A
Alternative 2	LS	<i>4.9-2 None Required</i>	N/A
4.9-3 Impacts related to increased energy consumption from the proposed project in combination with other foreseeable projects in the region.			
Base Project	LS	<i>4.9-3 None Required</i>	N/A
Alternative 1	LS	<i>4.9-3 None Required</i>	N/A
Alternative 2	LS	<i>4.9-3 None Required</i>	N/A
4.10 Socio-Economic			
4.10-1 The proposed project’s apparel, general merchandise, food stores, eating and drinking places, and “other retail stores” competition with existing businesses in the primary and secondary market area and the project’s potential to result in urban decay.			
Base Project	LS	<i>4.10-1 None Required</i>	N/A

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**TABLE 2-1
 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
Alternative 1	LS	4.10-1 None Required	N/A
Alternative 2	LS	4.10-1 None Required	N/A
4.10-2 Cumulative impacts to the primary market area leading to urban decay with additional retail sales which would compete with proposed retail project.			
Base Project	LS	4.10-2 None Required	N/A
Alternative 1	LS	4.10-2 None Required	N/A
Alternative 2	LS	4.10-2 None Required	N/A
Mitigation Measures Included in the Initial Study			
V. Cultural Resources			
Impacts to Cultural Resources(a-d)	PS	V-1 Prior to issuance of grading permits, the contractor shall submit plans to the Public Works Department for review and approval which indicate (via notation on the improvement plans) that if any historical e archaeological resources are encountered during site grading or other site work, all such work shall be halted immediately within the area of discovery and the contractor shall immediately notify the Public Works Department of the discovery. In such case, the City shall be required to retain the services of a qualified archaeologist for the purpose of formulating recommendations to the Public Works Director regarding possible strategies for recording, protecting, or curating the discovery as appropriate.	LS

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**TABLE 2-1
 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
		<p><i>Project personnel shall not collect cultural resources. The archaeologist shall be required to submit to the Public Works Department for review and approval a report of the findings and a recommended method of curation or on-site protection of the resources. No further grading or site work within the area of discovery shall be allowed until the proceeding work has occurred. The Public Works Director shall impose any and all feasible means, considered in light of project design, to avoid any substantial adverse change in the significance of any archaeological find determined to constitute an “historical resource” within the meaning of CEQA Guidelines section 15064.5.</i></p> <p><i>V-2 Prior to the approval of improvement plans, the plans shall state that during construction, if bone is uncovered that may be human; the Native American Heritage Commission in Sacramento and the Solano County Coroner shall be notified. Should human remains be found, the Coroner’s office shall be immediately contacted and all work halted until final disposition by the Coroner. Should the remains be determined to be of Native American descent, the Native American Heritage Commission shall be consulted to</i></p>	

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 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
		<p><i>determine the appropriate disposition of such remains. The project proponent shall consider any recommendations resulting from such consultation to the extent required by CEQA Guidelines section 15064.5, subdivision (e) and the statutory provisions on which it is based.</i></p>	

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**TABLE 2-1
 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
VI. Geology and Soils			
Impacts related to geologic hazards (ai-iii,c).	PS	<i>VI-3 Prior to issuance of a grading permit, a design-level geotechnical report shall be prepared for the proposed project for the review of the Public Works Director. All grading and foundation plans for the development designed by the project Civil and Structural Engineer must be in accordance with the 2001 California Building Code, and reviewed and approved by the Public Works Director and Chief Building Official prior to issuance of building permits to ensure that all geotechnical recommendations specified in the geotechnical report are properly incorporated and utilized in design.</i>	LS
Impacts related to erosion(b).	PS	<i>VI-4 Prior to issuance of a building permit, the project developer shall submit, for the review and approval of the Public Works Director, an erosion control plan that will utilize standard construction practices to limit the erosion effects during construction of the proposed project. Measures could include, but are not limited to:</i> <ul style="list-style-type: none"> • <i>Hydro-seeding;</i> • <i>Placement of erosion control measures within drainageways and ahead of drop inlets;</i> • <i>The temporary lining (during construction</i> 	LS

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<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
		<p><i>activities) of drop inlets with “filter fabric” (a specific type of geotextile fabric);</i></p> <ul style="list-style-type: none"> <i>• The placement of straw wattles along slope contours;</i> <i>• Directing subcontractors to a single designation “wash-out” location (as opposed to allowing them to wash-out in any location they desire);</i> <i>• The use of siltation fences; and</i> <i>• The use of sediment basins and dust palliatives.</i> <p><i>VI-5 No grading, soil disturbance, or compaction shall occur during periods of rain or on ground which contains free water. Soil which has been soaked and wetted by rain or any other cause shall not be compacted until completely drained and until the moisture content is within the limits approved by the Public Works Director. Approval by the Public Works Director shall be obtained prior to continuing grading operations.</i></p>	
Impacts related to expansive soils(d).	PS	<i>VI-6 Implement Mitigation Measure VI-3.</i>	LS

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 SUMMARY OF IMPACTS AND MITIGATION MEASURES**

<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
VII. Hazards and Hazardous Materials			
Impacts related to the release of hazardous materials into the environment (b).	PS	<p>VII-7 <i>Prior to construction, representatives from the fuel line operators and a representative from the City's Public Works Department shall meet on the project site and prepare site-specific safety guidelines for construction in the field to the satisfaction of the Public Works Director. These guidelines shall include provisions relating to the identification and protection of existing gas and petroleum pipelines on the project site. The safety guidelines shall be noted on the improvement plans and be included in all construction contracts involving the project site.</i></p> <p>VII-8 <i>During construction, an on-site safety manager shall be designated to address any discovered release or accidental rupture of the pipeline(s), which might occur during construction. The on-site safety manager shall obtain and keep in a readily available location the emergency response plans of fuel line operators and the appropriate contact phone numbers for emergencies. This requirement shall be noted on the improvement plans and be included in all construction contracts for the review and approval of the Public Works Director.</i></p>	LS

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<i>Impact</i>	<i>Level of Significance prior to Mitigation</i>	<i>Mitigation Measures</i>	<i>Level of Significance after Mitigation</i>
		<p>VII-9 <i>Prior to construction, the City shall coordinate with PG&E to ensure that service from the pipelines within the project area is not affected.</i></p> <p>VII-10 <i>During construction of diversion pipes for the affected utilities, the project contractor shall apply Public Utilities Commission General Order 112-E.</i></p> <p>VII-11 <i>Prior to the construction, the project contractor shall coordinate with the Public Works Director in establishing a utilities relocation plan, which shall include methods to ensure the provision of utilities during construction of the project.</i></p> <p>VII-12 <i>Prior to the issuance of grading permits, the Applicant shall have a Phase I Environmental Site Assessment conducted by a qualified soils engineer for the Gentry-Suisun project site. Additional recommendations included in the Phase I and not addressed in Mitigation Measures VII-7 to VII-11 shall be incorporated into the project.</i></p>	

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Endnotes

¹ As used in this project description, the term “supercenter” is intended to refer to a retail tenant with a building size of approximately 200,000 square feet that will include grocery, general merchandise, and a garden center. A supercenter would presumably operate 7 days a week and up to 24 hours a day.

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3. PROJECT DESCRIPTION

3. PROJECT DESCRIPTION

INTRODUCTION

This section describes the components of the proposed Gentry-Suisun project. In addition to the project components, the background, location, project objectives, and required public approvals are provided.

PROJECT LOCATION/LAND USE

The project area consists of approximately 171.50 acres currently within the jurisdiction of Solano County and planned to be annexed to the City of Suisun City as part of the project (See Figure 3-1). An additional 321 acres located south of the project site is owned by the project applicant and is being considered as a potential off-site mitigation site for wetlands. Also, 5.11 acres of the project site is already inside the City limits and already zoned. The total project area is 497.61 acres. Located nearly 45 miles northeast of San Francisco and 45 miles southwest of the City of Sacramento, Solano County is bordered by Napa, Yolo, San Joaquin, and Contra Costa Counties and covers 823 square miles, about half of which lies in the Sacramento Valley.

The project site is located within the Suisun City Sphere of Influence (SOI). A small California community of 27,000 residents, Suisun City is situated in central Solano County. The City is located on the Suisun Channel, which connects with Suisun and Grizzly Bays and links the City with the Sacramento River and the San Francisco Bay. Although the northeast corner of the project site crosses into the Suisun City limits, the majority of the project area is located west of the Suisun City limits in the northwest corner of a junction in the Union Pacific Railroad (UPRR) tracks. Pennsylvania Avenue, south of State Route (SR) 12, diagonally transects the approximate center of the project area in a northeast/southwest direction (see Figure 3-2).

The surrounding areas of the project site are as follows:

To the North

- State Route 12 and residential and commercial uses beyond

To the Northwest

- Fairfield City limits and residential uses

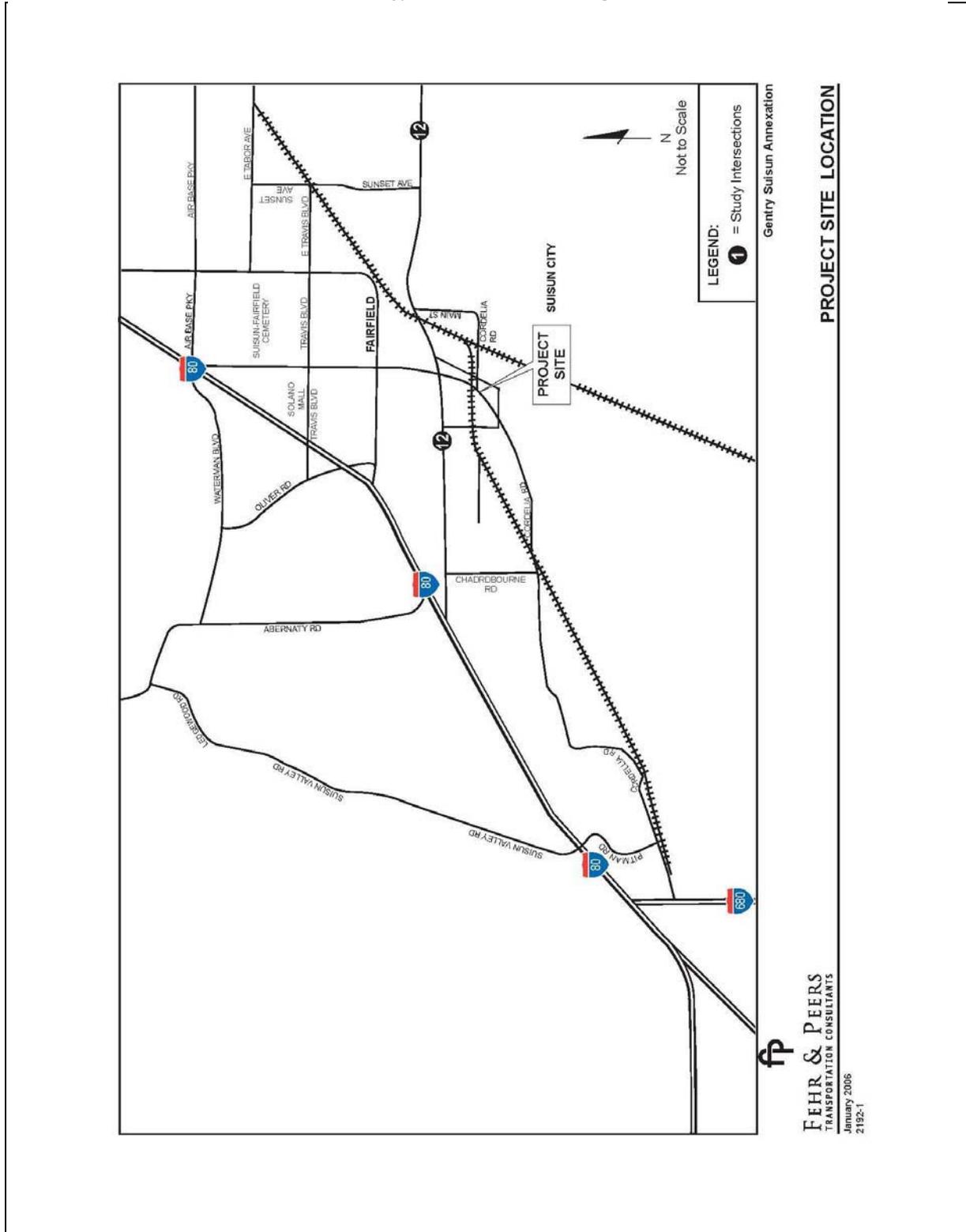
To the South

- UPRR tracks
- Pennsylvania Avenue intersects with Cordelia Road
- Cordelia Road (runs parallel to UPRR tracks)
- Agricultural lands and Suisun Marsh

To the Southwest

- UPRR tracks
- Cordelia Road at the southwestern corner and commercial uses

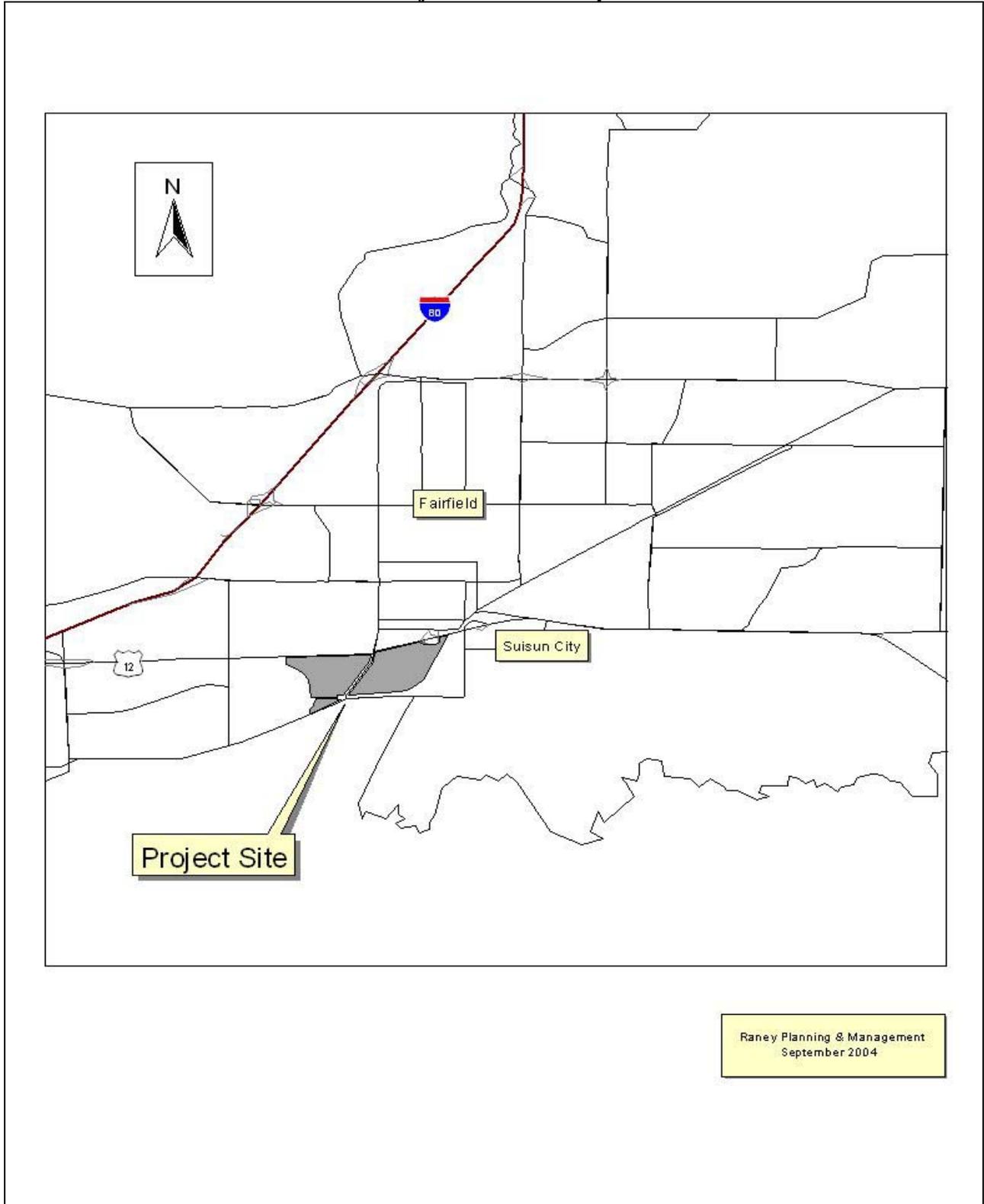
**Figure 3-1
 Regional Location Map**



fp
FEHR & PEERS
 TRANSPORTATION CONSULTANTS
 January 2006
 21132-1

PROJECT SITE LOCATION

**Figure 3-2
Project Location Map**



To the East

- UPRR tracks and the historic Suisun City downtown

To the West

- Ledgewood Creek and agricultural lands

Table 3-1 lists the Assessor's Parcels that comprise the project site and their associated acreages. Figure 3-3 shows the annexation areas of the project, and Figure 3-4 shows the Planning Areas designated for the project.

The project site is designated Agricultural land by the Solano County General Plan; however, the Solano County Important Farmland Map (2000) indicates that the project site is not Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. The portion of the project site west of Pennsylvania Avenue consists primarily of level, grazed fields dominated by introduced grasslands. Within the grasslands, five types of wetlands occur within the project site. These include Alkali Seasonal Marsh, Brackish Marsh, Seasonally Saturated Annual Grassland, Vernal Pool and Riparian wetland habitats. Approximately 36 acres of wetland habitat would be impacted by the proposed project. A small remnant of Ledgewood Creek exists in the southern portion of the site that supports arroyo willows and Gooding's black willows (the only trees identified on the project site) and other riparian vegetation. The portion of the project site east of Pennsylvania Avenue is comprised mostly of wetlands, and a drainage canal runs north to south through the western portion of the site. The canal flows directly to a slough, which feeds into Suisun Bay, and is subject to tidal fluctuation. The limited upland areas on the site consist mostly of annual grassland. In the southeastern portion of the project site is an automotive repair shop and an industrial concrete business. A 5.3-acre parcel located immediately east of Pennsylvania Avenue has been used as a dumpsite for construction debris such as broken concrete and excavated soil and other waste. Structures currently exist on the project site but are not within the area of development. These structures are located near the junction of the UPRR tracks and Cordelia Road and include automotive repair and industrial concrete (Ardave Parcel) services.

Table 3-1 Assessor's Parcels Comprising the Project Site			
Planning Area #	Assessors Parcel Number	Owner	Gross Acreage
PA 1	0032-010-390 (part) ¹	Gentry	70.71
PA 2	0032-190-260	Gentry	12.72
	0032-190-160	Sheldon Oil ¹	0.39
PA 3	0032-020-100 (part)	Gentry	4.00
PA 4 (part)	0032-020-100 (part)	Gentry	48.24
	0032-020-140 (part)	Gentry	28.81
	0032-020-160 (part)	Gentry	0.23
N/A	0032-020-040	GF Gilbert	5.00
N/A	0032-190-020	R&CS Ardave	0.58
N/A	UPRR Right of Way	N/A	2.62
N/A	Cordelia Road Right of Way	N/A	4.02
N/A	Pennsylvania Avenue Right of Way	N/A	2.18
Subtotal – Area to Be Annexed Into Suisun City			171.50
PA 4 (part)	0032-020-110	Gentry	0.53
	0032-020-140 (part)	Gentry	2.92
	0032-020-160 (part)	Gentry	1.66
Subtotal – Area Already Located In Suisun City			5.11
PA 5 (not part of project)	Various	Gentry	321.000
Subtotal – Area To Remain Outside Of Suisun City			321.000
TOTAL GROSS ACREAGE WITHIN PROJECT SITE:			497.61

Figure 3-3
 Gentry Annexation Project Site Plan

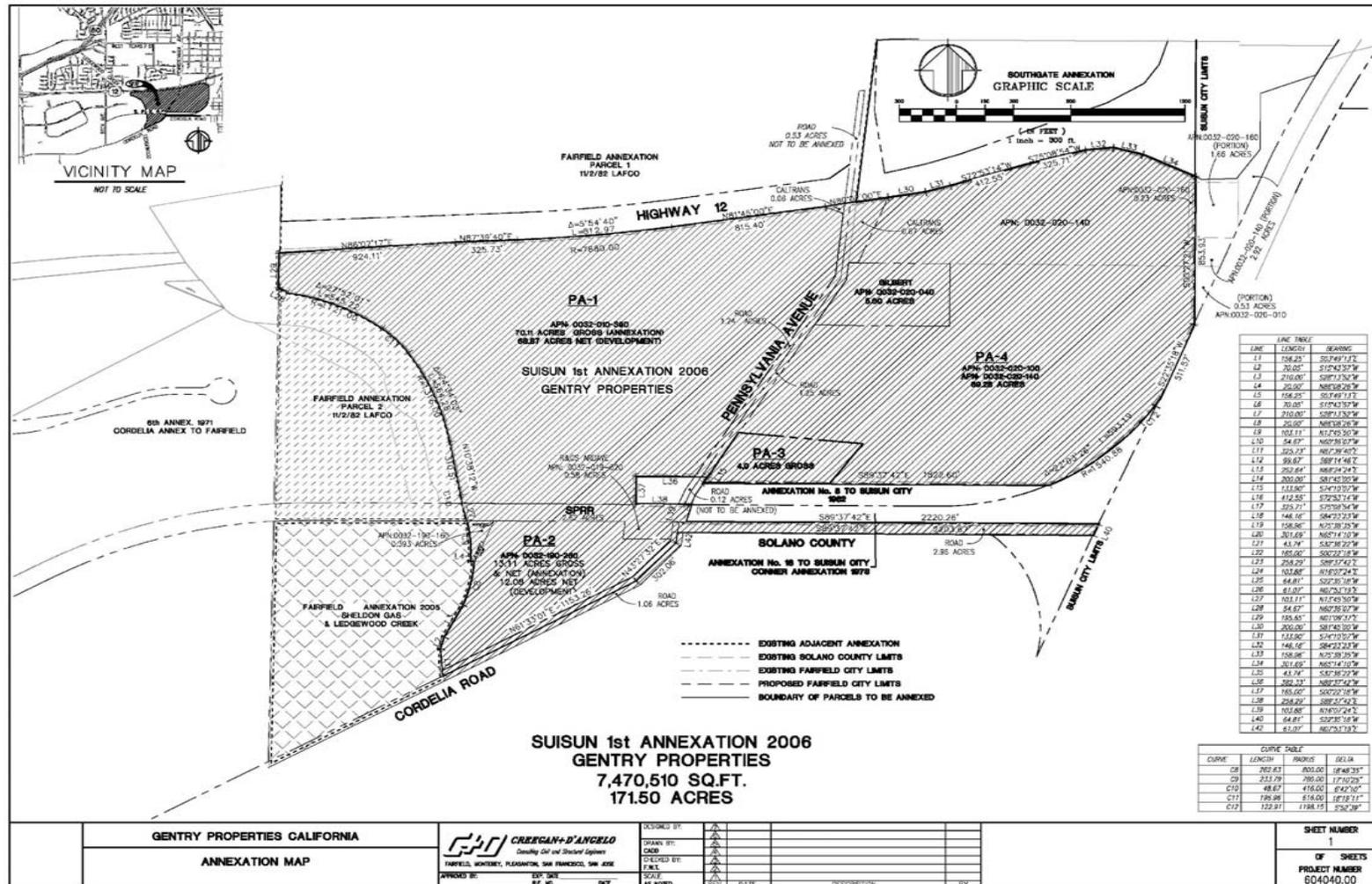
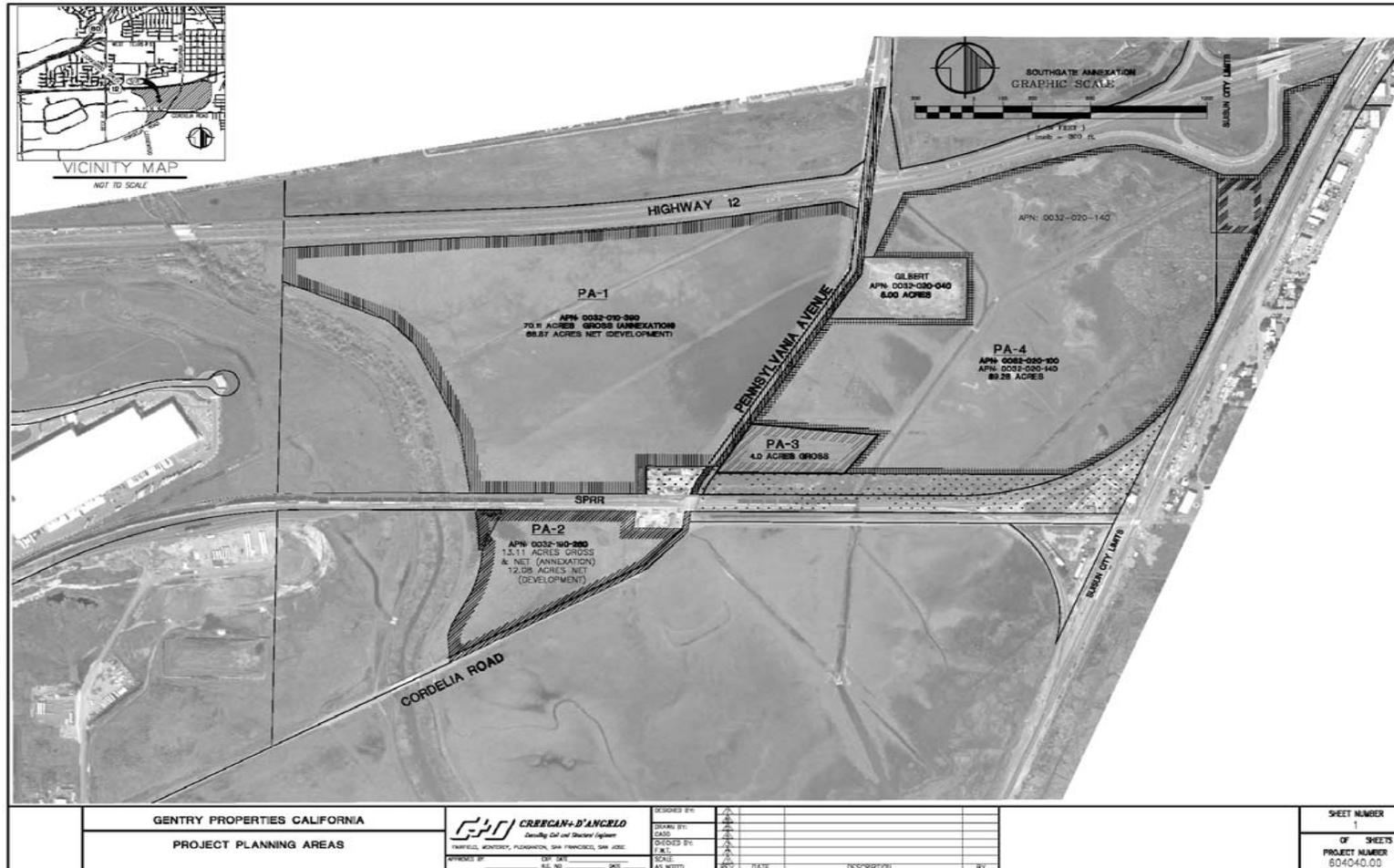


Figure 3-4
 Gentry-Suisun Planning Areas



PROJECT OBJECTIVES

The City has a number of objectives in considering approval of the Gentry-Suisun project. Overall, the development of the project area has been anticipated since the mid-1980s when the area was placed into the City's Sphere of Influence. While the development now being proposed is less intense than that anticipated previously, other objectives of equal or greater significance would be met if the City is approved for development as currently proposed. For purposes of this discussion, the project objectives are broken out into four categories, Land Use Planning, Economic Development, Housing, and Fiscal.

A. LAND USE PLANNING

1. To implement the City of Suisun City's Comprehensive Annexation Plan (CAP) by annexing an area of land outside the City's limits but within its Sphere of Influence, and which is designated a "Near Term (1-5 years) Annexation" in the June 2005 CAP;
2. To implement the City's General Plan by developing a mixed-use retail and residential project in an integrated fashion consistent with policies in the City's General Plan at a location to which urban services can readily be extended;
3. To create land uses that provide employment opportunities for residents of the City, striving to address the City's existing jobs/housing imbalance;
4. To provide a well-designed retail center with distinctive architecture and quality landscaping appropriate for a major gateway entry to the west side of the City;
5. To set aside, preserve, and protect significant adjacent areas for wetlands and habitat;
6. To provide for the orderly and systematic development of a planned community with a mix of residential and retail uses, supported and enhanced with open space, pedestrian amenities, and regional wildlife habitat; and
7. To provide housing in close proximity to jobs and shopping and with convenient access to regional transportation systems.

B. ECONOMIC DEVELOPMENT

1. To provide a fair return on the costs and investments made in the land and the project by the private development entities;
2. To promote and strengthen the economic vitality of the City through the development of the infill area west of the City center as a multi-tenant, major retail center;
3. To provide retail options for the residents of Suisun City, which they currently do not enjoy;

4. To enhance the City's employment opportunities through the development of a well-designed commercial project within the City;
5. To provide complementary retail shopping services in an integrated center at the intersection of two major arterials, in proximity to existing residential uses and existing and planned major business users;
6. To enhance the City's position to better serve the regional and community retail needs in the larger Solano County community; and
7. To provide a location for major department stores and complementary retail stores that will provide convenience and value for the public.

C. HOUSING

1. To provide a housing units to help the City meet its Regional Housing Needs Allocation administered by the Association of Bay Area Governments;
2. To provide a variety of housing types consistent with Policy 1.A. of the City's General Plan Housing Element;
3. To offer the City the opportunity to create affordable housing opportunities consistent with Policy 1.B. of the City's General Plan Housing Element;
4. To propose residential development in a "village" environment with pedestrian connections and amenities; and
5. To place housing near jobs and transportation facilities.

D. FISCAL

1. To increase the City's employment opportunities with the development of well-designed retail and commercial uses;
2. To strengthen the economic vitality of the City by providing retail opportunities currently non-existing in the City;
3. To support the efforts of the City to revitalize its historic Downtown by providing complementary retail opportunities (i.e., those retail opportunities that are not appropriate in the Downtown);
4. To begin to address the City's existing structural budget deficit of approximately \$800,000, which if not corrected will result in the continuation of services reductions and staff layoffs;

5. To generate a level of sales tax revenue that potentially doubles the current level, and that will allow public services to be provided to the current and future residents of the City; and
6. To generate property tax revenue that will accrue to the various taxing agencies within the project area.

PROJECT COMPONENTS

The proposed Gentry-Suisun Project consists of the following components: 1) the annexation of approximately 171.50 gross acres of land from Solano County into the City of Suisun City (the “Annexation Properties”); 2) a Mixed Use Development component which consists of the subdivision and development of a mixed use commercial and residential project on Planning Areas 1, 2 and 3 comprising approximately 87.82-acres within the Annexation Properties; and 3) 390 acres of agricultural open space areas on Planning Areas 4 and 5 for mitigation of impacts of the Mixed Use Development component of the project and other mitigation uses. The total Project Area of approximately 497.61 acres consists of: a) the five Gentry Planning Areas comprising approximately 479 acres, b) the Gilbert and Ardave parcels comprising approximately 5.6 acres, c) Pennsylvania Avenue and Cordelia Road rights of way comprising approximately 6.2 acres, and d) the Union Pacific Railroad right of way comprising approximately 2.7 acres and the 5.1 acres already zoned and in the City limits.

Annexation

The annexation component consists of the annexation of approximately 171.50 gross acres of land (the “Annexation Property”)² from Solano County into the City of Suisun City as shown in Table 3-2. The Annexation Property, which is shown on Figure 3-3, consists of the five properties which include the Mixed-Use site, several Gentry Parcels, the Ardave Parcel, the Gilbert Parcel, and various rights-of-way.

Mixed-Use Development

The Mixed-Use Development component consists of the subdivision and development of a mixed-use project on the approximately 87.82-acre Mixed-Use Site and is comprised of Planning Area 1, Planning Area 2 and Planning Area 3. Wetlands mitigation areas will be created on Planning Area 4 for impacts of the Mixed-Use Development component of the project for all three variations, but those Planning Areas are not a part of the Mixed-Use Site, nor is the Gilbert Parcel.

Base Project

Planning Area 1 (approximately 70.71 gross acres) encompasses the northern portion of the Mixed-Use Site and is intended primarily for the development of a major retail center to meet the retail and commercial needs of residents of Suisun City and the region. Planning Area 1 would have a mix of retail tenants, which may include small shops, general merchandise stores, “big box” establishments such as a supercenter³ and/or a home improvement center, and service providers.

Table 3-2 Annexation Property	
Description	Gross Acreage
A site on which a mixed-project would be developed (see below). Referred to herein as the “Mixed-Use Site.”	87.82
The parcels that comprise Planning Area 4 to the extent that they are not already located within the boundaries of the City of Suisun City.	69.28
The parcel owned by R& CS Ardave (APN 0032-190-020). Referred to herein as the “Ardave Parcel.”	0.58
The parcel owned by GF Gilbert (APN 0032-020-040). Referred to herein as the “Gilbert Parcel.”	5.00
Various rights of way including portions of Pennsylvania Avenue, Cordelia Road, State Route 12 and UPRR track. Collectively referred to herein as the “Rights of Way.”	8.82
TOTAL:	171.50

Planning Area 2 (approximately 13.11 gross acres) encompasses the southern portion of the Mixed-Use Site, and is intended for the development of approximately 275 town homes. Current development plans for this Planning Area include two- and three-story single family attached and/or detached for sale housing. Designed around pedestrian walkways weaving through village-type housing connected to pocket parks, the project is oriented towards first time buyers. Planning Area 2 includes the 0.39 acre parcel owned by Sheldon Oil, referred to herein as the “Sheldon Oil Parcel.”

Planning Area 3 (approximately 4.00 gross acres) is located just northeast of the intersection of Pennsylvania Avenue and the existing UPRR tracks, and is intended for the development of approximately 84 town homes. Current plans for this area are similar to those for Planning Area 2.

Alternative 1

Planning Area 1 is intended primarily for the development of a major retail center and an approximately 120-unit residential component (duet homes) to meet the retail, commercial, and residential needs of residents of Suisun City and the region. Planning Area 1 would have a mix of retail tenants, which may include small shops, general merchandise stores, “big box” establishments such as a supercenter and/or a home improvement center, and service providers.

Planning Area 2 is intended for the development of approximately 196 units of medium- to high-density residential units which would include town homes and duet units. Current development plans for this Planning Area include two- and three-story single family attached and/or detached for sale housing.

Planning Area 3 is intended for the development of approximately 84 medium- to high-density residential units which would include town homes.

Alternative 2

Planning Area 1 is intended for the development of approximately 42.04 acres of retail and commercial space as well as the development of an approximately 147-unit residential component (duet homes) and approximately a 103-unit single-family lot component to meet the retail, commercial, and residential needs of residents of Suisun City and the region. Planning Area 1 would have a mix of retail tenants, which may include small shops, general merchandise stores, a “big box” establishment such as a supercenter and/or a home improvement center, and service providers. In addition, Alternative 2 would add a residential development component as well.

Planning Area 2 is intended for the development of approximately 196 units of medium- to high-density residential units which would include town homes and duet units. Current development plans for this Planning Area include two- and three-story single family attached and/or detached for sale housing.

Planning Area 3 is intended for the development of approximately 84 medium- to high-density residential units which would include town homes. Current plans for this area are similar to those for Planning Area 2.

Required Project Entitlements

The entitlements requested in connection with this project (Base Project, Alternative 1 and Alternative 2) include:

Annexation of Mixed-Use Site, Rights of Way, Ardave Parcel, and Gilbert Parcel

Approximately 171.50 gross acres of land would be annexed by Suisun City, pursuant to Division II of Title 17 of the City Code. The area to be annexed includes approximately 14.82 gross acres of land that is not owned by the applicant: the Sheldon Oil Parcel (part of the Mixed-Use Site); the Rights of Way; the Ardave Parcel; and the Gilbert Parcel. The annexation must be approved by both the City and the Solano County Local Agency Formation Commission.

General Plan Amendments - Mixed-Use Site (Planning Areas 1, 2, and 3)

General Plan Land Use Designations for Mixed-Use Site

The land use map in the City’s General Plan would be amended to accommodate the Mixed-Use Development component of the project, pursuant to City Code Chapter 17.56. Because all portions of the Mixed-Use Site are located within the Suisun City Sphere of Influence, General

Plan land use designations have been assigned to all of the Mixed-Use Site by Suisun City.⁴ Suisun City designates all of the Mixed-Use Site as Limited Industrial / Business Park, except for an area bordering Pennsylvania Avenue at the northern end of the site, which is designated General Commercial as shown in Figure 3-5. The Suisun City General Plan is therefore proposed to be amended to include General Commercial and medium and high-density residential.

Base Project

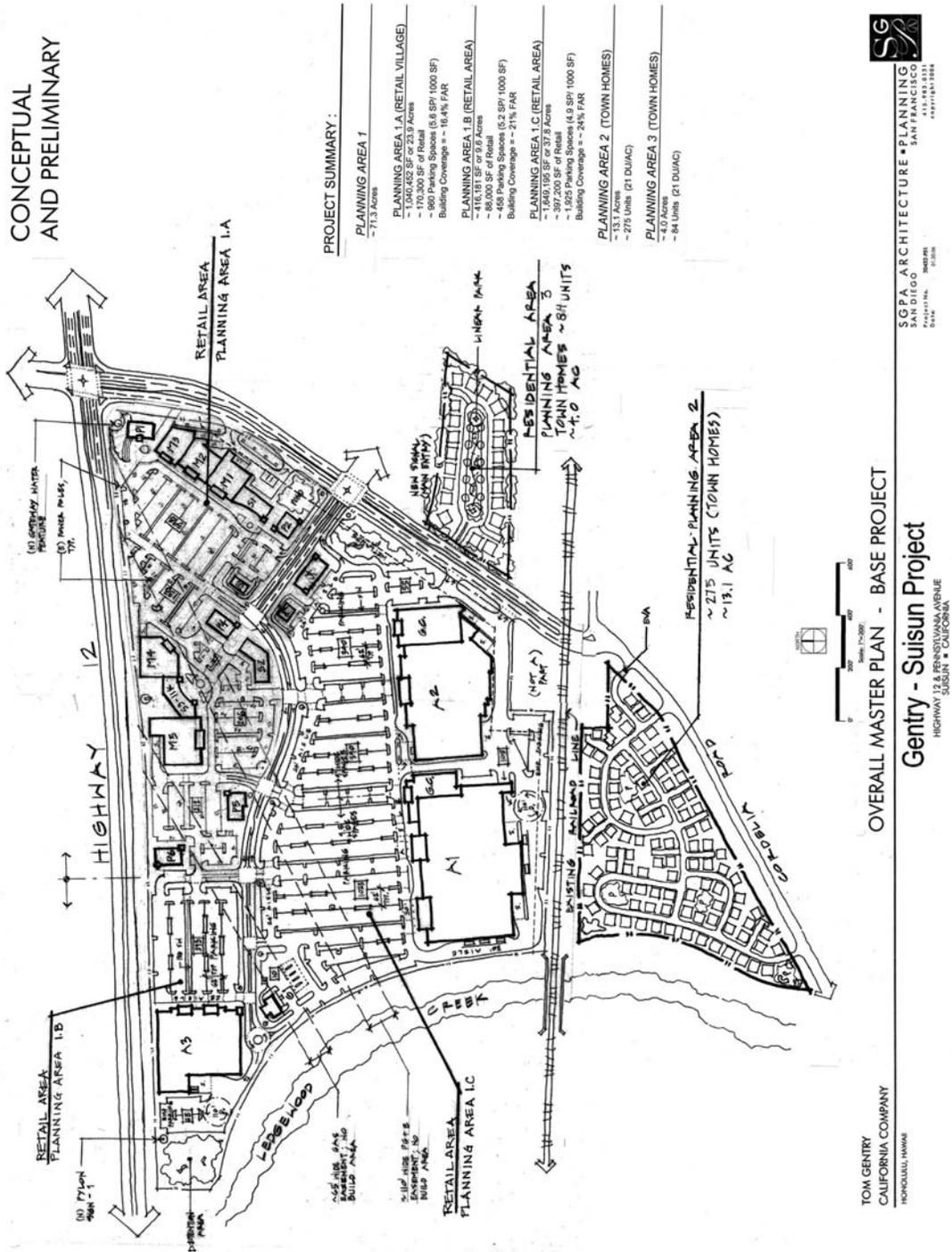
- Planning Area 1 of the Mixed-Use Site would be redesignated from Limited Industrial / Business Park and General Commercial to General Commercial.
- Planning Area 2 of the Mixed-Use Site would be redesignated from Limited Industrial / Business Park to Residential High Density.
- Planning Area 3 of the Mixed-Use Site would be redesignated from Limited Industrial / Business Park to Residential High Density.

Table 3-3, below, shows the maximum density permitted for the Mixed-Use Site for the Base Project, pursuant to the General Plan (as amended).

Table 3-3 Maximum Density of Mixed-Use Site – Base Project After General Plan Redesignation			
Planning Area	Density	Site Area (gross acres)	Max. Development
Planning Area 1	0.30 FAR	± 70.71	655,499 sf of Retail
Planning Area 2	21 dwelling units/acre	± 13.11	Approx. 275 dwelling units
Planning Area 3	21 dwelling units/acre	± 4.00	Approx. 84 dwelling units
<i>Totals</i>		± 87.82	655,499 sf of Retail plus 359 dwelling units

Although Table 3-3 identifies the maximum buildout potential for the proposed land use designations, the Base Project, as indicated for Planning Area 1 on the site plan (Figure 3-6), includes the development of 655,499 square feet. This EIR will analyze the development of the proposed project in Planning Area 1, plus the potential 65,340 square feet of retail on the Gilbert Parcel and 15,682 square feet of office for the Ardave Parcel. The EIR will, therefore, analyze 720,839 square feet of commercial, 15,682 square feet of office, and 359 residential units.

Figure 3-6
Base Project Site Plan



Alternative 1

- Planning Area 1 of the Mixed-Use Site would be redesignated from Limited Industrial / Business Park and General Commercial to General Commercial and Residential Medium Density.
- Planning Area 2 of the Mixed-Use Site would be redesignated from Limited Industrial / Business Park to Residential High Density.
- Planning Area 3 of the Mixed-Use Site would be redesignated from Limited Industrial / Business Park to Residential High Density.

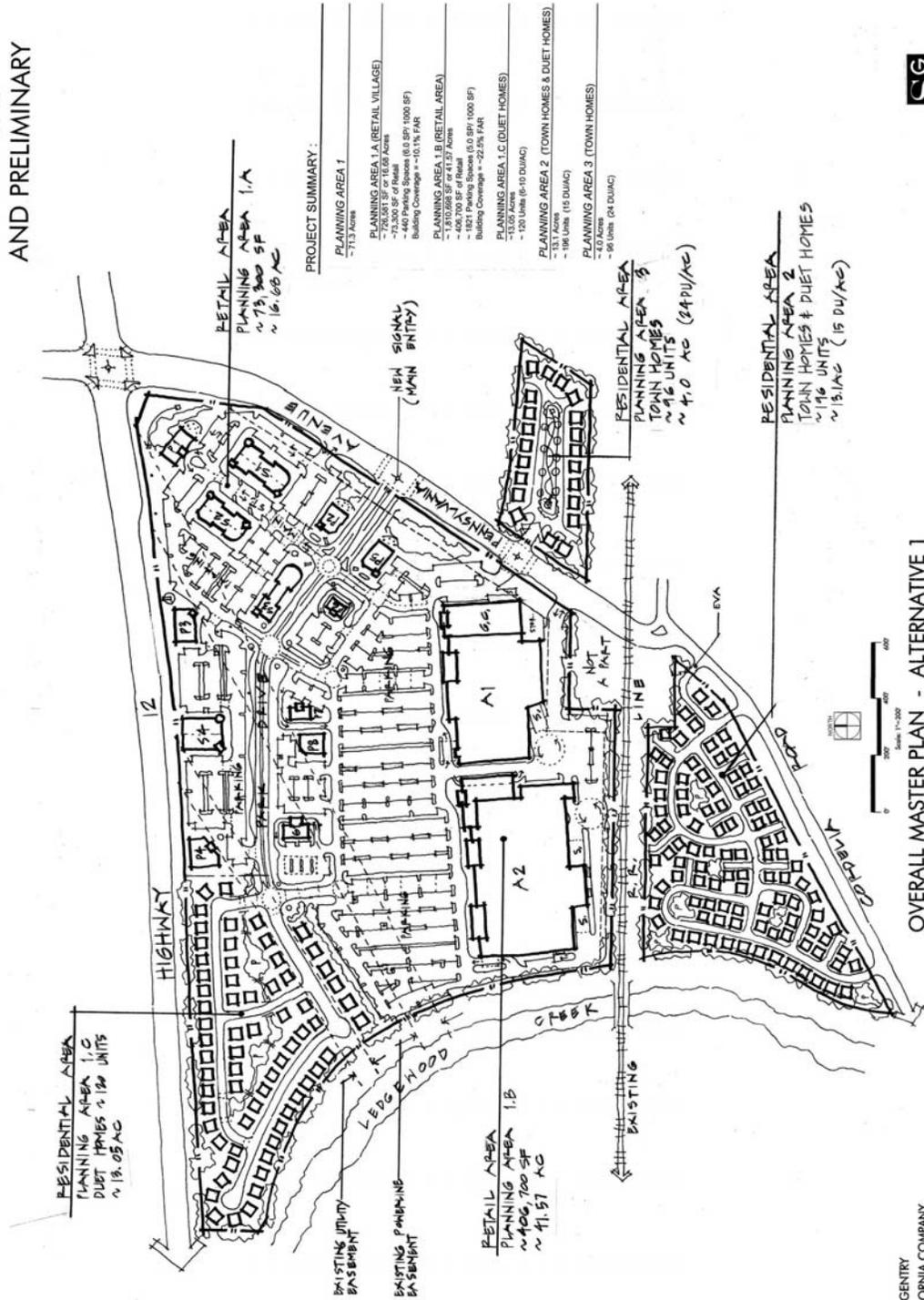
Table 3-4, below, shows the maximum density permitted for the Mixed-Use Site for Alternative 1, pursuant to the General Plan (as amended).

Table 3-4 Maximum Density of Mixed-Use Site – Alternative 1 After General Plan Redesignation			
Planning Area	Density	Site Area (gross acres)	Max. Development
Planning Area 1 - General Commercial	0.30 FAR	± 70.71	480,000 sf of retail
Planning Area 1 - Residential	15 dwelling units/acre		Approx. 120 dwelling units
Planning Area 2	21 dwelling units/acre	± 13.11	Approx. 196 dwelling units
Planning Area 3	21 dwelling units/acre	± 4.00	Approx. 84 dwelling units
<i>Totals</i>		± 87.82	480,000 sf of Retail plus 400 dwelling units

Although Table 3-4 identifies the maximum buildout potential for the proposed land use designations, Alternative 1, as indicated for Planning Area 1 on the site plan (Figure 3-7), includes the development of 70.71 acres. This EIR will analyze the development of Alternative 1 in Planning Area 1 plus the potential 10,000 square feet of retail on the Gilbert Parcel, and 4,000 square feet of office and 12,000 square feet of limited industrial on the Ardave Parcel. The total development results in 490,000 square feet of retail, 4,000 square feet of office, and 62,000 square feet of limited industrial/business park, and 400 residential units.

Figure 3-7
 Alternative 1 Site Plan

CONCEPTUAL
 AND PRELIMINARY



OVERALL MASTER PLAN - ALTERNATIVE 1
 Gentry - Suisun Project
 HIGHWAY 12 & PENNSYLVANIA AVENUE
 SUISUN • CALIFORNIA

TOM GENTRY
 CALIFORNIA COMPANY
 MONROVILLE, MARIANA

Alternative 2

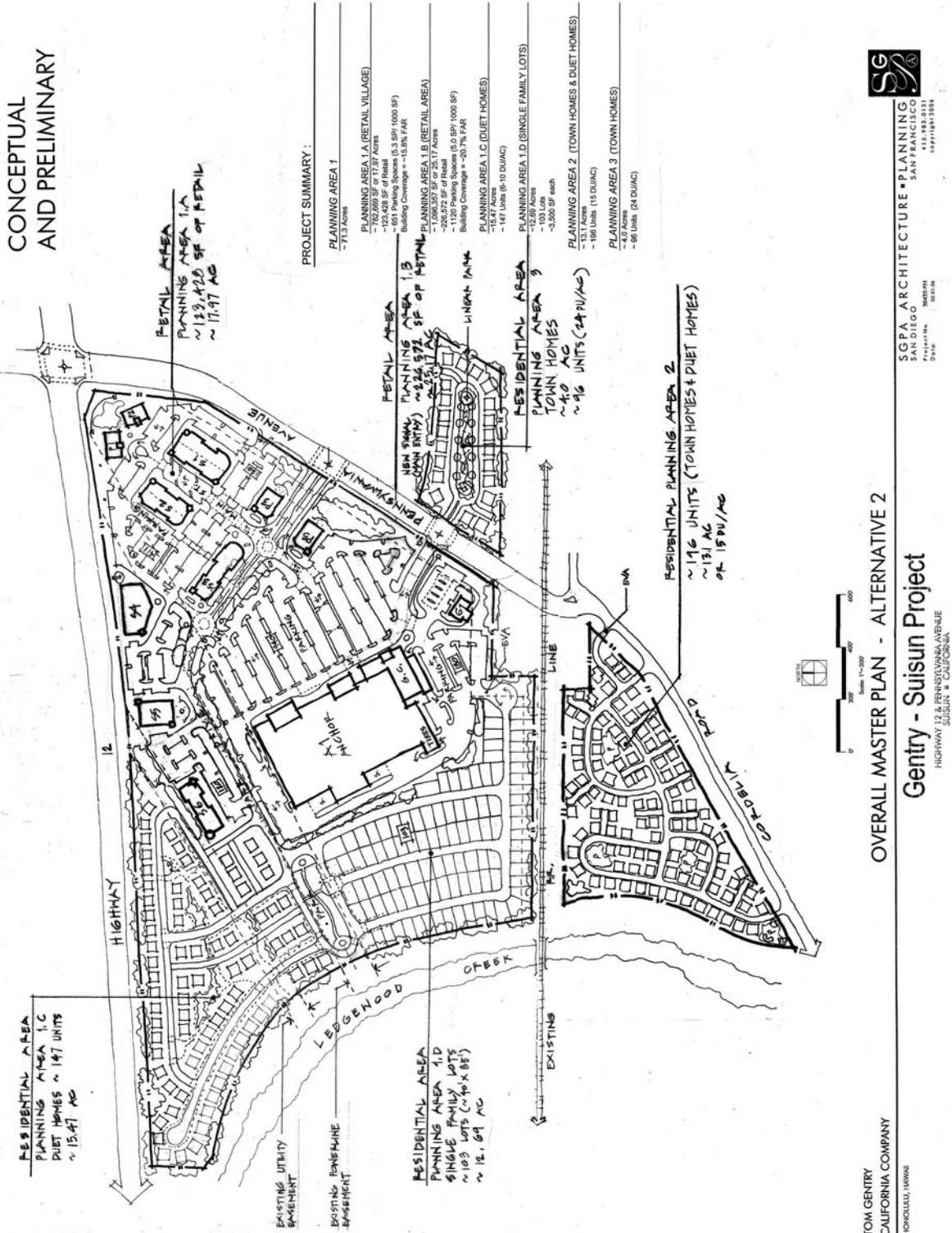
- Planning Area 1 of the Mixed-Use Site would be redesignated from Limited Industrial / Business Park and General Commercial to General Commercial and Residential Medium Density.
- Planning Area 2 of the Mixed-Use Site would be redesignated from Limited Industrial / Business Park to Residential High Density.
- Planning Area 3 of the Mixed-Use Site would be redesignated from Limited Industrial / Business Park to Residential High Density.

Table 3-5, below, shows the maximum density permitted for the Mixed-Use Site for Alternative 2, pursuant to the General Plan (as amended).

Table 3-5 Maximum Density of Mixed-Use Site- Alternative 2 After General Plan Redesignation			
Planning Area	Density	Site Area (gross acres)	Max. Development
Planning Area 1 - General Commercial	0.30 FAR	± 70.71	350,000 sf of retail
Planning Area 1 - Residential	15 dwelling units/acre		Approx. 250 dwelling units
Planning Area 2	21 dwelling units/acre	± 13.11	Approx. 196 dwelling units
Planning Area 3	21 dwelling units/acre	± 4.00	Approx. 84 dwelling units
<i>Totals</i>		± 87.82	350,000 sf of Retail plus 530 dwelling units

Although Table 3-5 identifies the maximum buildout potential for the proposed land use designations, Alternative 2, as indicated for Planning Area 1 on the site plan (Figure 3-8), includes the development of 70.71 acres. This EIR will analyze the development of Alternative 2 in Planning Area 1 plus the potential 10,000 square feet of retail on the Gilbert Parcel, and 4,000 square feet of office and 12,000 square feet of limited industrial. The total development results in 360,000 square feet of retail, 4,000 square feet of limited industrial/business park, and 542 residential units.

Figure 3-8
 Alternative 2 Site Plan



Prezoning of Mixed-Use Site

The Mixed-Use Site would be rezoned to the designations listed below in Table 3-6 for the Base Project, Table 3-7 for Alternative 1, and Table 3-8 for Alternative 2, pursuant to City Code Chapter 18.74:

Table 3-6 Planning Area Acreage and Prezoning for Mixed-Use Site Base Project		
Planning Area	Site Area (acres)	Prezoning
1	± 70.71	General Commercial (CG) with Planned Unit Development (PUD) Overlay
2	± 13.11	High Density Residential (R-H) with PUD Overlay
3	± 4.00	High Density Residential (R-H) with PUD Overlay
Total	± 87.82	

Table 3-7 Planning Area Acreage and Prezoning for Mixed-Use Site Alternative 1		
Planning Area	Site Area (acres)	Prezoning
1	± 70.71	General Commercial (CG) and Medium Density Residential (R-M) with Planned Unit Development (PUD) Overlay
2	± 13.11	High Density Residential (R-H) with PUD Overlay
3	± 4.00	High Density Residential (R-H) with PUD Overlay
Total	± 87.82	

Table 3-8 Planning Area Acreage and Prezoning for Mixed-Use Site Alternative 2		
Planning Area	Site Area (acres)	Prezoning
1	± 70.71	General Commercial (CG) and Medium Density Residential (R-M) with Planned Unit Development (PUD) Overlay
2	± 13.11	High Density Residential (R-H) with PUD Overlay
3	± 4.00	High Density Residential (R-H) with PUD Overlay
Total	± 87.82	

As shown in Tables 3-6 through 3-8, above, Planning Areas 1, 2 and 3 would be rezoned with a Planned Unit Development (PUD) overlay, including the approval of a Preliminary Development Plan (PDP) for the PUD, prepared pursuant to City Code Chapter 18.63. The PDP would define the scope of specific permitted and conditional uses, as well as development standards such as

setbacks, parking, landscaping and architectural guidelines, for the Mixed-Use Site. The PDP (in conjunction with the Development Agreement, discussed below) would also outline the process for future review and approval of specific development proposals for the Mixed-Use Site. One or more Precise Development Plans would also be approved as part of the project.

Tentative Subdivision Map for Planning Areas 1, 2, and 3 (Base Project)

Planning Area 1 would be subdivided to create 18 parcels for development and 1 parcel for a detention pond (See Figure 3-9). The tentative map also includes one parcel with 275 residential units for Planning Area 2 and one parcel with 84 residential units for Planning Area 3. The map shows the location of retail and commercial building pads as well as the proposed circulation systems for the residential and commercial areas. The tentative map indicates that five access points are proposed along Pennsylvania Avenue for the commercial area, with the main access point located north of the proposed detention pond. The project site plan also details an internal roadway network within the commercial site. This roadway network includes a major east-west roadway as well as a major roadway which connects to Pennsylvania Avenue. Two access points on Cordelia Road are indicated for Planning Area 2, and one access point on Pennsylvania Avenue is indicated for Planning Area 3.

General Plan Amendment and Rezoning of Other Portions of the Project Site

General Plan Amendment to Redesignate the Ardave Parcel, Gilbert Parcel, and Planning Area 4

The land use map in the City's General Plan would be amended to accommodate the project, pursuant to City Code Chapter 17.56. Because all portions of the Ardave Parcel, Gilbert Parcel and Planning Area 4 are located either within Suisun City or the Suisun City Sphere of Influence, General Plan land use designations already have been assigned to all of the applicable property by Suisun City.⁵ Suisun City currently designates all of that property as Limited Industrial / Business Park, except for an area bordering Pennsylvania Avenue at the northern end of the site (including a portion of the Gilbert Parcel), which is designated General Commercial (see Figure 3-7). The Suisun City General Plan is therefore proposed to be amended to include General Commercial and medium and high-density residential.⁶

The portion of the Gilbert Parcel that is designated Limited Industrial / Business Park would be redesignated to General Commercial, resulting in the redesignation of the entire parcel to General Commercial.

Planning Area 4 (not part of the Mixed-Use Site) would be redesignated from Limited Industrial / Business Park and General Commercial to Agriculture / Open Space.

Table 3-9, below, shows the maximum density permitted for the Ardave Parcel, Gilbert Parcel and Planning Area 4, pursuant to the General Plan (as amended).

Figure 3-9
 Tentative Map

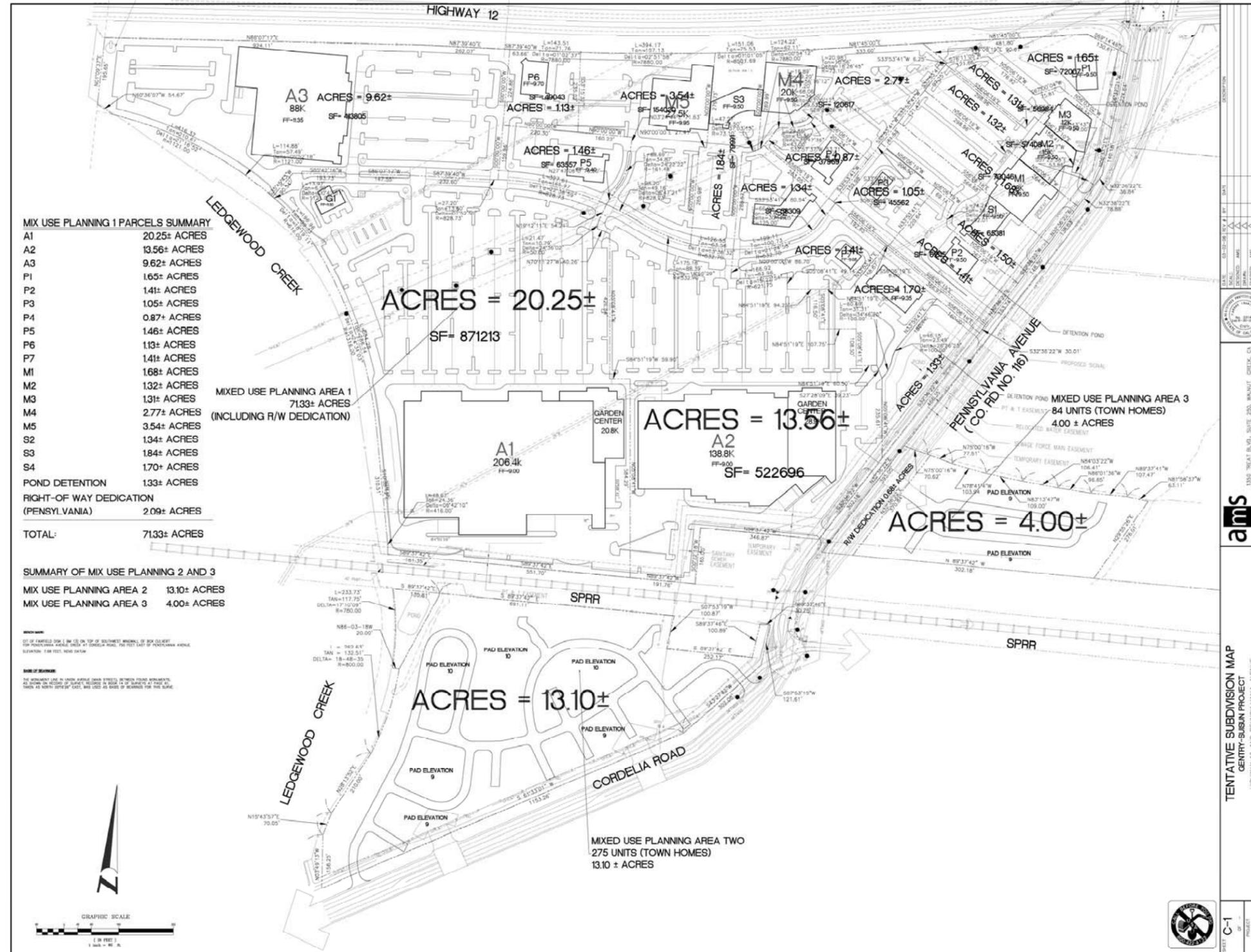


Table 3-9 Maximum Density of Ardave Parcel, Gilbert Parcel and Planning Area 4 After General Plan Redesignation			
Parcel(s)	Density	Site Area (gross acres)	Max. Development
Ardave Parcel	0.6 FAR	± 0.58	15,682 sf of Office
Gilbert Parcel	0.30 FAR	± 5.00	65,340 sf of Retail
Planning Area 4	N/A	± 69.28	N/A
<i>Totals</i>		± 74.86	65,340 sf of Retail plus 15,682 sf of Office

Rezoning and Prezoning of Ardave Parcel, Gilbert Parcel and Planning Area 4

The Ardave Parcel, Gilbert Parcel and Planning Area 4 would be rezoned or prezoned (as applicable) to the designations listed below in Table 3-10, pursuant to City Code Chapter 18.74.

Table 3-10 Acreage and Rezoning / Prezoning for Ardave Parcel, Gilbert Parcel and Planning Area 4		
Parcel(s)	Site Area (acres)	Prezoning
Ardave Parcel	± 0.58	M-L (Light Manufacturing)
Gilbert Parcel	± 5.00	CG (General Commercial)
Planning Area 4	± 69.28	A (Agriculture)
<i>Total</i>		± 74.86

Development Agreement

The City and the developer may enter into a Development Agreement regarding the Mixed-Use Development component of the project, pursuant to City Code Chapter 18.62.

Planned Unit Development Guidelines

The applicant has provided design guidelines to the City for the residential and commercial portions of the project. The residential design guidelines contain details including but not limited to proposed landscaping, building materials and colors, and roof elevations. For example, the guidelines states that consistent use of themes, materials, colors, and building orientations shall be applied to the uses and circulation systems within each themed area. The design of the PUD shall be compatible with the nearby and adjacent land uses and visually interesting from the surface streets. Regarding landscaping, the draft PUD Guidelines state that the design of the areas along Pennsylvania Avenue and Cordelia Road adjacent to Planning Areas 2 and 3 shall include a maximum 10-foot landscape buffer and a 6-foot high decorative masonry wall to buffer

the residences from traffic noise. The landscape setback area shall be graded and landscaped to physically screen Pennsylvania Avenue and Cordelia Road and residential development from visual, light, glare, and noise impacts from neighboring traffic.

The commercial component of the PUD Guidelines include standards for exterior building design, landscaping, screening, parking lots, signage, circulation, and exterior lighting. These Guidelines have been developed to provide designers, architects, and tenants with guidelines for the development of buildings and individual tenancies that would result in a consistent and aesthetically pleasing mixed-use project. More specifically, the PUD Guidelines provide standards for all retail buildings within the project, which can be summarized as follows:

- Any proposed building elevation(s) that face public or private streets, whether such elevation(s) function as the front, side or rear of the buildings, shall be architecturally detailed to avoid the appearance of being the back of the building.
- Large blank walls, especially those visible from a public right-of-way, shall be articulated through various treatments such as offsets in massing, arcades, colonnades and the use of a variety of different facade materials.
- Wall Openings: Storefront windows and doors shall be provided to articulate each building façade facing pedestrian areas and public ways.
- Pedestrian Components: Pedestrian scaled elements such as a wall wainscot, planter areas, pots or site furnishings shall be provided along pedestrian walkways adjacent to buildings.
- Varied Building Height or Roofline: The overall building profile shall be varied through the use of a combination of elements including varied parapet heights, roof forms and towers.
- Color and Texture Variation: Each building shall exhibit a range of color, material and texture as described in these Guidelines.
- Wall Variation: Wall and building articulation as described above shall occur so that uninterrupted wall surfaces do not exceed 60'-0" on any building.
- Parapet heights shall be high enough to screen roof-mounted equipment from finish grade at roadways immediately adjacent to the site. Changes in parapet height shall be used to enhance tenant entries, provide individualization and articulate building elements.
- All elevations of pad buildings shall be architecturally detailed similar to the front elevation.

In addition, as stated in the PUD Guidelines, landscape design shall be subject to City's Ordinances and Codes, specifically, the City's Landscape Development Guidelines. All on-site landscaping shall be installed prior to building occupancy.

Other Entitlements

Development for the Mixed-Use Development component of the project would require additional entitlements, which may include but are not necessarily limited to the following:

- Signage approval pursuant to City Code Chapter 18.54

- Site plan and architectural review approval pursuant to City Code Chapter 18.68
- Conditional use permit(s) pursuant to City Code Chapter 18.66
- Additional subdivision actions pursuant to City Code Title 17

Approvals from other governmental agencies would include but not be limited to the following:

- LAFCO approval of the annexation request to the City of Suisun City (See Section 4.1, *Land Use*);
- U.S. Department of the Army Corps of Engineers permit under Section 404 of the Clean Water Act (See Section 4.6, *Biology*);
- Streambed Alteration Agreement under Section 1602 of the California Fish and Game Code (See Section 4.6, *Biology*);
- Approval from the California Public Utilities Commission for improvements to Pennsylvania Avenue (See Section 4.5, *Transportation and Circulation*); and
- Encroachment permit from Caltrans (See Section 4.5, *Transportation and Circulation*).

Infrastructure

The water, wastewater, drainage and other utility infrastructure necessary to serve the project would be required both on- and off-site. The project site would be served by the Suisun-Solano Water Authority (SSWA) for water services, the Fairfield-Suisun Sewer District for sewer services, the Fairfield-Suisun Subregional Wastewater Treatment Plant (WWTP) for wastewater treatment, and PG&E for gas and electric services.

Water

On-site Water Network

The project includes the construction of the necessary water delivery infrastructure. On-site piping for water would consist of several loops of 8 and 12-inch piping totaling approximately 14,000 feet (Planning Areas 1-3). Domestic water lines would be 8-inch lines, totaling approximately 6,000 feet within Planning Areas 1-3.

Off-site Water Network

Two alternative schemes for supplying the project from off-site facilities are being considered. These include a single supply pipe, 16-inches in diameter, constructed under Pennsylvania Avenue and terminating at the site connection approximately 100 feet south of Cordelia Road. Alternatively, a 12-inch pipe could be constructed under Pennsylvania Avenue connecting to the existing 20-inch Suisun-Solano Water Authority (SSWA) pipe and a 12-inch pipe constructed under Cordelia Road connecting to a 6-inch SSWA pipe west of the Union Pacific Railroad crossing of Cordelia Road.

Sewer

On-site Sewer Network

A sewer network has been designed for Planning Areas 1, 2, and 3 of the proposed Gentry-Suisun project. As part of the proposed project, an estimated 6,000 feet of on-site piping would

be required. The network would cross from Planning Areas 1 and 2 to Planning Area 3 via a bore under the Union Pacific Railroad. A pump station is proposed at the southeast corner of Planning Area 3 near Cordelia Road.

Off-site Sewer Network

Effluent water from the proposed project site would be pumped off-site to the southwest parallel to Cordelia Road, to a 27-inch sewer at Beck Avenue via a bore under Ledge Creek. The required pipe diameter from the pump to the Beck Avenue sewer is estimated at six inches. Beyond the connection at Beck Avenue, an existing 33-inch pipe on Cordelia Road is deemed to have adequate capacity.

Drainage

The basic design approach for stormwater handling on all of the three developed parcels would be to collect roof drainage and parking lot drainage into landscape drainage swales for biofiltration of the water prior to its overflowing into the relief structures which would then be collected and brought to detention ponds on each of these sites. The detention ponds would be constructed with an invert below gravity discharge elevation and would be fitted with pumps that would maintain the ponds at a fixed level for the dry part of the season.

Endnotes

¹ Note that two portions of this parcel are not part of the project site: the portion that comprises the west side of Pennsylvania Avenue to the north of SR 12 (0.452 acres) and the portion that comprises the west side of Pennsylvania Avenue immediately north of the railroad right of way (0.129 acres).

² Approximately 157.10 gross acres of the Annexation Property are currently owned by Gentry and approximately 14.79 gross acres are currently public land or owned by other parties.

³ As used in this project description, the term “supercenter” is intended to refer to a retail tenant with a building size of approximately 200,000 square feet that will include grocery, general merchandise, and a garden center. A supercenter would presumably operate 7 days a week and up to 24 hours a day. At present there is no known tenant for the supercenter component of the project.

⁴ In addition, because the Mixed-Use Site is currently within Solano County, the County has assigned it the following land use designations: Intensive Agricultural (for the portion to the north of the UPRR tracks) and Extensive Agricultural (for the portion to the south of the UPRR tracks).

⁵ In addition, because the Annexation Property is currently within Solano County, the County has assigned the “Intensive Agricultural” land use designation to the Gilbert Parcel and the portion of Planning Area 4 that is not already within the boundaries of the City of Suisun City, and has assigned the “Extensive Agricultural” land use designation to the Ardave Parcel.

⁶ Note that the Ardave Parcel would remain designated Limited Industrial / Business Park.

4.0 INTRODUCTION TO THE ANALYSIS

4.0 INTRODUCTION TO THE ANALYSIS

INTRODUCTION

Chapter 4 analyzes the potential impacts of the Gentry-Suisun Project on a range of environmental issue areas. Sections 4.2 through 4.10 describe the focus of the analysis, references and other data sources for the analysis, the environmental setting as it relates to the specific issue, project-specific impacts and mitigations measures, and cumulative impacts of the proposed project for each issue area. The format of each of these sections is described below.

DETERMINATION OF SIGNIFICANCE

Under CEQA, a significant effect is defined as a substantial or potentially substantial adverse change in the environment (Public Resources Code § 21068). The Guidelines implementing CEQA direct that this determination be based on scientific and factual data. The specific criteria for determining the significance of a particular impact are identified within the impact discussion in each section, and are consistent with significance criteria set forth in the CEQA Guidelines.

INITIAL STUDY

The Initial Study (see Appendix C) prepared for the Gentry - Suisun Project as a part of this EIR includes a detailed environmental checklist addressing a range of technical environmental issues. Pursuant to CEQA Guidelines section 15128, a lead agency may employ an Initial Study to identify categories or subcategories of environmental impact that need not be addressed in detail within the text of the EIR. The text of the Initial Study, together with the discussion below, is provided in compliance with section 15128. For each technical environmental issue, the Initial Study identifies the level of impact for the proposed project. The Initial Study identifies the environmental effects as either “no impact,” “less-than-significant,” “potentially significant without mitigation incorporated,” and “potentially significant.” The Initial Study provided the following conclusions:

Impacts identified for the proposed project in the Initial Study as having no impact, which do not require mitigation, are presented below.

- *Air Quality (III e p.20)*: The proposed project would not include industrial or intensive agricultural use; therefore, the project would have no impact as regards the generation of odors.

- *Biological Resources (IV f p.22)*: The proposed Mixed Use Development portion of the project area is located outside the jurisdictional area of the Suisun Marsh Protection Plan and is not subject to the land use regulations of the Plan. Therefore, no impact would occur.
- *Geology and Soils (VI e p.27)*: The proposed project has been designed to connect to the existing sewer system; therefore, no impact relating to soils unable to support septic tanks would occur.
- *Geology and Soils (VI e p.27)*: The proposed project has been designed to connect to the existing sewer system; therefore, no impact relating to soils unable to support septic tanks would occur.
- *Hazards and Hazardous Materials (VII c-h p.28)*: The proposed project would not emit hazardous emissions, nor would the project involve handling hazardous or extremely hazardous materials because The proposed project consists of commercial and residential development, which would not involve the routine use, transport, or disposal of hazardous materials. The project site has not been identified on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Neither is the project site located within an airport land use plan, within two miles of an airport, or within an area where wildland fires occur. Therefore, the proposed project would result in no impacts pertaining to the aforementioned hazards.
- *Land Use (IX a,c p.34)*: The project site is surrounded by the following commercial and residential uses:
 - To the west of the project is Ledgewood Creek which is designated as conservation land and vacant land beyond the Ledgewood Creek buffer.
 - To the south of the project site is agricultural land used for cattle grazing.
 - To the east of the project site lie the UPRR tracks and residential and commercial development.
 - To the north of the project site is SR 12 with low to medium and high density residential, service commercial, and mixed-use.
 - In the central portion of the project site are two parcels used for commercial services (automotive repair and industrial concrete services).

Therefore, because the project vicinity is surrounded by agricultural and vacant land to the west, and south and commercial and residential land to the north and east, the proposed project would not divide an established community, Furthermore, the project site is not located within a designated General Plan open space or conservation area, and the mixed

use development portion of the project are does not fall within the Suisun Marsh Preservation Plan.

- *Noise (XI e,f p.38)*: The proposed project would not expose people to excessive noise levels associated with airport uses because the project site is not located near an existing airport and is not within an existing airport land use plan.
- *Population and Housing (XII b,c p.39)*: The proposed project would not displace existing housing or people because no residential land uses exist within the project area.
- *Transportation/Traffic (XV c p.43)*: The project site is located at a distance of approximately 6 miles from Travis Air Force Base. Because the project site is not located near an airport, and the proposed project would not result in a change in air traffic patterns.

Impacts identified for the proposed project in the Initial Study as less-than-significant, are presented below:

- *Hazards and Hazardous Materials (VII a p.29)*: The proposed project consists of commercial and residential development, which would not involve the routine use, transport, or disposal of hazardous materials. Therefore, hazardous materials would represent a less-than-significant impact to the project area.
- *Hydrology and Water Quality (VIII b,j p.32-33)*: The City of Suisun City does not rely on groundwater for its water supply. The elevation of the project site, and its proximity to the bay, facilitates adequate groundwater recharge. Therefore, any reduction in groundwater level would have a less-than-significant impact on the surrounding area. Furthermore, the project site is located approximately 40 miles inland, in an area that is not subject to tsunamis, seiches, or mudflows. Therefore, implementation of the proposed project would result in less-than-significant impacts related to the aforementioned phenomena.
- *Land Use (IX a p.34)*: The project site is bordered on the north by low to medium and high density residential, service commercial, and mixed-use. The land uses to the east of the project site include residential and commercial development and the land to the south and west is currently vacant and undeveloped. The proposed project is a mixed-use development that fits into the surrounding land uses. Therefore, the project poses a less-than-significant impact regarding the division of an established community.

- *Mineral Resources (X a,b p.36)*: Because there are no known or identified mineral resources in the proposed project area, the proposed project would have a less-than-significant likelihood of resulting in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan or a known mineral resource that would be of value to the region and the residents of the state.
- *Transportation/Traffic (XV d p.43)*: The proposed project would be designed to City standards and thus would not include any unusual design features in the layout of the streets that would increase hazards. Therefore, a less-than-significant impact would result from the buildout of the proposed development.

Impacts identified for the proposed project in the Initial Study as less-than-significant which do require mitigation, are presented below. All mitigation measures for the below impacts are included in Appendix C and listed in Table 2-1, Summary of Impacts and Mitigation Measures.

- *Cultural Resources (Appendix C, Mitigation Measures V-1, V-2 p.,24)*: The proposed project has a moderate potential for historic and/or prehistoric archaeological resources on the project site. Although the impact would be considered potentially significant, implementation of the included mitigation measures would reduce the impact to less-than-significant.
- *Geology and Soils (Appendix C, Mitigation Measures VI-3 through VI-6, p.26-27)*: The proposed project would be subject to impacts associated with severe shaking and soil liquefaction due to geological features of the project area. Damage to buildings could, therefore, be considerable without proper structural support. The proposed project also has the potential for increasing erosion during construction. Furthermore, soil properties present the possibility for expansive soils conditions. Although the impacts would be considered potentially significant, implementation of the included mitigation measures would reduce the impacts to less-than-significant.
- *Hazards and Hazardous Materials (Appendix C, Mitigation Measure VII-7 through VII-12, p.29,30)*: The proposed project has underground hazards on site including: buried petroleum, natural gas, underground cable, and sewage force main pipelines. In addition, a possibility exists that agricultural pesticides may be present in the soil. Although the impact would be considered potentially significant, implementation of the included mitigation measures would reduce the impacts to less-than-significant.

All remaining issues were identified in the Initial Study as potentially significant and are discussed in this Draft EIR.

ISSUES ADDRESSED IN THIS DRAFT EIR

The Initial Study identified environmental impacts as potentially significant and required further analysis. This EIR provides the additional analysis necessary to address the technical environmental impacts not fully resolved in the Initial Study. Consistent with the conclusions of the Initial Study, the following environmental issues are addressed in this chapter of the Draft EIR:

- Land use;
- Aesthetics;
- Air Quality;
- Noise;
- Traffic and Circulation;
- Biological Resources;
- Hydrology and Water Quality;
- Public Services and Utilities;
- Energy; and
- Socio-Economic.

SECTION FORMAT

Each section in Chapter 4 addressing a specific environmental issue begins with an **introduction** describing the purpose of the section. The introduction is followed by a description of the project's **environmental setting** as it pertains to that particular issue. The setting description is followed by the **regulatory context** and the **impacts and mitigation measures** discussion. This discussion contains the **significance criteria**, followed by the **methods of analysis**. The **impact and mitigation** discussion includes impact statements prefaced by a number in bold-faced type. An explanation of each impact and an analysis of its significance follow each impact statement. All mitigation measures pertinent to each individual impact follow directly after the impact statement (see below). The degree of relief provided by identified mitigation measures is also evaluated. An example of the format is shown below:

4.x-1 Statement of Impact

Base Project

Discussion of impact for the Base project in paragraph format. Statement of **level of significance** of impact prior to mitigation is included at the end of each impact discussion.

Alternative 1

Discussion of impact for Alternative 1 in paragraph format. Statement of ***level of significance*** of impact prior to mitigation is included at the end of each impact discussion.

Alternative 2

Discussion of impact for Alternative 2 in paragraph format. Statement of ***level of significance*** of impact prior to mitigation is included at the end of each impact discussion.

Mitigation Measure(s)

Statement of *level of significance* after the mitigation is included immediately preceding mitigation measures.

4.x-1(a) *Recommended mitigation measure(s) presented in italics and numbered in consecutive order.*

4.x-1(b) *Mitigation Measure.*

4.1 LAND USE AND AGRICULTURAL RESOURCES

4.1 LAND USE / AGRICULTURAL RESOURCES

Introduction

This section is divided into two analyses: Land Use and Agricultural Resources. The purpose of the Land Use section is to examine the proposed project's compatibility with existing and planned land uses in the area. Consistency with applicable General Plan goals and policies is also evaluated. The agricultural resources analysis describes the soils of the project site and whether or not the site is identified as prime farmland. Documents referenced to prepare this section include the *City of Suisun City General Plan*¹, the *Suisun City Zoning Ordinance*², the *Solano County Land Use and Circulation Element*³, and the *Solano County Soil Survey*⁴.

Environmental Setting

Land Use

Section 15125 of the CEQA Guidelines states that "an EIR must include a description of the physical environmental conditions in the vicinity of the project...and shall discuss any inconsistencies between the proposed project and applicable general plans and regional plans." The following provides the existing land uses of the project site as well as the existing plans and policies which guide the development of the project site.

Project Location and Site Description

The project area consists of approximately 497.61 acres, 493.10 acres are currently within the jurisdiction of Solano County and 5.11 acres are in the City limits. 171.5 acres is planned to be annexed to the City of Suisun City. The Project Area is comprised of the following Assessor's Parcel Numbers (APN's): 0032-010-390, 0032-190-260, 0032-190-160, 0032-020-100, 0032-020-140, 0032-020-160, 0032-020-040, 0032-190-020, SPRR Right of Way, Cordelia Road Right of Way, and Pennsylvania Avenue Right-of-Way (to be annexed into Suisun City), and the various APNs comprising the 321 acres in Planning Area 5. Assessor's Parcel number 0032-020-110, parts of 0032-020-140 and 0032-020-160 are currently in the City limits.

The proposed project site is located approximately 45 miles northeast of San Francisco and 45 miles southwest of the City of Sacramento, Solano County is bordered by Napa, Yolo, San Joaquin, and Contra Costa Counties and covers 823 square miles, about half of which lies in the Sacramento Valley. The project site is located within the City of Suisun Sphere of Influence (SOI).

Suisun City is located in central Solano County. The City is located on the Suisun Channel, which connects with Suisun and Grizzly Bays and links the City with the Sacramento River and the San Francisco Bay. Although the northeast corner of the project site crosses into the Suisun City limits, the majority of the project area is located

west of the Suisun City limits in the northwest corner of a junction in the Union Pacific Railroad (UPRR) tracks. Pennsylvania Avenue is located south of State Route (SR) 12 and diagonally transects the approximate center of the project area in the northeast/southwest direction.

The Project Area is vacant with grassland and a few trees dispersed throughout the southern portion of the Project Area. The portion of the Project Area, east of Pennsylvania Avenue, is comprised mostly of wetlands and a drainage canal which runs north to south through the western portion of the site. The canal flows directly to a slough, which feeds into Suisun Bay, and is subject to tidal fluctuation. In addition, a 5.3-acre parcel located immediately east of Pennsylvania Avenue has been used as a dumpsite for construction debris such as broken concrete and excavated soil and other waste. Ledgewood Creek is located at the western boundary of the Planning Area 1 and 2. The Union Pacific Railroad runs through the central portion of the Project Area in an east-west direction. The Suisun Marsh Protection District encompasses the southern portion of the Project Area.

Existing General Plan Land Use and Designations

Suisun City General Plan

The City of Suisun City General Plan (1992) states that the Land Use Element must designate the proposed general distribution, location, and extent of the use of land for housing, business, industry, open space, agriculture, natural resources, recreation, and other proposed uses.

Although the project site is outside the City limits, the Annexation Properties are within the Sphere of Influence and has Suisun City General Plan designations applied to the project site. According to the General Plan, existing land use designations for the project site include General Commercial, Limited Industrial, and Business Park. The land use designations are defined below, and shown on Figure 4.1-1:

- Business Park – The purpose of this designation is intended for large tracts of undeveloped land in which heavy commercial and light industrial land uses can be located in planned developments with campus-like appearance. These are uses that typically involve large equipment, machinery, and/or vehicles; the storage of goods and materials; some manufacturing and processing of goods and materials; and office functions related to the above uses. Other commercial uses are permitted as well, since this commercial designation is based on performance rather than use standards. The land uses appropriate for this classification involve the processing of materials for finished goods, light equipment assembly, warehousing, the use of small-scale equipment and machinery, research laboratories, commercial offices associated with above uses, and similar uses which do not involve substantial emissions of air pollutants or objectionable odors. A typical mix of Business Park uses would result in a range of 0.25 to 0.6 floor area ratio, with an average of 0.4 expected. The types of uses and development intensities allowed would generate 15 to 60 employees per acre.

- General Commercial (GC) – The purpose of this designation is to allow multi-acre planned commercial developments that contain retail, personal and business services, and/or office uses intended to serve the entire City. The location of such uses is generally dependent on access to arterial streets. General commercial land uses located adjacent to residential uses should have proper screening and site design to minimize noise and other land use conflicts. The site and building design of these should enhance the character of Suisun City.

Examples of current and anticipated land uses are: convenience goods and personal services, soft goods, large variety stores and/or junior department stores, supermarkets, general merchandise discount department stores, restaurants, theaters, business and professional offices, banking and other financial institutions, and similar uses.

- Limited Industrial – The purpose of this classification is to allow for the siting of small scale and finished goods manufacturing uses, as well as some service commercial uses. This category is intended to accommodate operations which are of a relatively low intensity and “clean” character, distribution, storage, and similar uses. Uses which require unscreened, outdoor materials, or product storage. Sites that are appropriate for this category are suitable for limited industrial uses but are too small in size to be developed as business parks. Floor area ratios are expected to range from 0.2 to 0.6, with an average of 0.4. Employee generation is expected to be from 10 to 30 per acre.

Solano County General Plan

According to the Solano County General Plan, the project site is designated Agricultural land. Agricultural lands have been classified into two basic types: intensive agriculture and extensive agriculture. Intensive agriculture designates land with high quality soils under irrigation requiring intensive cultivation techniques. These areas are generally retained in minimum parcel sizes of 40 to 80 acres. Extensive agriculture designates lands with lower quality soils used for dry land farming and range land. These areas are generally retained in minimum parcel sizes of 20 and 160 acres. The Gentry-Suisun project site would be described as extensive agricultural because of low quality soil composition. The Gentry-Suisun project site is not designated as prime farmland. Upon annexation of the project area, the Solano County General Plan would no longer apply.

Surrounding Land Use Designations

The surrounding area of the project site included SR 12 to the north, Fairfield City limits to the Northwest, the UPRR, Pennsylvania Avenue, and Cordelia Road to the south, the UPRR tracks and the historic Suisun City downtown to the east, and LedgeWood Creek to the west.

The project site is surrounded by the following commercial and residential uses:

- To the west of the project is Ledgewood Creek, which is designated as conservation land and Solano Business Park and the Meyer Cookeware fabrication and distribution center beyond the Ledgewood Creek buffer.
- To the south of the project site is agricultural land used for cattle grazing.
- To the east of the project site lie the UPRR tracks and residential and commercial development.
- To the north of the project site is SR 12 with low to medium and high density residential, service commercial, and mixed-use.
- In the central portion of the project site are two parcels used for commercial services (automotive repair and industrial concrete services).

Existing Zoning Designations

City of Suisun City

The Suisun City Zoning Ordinance provides a precise and detailed plan for the use of land in the City based on the City of Suisun General Plan. The Zoning Ordinance has been established to provide a plan for residential, commercial, industrial, agricultural, public, and other uses in order to protect the established character and social economic values of agricultural, residential, commercial, industrial, recreational, and other areas within the City which have developed in a healthy and orderly manner. In addition the Zoning Ordinance encourages beneficial development of those areas which have grown with conflicting or uneconomic uses. The Zoning Ordinance assists in providing a definite and publicly approved plan of development to guide, control, and stimulates the future growth of the City in accordance with the need of the City and in proper relation to other land use areas in the region.

Because the project site is not located within the Suisun City limits, City zoning is not currently identified for the project site. The applicant is requesting annexation of the site to the City, which would require rezoning of the site to City zoning designations.

Solano County Zoning Ordinance

The Solano County Zoning Ordinance provides a precise and detailed plan for the use of land in the County based on the Solano County General Plan. The Zoning Ordinance has been established to provide a plan for residential, commercial, industrial, agricultural, public, and other uses in order to protect the established character and social economic values of agricultural, residential, commercial, industrial, recreational, and other areas within the County which have developed in a healthy and orderly manner. In addition, the Zoning Ordinance encourages beneficial development of those areas which have grown with conflicting or uneconomic uses. The Zoning Ordinance assists in providing a definite and publicly approved plan of development to guide, control, and stimulate the future growth of the County in accordance with the need of the County and in proper relation to other land use areas in the region.

According to the Solano County Zoning Ordinance, the Project Area is located just outside the Suisun City limits, south of the Fairfield City limits. The Project Area is currently zoned as agricultural as shown on Figure 4.1-2. The proposed Annexation Properties portion of the project includes an entitlement for annexation into the Suisun City limits.

Proposed Land Use Designations

Base Project

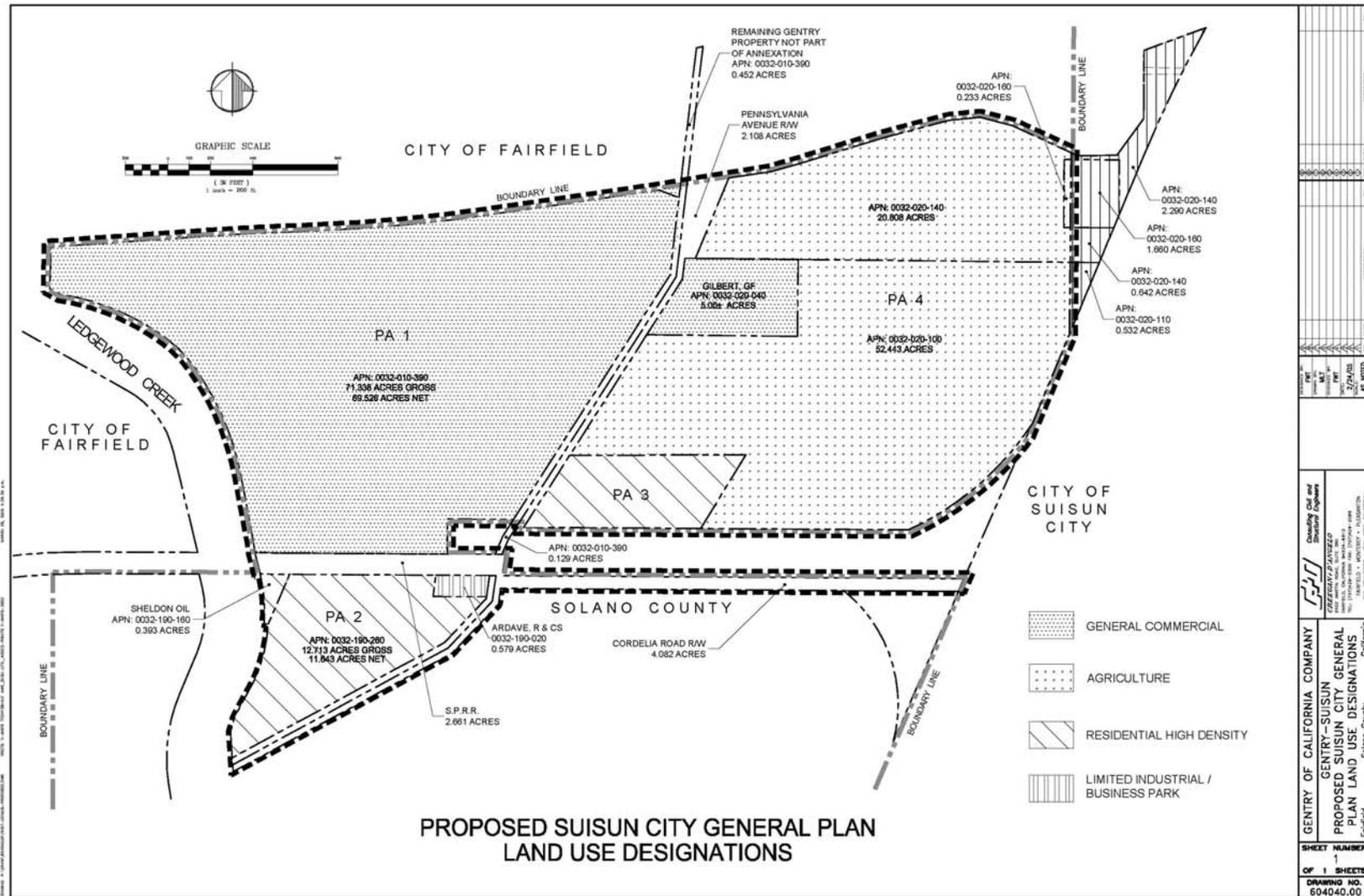
The Base Project includes an amendment to the Suisun City General Plan land use map to accommodate a Mixed-Use Development component. The Mixed-Use Development component would include three Planning Areas. Planning Area 1 of the Mixed-Use Site would be redesignated from Limited Industrial/Business Park and General Commercial to General Commercial. Planning Area 2 of the Mixed-Use Site would be redesignated from Limited Industrial/Business Park to Residential High Density; and Planning Area 3 would be redesignated from Limited Industrial/Business Park to Residential High Density. Planning Area 4, which would not be developed, would be redesignated from Limited Industrial/Business Park to Agricultural/Open Space. There would be no change to Planning Area 5, which would not be developed and would remain in Agricultural/Open Space uses.

The proposed land use designations for the Mixed-Use project would include General Commercial and Residential High Density. The Residential High Density and Agricultural/Open Space designations are defined below, and shown on Figure 4.1-3:

- Residential High Density – The purpose of this classification is to allow rental housing, typically characterized by garden apartments, that is affordable to all households at a density that is consistent with the overall low-density character of Suisun City. High density residential development is appropriate along arterial streets, adjacent to medium density residential uses, adjacent to commercial land uses, and in other areas where sufficient buffering can be provided to mitigate off-site visual and noise impacts.

Any high density residential land use adjacent to single family homes should be designed to protect the privacy of, and to reduce noise and visual impacts to, neighboring single family homes. The design character of such projects should seek to reduce the perception of high density and to be visually compatible with lower density land uses (according to the City's development design guidelines). The maximum dwelling unit density should be 21 dwelling units per acre, although the average density would more likely be 18 dwelling units per acre (gross). This density translates to a population density of 53 persons per acre, assuming an average household size of 2.5 persons. Standards for building coverage will be established by the City's Development Guidelines. Buildings should not exceed two to three stories in height.

Figure 4.1-3
 Proposed Suisun City General Plan Land Use Designations



- Agricultural /Open Space – The purpose of this classification is to protect open space for agricultural production within the City’s Sphere of Influence.

Alternative 1

Alternative 1 includes an amendment to the Suisun City General Plan land use map to accommodate a Mixed-Use Development component. The Mixed-Use Development would include three Planning Areas. Planning Area 1 of the Mixed-Use Site would be comprised of 70.73 acres (16.54 acres for a retail village; 41.47 acres for a retail area; 12.72 acres for residential units) and would be redesignated from Limited Industrial/Business Park and General Commercial to General Commercial and High Density Residential. Planning Area 2 of the Mixed-Use Site is comprised of 13.1 acres for residential units and would be redesignated from Limited Industrial/Business Park to Residential High Density. Planning Area 3 of the Mixed-Use Site is comprised of 4.0 acres for residential units and would be redesignated from Limited Industrial/Business Park to Residential High Density. Planning Area 4, which would not be developed, would be redesignated from Limited Industrial/Business Park to Agricultural/Open Space. There would be no change to Planning Area 5, which would not be developed and would remain in Agricultural/Open Space uses.

Alternative 2

Alternative 2 includes an amendment to the Suisun City General Plan land use map to accommodate a Mixed-Use Development component. The Mixed-Use Development component would include three Planning Areas. Planning Area 1 of the Mixed-Use Site is comprised of 17.97 acres for a retail village; 25.17 acres for a retail area; 15.47 acres for residential units; and 12.69 acres for single family lots. These areas would be re-designated from Limited Industrial/Business Park and General Commercial to General Commercial and High Density Residential. Planning Area 2 would be re-designated from Limited Industrial/Business Park to Residential High Density and Planning Area 3 would be re-designated from Limited Industrial/Business Park to Residential High Density. Planning Area 4, which would not be developed, would be redesignated from Limited Industrial/Business Park to Agricultural/Open Space. There would be no change to Planning Area 5, which would not be developed and would remain in Agricultural/Open Space uses.

Proposed Zoning Designations

Zoning Designations for the Base Project

The proposed project site includes rezoning of APN 0032-019-020 to Light Manufacturing (M-L), APN 0032-020-040 to General Commercial (CG), and Planning Area 4 to Agriculture (A) as shown on Figure 4.1-5. The Mixed-Use Site includes rezoning Planning Area 1 to General Commercial (CG) with Planned Unit Development

(PUD) Overlay, Planning Area 2 to High Density Residential (R-H) with Planned Unit Development (PUD) Overlay, and Planning Area 3 to High Density Residential (R-H) with Planned Unit Development (PUD) Overlay as indicated on Figure 4.1-4. Currently zoning does not exist for the proposed uses and the proposed rezoning on the project site would allow for commercial and high density residential development.

Zoning Designations for Alternative 1

The proposed project site includes rezoning of APN 0032-019-020 to Light Manufacturing (M-L), APN 0032-020-040 to General Commercial (CG) and High Density Residential (R-M), and Planning Area 4 to Agriculture (A). The Mixed-Use Site includes rezoning Planning Area 1 to General Commercial (CG) with Planned Unit Development (PUD) Overlay, Planning Area 2 to High Density Residential (R-H) with Planned Unit Development (PUD) Overlay, and Planning Area 3 to High Density Residential (R-H) with Planned Unit Development (PUD) Overlay.

Zoning Designations for Alternative 2

Alternative 2 includes rezoning of APN 0032-019-020 to Light Manufacturing (M-L), APN 0032-020-040 to General Commercial (CG) and High Density Residential (R-M), and Planning Area 4 to Agriculture (A). The Mixed-Use Site includes rezoning Planning Area 1 to General Commercial (CG) with Planned Unit Development (PUD) Overlay, Planning Area 2 to High Density Residential (R-H) with Planned Unit Development (PUD) Overlay, and Planning Area 3 to High Density Residential (R-H) with Planned Unit Development (PUD) Overlay.

Agricultural Resources

The following describes the extent and quality of the agricultural resources present on the project site.

Farmland Classifications

The United States Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS) uses two systems to determine a soil's agricultural productivity: the Soil Capability Classification and the Storie Index Rating System. The "prime" soil classification of both systems indicates the absence of soil limitation, which if present, would require the application of management techniques (e.g., drainage, leveling, special fertilizing practices) to enhance production. The Farmland Mapping and Monitoring Program, part of the Division of Land Resource Protection, California Department of Conservation, uses the information from the USDA and the NRCS to create maps illustrating the types of farmland in the area.

Soil Capability Classification

The Soil Capability Classification System takes into consideration soil limitations, the risk of damage when soils are used, and the way in which soils respond to treatment. Capability classes range from Class I soils, which have few limitations for agriculture, to Class VIII soils, which are unsuitable for agriculture. Generally, as the rating of the capability classification system increases, the yields and profits are difficult to obtain. A general description of soil classification, as defined by the NRCS, is provided in Table 4.1-1, Soil Capability Classification.

Table 4.1-1	
Soil Capability Classification	
<i>Class</i>	<i>Definition</i>
I	Soils have few limitations that restrict their use.
II	Soils have moderate limitations that reduce the choice of plants, or that require special conservation practices.
III	Soils have severe limitations that reduce the choice of plants, require conservation practices, or both.
IV	Soils have very severe limitations that reduce the choice of plants, require very careful management, or both.
V	Soils are not likely to erode but have other limitations; impractical to remove that limit their use largely to pasture or range, woodland, or wildlife habitat.
VI	Soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture or range, woodland, or wildlife habitat.
VII	Soils have very severe limitations that make them unsuited to cultivation and that restrict their use largely to pasture or range, woodland, or wildlife habitat.
VIII	Soils and landforms have limitations that preclude their use for commercial plants and restrict their use to recreation, wildlife habitat, or water supply or to aesthetic purposes.

Source: USDA Soil Conservation Service, Soil Survey of Solano County, 1977.

Storie Index Rating System

The Storie Index Rating system ranks soil characteristics according to their suitability for agriculture from Grade 1 soils (80 to 100 rating), which have few or no limitations for agricultural production to Grade 6 soils (less than 10), which are not suitable for agriculture. Under this system, soils deemed less than prime can function as prime soils when limitations such as poor drainage, slopes, or soil nutrient deficiencies are partially or entirely removed. The six grades, ranges in index rating, and definition of the grades, as defined by the NRCS, are provided below in Table 4.1-2, Storie Index Rating System.

Farmland Mapping and Monitoring Program

The Farmland Mapping and Monitoring Program (FMMP) was established in 1982 to continue the Important Farmland mapping efforts begun in 1975 by the U.S. Department of Agriculture, Soil Conservation Service (USDA-SCS). The intent of the USDA-SCS was to produce agriculture maps based on soil quality and land use across the nation. As part of the nationwide agricultural land use mapping effort, the USDA-SCS developed a series of definitions known as Land Inventory and Monitoring (LIM) criteria. The LIM criteria classified the land's suitability for agricultural production; suitability included both the physical and chemical characteristics of soils and the actual land use. Important Farmland Maps are derived from the USDA-SCS soil survey maps using the LIM criteria.

Table 4.1-2 Storie Index Rating System		
Grade	Index Rating	Definition
1 – Excellent	80 through 100	Soils are well suited to intensive use for growing irrigated crops that are climatically suited to the region.
2 – Good	60 through 79	Soils are good agricultural soils, although they may not be so desirable as Grade 1 because of moderately coarse, coarse, or gravelly surface soil texture; somewhat less permeable subsoil; lower plant available water holding capacity, fair fertility; less well drained conditions, or slight to moderate flood hazards, all acting separately or in combination.
3 – Fair	40 through 59	Soils are only fairly well suited to general agriculture use and are limited in their use because of moderate slopes; moderate soils depths; less permeable subsoil; fine, moderately fine or gravelly surface soil textures; poor drainage; moderate flood hazards; or fair to poor fertility levels, all acting alone or in combination.
4 – Poor	20 through 39	Soils are poorly suited. They are severely limited in their agricultural potential because of shallow soil depths; less permeable subsoil; steeper slope; or more clayey or gravelly surface soil texture than Grade 3 soils, as well as poor drainage; greater flood hazards; hummocky micro-relief; salinity; or poor fertility levels, all acting alone or in combination.
5 – Very Poor	10 through 19	Soils are very poorly suited for agriculture, are seldom cultivated and are more commonly used for range, pasture, or woodland.
6 – Nonagriculture	Less and 10	Soils are not suited for agriculture at all due to very severe to extreme physical limitations, or because of urbanization.

Source: USDA Soil Conservation Service, Soil Survey of Solano County, 1977.

Since 1980, the State of California has assisted the USDA-SCS with completing its mapping in the state. The FMMP was created within the State Department of Conservation (DOC) to carry on the mapping activity on a continuing basis, and with a greater level of detail. The DOC applied a greater level of detail by modifying the LIM criteria for use in California. The LIM criteria in California utilizes the SCS and Storie Index Rating systems, but also considers physical conditions such as dependable water supply for agricultural production, soil temperature range, depth of the ground water table, flooding potential, rock fragment content and rooting depth.

Important Farmland Maps for California are compiled using the modified LIM criteria (as described above) and current land use information. The minimum mapping unit is 10 acres unless otherwise specified. Units of land smaller than 10 acres are incorporated into surrounding classifications. The Important Farmland Maps identify seven agriculture-related categories: prime farmland, farmland of statewide importance (statewide farmland), unique farmland, farmland of local importance (local farmland), grazing land, urban and built-up land (urban land), and other land. Each is summarized below, based on *A Guide to Farmland Mapping and Monitoring Program (1998)*, prepared by the Department of Conservation.

Prime Farmland: Prime farmland is land with the best combination of physical and chemical features able to sustain the long-term

production of agricultural crops. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. The land must have been used for the production of irrigated crops at some time during the two update cycles (a cycle is equivalent to 2 years) prior to the mapping date of 1998 (or since 1994).

Statewide Farmland: Farmland of Statewide Importance is land similar to prime farmland, but with minor shortcomings, such as greater slopes or with less ability to hold and store moisture. The land must have been used for the production or irrigated crops at sometime during the two update cycles prior to the mapping date (or since 1994).

Unique Farmland: Unique farmland is land of lesser quality soils used for the production of the State's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards, as found in some climatic zones in California. The land must have been cultivated at some time during the two update cycles prior to the mapping date (or since 1994).

Local Farmland: Farmland of local importance is land of importance to the local agricultural economy, as determined by each county's Board of Supervisors and a local advisory committee. Solano County local farmland includes lands which do not qualify as Prime, Statewide, or Unique designation, but are currently irrigated crops or pasture or non-irrigated crops; lands that would meet the Prime or Statewide designation and have been improved for irrigation, but are now idle; and lands that currently support confined livestock, poultry operations and aquaculture.

Grazing Land: Grazing land is land on which the existing vegetation, whether grown naturally or through management, is suited to the grazing of livestock. The minimum mapping unit for this category is 40 acres.

Urban Land: Urban and built-up land is occupied with structures with a building density of at least one unit to one-half acre. Uses may include but are not limited to, residential, industrial, commercial, construction, institutional, public administration purposes, railroad yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment plants, water control structures, and other development purposes. Highways, railroads, and other transportation

facilities are mapped as part of this unit, if they are part of a surrounding urban area.

Other Land: Other land is land that is not included in any other mapping categories. The following uses are generally included: rural development, brush timber, government land, strip mines, borrow pits, and a variety of other rural land uses.

Project Site Characteristics

According to the Solano County Soil Survey, the project site is made up of the following soil: Sycamore silty clay loam, saline (St), Pescadero clay loam (Pc), Alviso silty clay loam (An), and Joice muck (Ja). The California Department of Conservation Farmland Mapping and Monitoring Program Soil Candidate Listing for Prime Farmland and Farmland of Statewide Importance, Solano County, lists no soils on the project site as being soils that meet the criteria for Prime Farmland. Table 4.1-3 lists the characteristics of the St, Pc, An, and Ja soil types as determined in the Solano County Soil Survey (1977).

Table 4.1-3			
Onsite Soil Capability Classification and Storie Index Rating			
Soil Map Symbol and Name	Soil Capability Classification	Storie Index Rating	Grade
Sycamore Silty Clay Loam (St)	IIIw-6	68	2
Pescadero Clay Loam (Pc)	IVw-6	35	4
Alviso Silty Clay Loam (An)	IVw-6	37	5
Joice Muck (Ja)	VIw-1	18	5

Source: USDA Soil Conservation Service, Soil Survey of Solano County, CA 1977.

Sycamore Silty Clay Loam (St) is found on the majority at the northern and central portion of the project site. This soil has slow permeability. Runoff is slow and erosion is a slight hazard. The rooting depth of most plants is restricted by the buried soil. The available water capacity is 4 to 7.5 inches. This soil is used mostly for irrigated and dry-farmed pasture, dryfarmed small grain, and hay. This soil is also used for wildlife habitat and recreation.

Pescadero clay loam (Pc) is found on the western most portion of the project site. Runoff is very slow and erosion is a slight hazard. This soil is mostly used for native pasture, but it is also used for irrigated pasture, wildlife habitat, and recreation.

Alviso-silty clay loam (An) is found on the east and southern portions of the project site and is located along the edges of the marsh. Surface runoff is very slow and erosion is a slight hazard. This soil is mainly used for dryland pasture. This soil is also used for irrigated pasture and dryfarmed barley. Waterfowl are hunted in most areas.

Joice muck (Ja) is found at the southern most portion of the project site within the Suisun Marsh. Runoff water is ponded and erosion is a slight hazard. This soil is mostly used for wildlife habitat and recreation. Joice muck is also used for pasture.

Regulatory Context

Suisun City General Plan Goals, Policies and Programs

The Suisun City General Plan sets forth various goals, objectives and policies that would apply to projects in the City. The following goals, objectives and policies from the Land Use Element (Chapter IV; pp. 28-51) of the Suisun City General Plan are applicable to the proposed annexation project (refer to Figure 4.1-1, Suisun City General Plan Land Use Map.)

A. General Land Use Goal: To provide for a balance of land uses to meet the basic needs of the City's residents and workers and to achieve the desired community character articulated by this General Plan.

Objective 1: The City will set forth a classification of land uses and general standards for development that can achieve the physical, social, economic, visual design, and environmental goals of this general plan.

Policy 2: Although the General Plan sets forth classifications of land uses with general development standards, as described below, the City desires to encourage innovative development solutions to Suisun City's development needs. To foster creativity in the development process, the City will allow departures from the strict application of the General Plan and zoning if this would achieve a superior result. Such departures would be approved to achieve the following purposes:

- To allow a variety of site configurations, lot sizes, and building orientations, so long as the overall density/building intensity otherwise allowed is not increased;
- To protect environmentally sensitive or desirable natural features found on the site;
- To cluster development on a portion of a site to protect environmentally sensitive features of the remaining portion;
- To allow for a mixing of land uses that are integrated into a comprehensive development plan for a site.

B. Residential Goal: To accommodate a variety of housing types consistent with the environmental goals of Suisun City and to focus City efforts on the redevelopment and preservation of residential neighborhoods.

Objective 1: To establish permitted types of residential uses, population density, and building intensity standards that will allow the City to meet the housing needs of all segments of the population through the year 2000.

Policy 6: Although the City should remain a predominantly single-family community, residential land use policies should ensure that a sufficient variety of housing can be constructed in Suisun City to meet the needs of all segments of its residents.

Policy 7: Planned Unit Development (PUD) agreements or specific plans will be required for developments which involve special design considerations, infill projects which require sensitivity to surrounding land uses, developments which propose mixes of land uses, and developments which propose densities that are substantially higher than surrounding developments in the same land use classification.

Policy 8: Regardless of the applicable density standards, any combination of housing types may be permitted as long as the average number of housing units for the density category involved is not exceeded, and as long as such mixture is made compatible with surrounding areas through good site planning, architectural design, landscaping, and provision of adequate open space. Conversely, the maximum density theoretically allowed by each category will not necessarily be approved, or even be achievable. The actual density at which development occurs will depend on the physical constraints inherent in the property, the design creativity exhibited by the development, and the need to meet landscaping, parking and other requirements that apply independently of the allowed building density. In no case will adherence to the City's design guidelines be waived or exempted so that a particular development can realize a density closer to the theoretical maximum. The intent is to achieve the optimum, not the maximum density for any site or project.

Policy 9: As required by state law, the maximum density otherwise permitted by Policy 7 may be increased by at least 25 percent if twenty percent of the dwelling units will be affordable to households earning no more than 80 percent of the median Solano County income, or if at least ten percent of the units are affordable to households earning no more than 50 percent of the Solano County median income. A planned unit development permit will be required for such projects to ensure that the higher density meets city objectives for design quality as espoused in the Development Guidelines. Mechanisms that assure long term affordability of the low and moderate income units will be required as a condition for granting any density bonus.

C. Commercial Goal: To expand job-creating activities needed to support population growth, construction, and the delivery of public services. Opportunities for improving the economic base should be pursued.

Policy 13: Suisun City's Commercial Needs. The City seeks to attract a variety of non-residential land uses. The City's commercial needs will be of three general types [...]. The three commercial categories are:

- Retail and service commercial centers serving the several neighborhoods in Suisun City.
- Regional serving commercial land uses oriented to access along arterial streets or Highway 12, and
- Business parks containing a mixture of land uses involving light manufacturing, assembly of components for finished products, sales/business offices, storage, and distribution.

E. Industrial Goal: To allow for a mixture of environmentally sensitive industrial land uses that would rely on their proximity to the Union Pacific Railroad, Travis Air Force Base, and arterial roads.

Policy 20: Gentry-Pierce Property. The Gentry-Pierce property, located south of Highway 12 and east of the Union Pacific Railroad tracks, is appropriate for business park land uses and should be developed as such. The intersection of Pennsylvania Avenue and Highway 12 is also an appropriate area for a retail commercial center because of its location at this key intersection and as part of the entryway to the development. The retail center would serve businesses and employees of the development as well as the community at large. For this reason, the area immediately adjacent to the intersection on both sides of Pennsylvania Ave. is designated General Commercial. The exact size and shape of the general commercial will be determined through the development review process, but will not be less than 30 net acres. (Net area is defined as gross area less public right-of-way dedicated for arterial streets and non-developable areas such as wetlands.)

City of Suisun City Municipal Services Review, Comprehensive Annexation Plan

This Municipal Services Review (MSR) (April 2005) and Comprehensive Annexation Plan (CAP), also called the MSR/CAP, has been prepared to comply with requirements of the Solano County Local Agency Commission (LAFCo) as well as State Law. The purpose of this document is to state the City's policy regarding phasing of annexation of lands within the context of the existing General Plan. This document is consistent with the City of Suisun City General Plan, including new growth areas for future development.

LAFCo will use this document in reviewing individual annexation proposals as well as updating the City's Sphere of Influence as required by State law. The Gentry-Suisun project site is listed in the CAP as a near-term annexation possibility (within 5 years).

County of Solano General Plan Goals and Policies

The Solano County General Plan sets forth various goals, objectives and policies that would apply to projects within the County. The following goals, objectives and policies from the Solano County General Plan Land Use and Circulation Element (Chapter III; pp. 25-) are applicable to the proposed project prior to the proposed annexation of the project area into the City of Suisun.

Chapter 3 Agricultural and Open Space Land Use

Goal 1: To maintain and enhance environmental quality of Solano County as it relates to the use of land, water, and air by managing and preserving the diverse natural resources of the County for the use and enrichment of the lives of present and future generations.

Objective 1 (Agricultural Lands): Preserve the County's high quality soils and protect and maintain essential agricultural lands including areas which possess unique characteristics for the raising of specialty crops.

Policy 1: Preserve and maintain essential agricultural lands including intensive agricultural areas comprised of high quality soils and irrigated lands and extensive agricultural areas with unique or significant dryland farming or grazing activities.

Policy 2: In essential agricultural areas, the County shall encourage the formation and retention of agricultural parcels of sufficient size to be maintained as a farmable unit. Farmable units are defined as the size of parcels a farmer would consider leasing or purchasing for different agricultural purposes as follows:

160-acre minimum parcel size for non-irrigated lands.

80-acre minimum parcel size for irrigated lands.

40-acres minimum parcel size where "highly productive" irrigated parcels are demonstrated to exist.

Policy 3: Urban development shall be confined to patterns which do not conflict with essential agricultural lands.

Policy 4: Rural and suburban development shall be confined to non-essential marginal agricultural lands with a low capability of agricultural

production and in a manner which minimizes conflicts with surrounding agricultural activities.

Policy 5: Non-essential agricultural lands should be protected and retained in agricultural use until land conversion to non-agricultural uses becomes necessary.

Policy 6: Encourage consolidation of the fragmented pattern of agricultural preserves established under the Land Conservation Act and the retention of agricultural preserves in essential agricultural, watershed, and marshland areas.

Objective 1 (Marsh and Wetland Habitat): Preserve and enhance the quality and diversity of marsh aquatic and wildlife habitats.

Objective 2: Preserve and enhance the water resources available to Solano County, and protect significant waterways and their habitats.

Policy 1: The County shall preserve and enhance wherever possible the diversity of wildlife and aquatic habitats found in the Napa Marsh and Suisun Marsh and surrounding upland areas to maintain these unique wildlife resources.

Policy 2: The County shall protect its marsh waterways, managed and natural wetland, tidal marshes, seasonal marshes, and lowland grasslands which are critical habitats for marsh-related wildlife.

Policy 3: Existing land uses should continue in the upland grasslands and cultivated areas surrounding the critical habitats of the Suisun marsh in order to protect the marsh and preserve valuable marsh-related wildlife habitats. Where feasible, the value of the upland grasslands and cultivated lands as habitat for marsh-related wildlife should be enhanced.

Policy 4: Agriculture within the Primary Management Area of the Suisun Marsh should be limited to activities compatible with, or intended for, the maintenance or improvement of wildlife habitat. These include extensive agricultural uses such as grain production and grazing. Intensive agricultural activities involving removal or persistent plowing of natural vegetation should not be permitted.

Policy 5: Agricultural uses consistent with protection of the Suisun Marsh, such as grazing and grain production, should be maintained in the Secondary Management Area. In the event such uses become infeasible, other uses compatible with protection of the marsh should be permitted.

Policy 6: In marsh areas, the County shall encourage the formation and retention of parcels of sufficient size to preserve valuable tidal marshes, seasonal marshes, managed wetlands, and contiguous grassland areas for the protection of aquatic and wildlife habitat.

Policy 7: The County shall ensure that development in the County occur in a manner which minimizes impacts of earth disturbance, erosion, and water pollution.

Policy 8: The County shall preserve the riparian vegetation along significant County waterways in order to maintain water quality and wildlife habitat.

Policy 9: The County shall ensure that public access at appropriate locations is provided and protected along the County's significant waterways within the Suisun Marsh and Napa Marsh.

Policy 10: Within the watershed of the Suisun Marsh, the County shall encourage sound agricultural practices which conserve water quality and the riparian vegetation.

Chapter 5 Residential Land Use

Goal 1: Promote and ensure adequate housing in a satisfying environment for all citizens of Solano County.

Objective 1: Provide sufficient housing jointly with the cities to meet Solano County's projected housing needs.

Objective 2: Provide phased residential development consistent with economic and social needs and environmental constraints.

Objective 3: Provide for primarily self-sufficient rural residential development in regard to water supply and sewage disposal requiring only minimal public facilities and services essential for health, safety, and welfare.

Objective 4: Enhance and preserve the environmental quality of residential areas in the County.

Policy 1: The County shall seek to achieve coordination of housing goals, objectives, policies, and plans between the County and the cities.

Policy 2: The unincorporated County's principal housing role shall be to accommodate future residential development which constitutes an accessory use to agriculture (farm residence and farm labor quarters) and a moderate amount of rural residential development.

Policy 3: The cities' principal housing role shall be to provide low to high-density urban residential development requiring the provision of urban services.

Policy 4: Housing units in the unincorporated County shall consist primarily of single family homes including manufactured dwellings certified under the nation Mobile Home Construction and Safety Standard Act and meeting minimum County architectural and development standards.

Policy 5: Multi-family housing units in the unincorporated County shall be located in those areas best equipped to provide the level of service necessary to support such development.

Policy 7: Residential development shall be located only in designated areas on non-essential agricultural lands without health and safety hazards. Residential development shall not conflict with surrounding agricultural activities.

Chapter 6 Commercial Land Use

Goal 1: Establish a strong diversified economic base and provide for a wide choice of employment opportunities in a pleasant working environment.

Objective 1: Provide for adequate commercial development that is located in close proximity to the population to be served.

Objective 2: Provide for limited commercial activities within the unincorporated area to service primarily unincorporated community needs, as well as, limited highway service commercial facilities.

Policy 1: The County's primary commercial role is to service unincorporated residents and the highway traveler through appropriate neighborhood, highway, and commercial service uses.

Policy 2: Community commercial, general commercial, commercial services, professional and administrative office development shall be located in the County's incorporated communities which provide maximum access to the public and where appropriate services and facilities can be provide to accommodate such development.

Policy 3: All commercial classifications should be clustered on sites convenient to the dispensing and receipt of goods and services with a minimum of conflicts with adjacent areas and uses. They should not take

the “strip” form of development or be allowed to leapfrog along a given thoroughfare.

Solano County LAFCo

The Solano Local Agency Formation Commission (LAFCo) is a state mandated boundary commission responsible for coordinating logical and timely changes in local government boundaries. The Commission, in the consideration of proposals, has to observe four basic statutory purposes: the discouragement of urban sprawl; the preservation of open space and agricultural land resources; the efficient provision of government services; and the encouragement of orderly growth boundaries based upon local conditions and circumstances. LAFCo’s powers, procedures, and functions are set forth in the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000, (Government Code Section 560000 et seq.).

Spheres of Influence

Spheres of Influence are required to be established by LAFCo for each city and special district which must come before the Commission for boundary changes. A Sphere of Influence means “a plan for the probable physical boundary and service area of a local government agency, as determined by the Commission” (56076). Establishment of this boundary is necessary to determine which governmental agencies can provide services in the most efficient way to the people and property in any given area. An annexation proposal must be within the affected agency’s Sphere of Influence in order for LAFCo to act favorably on the application.

The following LAFCo standards apply to the proposed project.⁵

Standard Number 1: Consistency with Sphere of Influence (SOI) Boundaries. An area proposed for change of organization or reorganization shall be within the affected agency’s Sphere of Influence. An application for change of organization or reorganization for lands outside an adopted Sphere of Influence may be considered concurrently with a request for amendment to the Sphere of Influence, at LAFCo’s discretion.

Standard Number 2: Change of Organization and Reorganization to the Limits of the Sphere of Influence (SOI) Boundaries. Annexation to the limits of the SOI boundary shall not be allowed if the proposal includes land designated for open space use by the affected city’s general plan for city change or organization or reorganization or County General Plan for district change or organizations or reorganization unless such open space logically relates to existing or future needs of the agency. Open space uses may be located within agency limits, but are not limited to community and city-wide parks, recreational facilities, permanently protected open space lands, reservoirs, and storm water detention basins.

Standard Number 3: Consistency with Appropriate City General Plan, Specific Plan, Area-Wide Plan, and Zoning Ordinance. An application for a city change of organization or reorganization which involves the conversion of open space lands to urban use shall be denied by LAFCo if the proposed conversion is not consistent with appropriate city plans (general plans, specific plans, area-wide plans, and associated zoning ordinance). The determination of consistency shall be the responsibility of the affected agency, and shall be met by a resolution approved by the agency council certifying that the proposed change of organization or reorganization meets all applicable consistency requirements of State Law, including internal consistency between the agency's adopted plans and the zoning ordinance. In the event that plan consistency is contested, LAFCo shall retain the discretion to determine the consistency question and may require additional environmental information.

Standard Number 6: Effect on Natural Resources. An application for annexation shall describe the amount of land involved, and the land, water, air, and biological resources affected, including topography, slope, geology, soils, natural drainage, vegetative cover, and plant and animal populations. Effects to be covered include those which will be both positive and negative and the means proposed to offset potential negative impacts. LAFCo shall certify that provisions of Solano LAFCo Environmental Guidelines for the Implementation of the California Environmental Quality Act have been complied with.

Standard Number 7: Relationship to Established Boundaries, Streets and Roads, Lines of Assessment, Remaining Unincorporated Territory; Proximity to Other Populated Areas; Assessed Valuation. This standard sets forth guidelines for establishing the boundaries of proposals. LAFCo shall, where possible, avoid irregularities and overlapping of established boundaries in proposals for change of organization or reorganization which would otherwise create problems for taxing districts, including the loss of tax revenues required for district operation. City boundaries at County roads and city streets shall be delineated to provide an orderly division of road maintenance and law enforcement responsibilities between cities and counties.

Standard Number 8: Likelihood of Significant Growth and Effect on Other Incorporated or Unincorporated Territory. Prior to approving the annexation, LAFCo shall make a determination that the proposed conversion of open space lands to urban use is justified by probable urban growth within a 10-year period of time. A determination on the likelihood of significant growth justifying the conversion shall be based on the analysis of local and regional demand for the proposed uses.

Standard Number 10: Provision and Cost of Community Services. Adequate urban services shall be available to areas proposed for a change of organization or reorganization.

Impacts and Mitigation Measures

Standards of Significance

For the purposes of this Draft EIR, impacts are considered significant if implementation of the proposed project would:

Land Use

A land use impact may be considered to be significant if any potential effects of the following conditions, or potential thereof, would result with the proposed project's implementation:

- Results in a substantial potential for conflict as a result of incompatible land uses;
- Results in a land use which is inconsistent with existing city plans and/or city policies adopted for purposes of avoiding or mitigating environmental effects;
- Results in a conflict with any provisions of the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 that are relevant to proposed annexations and that function as means of avoiding or mitigating environmental effects; or
- Results in a conflict with any Solano County LAFCo policies that are relevant to proposed annexations and that function as means of avoiding or mitigating environmental effects.

Agricultural Resources

An agricultural impact may be considered to be significant if any potential effects of the following conditions, or potential thereof, would result with the proposed project's implementation:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract in an area in which continued agriculture is economically viable; or
- Involve other changes in the existing environment that, due to their location or nature, could individually or cumulatively result in loss of economically viable Farmland, to non-agricultural uses.

Method of Analysis

Land Use

The land use impact evaluation qualitatively compares the uses proposed for the project to the existing and other proposed uses in the vicinity of the project site in order to determine if proposed land uses are compatible with existing or proposed uses. The determination of compatibility is based on the anticipated environmental effects of proposed uses and the sensitivity of adjacent uses to those effects. The evaluation also assesses the consistency of the proposed project with the goals and policies of the Suisun City General Plan as well as consistency with LAFCo standards.

Agricultural Resources

This section utilized the following resources to assess the impacts of the project: the Suisun City General Plan EIR and the Soil Survey for Solano County. This section assesses the impacts of the project on agricultural resources by applying the standards of significance listed above to the proposed project. If the analysis determines that the proposed project would have significant impacts on agricultural resources, mitigation measures are recommended, which would reduce impacts.

Project-Specific Impacts and Mitigation Measures – Land Use

4.1-1 Compatibility with surrounding land uses.

The determination of compatibility of land uses typically relies on a general discussion of the types of adjacent uses to a proposed project and whether any sensitive receptors exist either on the adjacent properties or associated with the proposed project. Incompatibilities typically exist when uses such as residences, parks, churches, and schools are located adjacent to more disruptive uses such as heavy industrial, major transportation corridors, and regional commercial centers where noise and traffic levels may be high. The identification of incompatible uses occurs if one land use is anticipated to be disruptive of the existing or planned use of an adjacent property.

Base Project

The Gentry-Suisun Project Area includes five planning areas totaling approximately 493 acres and 5.11 acres currently zoned and in the City limits. The four planning areas comprising the Annexation Properties total 171.50 acres as indicated on Figure 3-4 of the Project Description Chapter. The Gentry-Suisun project includes the construction of commercial and residential uses on an 87.82-acre Mixed-Use Development. The Base Project involves the development of approximately 655,499 sf of retail (Planning Area 1) plus 359 dwelling units (Planning Areas 2 and 3). Planning Area 4 has been allocated for wetland mitigation and would not be developed. The proposed commercial centers on

Planning Area 1 could include the following: a supercenter; a home improvement store; apparel; home furnishings; restaurants; fast food; a gas station, and unknown retail tenants.

Approval of the proposed project would result in the development of residential uses adjacent to existing noise sources, such as the UPRR tracks that run in an east-west direction through the project site. In addition, the commercial uses proposed for Planning Area 1 would result in the generation of noise and lighting that could adversely affect proposed residences on Planning Areas 2 and 3. Urban uses on a site that is primarily vacant would also introduce a substantial amount of new traffic and dust and urban pollutants. Please refer to Chapter 4.3, “Noise”, Chapter 4.4 “Air Quality”, and Chapter 4.5 “Transportation and Circulation.” It should be noted that because existing sensitive receptors are not located within close proximity to the project site, construction and operation of the proposed project, particularly the commercial areas, would not adversely impact existing residents. Two businesses are currently located in the central portion of the project site, including a concrete and towing business. However, the site plan has been designed to accommodate these businesses and furthermore, they would not be considered sensitive uses.

The proposed development could also potentially impact wildlife activities at the Suisun Marsh, which is located directly south of the project site. Currently, night lighting does not exist in the project area, except for lighting associated with adjacent businesses at the corner of Cordelia Road and Pennsylvania Avenue. Lighting at the construction site for the project (temporary) and proposed development (permanent) could impact behavioral patterns of nocturnal and crepuscular (active at dawn and dusk) wildlife at the edges of these areas. These effects include increased predation on small mammals and reptiles. However, implementation of Mitigation Measure 4.2-3 in the *Aesthetics* Chapter, requiring the submittal of a lighting control plan, would ensure that light exposure to the marsh area is minimized.

Furthermore, according to the Suisun City General Plan, the project site is planned for urban development which is currently designated as business park, general commercial, and limited industrial. The Base Project would be compatible with the existing residential developments, service commercial, and mixed-uses located to the north and northeast of the project site. Based upon the above analysis and the mitigation measures included throughout the remainder of this Draft EIR, the Base Project would have *less-than-significant* impacts regarding land use compatibility.

Alternative 1

Alternative 1 involves the development of 480,000 sf of retail (Planning Area 1) plus 412 dwelling units. According to the Site Plan included in the Project Description Chapter (Figure 3-7), Planning Area 2 would include 196 high-

density residential units, Planning Area 3 would include 84 high-density residential units, and 132 high-density residential units would be located on Planning Area 1. The 132 high-density residential units on Planning Area 1 are currently planned to be located just south of SR 12 and north of proposed commercial/retail uses.

Similar to the Base Project, approval of Alternative 1 would result in the development of residential uses adjacent to existing noise sources, such as the UPRR tracks that run in and east-west direction through the project site. In addition, the commercial uses proposed for Planning Area 1 would result in the generation of noise and lighting that could adversely affect proposed residences on Planning Areas 1, 2, and 3 – particularly Planning Area 1. The residences located in the northwest corner of Planning Area 1 would be exposed to noise from SR 12, located just to north, as well as noise associated with commercial activities. However, this residential area would be buffered from nearby parking lots by landscaping, as indicated on the Site Plan. Noise is addressed in more detail in Section 4.3 of this Draft EIR. Urban uses on a site that is primarily vacant would also introduce a substantial amount of new traffic and dust and urban pollutants. Please refer to Chapter 4.4 “*Air Quality*” and Chapter 4.5 “*Transportation and Circulation*.”

New sources of lighting, as a result of development, could impact the residential uses adjacent to commercial uses, in particular lighting associated with the large parking lots. In addition, as with the Base Project, Alternative 1 could also potentially impact wildlife activities at the Suisun Marsh, which is located directly south of the project site. However, implementation of Mitigation Measure 4.2-3 in the *Aesthetics* Chapter, requiring the submittal of a lighting control plan, would ensure that light exposure to the marsh area is minimized.

It should also be noted that the project site is planned for development in the Suisun City General Plan as business park, general commercial, and limited industrial. Based upon the above analysis and the mitigation measures included throughout the remainder of this Draft EIR, Alternative 1 would have ***less-than-significant*** impacts regarding land use compatibility.

Alternative 2

Alternative 2 includes approximately 350,000 sf of retail plus 542 dwelling units. According to the Site Plan included in the Project Description Chapter (Figure 3-8), Planning Area 2 would include 196 high-density residential units, Planning Area 3 would include 84 high-density residential units, and 250 high-density residential units would be located on Planning Area 1. The proposed single family homes would be located along the western boundary of the project site, west of the large commercial anchor, south of the existing power lines, and north of the UPRR tracks.

Similar to the Base Project, approval of Alternative 2 would result in the development of residential uses adjacent to existing noise sources, such as the UPRR tracks that run in and east-west direction through the project site. In addition, the commercial uses proposed for Planning Area 1 would result in the generation of noise and lighting that could adversely affect proposed residences on Planning Areas 1, 2, and 3 – particularly Planning Area 1. The residences located in the northwest corner of Planning Area 1 would be exposed to noise from SR 12, located just to north, as well as noise associated with commercial activities. Furthermore, the single family homes proposed along the western portion of the site would be adjacent to the large commercial anchor and north of the UPRR tracks. However, this residential area would be buffered from nearby commercial and railroad activities by landscaping, as indicated on the Site Plan. Noise is addressed in more detail in Section 4.3 of this Draft EIR. Urban uses on a site that is primarily vacant would also introduce a substantial amount of new traffic and dust and urban pollutants. Please refer to Chapter 4.4 “*Air Quality*” and Chapter 4.5 “*Transportation and Circulation*.”

As with the Base Project, Alternative 2 could also potentially impact wildlife activities at the Suisun Marsh, which is located directly south of the project site. However, implementation of Mitigation Measure 4.2-3 in the *Aesthetics* Chapter, requiring the submittal of a lighting control plan, would ensure that light exposure to the marsh area is minimized.

According to the Suisun City General Plan, the proposed project site is planned for urban development which is currently designated as business park, general commercial, and limited industrial. Based upon the above analysis and the mitigation measures included throughout the remainder of this Draft EIR, Alternative 2 would have *less-than-significant* impacts regarding land use compatibility.

Mitigation Measure(s)

None Required.

4.1-2 Consistency with the City of Suisun City General Plan.

Base Project, Alternative 1, and Alternative 2

The City of Suisun City General Plan designates the project site as business park, general commercial, and light industrial. The proposed project would include general commercial and high density residential within Planning Areas 1, 2, and 3 while Planning Areas 4 would be designated for wetland mitigation areas. The extent of the commercial development proposed for the site, as well as the residential component would not be consistent with the existing land use designations for the project site. Therefore, the proposed project involves a General Plan Amendment request to redesignate Planning Area 1 from Limited Industrial/Business Park and General Commercial to General Commercial;

Planning Area 2 from Limited Industrial/Business Park to Residential High Density; and Planning Area 3 from Limited Industrial/Business Park to Residential High Density. Planning Area 4, which would not be developed, would be redesignated from Limited Industrial/Business Park to Agricultural/Open Space. Although residential uses are currently not allowed on the project site, the residential uses proposed for the project would be consistent with several policies of the Suisun City General Plan.

Suisun City General Plan Policy 20 states in regards to the project site that:

The Gentry-Pierce property, located south of Highway 12 and east of the Union Pacific Railroad tracks, is appropriate for business park land uses and should be developed as such. The intersection of Pennsylvania Avenue and Highway 12 is also an appropriate area for a retail commercial center because of its location at this key intersection and as part of the entryway to the development. The retail center would serve businesses and employees of the development as well as the community at large. For this reason, the area immediately adjacent to the intersection on both sides of Pennsylvania Ave. is designated General Commercial. The exact size and shape of the general commercial will be determined through the development review process, but will not be less than 30 net acres. (Net area is defined as gross area less public right-of-way dedicated for arterial streets and non-developable areas such as wetlands.)

The proposed project conflicts with the above policy because the project would include the development of commercial and residential land uses in addition to light industrial/business park uses. As a result, in order to accommodate the proposed project, General Plan Policy 20 would need to be revised as follows:

The Gentry-Pierce property, located south of Highway 12 and east of the Union Pacific Railroad tracks, is appropriate for business park, residential, and regional commercial land uses, and should be developed as such. The intersection of Pennsylvania Avenue and Highway 12 is also an appropriate area for a retail commercial center because of its location at this key intersection and as part of the entryway to the development. The retail center would serve businesses and employees of the development as well as the community at large. For this reason, the area immediately adjacent to the intersection on both sides of Pennsylvania Ave. is designated General Commercial. The exact size and shape of the general commercial will be determined through the development review process, but will not be less than 30 net acres. (Net area is defined as gross area less public right-of-way dedicated for arterial streets and non-developable areas such as wetlands.)

The land uses proposed for the project would be consistent with the following applicable commercial and residential policies contained in the City of Suisun City General Plan.

In regards to the commercial policies, Policy 13 (See pg. 39 of City of Suisun City GP) states in part that the City seeks to attract a variety of non-residential land uses, including regional serving commercial land uses oriented to access along arterial streets or SR 12. As the proposed project is located immediately south of SR 12 and consists of regional commercial uses in Planning Area 1, the project is consistent with this policy.

Although residential uses are currently not allowed on the project site, the residential uses proposed for the project would be consistent with several policies of the Suisun City General Plan. Policy 6 (See pg. 34 of the City of Suisun City GP) states that “although the City should remain a predominantly single-family community, residential land use policies should ensure that a sufficient variety of housing can be constructed in Suisun City to meet the needs of all segments of its residents.” The proposed project includes various densities of housing products in order to meet the needs of diverse segments of the community. Policy 7 states in part that Planned Unit Development (PUD) agreements will be required for developments, which propose a mix of land uses. The project application involves a request to prezone the 87.82-acre Mixed-Use site to various zoning districts, each having a PUD overlay. In addition, the residential densities proposed for the Base Project, Alternative 1, and Alternative 2 are consistent with the allowable densities for the proposed General Plan land use designations.

The Suisun City GP also includes various policies regarding bicycle systems (See Policies 23-27 on pg. 68). As proposed, the project is inconsistent with these policies because bicycle facilities are not included. However, Mitigation Measure 4.5-41 included in the *Transportation and Circulation* chapter of this EIR requires that the project site plan be revised to include bicycle facilities, as determined by the City Engineer.

The project as proposed is inconsistent with the current General Plan land use designations for the project site as well as Policy 20. As a result, the project involves a request for amendments to the existing land use designations as well as Policy 20 in order to accommodate the proposed uses. The project is consistent with several other goals and policies in the General Plan.

The final authority for determination of General Plan consistency rests with the Suisun City Council. Approval of the project is a discretionary action of the City Council. Should the City Council deny the project, no inconsistency would occur. Should the City Council approve the project, the requested amendments to the General Plan would be approved concurrently and no inconsistency would occur because the project would be found generally consistent. Therefore, a ***less-than-significant*** impact would result.

Mitigation Measure(s)

None Required.

4.1-3 Consistency with existing zoning.

Base Project, Alternative 1, and Alternative 2

The proposed project site is currently located outside the City of Suisun City limits and does not have a zoning designation. According to the Solano County Zoning Ordinance, the proposed project site is zoned A-40 (Agriculture with 40-acre minimum parcel). Although the project site is zoned as agriculture, the proposed project includes the annexation of the project parcels to the City of Suisun City. The Ardave Parcel, Gilbert Parcel, and Planning Area 4 would be rezoned or prezoned (as applicable) to the designations listed below in Table 4.1-4, pursuant to City Code Chapter 18.74.

Table 4.1-4 Acreage and Rezoning / Prezoning for Ardave Parcel, Gilbert Parcel and Planning Area 4		
Parcel(s)	Site Area (acres)	Prezoning
Ardave Parcel	± 0.58	M-L (Light Manufacturing)
Gilbert Parcel	± 5.00	CG (General Commercial)
Planning Area 4	± 69.28	A (Agriculture)
Total	± 74.86	

The Mixed-Use project site would be prezoned to the designations listed below in Table 4.1-5 for the Base Project, Table 4.1-6 for Alternative 1, and Table 4.1-7 for Alternative 2, pursuant to City Code Chapter 18.74.

Table 4.1-5 Planning Area Acreage and Prezoning for Mixed-Use Site Base Project		
Planning Area	Site Area (acres)	Prezoning
1	± 70.71	General Commercial (CG) with Planned Unit Development (PUD) Overlay
2	± 13.11	High Density Residential (R-H) with PUD Overlay
3	± 4.00	High Density Residential (R-H) with PUD Overlay
Total	± 87.82	
*PA 4 not included in the acreage total because although PA 4 is part of the project, it would not be developed with commercial or residential uses.		

Table 4.1-6 Planning Area Acreage and Prezoning for Mixed-Use Site Alternative 1		
Planning Area	Site Area (acres)	Prezoning
1	± 70.71	General Commercial (CG) and High Density Residential (R-M) with Planned Unit Development (PUD) Overlay
2	± 13.11	High Density Residential (R-H) with PUD Overlay
3	± 4.00	High Density Residential (R-H) with PUD Overlay
Total	± 87.82	
*PA 4 not included in the acreage total because although PA 4 is part of the project, it would not be developed with commercial or residential uses.		

Table 4.1-7 Planning Area Acreage and Prezoning for Mixed-Use Site Alternative 2		
Planning Area	Site Area (acres)	Prezoning
1	± 70.71	General Commercial (CG) and Medium Density Residential (R-M) with Planned Unit Development (PUD) Overlay
2	± 13.11	High Density Residential (R-H) with PUD Overlay
3	± 4.00	High Density Residential (R-H) with PUD Overlay
4	± 69.28	Agriculture / Open Space
Total	± 87.82	
*PA 4 not included in the acreage total because although PA 4 is part of the project, it would not be developed with commercial or residential uses.		

As shown in Tables 4.1-5 through 4.1-7 above, Planning Areas 1, 2, and 3 would be prezoned with a Planned Unit Development (PUD) overlay, including the approval of a Preliminary Development Plan (PDP) for the PUD, prepared pursuant to City Code Chapter 18.63. In addition, Planning Area 4 would be prezoned to Agriculture/Open Space. The PDP would define the scope of specific permitted and conditional uses, as well as development standards such as setbacks, parking, landscaping and architectural guidelines, for the Mixed-Use Site. The PDP (in conjunction with the Development Agreement, discussed below) would also outline the process for future review and approval of specific development proposals for the Mixed-Use Site. One or more Precise Development Plans would also be approved as part of the project. The applicant would be required to submit a final application for PDP for review and approval of City Council through a public hearing process. The final application must comply with the requirements of the City of Suisun City Zoning Ordinance, which would ensure that the project continues to remain consistent with the City's PDP process, resulting in a *less-than-significant* impact.

Mitigation Measure(s)

None Required.

4.1-4 Consistency with Solano County LAFCo Standards.

Base Project, Alternative 1, and Alternative 2

As previously described, the project site is located within Solano County and is proposed to be annexed to the City of Suisun City. As a result, annexation of the project site will ultimately require approval by Solano County LAFCo. Solano County LAFCo has standards that a project site must comply with in order for the site to be approved for annexation. Following is a brief discussion of how the project site is consistent with the standards of Solano County LAFCo, as applicable. Standard Number 1 states that an area proposed for change of organization or reorganization shall be within the affected agency's Sphere of Influence. The Gentry-Suisun project site is within the City of Suisun City's existing SOI.

Standard Number 2 states annexation to the limits of the SOI boundary shall not be allowed if the proposal includes land designated for open space use by the affected city's general plan for city change or organization or reorganization or County General Plan for district change or organizations or reorganization unless such open space logically relates to existing or future needs of the agency. As the project site is not currently designated open space, the project site is consistent with this standard.

Standard Number 6 states that an application for annexation shall describe the amount of land involved, and the land, water, air, and biological resources affected, including topography, slope, geology, soils, natural drainage, vegetative cover, and plant and animal populations. This Draft EIR provides an analysis of these environmental areas. Please refer to the appropriate sections for a more detailed discussion.

Standard Number 10 states that adequate urban services shall be available to areas proposed for a change of organization or reorganization. This Draft EIR demonstrates (See Section 4.8, Public Services and Utilities) that the necessary infrastructure would be constructed as part of the proposed project and that impact fees would be paid for needed services, such as fire and police.

The proposed project is consistent with the standards set forth by Solano County LAFCo. Ultimately, annexation to the City of Suisun City is a discretionary action by Solano County LAFCo. Should LAFCo approve the annexation, the project would have a *less-than-significant* impact.

Mitigation Measure(s)

None Required.

Cumulative Impacts – Land Use

4.1-5 Cumulative Land Use Impacts.

The proposed Gentry-Suisun project, along with reasonably foreseeable projects within the City of Suisun City and the City of Fairfield (See Chapter 6, *Statutorily Required Sections*, for a list of cumulative projects) would change the intensity of land uses within the geographic area that would be affected by the proposed project. The cumulative land use impacts of the project, together with the related impacts of other foreseeable projects would be considered significant. The increased development associated with these projects would result in environmental impacts, such as traffic, air, and noise. Furthermore, for some projects, such as the Gentry-Suisun project, impacts would occur to areas outside the lead agency's jurisdiction, which may result in significant and unavoidable impacts. It should also be noted that the Gentry-Suisun project as well as some of the cumulative projects, involve amendments to the jurisdiction's General Plan, which would result in the development of uses that were not previously anticipated for in the City's General Plan.

The project's incremental contribution to cumulative land use impacts would not be cumulatively considerable. As noted above, the project would involve amendments to the current City General Plan land use designations for the project site as well as Policy 20 because the types of uses proposed for the project were not planned for the site. However, the project site is designated for development in the Suisun City General Plan and the project involves a request to pre-zone the project site to various urban zoning districts with a PUD overlay. Given the land use controls, General Plan goals and policies, and development standards presently in use within Suisun City, the project's incremental contribution to cumulative land use impacts would be minimized to a level that is considered *less-than-significant*. In addition, as noted above, the final authority for determination of General Plan consistency rests with the Suisun City Council. Approval of the project is a discretionary action of the City Council. Should the City Council deny the project, no inconsistency would occur. Should the City Council approve the project, the requested amendments to the General Plan would be approved concurrently and no inconsistency would occur because the project would be found generally consistent.

Mitigation Measure(s)

None required.

Project-Level Impacts and Mitigation Measures – Agricultural Resources

4.1-6 Loss of Prime Agricultural Farmland and conflicts with existing agricultural zoning.

The project area comprises approximately 171.50 acres currently within the jurisdiction of Solano County. The project site is designated as Agricultural land by the Solano County General Plan, but according to the Solano County Important Farmland Map (2000), the project site is not considered to be Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. Furthermore, According to the Solano County Soil Survey, the project site is comprised of Sycamore silty clay loam, saline (St), Pescadero clay loam (Pc), Alviso silty clay loam (An), and Joice muck (Ja). These soils are not identified as Prime Farmland. In addition, these soils are not highly desirable for farmland activities.

Although the site currently has County agricultural zoning (A-40), agricultural activities are not currently conducted on the project site. Only a portion of the project site is used for cattle grazing. Furthermore, the project site is designated for development in the Suisun City General Plan and the project involves a request to prezone the project site to various urban zoning districts with a PUD overlay to be consistent with the land use designations.

Therefore, development of the project site would not result in a loss of Prime Farmland or conflict with existing agricultural zoning and the impact would be *less-than-significant*.

Mitigation Measure
None Required.

Cumulative Impacts and Mitigation Measures – Agricultural Resources

4.1-7 Cumulative loss of Prime Agricultural Farmland.

The project area comprises approximately 171.50 acres currently within the jurisdiction of Solano County. The project, in conjunction with the cumulative buildout of future projects in the City of Suisun and Solano County would contribute to a significant impact in regard to the loss of agricultural land as a result of development (see discussion of cumulatively considerable projects in Chapter 6).

However, as discussed in Impact 4.1-6, the proposed project area is not considered to be Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. Furthermore, According to the Solano County Soil Survey, the project site is comprised of Sycamore silty clay loam, saline (St), Pescadero clay loam (Pc), Alviso silty clay loam (An), and Joice muck (Ja). These soils are not

identified as Prime Farmland. In addition, these soils are not highly desirable for farmland activities.

The cumulative development of the City of Suisun as well as other projects within the region, would contribute to a cumulative loss of Prime Farmland, Farmland of Statewide Importance or Unique Farmland. However, because the proposed project site was not found to include Prime Farmland, Farmland of Statewide Importance or Unique Farmland, the proposed project's contribution to the cumulative loss of farmland would not be cumulatively considerable. Therefore, the proposed project would have a *less-than-significant* impact to the cumulative loss of farmland.

Mitigation Measure

None Required.

Endnotes

¹ City of Suisun City General Plan, Volume I. 1992.

² City of Suisun City Comprehensive Zoning Ordinance. 1998.

³ Solano County Land Use and Circulation Element: A Part of the Solano County General Plan. 1980, as amended through 2000.

⁴ Soil Conservation Service, Solano County Soil Survey, 1977.

⁵ Solano County LAFCo *Standards and Procedures, Glossary of Terms, Fees and Forms, Meeting Schedule and Map and Description Requirements*. Last amended March 3, 2003.

4.2 AESTHETICS

4.2 AESTHETICS

INTRODUCTION

This section of the EIR describes existing visual and aesthetic resources for the project site and the region, and evaluates potential impacts of the project with respect to urbanization of the area. In addition, the Suisun City General Plan goals and policies pertaining to aesthetics are described. The California Environmental Quality Act (CEQA) describes the concept of aesthetic resources in terms of scenic vistas, scenic resources (such as trees, rock outcroppings, and historic buildings within a state scenic highway), the existing visual character or quality of the project site, and light and glare impacts. The following impact analysis is based on information drawn from the City of Suisun City General Plan¹.

ENVIRONMENTAL SETTING

The following setting information provides an overview of the existing condition of visual resources in the Suisun Gentry project site area, located within Solano County, within the City Limits of Suisun City.

Regional Setting

The City of Suisun City is located in central Solano County, midway between Sacramento and San Francisco. The City is located on the Suisun Channel, which connects with Suisun and Grizzly Bays and links the City with the Sacramento River and the San Francisco Bay. Suisun City is bounded on the north and west by the City of Fairfield. The City is bounded on the east by Travis Air Force Base and unincorporated agricultural lands and on the south by the Suisun Marsh Protection District. The community is bisected by State Route (SR) 12 and is approximately two miles east of Interstate 80. The Suisun Slough, a major tidal waterway, connects Suisun City to Suisun Bay and the greater San Francisco Bay system. The Union Pacific Railroad passes through the City which creates a sharp border between Fairfield and Suisun City, physically separating the two communities and has the only remaining passenger stop in Solano County which is located adjacent to Main Street in the Old Town business district.

Suisun City's most distinguishing characteristic is its relationship to water and water-oriented land uses, including the historic waterfront area, natural watercourses which traverse the community, the Suisun Slough, and human-created waterways. Although the water orientation of the community primarily relates to development in Old Town, one of the primary purposes of the City's past and present planning efforts is to draw residents from the entire community to the Old Town/waterfront area. Suisun City's historic and cultural role is a transportation center that has interfaced rail and water routes. The City's

historic core is linked to its role in transportation over a century ago. The historic design elements of the City are primarily limited to the Old Town area.

A strong interaction occurs between urban and natural habitats along the Suisun marsh, which defines the southern edge of the City. Because the Marsh represents a natural habitat border, development design along the Marsh must be sensitive to the urban-environmental interface, in contrast to the urban interface between Suisun City and Fairfield.

Project Area Setting

The Annexation Properties portion the Project Area consist of approximately 171.50 acres currently within the jurisdiction of Solano County and planned to be annexed to the City of Suisun City as part of the project. Located nearly 45 miles northeast of San Francisco and 45 miles southwest of the City of Sacramento, Solano County is bordered by Napa, Yolo, San Joaquin, and Contra Costa Counties and covers 823 square miles, about half of which lies in the Sacramento Valley (Refer to Figure 3-1, Regional Location Map). The Annexation Properties are generally located south of SR 12 and the Fairfield City limits, west of the Union Pacific Railroad, north of Cordelia Road, and east of LedgeWood Creek (See Figure 3-2, Project Location Map).

Surrounding land uses include SR 12 and existing residential and commercial north of the site. LedgeWood Creek and Solano Business Park are located west of the project site. To the east is the Union Pacific Railroad and existing residential and commercial. The Suisun Marsh Protection District is located to the south of the project site.

The project area topography is relatively flat, with elevations ranging from 1 to 16 feet above sea level. The land slopes generally from the northwest to southeast at an average grade of 1 percent. The area as a whole drains into Peytonia Slough to the southeast. The south of the Project Area consists of approximately 321 acres of wetlands and uplands, which is part of the Suisun Marsh Protection District. Although the applicant owns the 321 acre, planning area 5, this acreage is not part of the 88.4 acre Mixed Use Development. In addition, a portion of the Project Area contains populations of Contra Costa County Goldfields, several vernal pools, and marshland (See Section 4.6 for a detailed discussion of biological resources).

Project Features

The proposed project involves the annexation of approximately 171.50 acres of land from Solano County into the City of Suisun City and the development of an approximately 87.82-acre mixed-use development site. The mixed-used development portion of the project includes three planning areas. Planning Area 1 involves approximately 70.71 acres in the northern portion of the Mixed-Use site and would primarily include a major retail center to meet the tax revenue needs of the Suisun City and the retail and commercial needs of residents of Suisun City and the region. Planning Area 1 would have a mix of retail tenants, which may include small shops, general merchandise stores,

“big box” establishments such as a supercenter, and/or a home improvement center, and service providers. Planning Area 1 may also include some to high-density residential uses. Planning Area 2 involves approximately 13 acres in the southern portion of the Mixed-Use site and is intended for the development of medium to high-density residential uses such as small lot single-family homes, duets, attached townhomes and condominiums. Current development plans for this Planning Area include two and three story single family attached and/or detached for sale housing. The residential development would be designed around pedestrian walkways weaving through village-type housing connected to pocket parks. Planning Area 3 involves approximately 4 acres and is located northeast of the intersection of Pennsylvania Avenue and the existing Union Pacific Railroad (UPRR) tracks, and is intended for the development of medium to high density residential uses similar to Planning Area 2. Planning Area 4 would be redesignated from Limited Industrial/Business Park and General Commercial to Agriculture/Open Space and would remain as an agriculture and open space area. Planning Area 5 is not being annexed and would remain as an agriculture and open space area with mitigation uses.

It should also be noted that the proposed project includes Planned Unit Development Guidelines for the commercial and residential portions of the project. These are discussed in more detail in the Impacts section below.

REGULATORY CONTEXT

Specific Federal or State regulations do not directly pertain to the visual quality of an area. However, existing policies and regulations established in the City of Suisun City General Plan and Municipal Code are listed below, as applicable:

City of Suisun General Plan

The following are applicable General Plan goals and policies related to aesthetics:

Community Character and Design

Goal: To pursue visual and design quality in both private development and public facilities that maintains and strengthens the character of Suisun City.

Policy 1: Quality of Development – The City will implement development design standards to assure that new development achieves an acceptable level of performance on visual quality, landscaping, circulation, noise attenuation, environmental protection, flood control, public facility and service, and other important criteria. The Development Guidelines for Site Planning and Architecture were adopted in 1988. The design standards embodied in this document reflect the objectives and policies in this chapter.

Policy 3: New development will be expected to adhere to a continually improving standard of design quality, environmental sensitivity, and image of the

community. The quality of all private and public development should be upgraded with the addition of each new development project.

Policy 5: Each neighborhood should have a sense of place and identity through the use of entry markers, landscaping, and common design themes; among neighborhoods, however, there should be a variety of design themes.

Policy 12: Parks and Open Space – Parks and open spaces located along the edge of the Marsh should be designed to provide an accessible and open transition between human-developed spaces and the natural environment of the Marsh. The City will accomplish such a transition along the interface between the Lawler Ranch subdivision and the buffer channel according to the Capital Improvements Program.

Policy 16: The General Plan Land Use map will identify the key entryways into the City. Major entryways include Highway 12 east of the City limits near the future Walters Road extension, Sunset Avenue at the Southern Pacific railroad tracks, Walters Road between Tabor Avenue and Prosperity Lane, and Highway 12 between Ledgewood Creek and the overpass.

Policy 17: The key western entrance to Suisun City along Highway 12 provides the only elevated view of the City. It is essentially important that the design and visual attractiveness of developments on either side of Highway 12, between approximately Pennsylvania Avenue and Marina Boulevard, reflect the elevated as well as ground-level views of these properties.

Policy 19: Developments proposed along Highway 12 will be conditioned by development review procedures and will avoid the creation of foreground views, which will be detrimental to the objectives of maintaining and improving visual quality along the Highway. Development projects which fall within the foreground view from Highway 12, and which are adjacent to the Highway right-of-way will be subject to conditions of approval, which provide for sound control and installation of ornamental landscaping along the highway right-of-way. Site planning, landscaping, and building configurations would be regulated by the City's Development Guidelines

Policy 20: The City will implement a program to coordinate signs along key entry ways into the City and to ensure acceptable design at entry ways to new subdivisions, per the City's Development Guidelines.

IMPACTS AND MITIGATION MEASURES

Standards of Significance

An impact to the aesthetic values of the Gentry project area would be considered significant if any of the following conditions would potentially result from implementation of the proposed project:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- Substantially degrade the existing visual character or quality of the site and its surroundings; or
- Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

Method of Analysis

This section gives full consideration to the development of the project area, and acknowledges the physical changes to the existing setting. Impacts to the existing environment in the project site are to be determined by the contrast between the site's visual setting before and after proposed development. In this analysis, emphasis has been placed on the transformation of the existing predominantly rural setting into a landscape characterized by urban buildout. Although few standards exist to singularly define the various individual perceptions of aesthetic value from person to person, the degree of visual change can be measured and described in a reasonably objective manner in terms of visibility and visual contrast, dominance, and magnitude. Current residents are considered to be sensitive to the visual and aesthetic transformations in the study area attributed to future development.

Project-Specific Impacts and Mitigation Measures

4.2-1 Impacts related to scenic vistas and visual resources.

Base Project

The Suisun Marsh defines the southern edge of the City by creating a unique interaction between urban and natural habitats along the Suisun Marsh. The Proposed Project would contribute to the change in visual character within the City of Suisun by converting portions of natural habitats directly north of Suisun Marsh to urban uses.

Although the Base Project is immediately surrounded by open space and natural habitats to south, urban development does exist to the west, north and east of the vicinity of the Project Area. The historical downtown Suisun is east of the project site and further commercial and industrial development exists to the west of the site. The site is bordered to the north by SR 12, and by residential and commercial developments. In addition, the UPRR tracks run through the southern portion of the site. Furthermore, the Fairfield General Plan designates the undeveloped properties to the west as Limited Industrial.

Although the project would convert open space, and natural habitats to commercial and residential uses, the proposed project is anticipated for development in the 1992 *City of Suisun General Plan [and earlier- per Mayor Spering this was part of the GP when he arrived in the mid-1980s]*. The Suisun General Plan designates the site as General Commercial, and Limited Industrial/Business Park. According to the Suisun General Plan and California Department of Transportation (www.dot.ca.gov/hq/LandArch/scenic_highways/; March 2006), SR 12 is not designated as a scenic route. In addition, trees, rock outcroppings, and historic buildings do not exist on the project site. Furthermore, although the project would include development along this area, the project includes the preservation of approximately 69 acres between Pennsylvania Avenue and the Union Pacific Railroad tracks, which would maintain the existing open views of the City from that stretch of SR 12.

However, should development be allowed, the character of the Project Area west of the 69 acre preservation area would change from Solano Business Park and Ledgewood Creek, a main storm drainage channel for the City of Fairfield straightened and diked by the Army Corps in the 1980s to commercial and residential uses interspersed with trees, greenbelt areas, and parks. Planning areas 4 and 5 comprise approximately 390 acres or almost 80% of the project area where the character of the Project Area would be retained. Therefore, the conversion of the project site would be considered *significant*.

Alternative 1

Alternative 1 would result in the conversion of the same total area of open space and natural habitats to an urban area with residential, commercial, and other uses as the Base Project. However, Alternative 1 would include 53 more residential units than the Base Project, 62,000 square feet of limited industrial space, 11,682 fewer square feet of office space, and 230,839 fewer square feet of commercial space. As discussed above, although development would be consistent with urban uses within the vicinity of the project site, such changes would have significant impacts to views in the project area. Therefore, the aesthetic impacts of the Alternative 1 would be considered *significant*.

Alternative 2

Alternative 2 would result in the conversion of the same total area of open space and natural habitats to an urban area with residential, commercial, and other uses as the Base Project. However, Alternative 2 would include 183 more residential units than the Base Project, 62,000 square feet of limited industrial space, 11,682 fewer square feet of office space, and 360,839 fewer square feet of commercial space. As discussed above, although development would be consistent with urban uses within the vicinity of the project site, such changes would have significant impacts to views in the project area. Therefore, the aesthetic impacts of the Alternative 2 would be considered *significant*.

Mitigation Measure(s)

Because feasible mitigation measures are not available, this impact would be considered *significant and unavoidable* for the Base Project, Alternative 1, and Alternative 2. The only means of avoiding this impact would be for the City Council to deny this project.

4.2-2 Impacts related to existing visual character or quality of the site and its surroundings.

Base Project

The project site currently is open and natural. Implementation of the project would replace the undeveloped, natural character of the project site with an urban mixed-use setting. Because the project site currently provides open views from the adjacent roadways and surrounding properties, the change in the character of the site would be recognizable. Furthermore, the *1992 City of Suisun General Plan* includes policies that identify the key entryways into the City. The portion of SR 12 along the northern boundary of the project site is considered a major entryway (e.g., SR 12 between Ledgewood Creek and the overpass). This section of SR 12 provides the only elevated view of Suisun City. As such, the applicant has provided design guidelines to the City for the residential and commercial portions of the project. The residential design guidelines contain details including but not limited to proposed landscaping, building materials and colors, and roof elevations. For example, the guidelines states that consistent use of themes, materials, colors, and building orientations shall be applied to the uses and circulation systems within each themed area. The design of the PUD shall be compatible with the nearby and adjacent land uses and visually interesting from the surface streets. Regarding landscaping, the draft PUD Guidelines state that the design of the areas along Pennsylvania Avenue and Cordelia Road adjacent to Planning Areas 2 and 3 shall include a maximum 10-foot landscape buffer and a 6-foot high decorative masonry wall to buffer the residences from traffic noise. The landscape setback area shall be graded and landscaped to physically screen Pennsylvania Avenue and Cordelia Road and residential development from visual, light, glare, and noise impacts from neighboring traffic.

The commercial component of the PUD Guidelines include standards for exterior building design, landscaping, screening, parking lots, signage, circulation, and exterior lighting. These Guidelines have been developed to provide designers, architects, and tenants with guidelines for the development of buildings and individual tenancies that would result in a consistent and aesthetically pleasing mixed-use project. More specifically, the PUD Guidelines provide standards for all retail buildings within the project, which can be summarized as follows:

- Any proposed building elevation(s) that face public or private streets, whether such elevation(s) function as the front, side or rear of the buildings, shall be architecturally detailed to avoid the appearance of being the back of the building.
- Large blank walls, especially those visible from a public right-of-way, shall be articulated through various treatments such as offsets in massing, arcades, colonnades and the use of a variety of different facade materials.
- Wall Openings: Storefront windows and doors shall be provided to articulate each building façade facing pedestrian areas and public ways.
- Pedestrian Components: Pedestrian scaled elements such as a wall wainscot, planter areas, pots or site furnishings shall be provided along pedestrian walkways adjacent to buildings.
- Varied Building Height or Roofline: The overall building profile shall be varied through the use of a combination of elements including varied parapet heights, roof forms and towers.
- Color and Texture Variation: Each building shall exhibit a range of color, material and texture as described in these Guidelines.
- Wall Variation: Wall and building articulation as described above shall occur so that uninterrupted wall surfaces do not exceed 60'-0" on any building.
- Parapet heights shall be high enough to screen roof-mounted equipment from finish grade at roadways immediately adjacent to the site. Changes in parapet height shall be used to enhance tenant entries, provide individualization and articulate building elements.
- All elevations of pad buildings shall be architecturally detailed similar to the front elevation.

In addition, as stated in the PUD Guidelines, landscape design shall be subject to the City's Ordinances and Codes, specifically, the City's Landscape Development Guidelines. All on-site landscaping shall be installed prior to building occupancy.

In terms of the change to the visual character of the project area, development on the project site would be typical of what currently exists or is planned for areas west, east, and north of the project site. Although the project would incorporate design elements that would be consistent with the surrounding urban character and include architectural standards and themes representative of the area, the

change in the site from a natural to urban environment would constitute a permanent alteration of the existing visual character of the project site. Therefore, a *significant* impact would occur.

Alternative 1 and Alternative 2

Similar to the Base Project, Alternative 1 and 2 would permanently convert the open and natural character of the project site to that of an urban setting. However, development under Alternative 1 and Alternative 2 would include residential communities along SR 12, with fewer commercial pads and parking. Furthermore, the commercial portion of the PUD Guidelines states that if under Alternative 1 or Alternative 2, residential development occurs on Planning Area 1, the design of any such residential areas adjacent to SR 12 shall include a maximum 10-foot landscape buffer and a 6-foot high decorative masonry wall to buffer the residences from traffic noise. The landscape setback area shall be graded and landscaped to physically screen SR 12 and residential development from visual, light, glare, and noise impacts from neighboring traffic.

Although the Alternatives would incorporate design elements that would be consistent with the surrounding urban character and include architectural standards and themes representative of the area, the change in the site from a natural to urban environment would constitute a permanent alteration of the existing visual character of the project site. Therefore, a *significant* impact would occur.

Mitigation Measure(s)

Because feasible mitigation measures are not available, this impact would be considered *significant and unavoidable* for the Base Project, Alternative 1, and Alternative 2. The only means of avoiding this impact would be for the City Council to deny the project.

4.2-3 Impacts related to light and glare.

Base Project

The project site consists predominantly of open space and natural habitats; therefore, very little light or glare is currently emitted from the project site. The change from an undeveloped site to a mixed-use development would generate new sources of light and glare such as parking lots, building lighting, and streetlights. Although the lighting is intended as a safety measure for those on the project site, the lighting would also potentially create a nuisance for the residential developments located to the northwest of the project site, as well as travelers along SR 12. New sources of night lighting would be particularly attributable to the commercial areas proposed for the project. These sources of lighting could not only impact existing residents to the northwest, but also future residents within the proposed residential areas of Planning Areas 2 and 3. (Please

refer to the *Land Use and Agricultural Resources* Section of this EIR for a discussion of the possible project lighting impacts to the nearby Suisun Marsh).

The types of lighting would be typical of residential, commercial, and industrial uses. In addition, travelers along SR 12 are currently exposed to existing residential and commercial lighting, as clusters of extended development borders the highway. All forms of exterior lighting would be consistent with the guidelines established in the project's PUD. In regard to commercial lighting standards the PUD Guidelines state that, among other details, exterior illumination should be color-corrected and warm-white in tone; lights shall be placed so as not to cause excessive glare, obtrusive light, light trespass onto other properties and upward directed, or wasted light; light fixtures are to be concealed source/full cutoff fixtures except for pedestrian oriented lights; all exterior lighting must be shielded to prevent off-site glare; and lighting design shall not produce hazardous glare to motorists, building occupants, residents of adjacent areas, or the general public. In addition, although current nighttime sky views within the project area are already affected by the urbanization of Fairfield and Suisun City, due to existing lighting sources reducing the darkness of the sky, the measures within the PUD Guidelines for the project would serve to reduce further impacts to nighttime sky views.

However, to date a lighting plan has not been submitted showing the exact locations of proposed lighting. Therefore, because the project would introduce land uses or structures that would contribute a substantial amount of new nuisance light or glare into an area that currently has minimal light or glare, this impact is considered *potentially significant*.

Alternative 1

As noted above, Alternative 1 would result in the construction of 53 more residential units than would the Base Project, which would increase sensitive receptors susceptible to nuisance lighting associated with the proposed commercial areas of the project. However, the commercial area would decrease by 230,839 square feet as compared to the Base Project, as well as decrease the square footage for parking, and thus overhead parking lights. In addition, 62,000 square feet of limited industrial uses are also proposed under Alternative 1.

To date a lighting plan has not been submitted showing the exact locations of proposed lighting for this Alternative. Therefore, because the Alternative would introduce land uses or structures that would contribute a substantial amount of new nuisance light or glare into an area that currently has minimal light or glare, this impact is considered *potentially significant*, though less severe than what would occur with the Base Project.

Alternative 2

As noted above, Alternative 2 would result in the construction of 183 more residential units than would the Base Project, which would increase sensitive receptors susceptible to nuisance lighting associated with the proposed commercial areas of the project. However, the commercial area would decrease by 360,839 square feet as compared to the Base Project, as well as decrease the square footage for parking, and thus overhead parking lights. In addition, 62,000 square feet of limited industrial uses are also proposed under Alternative 2.

To date a lighting plan has not been submitted showing the exact locations of proposed lighting for this Alternative. Therefore, because the Alternative would introduce land uses or structures that would contribute a substantial amount of new nuisance light or glare into an area that currently has minimal light or glare, this impact is considered *potentially significant*, though less severe than what would occur with the Base Project.

Mitigation Measure(s)

Implementation of the following mitigation measures would mitigate potential impacts for the Base Project, Alternative 1, and Alternative 2 to a *less-than-significant* level.

- 4.2-3 *Prior to the issuance of building permits, the developer shall submit a lighting plan for the review and approval of the Building Official and Community Development Director of the City of Suisun. The lighting plan shall include shielding on all light fixtures and shall address limiting light trespass and glare and nighttime sky impacts through the use of shielding and directional lighting methods, including but not limited to, fixture location and height. The lighting plan shall comply with the standards set forth in the PUD Guidelines prepared for the project.*

Cumulative Impacts and Mitigation Measures

4.2-4 Long-term impacts to the visual character of the region from the proposed project in combination with existing and future developments in the Suisun area.

Base Project, Alternative 1, and Alternative 2

The proposed Gentry-Suisun project, along with reasonably foreseeable projects within the City of Suisun City and the City of Fairfield (See Chapter 6, *Statutorily Required Sections*, for a list of cumulative projects) would change the visual character of the geographic area of Fairfield and Suisun City. The cumulative aesthetic impacts of the project, together with the related impacts of other foreseeable projects would be considered significant.

In addition, the project's incremental contribution to cumulative aesthetic impacts would be cumulatively considerable. The properties in the immediate vicinity of the project site are currently undeveloped, although the sites to the east and west are anticipated for development under the Suisun General Plan and Fairfield General Plan. Should development be allowed on-site, the character of the area would change from open spaces and natural areas to commercial and residential uses interspersed with trees, greenbelt areas, and parks. Although the project site has been designated General Commercial and Limited Industrial / Business Park in the Suisun General Plan and adjacent undeveloped properties to the west have also been designated for development, any development proposed on the site would contribute to the alteration of the regional visual character. As mentioned previously, the project-level changes to views associated with development of the project site would be considered significant and unavoidable; therefore, a *significant* impact would result.

Mitigation Measure(s)

Because feasible mitigation measures are not available, this impact would be considered *significant and unavoidable* for the Base Project, Alternative 1, and Alternative 2. The only means of eliminating the project's cumulatively considerable contribution to these significant cumulative impacts would be for the City Council to deny the project. Such action, however, would not eliminate the contribution of other projects to the loss of visual resources within the larger area surrounding the project site.

Endnotes

¹ *City of Suisun City General Plan*, May 1992.

4.3 AIR QUALITY

4.3 AIR QUALITY

INTRODUCTION

The Air Quality section describes the effects of the Gentry-Suisun Project on local and regional air quality. The section includes a discussion of the existing air quality; construction-related and emissions-related air quality impacts resulting from the future buildout under the rezoning associated with the proposed project and mitigation measures warranted to reduce or eliminate any identified significant impacts. The section is based on the *Air Quality Impact Evaluation for Gentry/Suisun Annexation Project* provided by Donald Ballanti, Certified Consulting Meteorologist.

ENVIRONMENTAL SETTING

The following setting information provides an overview of the existing air quality in the project area, which is currently located in Solano County, immediately west of the existing Suisun City Limits. In addition, the regulatory agencies and required permits associated with air quality are described.

Existing Conditions

The City of Suisun is located between the San Francisco Bay and the Sacramento Valley, and is within the San Francisco Bay Air Basin. Suisun has a relatively low potential for air pollution given the persistent and strong winds typical of the area. Wind records from the closest wind-measuring sites show a strong predominance of southwesterly winds. Average wind speed is relatively high and the frequency of calm winds is quite low. These winds dilute pollutants and transport them away from the area, so that emissions released in the project area have more influence on air quality in the Sacramento and San Joaquin valleys than they do locally. However, the project's location downwind of the greater Bay Area means that pollutants from other areas are transported to the area.

Current Air Quality

The state and national ambient air quality standards cover a wide variety of pollutants. Only a few of these pollutants are problems in the Bay Area either due to the strength of the emission or the climate of the region. The Bay Area Air Quality Management District (BAAQMD) maintains a network of monitoring sites in the Bay Area. The closest monitoring site to Suisun City is in Fairfield, but only ozone is monitored at that site. The closest multi-pollutant monitoring site is located in Vallejo. Table 4.3-1 summarizes violations of air quality standards at these monitoring sites for the period 2002-2004. Table 2 shows that the federal ambient air quality standards are met in the project area with the exception of the standard for PM_{2.5}. State ambient standards are met with the exception of ozone and PM₁₀.

**Table 4.3-1
Air Quality Data Summary for Fairfield and Vallejo, 2002-2004**

Pollutant	Standard	Days Standard Exceeded During:			
		Station	2002	2003	2004
Ozone	Federal 1-Hour	Fairfield	0	0	0
		Vallejo	0	0	0
Ozone	State 1-Hour	Fairfield	4	0	1
		Vallejo	1	2	1
Ozone	Federal 8-Hour	Fairfield	0	0	0
		Vallejo	0	0	0
PM ₁₀	Federal 24-Hour	Fairfield	-	-	-
		Vallejo	0	0	0
PM ₁₀	State 24-Hour	Fairfield	-	-	-
		Vallejo	2	0	1
PM _{2.5}	Federal 24-Hour	Fairfield	-	-	-
		Vallejo	1	0	0
Carbon Monoxide	State/Federal 8-Hour	Fairfield	-	-	-
		Vallejo	0	0	0
Nitrogen Dioxide	State 1-Hour	Fairfield	-	-	-
		Vallejo	0	0	0

Source: Air Resources Board, Aerometric Data Analysis and Management (ADAM), 2005.
(<http://www.arb.ca.gov/adam/cgi-bin/adamtop/d2wstart>)

Health Effects of Pollutants

The following is a discussion of the health effects of various significant pollutants.

Ozone

Ozone is produced by sunlight-activated chemical reactions between nitrogen oxides (NO_x) and reactive organic gases (ROGs). Nitrogen oxides are created during combustion of fuels, while reactive organic gases are emitted during combustion and evaporation of organic solvents. Because ozone is not directly emitted into the atmosphere, but is formed as a result of photochemical reactions, ozone is considered a secondary pollutant. In the San Francisco Bay Air Basin, ozone is a seasonal problem, occurring roughly from April through October.

Ozone is a strong irritant that attacks the respiratory system, leading to the damage of lung tissue. Asthma, bronchitis, and other respiratory ailments, as well as cardiovascular diseases, are aggravated by exposure to ozone. A healthy person exposed to high concentrations may become nauseated or dizzy, develop headaches, and experience coughing or a burning sensation in the chest.

Research has shown that exposure to ozone damages the alveoli (the individual air sacs in the lung where the exchange of oxygen and carbon dioxide between the air and blood takes place). Research has shown that ozone also damages vegetation.

The Bay Area is currently a nonattainment for 1-hour federal ozone standard. However, in April 2004, U.S. EPA made a final finding that the Bay Area has attained the national 1-hour ozone standard. The finding of attainment does not mean the Bay Area has been reclassified as an attainment area for the 1-hour standard. The region must submit a re-designation request to EPA in order to be reclassified as an attainment area.

The U.S. Environmental Protection Agency has classified the San Francisco Bay Area as a nonattainment area for the federal 8-hour ozone standard.

Under the California Clean Air Act western Solano County is a nonattainment area for ozone. The county is either attainment or unclassified for other pollutants. The California Clean Air Act requires local air pollution control districts to prepare air quality attainment plans. These plans must provide for district-wide emission reductions of five percent per year averaged over consecutive three-year periods or if not, provide for adoption of “all feasible measures on an expeditious schedule.”

Suspended Particulate

Suspended particulate matter (PM) is a complex mixture of tiny particles that consist of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid particles small enough to remain suspended in the atmosphere indefinitely. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, and dust, although the major components of suspended particulate are dust particles, nitrates, and sulfates. A portion of suspended particulate is directly emitted into the atmosphere as a by-product of combustion, wind erosion of soil, and unpaved road travel. Small particles are also created in the atmosphere through chemical reactions.

Particles greater than 10 microns in diameter can cause irritation in the nose, throat, and bronchial tubes. Natural mechanisms remove much of these particles, but smaller particles are able to pass through the body’s natural defenses and the mucous membranes of the upper respiratory tract, and enter into the lungs. The particles can damage the alveoli. The particles may also carry carcinogens and other toxic compounds, which adhere to the particle surfaces and can enter the lungs.

“Inhalable” PM consists of particles less than 10 microns in diameter, and is defined as “suspended particulate matter” or PM₁₀. Fine particles are less than 2.5 microns in diameter (PM_{2.5}). PM_{2.5}, by definition, is included in PM₁₀.

Under the California Clean Air Act western Solano County is a nonattainment area for particulate matter (PM₁₀ and PM_{2.5}). The Bay Area is designated as unclassifiable/attainment for the federal particulate (PM₁₀ and PM_{2.5}) standards..

Carbon Monoxide

Carbon monoxide (CO) is a local pollutant because high concentrations occur only very near the source. The major source of carbon monoxide, a colorless, odorless, and poisonous gas, is automobile traffic. Elevated concentrations, therefore, are usually only found near areas of high traffic volumes.

Carbon monoxide's health effects are related to its affinity for hemoglobin in the blood. At high concentrations, carbon monoxide reduces the amount of oxygen in the blood, causing heart difficulties in people with chronic diseases, reduced lung capacity, and impaired mental abilities.

Carbon monoxide concentrations are highly seasonal, with the highest concentrations occurring in the winter. This phenomenon is partly due to the fact that automobiles create more carbon monoxide in colder weather, and partly due to the very stable atmospheric conditions that exist on cold winter evenings when winds are calm. Concentrations typically are highest during the stagnant air period of November through January.

The BAAQMD is an attainment-area for the federal CO standard and the State standard. Concentrations of this pollutant have been steadily declining for more than 25 years due to the gradual replacement of older, more polluting vehicles with newer, cleaner vehicles. No violations of the federal or state ambient standards have been recorded in the Bay Area in the last 15 years.

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. Toxic Air Contaminants (TACs) are injurious in small quantities and are regulated despite the absence of criteria documents. The identification, regulation and monitoring of TACs is relatively recent compared to that for criteria pollutants. Many different types of TACs, with varying degrees of toxicity, exist. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, motor vehicle exhaust and diesel engine exhaust. Cars and trucks release at least forty different toxic air contaminants. The most important in terms of health risk are diesel particulates, benzene, formaldehyde, butadiene, and acetaldehyde.

Public exposure to TACs can result from emissions from normal operations, as well as accidental releases. Health effects of TACs include cancer, birth defects, neurological damage, and death.

Some TACs (as well as ozone and particulate matter) have been shown to be correlated with adverse health effects. For example, studies have shown that children who participated in several sports and lived in communities with high ozone levels were more likely to develop asthma than the same active children living in areas with less ozone pollution. Other studies have found a positive association between some volatile organic

compounds and symptoms in asthmatic children. A large body of evidence has shown significant associations between measured levels of particulate matter outdoors and worsening of both asthma symptoms and acute and chronic bronchitis. It is not possible, however, to predict increases in severity of disease, hospital visits or deaths from respiratory diseases such as asthma, bronchitis or lung cancer associated with an individual development project.

REGULATORY CONTEXT

Air quality is monitored through the efforts of various federal, State, regional, and local government agencies. These agencies work jointly and individually to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies responsible for regulating and improving the air quality within the Suisun area are discussed below.

Ambient Air Quality Standards

Criteria Pollutants

Both the U. S. Environmental Protection Agency and the California Air Resources Board have established ambient air quality standards for common pollutants. These ambient air quality standards are ambient levels of contaminants that represent safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called “criteria” pollutants because the health and other effects of each pollutant are described in criteria documents. The federal and State ambient air quality standards are summarized in Table 4.3-2.

Table 4.3-2 Federal and State Ambient Air Quality Standards			
Pollutant	Averaging Time	Federal Primary Standard	State Standard
Ozone	1-Hour	0.12 ppm	0.09 ppm
	8-Hour	0.08 ppm	0.07 ppm
Carbon Monoxide	8-Hour	9.0 ppm	9.0 ppm
	1-Hour	35.0 ppm	20.0 ppm
Nitrogen Dioxide	Annual	0.05 ppm	--
	1-Hour	--	0.25 ppm
Sulfur Dioxide	Annual	0.03 ppm	--
	24-Hour	0.14 ppm	0.04 ppm
	1-Hour	--	0.5 ppm
PM₁₀	Annual	50 ug/m ³	20 ug/m ³
	24-Hour	150 ug/m ³	50 ug/m ³
PM_{2.5}	Annual	15 ug/m ³	12 ug/m ³
	24-Hour	65 ug/m ³	--
Lead	30-Day Avg.	--	1.5 ug/m ³
	Month Avg.	1.5 ug/m ³	--
Sulfates	24-Hour	25 ug/m ³	--
Hydrogen Sulfide	1-Hour	0.03 ppm	--
Vinyl Chloride	24-Hour	0.01 ppm	--
ppm = parts per million ug/m ³ = Micrograms per Cubic Meter Source: California Air Resources Board, Ambient Air Quality Standards (7/9/03); http://www.arb.ca.gov/aqs/aaqs2.pdf			

The federal and State ambient standards were developed independently with differing purposes and methods, although both processes attempt to avoid health-related effects. As a result, the federal and State standards differ in some cases. In general, the California standards are more stringent, particularly for ozone and particulate matter (PM₁₀ and PM_{2.5}).

The U.S. Environmental Protection Agency established new national air quality standards for ground-level ozone and for fine particulate matter in 1997. The existing 1-hour ozone standard of 0.12 PPM microns or less is to be phased out and replaced by an 8-hour standard of 0.08 PPM. Implementation of the 8-hour standard was delayed by litigation, but was determined to be valid and enforceable by the U. S. Supreme Court in a decision issued in February of 2001.

The State of California regularly reviews scientific literature regarding the health effects and exposure to PM and other pollutants. On May 3, 2002, the California Air Resources Board (CARB) staff recommended lowering the level of the annual standard for PM₁₀ and establishing a new annual standard for PM_{2.5} (particulate matter 2.5 micrometers in diameter and smaller). The new standards became effective on July 5, 2003.

On April 28, 2005 the California Air Resources Board established a new 8-hour standard for ozone (0.07 PPM), expected to become effective in early 2006.

State Standards

California Air Resources Board (CARB)

The CARB is the agency responsible for coordination and oversight of State and local air pollution control programs in California and for implementing its own air quality legislation called the California Clean Air Act (CCAA) adopted in 1988. The CARB has primary responsibility in California to develop and implement air pollution control plans designed to achieve and maintain the NAAQS established by the U.S. EPA.

The CCAA requires that air quality plans be prepared for areas of the State that have not met State air quality standards for ozone, carbon monoxide, nitrogen dioxide, and sulfur dioxide. Areas that met standards by 1994 were classified as moderate, those that attained standards between 1994 and 1997 were classified as serious, and those that could not attain standards until after 1997 were classified as severe. In order to implement the transportation-related provisions of the CCAA, local air pollution control districts have been granted explicit authority to adopt and implement transportation controls (e.g. regional express bus program, bicycle/pedestrian incentives, freeway service patrols, etc.)

Local

Bay Area Air Quality Management District (BAAQMD)

The Bay Area Air Quality Management District (BAAQMD) has permitting authority for stationary air pollutant sources in the region and operates a total of seven air monitoring sites within Contra Costa County. The BAAQMD has prepared *CEQA Guidelines* to assist in CEQA review. The BAAQMD maintains annual daily thresholds for ROG, NO_x and PM₁₀. Under these guidelines, any proposed project that would have a significant air quality impact would also be considered to have a significant cumulative air quality impact.

City of Suisun General Plan

The Suisun City General Plan is applicable to the proposed project. The General Plan sets forth various goals, policies and programs that would apply to projects in the City of Suisun. The following goals, policies and programs are applicable to the proposed project.

Open Space and Conservation Element

- Policy 14: Commercial and Industrial Land Uses. Suisun City will encourage commercial and industrial uses to meet the air pollution control objectives of the appropriate air pollution control district.

Policy 15: Traffic. Suisun City will implement traffic and transportation policies as part of the Circulation Element to mitigate the air quality effects of increasing vehicular traffic in the City.

IMPACTS AND MITIGATION MEASURES

Standards of Significance

Based on inquiries set forth in Appendix G to the California Environmental Quality Act (CEQA) Guidelines (Sample Initial Study Checklist), the City concludes that the proposed project would have a significant effect on air quality if the project would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any ambient air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors); or
- Expose sensitive receptors to substantial pollutant concentrations.

The BAAQMD defines “sensitive receptors” as facilities where sensitive receptor population groups (children, the elderly, and the acutely and/or chronically ill) are likely to be located. These land uses include residences, schools, playgrounds, childcare centers, retirement homes, convalescent homes, hospitals, and medical clinics.

Bay Area Air Quality Management District

The BAAQMD CEQA Guidelines determined that an air quality impact would be considered significant if it would:

- Contribute to carbon monoxide (CO) concentrations exceeding the State Ambient Air Quality Standard of nine parts-per-million (ppm) averaged over eight hours, or 20 ppm for one hour;
- Generate criteria air pollutant emissions in excess of the BAAQMD annual or daily thresholds. The current thresholds are 15 tons/year or 80 pounds/day for Reactive Organic Gases (ROG), Nitrogen Oxides (NO_x) or PM₁₀. Any proposed project that would individually have a significant air quality impact would also be considered to have a significant cumulative air quality impact;
- Have the potential to frequently expose members of the public to objectionable odors would be deemed to have a significant impact; or
- Have the potential to expose sensitive receptors or the general public to substantial levels of toxic air contaminants.

Despite the establishment of both federal and State standards for PM_{2.5} (particulate matter, 2.5 microns), the BAAQMD has not developed a threshold of significance for this pollutant. For this analysis, PM_{2.5} impacts would be considered significant if project emissions of PM₁₀ exceed 80 pounds per day.

The BAAQMD significance threshold for construction dust impacts is based on the appropriateness of construction dust controls. The BAAQMD guidelines provide feasible control measures for construction emission of PM₁₀. The implementation of appropriate construction controls would result in air pollutant and emissions that would be considered less-than-significant during the construction process.

Method of Analysis

Local Carbon Monoxide Concentrations

The CARB's CALINE-4 model is a fourth-generation line source air quality model that is based on the Gaussian diffusion equation and employs a mixing zone concept to characterize pollutant dispersion over the roadway. Given source strength, meteorology, site geometry and site characteristics, the model predicts pollutant concentrations for receptors located within 150 meters of the roadway. The CALINE-4 model allows roadways to be broken into multiple links that can vary in traffic volume, emission rates, height, width, etc.

The BAAQMD's recommended screening-level form of the CALINE-4 program was used to predict concentrations. Normalized concentrations for each roadway size (2 lanes, 4 lanes, etc.) are adjusted for the two-way traffic volume and emission factor. Calculations were made for a receptor at a corner of the intersection, located at the curb. Emission factors were derived from the California Air Resources Board EMFAC7-2002 computer program based on a 2006 and 2030 Bay Area vehicle mix.

The screening form of the CALINE-4 model calculates the local contribution of nearby roads to the total concentration. The other contribution is the background level attributed to more distant traffic. The 1-hour background level in 2005 was taken as 3.7 PPM and the 8-hour background concentration was taken as 1.9 PPM. The 1-hour background level in 2030 was taken as 3.5 PPM and the 8-hour background concentration was taken as 1.7 PPM. These backgrounds were estimated using isopleth maps and correction factors developed by the Bay Area Air Quality Management District. The 1-hour values are to be compared to the federal 1-hour standard of 35 PPM and the state standard of 20 PPM. The 8-hour values are to be compared to the state and federal standard of 9 PPM.

Eight-hour concentrations were obtained from the 1-hour output of the CALINE-4 model using a persistence factor of 0.7.

Operational Regional Emissions

Estimates of regional emissions generated by project traffic were made using a program called URBEMIS-2002 (Version 8.7). URBEMIS-2002 is a program, recommended by both the CARB and BAAQMD, that estimates the emissions that result from various land use development projects. Land use project can include residential uses such as single-family dwelling units, apartments and condominiums, and nonresidential uses such as shopping centers, office buildings, and industrial parks. URBEMIS-2002 contains default values for much of the information needed to calculate emissions. However, project-specific, user-supplied information can also be used when it is available.

Inputs to the URBEMIS-2002 program include trip generation rates, vehicle mix, average trip length by trip type and average speed. Trip generation rates for project land uses were provided by the project transportation consultant. Average trip lengths and vehicle mixes for the Bay Area were used. Average speed for all types of trips was assumed to be 30 MPH. The URBEMIS-2002 run assumed summertime conditions with an ambient temperature of 85 degrees F (Note: the 85 degrees assumption is a 24-hour ambient temperature, not a maximum temperature.)

The analysis was carried out assuming project build-out would occur by the year 2007. The URBEMIS-2002 output included in Appendix D to this Draft EIR.

Project-Specific Impacts and Mitigation Measures

4.3-1 Impacts related to construction dust emissions.

Base Project

The Base Project includes the construction of a mixed-use project on three planning areas totaling approximately 87.82 acres. Planning Area 1 includes a total of 70.71 acres of land and would include approximately 23.6 acres for a retail village and would accommodate approximately 170,300 square feet of retail space and 960 associated parking spaces. Planning Area 1.B would include approximately 9.5 acres for a retail area and would accommodate approximately 88,000 square feet of retail space, and 458 associated parking spaces. Planning Area 1.C would include approximately 37.6 acres of retail area and would accommodate approximately 397,200 square feet of retail space and 1,925 associated parking spaces. In addition, the Base Project includes 65,340 sq. ft. of commercial on the Gilbert Parcel and 15,682 sq. ft. of office on the Ardave Parcel. Planning Area 2 would include approximately 13.1 acres and would accommodate approximately 275 high-density residential units. Planning Area 3 would include approximately 4.0 acres and would accommodate approximately 84 high-density residential units. Planning Areas 4 and 5 are proposed for wetland mitigation uses and would not be developed.

Construction activities from Planning Area 1-3 would create dust emissions, which would affect local air quality during construction of the project. Grading, earthmoving and excavation are the activities that generate the most PM₁₀ emissions. The dry, windy climate of the area during the summer months creates a high potential for dust generation when and if underlying soils are exposed to the atmosphere.

Construction activities would also generate exhaust emissions from vehicles/equipment and fugitive particulate matter emissions that would affect local air quality. Construction activities are also a source of organic gas emissions. Solvents in adhesives, non-waterbase paints, thinners, some insulating materials and caulking materials would evaporate into the atmosphere and would participate in the photochemical reaction that creates urban ozone. Asphalt used in paving is also a source of organic gases for a short time after its application.

According to the *BAAQMD CEQA Guidelines*, emissions of ozone precursors (ROG and NO_x) and carbon monoxide related to construction equipment are already included in the emission inventory that is the basis for regional air quality plans, and thus are not expected to impede attainment or maintenance of ozone and carbon monoxide standards in the Bay Area.

The major effect of construction activities would be increased dustfall and locally elevated levels of particulate matter downwind of construction activity. Construction dust has the potential for creating a nuisance at nearby properties. Consistent with guidance from the BAAQMD, the following measures would be required of construction contracts and specifications for the project:

- Water all active construction areas at least twice daily and more often during windy periods; active areas adjacent to existing land uses shall be kept damp at all times, or shall be treated with non-toxic stabilizers or dust palliatives;
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 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 (preferably with water sweepers) all paved access roads, parking areas, and staging areas at construction sites; water sweepers shall vacuum up excess water to avoid runoff-related impacts to water quality;
- Sweep streets daily (preferably with water sweepers) if visible soil material is carried onto adjacent public streets;
- Apply non-toxic soil stabilizers to inactive construction areas;
- Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.);
- Limit traffic speeds on unpaved roads 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.

The above requirements include all feasible measures for construction emissions identified by the Bay Area Air Quality Management District for large sites. According to the District threshold of significance for construction impacts, implementation of the measures would reduce construction impacts to a *less-than-significant* level.

Alternative 1 and 2

Construction activities associated with both alternatives would be consistent with those of the Base Project, thereby resulting in increased dustfall and locally elevated levels of particulate matter downwind of construction activity. Because both alternatives would be required to comply with the above measures, impacts would be reduced to a *less-than-significant* level.

The Base Project and both alternatives would create dust emissions, which would affect local air quality during construction of the project. Because the above requirements would be applied to the Base Project and both alternatives, a *less-than-significant* impact would occur.

Mitigation Measure(s)

None Required.

4.3-2 Impacts related to construction TAC emissions.

Base Project, Alternative 1, and Alternative 2

The Base Project includes the construction of a mixed-use project on three planning areas totaling approximately 88.4 acres. The mixed-use development would create maximum construction emissions during the first phases of construction when clearing, earthmoving, and grading occur. Various diesel-powered vehicles and equipment would be in use on the site, potentially exposing sensitive receptors to diesel particulate.

The majority of the PM₁₀ from construction would be soil particles, while a small fraction would be from diesel exhaust. Diesel exhaust particulate is a pollutant that has come under increased scrutiny in recent years.

In 1998, the California Air Resources Board identified particulate matter from diesel-fueled engines as a toxic air contaminant (TAC). CARB has completed a risk management process that identified potential cancer risks for a range of activities using diesel-fueled engines. High volume freeways, stationary diesel engines and facilities attracting heavy and constant diesel vehicle traffic

(distribution centers, truckstops) were identified as having the highest associated risk. In terms of the project, the diesel-powered vehicles and equipment used during the construction of the project would generate TACs.

Health risks from Toxic Air Contaminants are function of both concentration and duration of exposure. Unlike the above types of sources, construction diesel emissions are temporary, affecting an area for a period of days or perhaps weeks. The major source of diesel exhaust during construction would be earthmoving equipment. In addition, roughly 2,350 trucks trips would bring imported fill to the site. These emissions would be released prior to occupation of the site and thus would not affect on-site sensitive receptors such as proposed residences. Construction activity would be occurring at a substantial distance from the closest sensitive receptors, which are located roughly 250 feet north of SR 12. Because of the above considerations, and the short duration of construction, health risks from construction emissions of diesel particulate would be a *less-than-significant* impact.

Mitigation Measure(s)

None Required.

4.3-3 Increased carbon monoxide concentrations at project-area intersections.

Base Project

The mixed-use development component of the project would change traffic on the local street network, changing carbon monoxide levels along roadways used by project traffic. Carbon monoxide is an odorless, colorless poisonous gas whose primary source in the Bay Area is automobiles. Concentrations of this gas are highest near intersections of major roads.

The Bay Area Air Quality Management District's *BAAQMD CEQA Guidelines* recommends estimation of carbon monoxide concentrations for projects where project traffic would impact signalized intersections or roadway links operating at Level of Service (LOS) D, E, or F or would cause LOS to decline to D, E, or F.

The traffic study prepared for the project found that five signalized intersections meet the BAAQMD threshold for modeling in the PM peak hour. Carbon monoxide concentrations under worst-case meteorological conditions have been predicted for these intersections. PM peak traffic volumes were applied to the a screening form of the CALINE-4 dispersion model to predict maximum 1- and 8-hour concentrations near these intersections under the worst-case assumption that project traffic changes would occur in 2006. The model results were used to predict the maximum 1- and 8-hour concentrations, corresponding to the 1- and 8-hour averaging times specified in the State and federal ambient air quality standards for carbon monoxide.

Tables 4.3-3 show the results of the CALINE-4 analysis for the peak 1-hour and 8-hour traffic periods in parts per million (PPM). The 1-hour values are to be compared to the federal 1-hour standard of 35 PPM and the state standard of 20 PPM. The 8-hour values in Table 4.3-3 are to be compared to the state and federal standard of 9 PPM.

Intersection	Existing (2006)		Existing + Base Project (2006)		Cumulative + Base Project (2030)	
	1-Hr	8-Hr	1-Hr	8-Hr	1-Hr	8-Hr
Texas/I-80 WB Ramps	6.6	3.9	6.8	4.1	4.2	2.2
Pennsylvania/SR 12.	9.4	5.9	10.5	6.7	5.3	3.0
Beck/SR 12	9.0	5.6	9.6	6.0	5.2	2.9
Texas/Pennsylvania	6.9	4.2	7.3	4.5	4.6	2.5
Texas/Beck	7.4	4.5	7.6	4.7	4.9	2.7
Most Stringent Standard	20.0	9.0	20.0	9.0	20.0	9.0

Table 4.3-3 shows that existing predicted concentrations near the intersections meet the 1-hour and 8-hour standards. Traffic from the Base Project would increase concentrations by up to 1.1 PPM, but concentrations would remain below the most stringent state or federal standards. Concentrations with project and cumulative traffic growth in 2030 would also not exceed the state/federal ambient air quality standards. Because project traffic would not cause any new violations of the 8-hour standards for carbon monoxide, nor contribute substantially to an existing or projected violation, project impacts on local carbon monoxide concentrations are considered to be *less-than-significant*.

Alternative 1

Table 4.3-4 shows that existing predicted concentrations near the intersections would not exceed the 1-hour and 8-hour standards. Traffic from Alternative 1 would increase concentrations by up to 0.8 PPM, but concentrations would remain below the most stringent state or federal standards. Concentrations with Alternative 1 and cumulative traffic growth in 2030 would also not exceed the state/federal ambient air quality standards.

Table 4.3-4 Alternative 1 Worst Case Carbon Monoxide Concentrations Near Selected Intersections, in Parts Per Million						
Intersection	Existing (2006)		Existing + Alternative 1 (2006)		Cumulative + Alternative 1 (2030)	
	1-Hr	8-Hr	1-Hr	8-Hr	1-Hr	8-Hr
Texas/I-80 WB Ramps	6.6	3.9	6.7	4.0	4.2	2.2
Pennsylvania/SR 12.	9.4	5.9	10.2	6.5	5.3	2.9
Beck/SR 12	9.0	5.6	9.4	5.9	5.1	2.8
Texas/Pennsylvania	6.9	4.2	7.2	4.4	4.5	2.4
Texas/Beck	7.4	4.5	7.6	4.6	4.9	2.7
Most Stringent Standard	20.0	9.0	20.0	9.0	20.0	9.0

Because Alternative 1 traffic would not cause any new violations of the 8-hour standards for carbon monoxide; nor would it contribute substantially to an existing or projected violation, project impacts on local carbon monoxide concentrations are considered to be *less-than-significant*.

Alternative 2

Table 4.3-5 shows that existing predicted concentrations near the intersections meet the 1-hour and 8-hour standards. Traffic from Alternative 2 would increase concentrations by up to 0.7 PPM, but concentrations would remain below the most stringent state or federal standards. Concentrations with Alternative 2 and cumulative traffic growth in 2030 would also not exceed the state/federal ambient air quality standards.

Table 4.3-5 Alternative 2 Worst Case Carbon Monoxide Concentrations Near Selected Intersections, in Parts Per Million						
Intersection	Existing (2006)		Existing + Alternative 2 (2006)		Cumulative + Alternative 2 (2030)	
	1-Hr	8-Hr	1-Hr	8-Hr	1-Hr	8-Hr
Texas/I-80 WB Ramps	6.6	3.9	6.7	4.0	4.2	2.2
Pennsylvania/SR 12.	9.4	5.9	10.1	6.4	5.2	2.9
Beck/SR 12	9.0	5.6	9.4	5.9	5.1	2.8
Texas/Pennsylvania	6.9	4.2	7.2	4.4	4.5	2.4
Texas/Beck	7.4	4.5	7.6	4.6	4.9	2.7
Most Stringent Standard	20.0	9.0	20.0	9.0	20.0	9.0

Because Alternative 2 traffic would not cause any new violations of the 8-hour standards for carbon monoxide, nor contribute substantially to an existing or

projected violation, project impacts on local carbon monoxide concentrations are considered to be *less-than-significant*.

Mitigation Measure(s)

None required.

4.3-4 New air pollutant emissions within the air basin resulting from vehicle trips to and from the project site and area source emissions.

Base Project

The mixed-use development is expected to generate an additional 26,600 new daily vehicle trips. Furthermore, project traffic emissions would not only have an effect on local air quality, but also air quality outside the project vicinity. Trips to and from the project site would result in air pollutant emissions within the air basin. Traffic data for the analysis was provided by the project traffic consultant.

The project would also create some area source emissions, primarily through the combustion of natural gas for water and space heating. The daily increases are shown in Table 4.3-6 for Reactive Organic Gases and Nitrogen Oxides (the two precursors of ozone) and PM₁₀.

Table 4.3-6			
Project Regional Emissions in Pounds Per Day (includes vehicular and stationary sources)			
	ROG	NO_x	PM₁₀
Proposed Project	201.4	175.6	168.0
Alternative 1	174.5	147.5	132.8
Alternative 2	143.1	121.6	109.7
BAAQMD Threshold of Significance	80.0	80.0	80.0

Source: Don Ballanti, 2005.

The Bay Area Air Quality Management District has established threshold of significance for ozone precursors and PM₁₀ of 80 pounds per day. Proposed Base Project emissions shown in Table 4.3-6 would exceed these thresholds of significance by a substantial amount; therefore, the Base Project would have a *potentially significant* effect on regional air quality.

Alternative 1

Vehicle trips generated by Alternative 1 would result in air pollutant emissions affecting the entire San Francisco Bay Air Basin. Alternative 1 is expected to generate an additional 21,700 new daily vehicle trips. The incremental daily emission increase associated with Alternative 1 land uses are identified in Table 4.3-6 for reactive organic gases and oxides of nitrogen (two precursors of ozone)

and PM₁₀. Because the Alternative 1 emissions shown in Table 4.3-6 would exceed these BAAQMD thresholds of significance by a substantial amount, Alternative 1 would have a ***potentially significant*** effect on regional air quality.

Alternative 2

Alternative 2 is expected to generate an additional 18,800 new daily vehicle trips. Although Alternative 2 would generate the least amount of daily trips of the proposed projects, vehicle trips would result in air pollutant emissions affecting the entire San Francisco Bay Air Basin. Because Alternative 2 emissions (shown in Table 4.3-6) would exceed BAAQMD thresholds of significance by a substantial amount, Alternative 2 would have a ***potentially significant*** effect on regional air quality.

Mitigation Measure(s)

The BAAQMD has identified mitigation measures for reducing vehicle emissions from residential and commercial/office portions of the projects. Implementation of the following mitigation measures would reduce impacts; however, not to a *less-than-significant* level.

4.3-4 *In conjunction with submittal of a Final Map and Building Permits, the applicant shall include in the project design the following measures to the satisfaction of the Community Development Director and the Public Works Director:*

- *Provide bicycle lanes, sidewalks and/or paths within the Mixed Use Project area, connecting project residences to schools, parks, transit stops and commercial areas within the Mixed Use Project area. Encourage private development of a satellite tele-commute center within the development.*
- *Provide conveniently placed bicycle racks at Mixed Use Project parks and other Mixed Use Project facilities.*
- *Allow only natural gas fireplaces, pellet stoves or EPA-Certified wood-burning fireplaces or stoves in single-family houses. Conventional open-hearth fireplaces should not be permitted. EPA-Certified fireplaces and fireplace inserts are 75 percent effective in reducing emissions from this source.*
- *Residences will include outside electrical outlets to allow use of electric lawn and garden equipment for landscaping.*
- *Within the Mixed Use Project area, construct transit amenities such as bus turnouts/bus bulbs, benches, shelters at approved transit stops in the Mixed Use Project.*

- *Provide direct, safe, attractive pedestrian access from Mixed Use Project land uses to transit stops and adjacent Mixed Use Project development areas.*
- *Utilize reflective (or high albedo) and emissive roofs and light colored construction materials where reasonably practical to increase the reflectivity of roads, driveways, and other paved surfaces, and include shade trees near buildings to directly shield them from the sun's rays and reduce local air temperature and cooling energy demand.*
- *Provide physical improvements within the Mixed Use Project, such as sidewalk improvements, landscaping and bicycle parking that would act as incentives for pedestrian and bicycle modes of travel.*
- *Connect site with regional bikeway/pedestrian trail systems at points contiguous to the Mixed Use Project area.*
- *Provide transit information kiosks.*
- *Provide secure and conveniently located bicycle parking and storage for workers and patrons.*
- *Provide some preferential parking for Low Emission Vehicles (LEVs).*
- *Specialty equipment (utility carts, forklifts, etc.) should be electrically, CNG or propane powered.*

The above measures have the potential to reduce project-related regional emissions by 10-20 percent, and thus substantially lessen the significant effect. Even with a reduction of this magnitude, however, Base Project, Alternative 1, and Alternative 2 emissions would remain well above the BAAQMD significance threshold of 80 pounds per day. Therefore, project regional air quality impacts would remain *significant and unavoidable*.

4.3-5 Impacts from delivery truck idling during project operations related to TACs.

Base Project, Alternative 1, and Alternative 2

The Base Project and both alternatives would result in new truck trips accessing the receiving docks on the south side of the major anchor stores. The railroad right-of-way and Pennsylvania Avenue provide a setback between the loading docks and the closest homes. In addition, these closest homes would not be downwind of the receiving docks under normal prevailing west winds.

In 1998, the California Air Resources Board identified particulate matter (PM₁₀ and PM_{2.5}) from diesel-fueled engines as a toxic air contaminant (TAC). CARB has completed a risk management process that identified potential cancer risks for a range of activities using diesel-fueled engines. The greatest diesel particulate risks from new development are generally associated with stationary diesel

engines and locations where diesel engines are allowed to idle for extended periods. Where air districts have developed guidelines for diesel risk assessments for CEQA documents, the identified situations requiring analysis are locations with extended truck idling (truck stops, warehouse/distribution centers, transit centers), ship hoteling at ports and train idling.

Because of the relatively low level of truck activity predicted by the Air Quality projections, lack of extended truck idling on the project site, lack of receptors downwind of the loading dock area, and generally good ventilation characteristics of the project area during daylight hours, the project would not be considered to "expose sensitive receptors substantial levels of toxic air contaminants." Impacts related to diesel truck exhaust for the Base Project and both alternatives would be *less-than-significant*.

Mitigation Measure(s)

None required.

4.3-6 Impacts related to stationary sources of TAC on project specific sensitive receptors.

Base Project, Alternative 1 and Alternative 2

The California Air Resources Board recently published an air quality/land use handbook. The handbook, which is advisory and not regulatory, was developed in response to recent studies that have demonstrated a link between exposure to poor air quality and respiratory illnesses, both cancer and non-cancer related. The CARB handbook recommends that planning agencies strongly consider proximity to these sources when finding new locations for "sensitive" land uses such as homes, medical facilities, daycare centers, schools and playgrounds.

Air pollution sources of concern include freeways, rail yards, ports, refineries, distribution centers, chrome plating facilities, dry cleaners and large gasoline service stations.

Key recommendations in the handbook include taking steps to 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;
- Within 1,000 feet of a major service and maintenance rail yard;
- Immediately downwind of ports (in the most heavily impacted zones) and petroleum refineries;
- Within 300 feet of any dry cleaning operation (for operations with two or more machines, provide 500 feet);
- Within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater).

Although the Base Project would create new residential areas, which would be adjacent or near the existing railroad track, which traverses the site, the CARB handbook does not contain minimum setbacks from rail corridors. The closest residences would be over 1200 feet from SR 12. Therefore, the Base Project impacts related to mobile and stationary sources of TACs would be *less-than-significant*.

Both alternatives, however, would also create new residential areas, one of the three, which would front SR 12 at the northwest corner of the site. However, SR 12 would be considered an urban road and not a freeway and currently carries only 48,000 vehicles per day.

As discussed above, although the other residential portions of both alternatives would be adjacent or near the existing railroad that traverses the site CARB does not contain minimum setbacks from rail corridors. Therefore both alternatives impacts related to mobile and stationary sources of TACs would be *less-than-significant*.

Mitigation Measure(s)
None required.

Cumulative Impacts and Mitigation Measures

4.3-7 Cumulative regional air quality impacts.

According to BAAQMD significance criteria, any proposed project that would individually have a significant air quality impact would also be considered to have a significant cumulative air quality impact.

Emissions from development projects have several cumulative impacts. Growth in emissions will delay attainment of the ambient air quality standards for which the region is non-attainment (ozone, particulate matter), contribute to visibility reduction and contribute to mobile-source toxic air contaminant concentrations. Ozone, particulate matter and some constituents of ROG that are also TACs have been shown to be correlated with adverse health effects cumulative emissions increases in the region would have potential cumulative health effects.

According to BAAQMD significance criteria, any proposed project that would individually have a significant air quality impact would also be considered to have a significant cumulative air quality impact.

Base Project

Base Project local impacts on carbon monoxide concentrations were found to be less-than-significant when combined with the effects of cumulative traffic

increases (See Table 4.3-3). However, the Base Project was found to individually have a significant impact on regional air quality and thus would also have a ***potentially significant*** cumulative impact on regional air quality (See Impact 4.3-4 and Table 4.3-6).

Alternative 1

Project local impacts on carbon monoxide concentrations were found to be less-than-significant when combined with the effects of cumulative traffic increases (See Table 4.3-4). However, Alternative 1 was found to individually have a significant impact on regional air quality and thus would also have a ***potentially significant*** cumulative impact on regional air quality (See Impact 4.3-4 and Table 4.3-6).

Alternative 2

Project local impacts on carbon monoxide concentrations were found to be less-than-significant when combined with the effects of cumulative traffic increases (See Table 4.3-5). However, Alternative 2 was found to individually have a significant impact on regional air quality and thus would also have a ***potentially significant*** cumulative impact on regional air quality (See Impact 4.3-4 and Table 4.3-6).

Mitigation Measure(s)

The BAAQMD has identified mitigation measures for reducing vehicle emissions from residential and commercial/office portions of the projects. Implementation of the following mitigation measures would reduce impacts; however, this impact would remain *significant and unavoidable*.

4.3-7 *Implement Mitigation Measure 4.3-4.*

Endnotes

¹ *Air Quality Impact Evaluation for Gentry/Suisun Annexation Project, Suisun City*, Don Ballanti, February 2006.

4.4 NOISE

4.4 NOISE

INTRODUCTION

This section discusses the existing noise environment in the project vicinity and identifies potential impacts and mitigation measures related to the future buildout of the project site, given the implementation of the Gentry Suisun Project. Specifically, this section analyzes potential noise impacts due to construction and operation of the proposed project relative to applicable noise criteria and to the existing ambient noise environment. In addition, the analysis addresses the impacts of railway noise. This noise chapter is based upon a noise analysis prepared by J.C. Brennan and Associates, Inc.¹

ENVIRONMENTAL SETTING

Acoustical Terminology

Noise is often described as unwanted sound. Sound is defined as any pressure variation in air that the human ear can detect. The number of pressure variations per second (at least 20 times per second) is called the frequency of sound, and is expressed as cycles per second, or Hertz (Hz). Human hearing is generally capable of detecting sound between 20 Hz and 20,000 Hz.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to the reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent on many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by the A-weighting network. A strong correlation exists between A-weighted sound levels (expressed as dBA) and the way the human ear perceives noise. For this reason, the A-weighted sound level has become a standard tool for environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels as defined in Table 4.4-1 Acoustical Terminology.

**Table 4.4-1
Acoustical Terminology**

Acoustics	The science (or physics) of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of noise.
A-Weighting	A frequency-response filter that conditions a given sound signal to approximate human response.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours (10 p.m. - 7 a.m.) weighted by a factor of 10 prior to averaging.
Decibel or dB	A Bel is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bel.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz (Hz).
L_{dn}	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
L_{eq}	Equivalent or energy-averaged sound level.
L_{max}	The highest root-mean-square (RMS) sound level measured over a given period of time.
L_n	The measured sound pressure level exceeded (n) percent of the time.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound.
SEL	A single-number rating indicating the total energy of a discrete noise event compressed into a 1-second time duration.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB at 1,000 Hz for persons with good hearing.
<i>Source: J.C. Brennan and Associates, Inc.</i>	

Community noise is commonly described in terms of the "ambient" noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state, A-weighted sound level containing the same total energy as a time-varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptors such as the Day/Night Average Noise Level (L_{dn}) and CNEL, and shows very good correlation with community response to noise.

The L_{dn} is based on the average noise level over a continuous 24-hour period, with a +10 dB weighting applied to noise occurring during nighttime (10 p.m. to 7 a.m.) hours. The nighttime penalty is based on the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, L_{dn} tends to disguise short-term variations in the noise environment.

Major Noise Sources in the Project Vicinity

Motor vehicle traffic and railroad operations are the major contributors to the existing noise environment in the project vicinity. Vehicular noise within the project vicinity occurs primarily along State Route (SR) 12, Pennsylvania Avenue, and Cordelia Road. Railroad noise from Union Pacific Railroad (UPRR) operations occur along both the southern and eastern boundaries of the proposed project.

Noise Sensitive Land Use in the Project Vicinity

Noise sensitive land uses in the project vicinity generally consist of single-family residential houses approximately 540 feet to the north, 310 feet to the northwest, and 1600 feet to the east.

Existing Noise Environment in the Project Vicinity

Existing Traffic Noise Levels

In order to determine the existing traffic noise levels at the identified sensitive receivers within the project vicinity, the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA-RD-77-108) was used with the California Vehicle Noise Emission Levels. The FHWA Model is based upon the Calveno reference noise factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. Truck usage and vehicle speeds on SR 12 were estimated from field observations and Caltrans data.

Table 4.4-2 shows the predicted existing traffic noise levels in terms of the Day/Night Average Level descriptor (L_{dn}) at a standard distance of 100 feet from the centerlines of the existing immediate project-area roadways for existing conditions, as well as distances to existing traffic noise contours. The extent of which existing land uses in the project vicinity are affected by existing traffic noise depends on their respective proximity to the roadways and their individual sensitivity to noise. Please see Appendix A of Appendix E to this Draft EIR for complete inputs and results to the FHWA model.

Table 4.4-2 Existing Traffic Noise Levels and Distances to Contours					
Roadway	Segment	L_{dn} @ 100 Feet	Distance to Contours (feet)		
			70 dB L_{dn}	65 dB L_{dn}	60 dB L_{dn}
Texas Street	Pennsylvania to Jackson	63.1	35	75	161
Texas Street	Jackson to Webster	63.5	37	80	172
Texas Street	E. of Webster	63.8	39	83	180
Woolner Ave	W. of Beck	57.0	14	29	63
SR 12	Beck to Pennsylvania	70.4	106	228	490
SR 12	Pennsylvania to Marina	71.5	126	271	585
SR 12	E. of Grizzly	69.1	88	189	406
Lotz Way	Main to Civic Center	60.9	25	53	115
Cordelia Road	W. of Beck	59.7	20	44	95
Cordelia Road	Beck to Pennsylvania	59.5	20	43	93
Cordelia Road	Pennsylvania to Main	57.3	14	31	66
Cordelia Road	E. of Main	52.2	7	14	30
Beck Ave	SR 12 to Cordelia	54.3	9	19	41
Pennsylvania St.	N. of Texas	64.8	45	98	211
Pennsylvania St.	Texas to SR 12	63.5	37	80	172
Pennsylvania St.	SR 12 to Cordelia	57.3	14	31	66
Jackson St	S. of Texas	60.3	23	49	105
Webster St.	S. of Texas	59.4	20	42	91
Main St.	Lotz to Cordelia	57.3	14	31	67
Main St.	S. of Cordelia	44.8	2	5	10
Civic Center Blvd	S. of Lotz	56.1	12	25	55
Marina Blvd	S. of SR 12	58.4	17	36	78

Notes: Source: FHWA-RD-77-108 with inputs from Fehr & Peers Transportation Consultants, Caltrans and J.C. Brennan & Associates, Inc.
Distances to traffic noise contours are measured in feet from the centerlines of the roadways.

Existing Railroad Noise Levels

Railroad activity within the project vicinity occurs along the two Union Pacific (UPRR) lines located near the southern boundary and the UPRR located near the eastern boundary of the project area. The UPRR line along the southern border of the site is a spur line while the UPRR line along the eastern border is a main line. J.C. Brennan and Associates, Inc. staff conducted continuous hourly noise measurements adjacent to the railroad tracks from 12:00 p.m. December 31st, 2003 to 12:00 p.m. January 1st, 2004. The sound level meter was programmed to collect single event noise level data due to train pass by on the project site, as well as overall hourly noise level data. The noise level measurements were conducted at a distance 60 feet south of the centerline of the UPRR spur line railroad tracks that border the southern side of the project site near where the spur line branches off to the west from the main north to south UPRR line. This noise measurement site was chosen for security purposes regarding the safety of noise measurement equipment. Figures 4.4-1 through 4.4-3 show the location of the noise measurement sites for the Base Project, Alternative 1, and Alternative 2, respectively, as well as the 65 dB contour for major noise sources.

Instrumentation consisted of LDL Model 820 precision integrating sound level meters. The systems were calibrated before use with a LDL CAL-200 acoustical calibrator to ensure accuracy of the measurements.

The purpose of the noise level measurements was to determine typical sound exposure levels (SEL) for railroad line operations within the project vicinity, accounting for the effects of travel speed and other factors that affect noise generation. In addition, the noise measurement equipment was programmed to identify individual train operations, so that the typical number of train operations could be determined. J.C. Brennan and Associates, Inc. analyzed existing noise levels associated with both the UPRR main line and the UPRR spur line train activity and the analyses are as follow:

Existing Noise Levels Associated With Union Pacific Railroad Main Line Train Activity

Due to the proximity of the 24-hour noise measurement site to the two UPRR lines that border the site, the data collected included noise level measurement data associated with train activity on the UPRR spur line, train activity on the UPRR main line, and also traffic noise from Cordelia Road. The data was indiscernible as to which noise event was associated with its respective source. Therefore, in order to predict noise levels on the project site due to activity on the main UPRR line, noise measurement data collected for another noise study conducted in the City of Fairfield (Pentecostal Church Day Care Center, Bollard & Brennan, Inc. - Project # 2000-124) was utilized. The referenced project site is located north of the Suisun/Gentry Mixed Use Development Project along the same UPRR main line. Based upon noise measurement results for the referenced project, the mean sound exposure level associated with train operations were 107.3 dB SEL at a distance of 60 feet from the main UPRR line. The results of the data

Figure 4.4-1
Base Project – Site Plan and Noise Measurement Locations

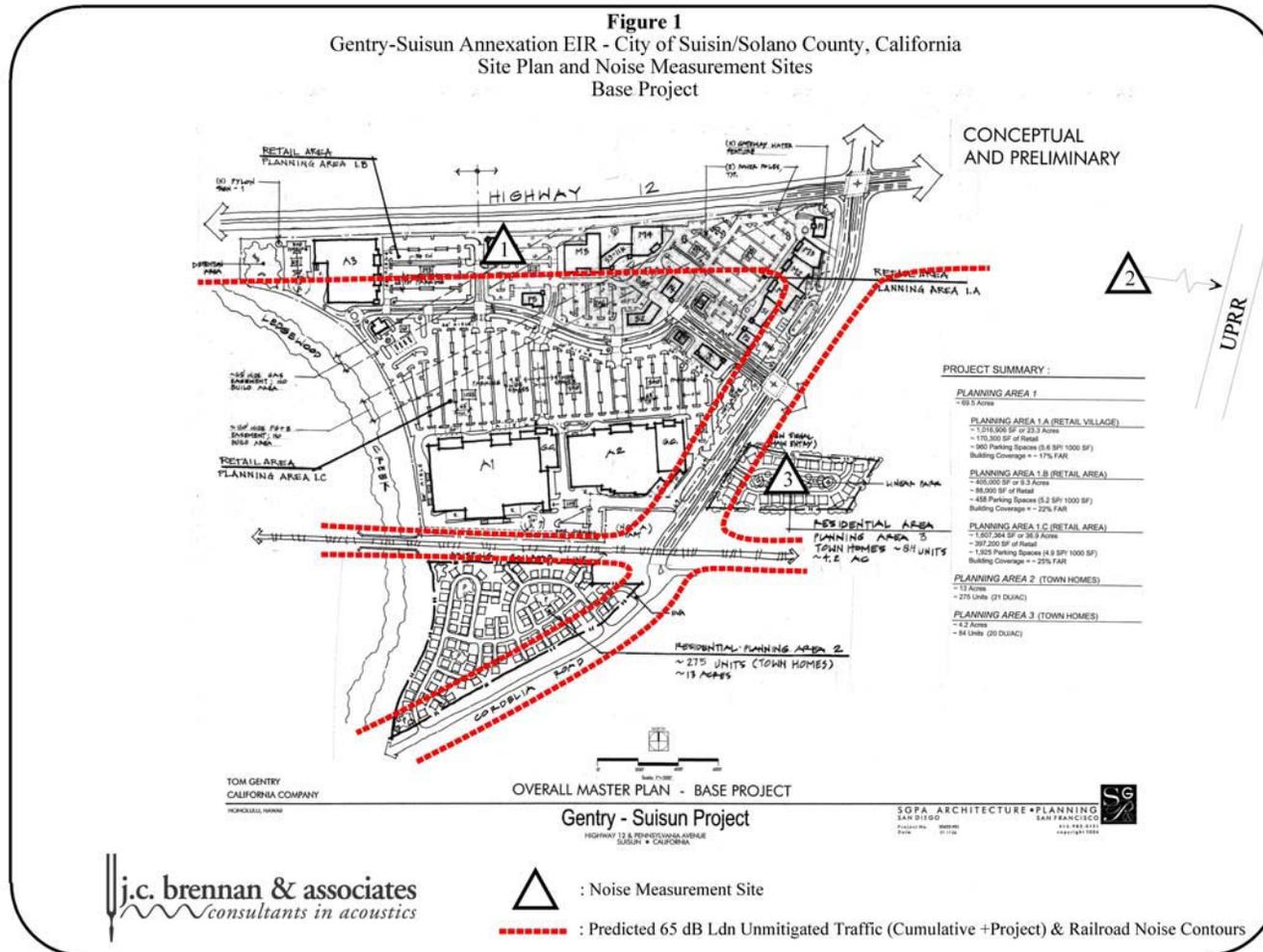


Figure 4.4-2
Alternative 1 – Site Plan and Noise Measurement Locations

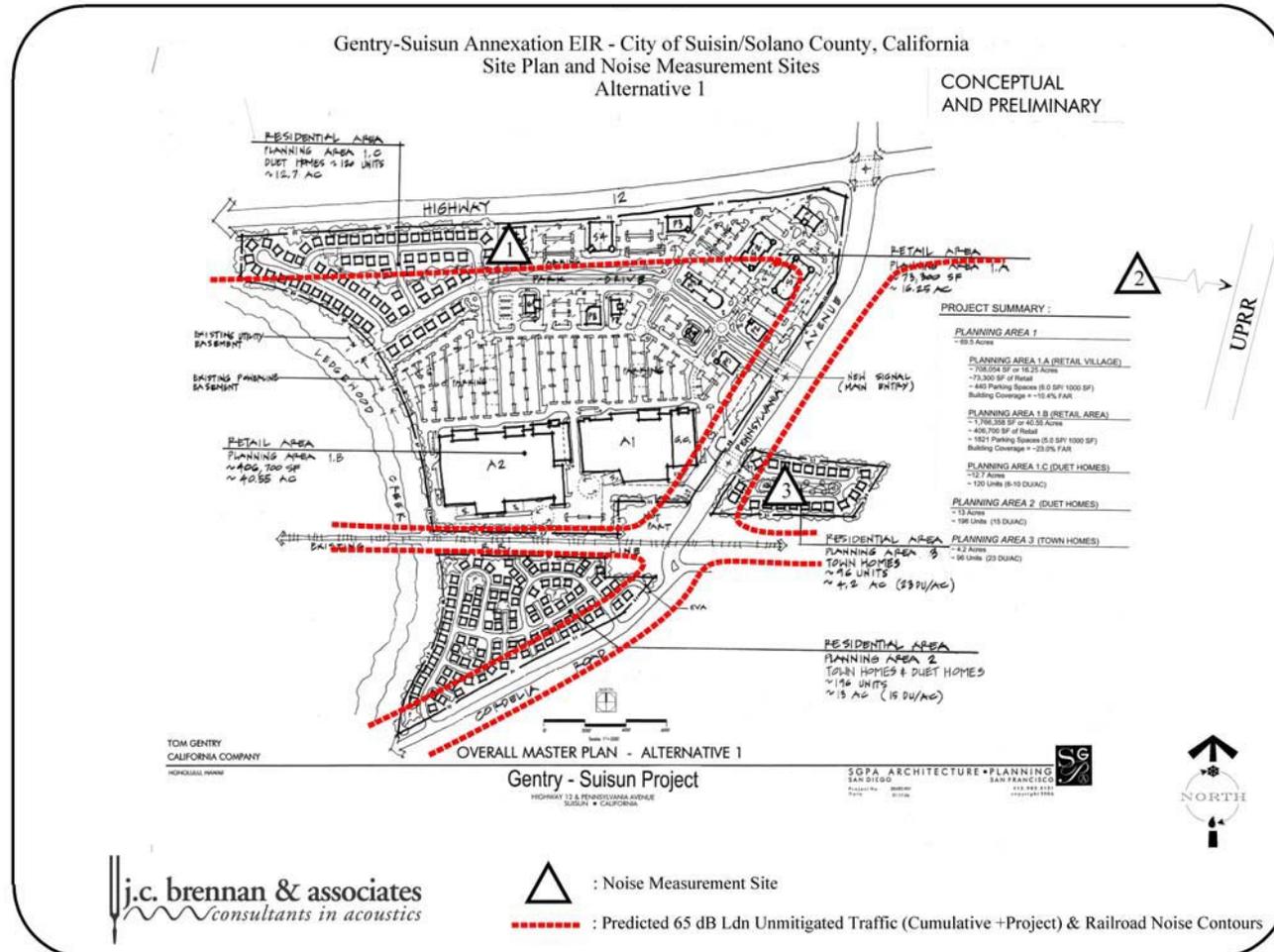
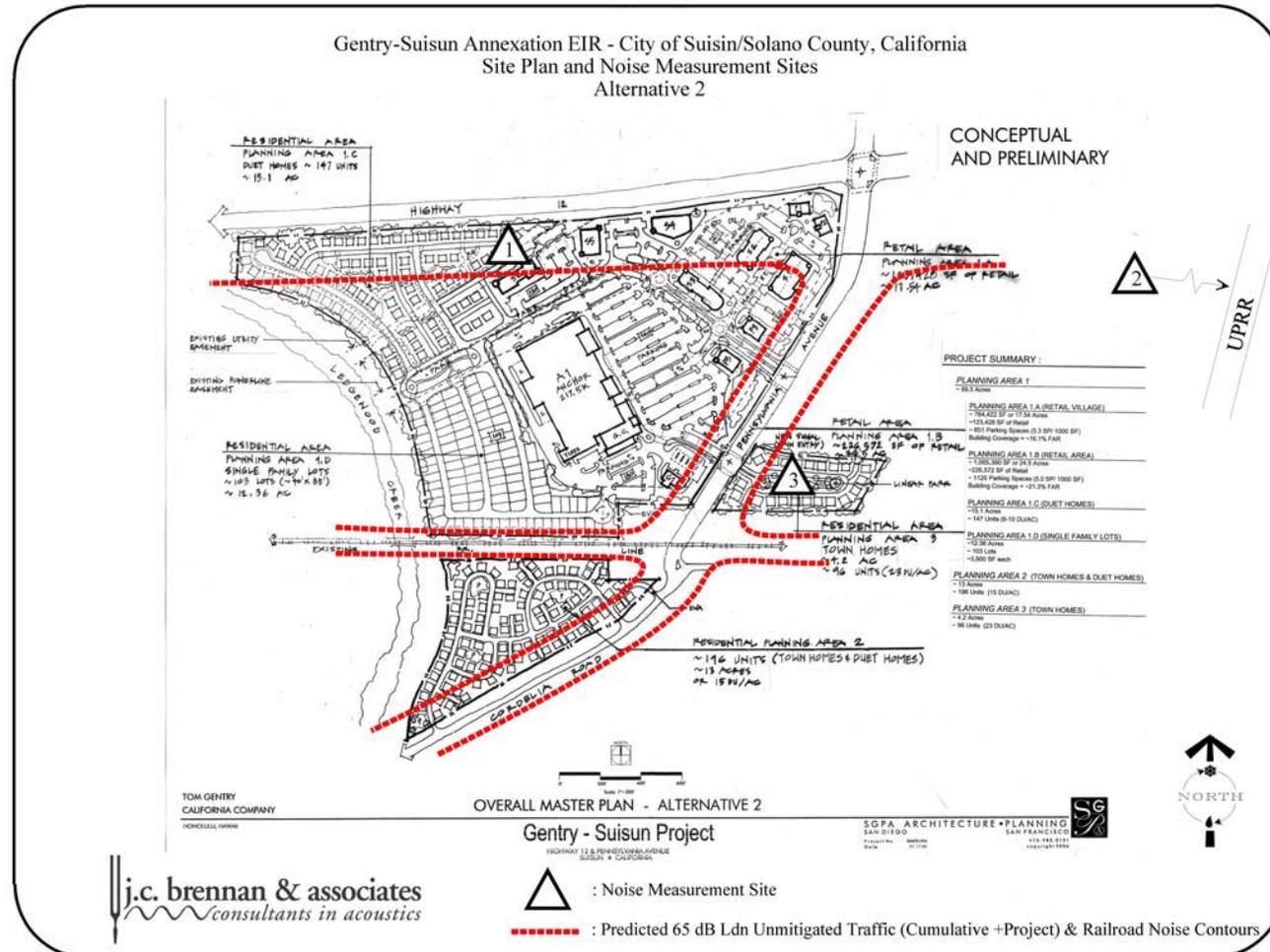


Figure 4.4-3
Alternative 2 – Site Plan and Noise Measurement Locations



collected for the referenced project also indicated that approximately 30 trains per day (22 per daytime hours and 8 per nighttime hours) operate on the track adjacent to the project site.

To determine the distances to the L_{dn} railroad contours, it was necessary to calculate the L_{dn} for typical train operations. This was done using the collected SEL values, daily number of trains, and the distribution of daily freight train operations. The L_{dn} may be calculated as follows:

$$L_{dn} = SEL + 10 \log N_{eq} - 49.4 \text{ dB, where:}$$

SEL is the mean SEL of the event, N_{eq} is the sum of the number of daytime events (7 a.m. to 10 p.m.) per day plus ten times the number of nighttime events (10 p.m. to 7 a.m.) per day, and 49.4 is ten times the logarithm of the number of seconds per day. Based upon the above-described noise level data, number of operations and methods of calculation, the L_{dn} value for railroad line operations have been calculated. The calculations are based upon the number of freight train operations per day for both directions, and the distribution of the trains throughout the daytime and nighttime hours.

Based upon the above-described noise level data, number of operations, and methods of calculation, the L_{dn} value for UPRR main line operations adjacent to the referenced project site were calculated to be 78 dB L_{dn} at a distance of 60 feet from the centerline of the UPRR main line tracks. The 60 dB L_{dn} railroad noise contour is calculated to be located approximately 951 feet from the railroad centerline. The 65 dB L_{dn} contour is calculated to be located approximately 441 feet from the railroad centerline.

Existing Noise Levels Associated With Union Pacific Railroad Spur Line Train Activity

Based upon field observations and information collected from local businesses, it was conservatively assumed that six train operations occur along the spur line per day randomly distributed during the daytime and nighttime hours. J.C. Brennan & Associates, Inc. staff also observed and measured the sound exposure level of a train pass by on the UPRR spur line near the project site in the Solano Business Park area near the UPRR spur line crossing at Beck Avenue. The observed speed of the train on the spur line was relatively slow. The measured sound exposure level associated with the UPRR spur line train pass by was measured to be 89 dB SEL at a distance of 270 feet from the center line of the spur line tracks. Based upon the above-described noise level data, number of operations, and methods of calculation, the L_{dn} value for UPRR spur line operations adjacent to the project site were calculated to be 54 dB L_{dn} at a distance of 270 feet from the centerline of the UPRR main line tracks. Based upon these calculations, the predicted 60 dB L_{dn} railroad noise contour would be located approximately 107 feet from the railroad centerline. The predicted 65 dB L_{dn} railroad noise contour would be located approximately 50 feet from the railroad centerline.

Existing Ambient Noise Environment in the Project Vicinity

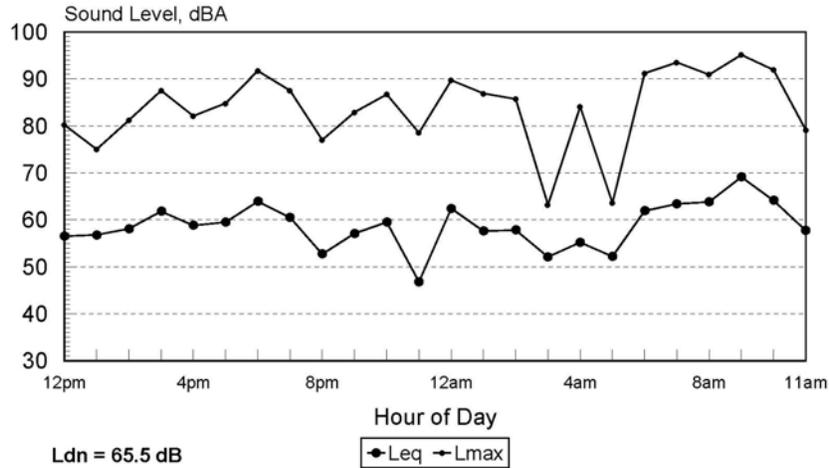
To quantify existing ambient noise levels in the vicinity of the project site, J.C. Brennan & Associates, Inc. staff conducted short-term noise level measurements at one location on the project site, and continuous hourly noise level measurements at one location near the project site (See Figure 4.4-1 for noise measurement locations). The noise level measurements were conducted between December 31, 2003 and January 1, 2004. The noise level measurements were conducted to determine typical background noise levels and for comparison to the project noise levels. Table 4.4-3 shows a summary of the existing noise measurement monitoring results. Figure 4.4-4 graphically shows the results of the continuous hourly noise level measurements.

Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters were used for the noise level measurement survey. The meters were calibrated before and after use with an LDL Model CAL-200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

Table 4.4-3 Existing Ambient Noise Monitoring Results									
Site	Location	Date - Time	Average Measured Hourly Noise Levels, dBA						
			24-hour L_{dn}	Daytime (7:00 am - 10:00 pm)			Nighttime (10:00 pm - 7 am)		
				L_{eq}	L50	L_{max}	L_{eq}	L50	L_{max}
1	Adjacent to SR 12	11/24/03 – 1:11 pm	NA	68	NA	79.5	NA		
2	Adjacent to UPRR	12/31/03 – 1/1/04	65.5	62.2	52.6	85.3	58.3	46.3	43.2
3	Central portion of Proposed Residential Area	12/31/03 - 12:00 pm (15 minute interval)	NA	54.6	52.3	67.6	NA		

Notes: Source - J.C. Brennan & Associates, Inc.

Figure 4.4-4
Continuous Hourly Measured Noise Levels
Gentry – Suisun Mixed Use Development
Wednesday December 31, 2003 – January 1, 2004



REGULATORY CONTEXT

In order to limit population exposure to physically and/or psychologically damaging noise levels, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. The City of Suisun City General Plan Noise and Safety Element, and the Solano County General Plan Noise Element provide regulations or standards regarding noise levels for uses relevant to the proposed project. The following provides general overview of the existing regulations established by the City and County, and also derives further guidance from CEQA.

State Regulations

Although CEQA does not dictate noise standards that agencies must follow, the inquiries set forth in the California Environmental Quality Act (CEQA) Guidelines in Appendix G support the conclusion that a significant noise impact may occur if a project exposes persons to noise levels in excess of local general plans or noise ordinance standards, or cause a substantial permanent or temporary increase in ambient noise levels.

Local Regulations

City of Suisun City General Plan

In order to comply with state law requirements regarding noise elements, the City of Suisun City General Plan Noise Element adopts the noise standards set forth in the Solano County General Plan Health and Safety Element.

The City of Suisun General Plan Noise Element also establishes five policies regarding noise. A summary of these policies is provided below. According to the noise report, based upon conversations with the City of Suisun planning staff, these policies should be used for the evaluation of new projects.

Goal: To reduce human exposure to noise to acceptable levels.

Objective 1: To achieve levels of noise exposure for various types of land uses and human activities so that ambient, stationary, and vehicular noise will not unnecessarily impede these activities.

Policy 1: Travis Air Force Base Plan. This policy deals with areas covered by the Travis Air Force Base Comprehensive Airport Lane Use Plan. Because the Gentry-Suisun project is located outside of this plan area, Policy 1 would not apply to the proposed project.

Policy 2: Highway 12 Setbacks. The City shall require setbacks and/or other noise mitigation measures for residences adjacent to Highway 12, along arterial streets, within the proximity of the Union Pacific Railroad, or near any other circulation-related source of noise that may exceed the recommended exterior noise level of CNEL 65dB that are sufficient to reduce the noise level to 65dB or less.

Policy 3: Commercial Vehicles. Commercial vehicles shall be prohibited in residential areas except to make deliveries to or provide services to residences.

Policy 4: Protection of Residential Land Use from Non-Residential Noise Sources. In designating the appropriate location of commercial and industrial land uses vis-à-vis residential land uses, the City shall seek to minimize potential noise conflicts by assuring that noise received by commercial or industrial land uses does not exceed a CNEL 65dB. To ensure that recommended standards for exterior and interior noise are not exceeded, the City may require commercial and industrial developments to adopt noise mitigation measures and may require residential developments near commercial and industrial uses to mitigate potential noise exposure through site design and other appropriate measures. Mitigation measures may include restrictions on the hours of operation of certain equipment,

the construction of a sound wall or earth berming to protect residential land uses from the sources of noise, minimum distance requirements for dwelling units and commercial/industrial buildings, and construction requirements to reduce interior noise levels.

It should be noted that the CNEL/L_{dn} standard applied in Policy 2 would disguise short-term variations in the noise environment because the CNEL/L_{dn} noise level is based upon a 24-hour average with penalties applied for evening and nighttime hours. Therefore, there is a potential for annoyance to residential uses adjacent to commercial uses. The City may wish to implement buyer/renter notification for all residential uses adjacent to commercial areas. The buyer/renter notification should inform residents that every attempt has been made to ensure compliance with the applicable City of Suisun noise standards, however, periods of elevated noise levels may occur.

Policy 5: Noise Complaints. The City shall maintain and publicize a procedure whereby residents can register noise complaints.

Determination of a Significant Increase in Noise Levels

Another means of determining a potential noise impact is to assess a person’s reaction to changes in noise levels due to a project. Table 4.4-4 is commonly used to show expected public reaction to changes in environmental noise levels. This table was developed on the basis of test subjects' reactions to changes in the levels of steady-state pure tones or broad-band noise and to changes in levels of a given noise source. It is probably most applicable to noise levels in the range of 50 to 70 dBA, as this is the usual range of voice and interior noise levels.

Table 4.4-4 Subjective Reaction to Changes in Noise Levels of Similar Sources		
Change in Level, dBA	Subjective Reaction	Factor Change in Acoustical Energy
1	Imperceptible (Except for Tones)	1.3
3	Just Barely Perceptible	2.0
6	Clearly Noticeable	4.0
10	About Twice (or Half) as Loud	10.0

Source: Architectural Acoustics, M. David Egan, 1988.

IMPACTS AND MITIGATION MEASURES

Standards of Significance

Generally, a project may have a significant effect on the environment if it will substantially increase the ambient noise levels at adjoining areas or expose people to

severe noise levels. In practice, more specific professional standards have been developed, as discussed previously in the Regulatory Context section above. These standards state that a noise impact may be considered significant if it would generate noise that would conflict with local planning criteria, or substantially increase noise levels at existing noise-sensitive land uses.

As explained above, the inquiries in Appendix G to the CEQA guidelines can be used to derive significance criteria. Based on Appendix G, the City concludes that implementation of the project would result in significant noise impacts if the project would result in any of the following:

- a. Exposure of persons to or generation of noise levels in excess of standards for new developments established in the City of Suisun General Plan. Specifically, exterior and interior noise levels of 65 and 45 dB CNEL/L_{dn}, respectively, for residential uses exposed to transportation or non-transportation noise sources.
- b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
- c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project, defined as 3 dB or greater. This noise standard applies to sites that support existing developments and is typically applied to sites with exiting ambient noise levels of 60-65 dB.
- d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project, defined as 3 dB or greater. However, construction noise is typically considered less than significant because it is transient, temporary, limited to daytime hours, and construction equipment is required to comply with industry standards for noise abatement.
- e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, where the project would expose people residing or working in the area to excessive noise levels.
- f. For a project within the vicinity of a private airstrip, where the project would expose people residing or working in the project area to excessive noise levels.

Because there are no existing or proposed significant sources of groundborne vibration or groundborne noise associated with this project, analysis of item “b” above is not warranted. The project is not located within an airport land use plan or in the vicinity of a private airstrip; therefore items “e” and “f” would also not apply.

Method of Analysis

The identified primary noise-producing elements associated with the proposed project include increased traffic on the local roadway network, railroad activity, on-site heavy truck equipment, loading dock activities, rooftop mechanical equipment, and project-related construction. The following discussion focuses on these noise sources.

Traffic Noise Assessment

To assess noise impacts due to project-related traffic increases on the local roadway network, traffic noise levels were predicted at a representative distances for both existing and cumulative with and without project conditions. The FHWA traffic noise prediction model was used to predict existing plus project traffic noise levels at a representative distance of 100 feet from the roadway centerline.

Railroad Noise Impact Assessment

Future operations along the UPRR railroad lines were not available. Estimating the future train operation noise levels along the UPRR tracks is difficult given that the future level of activity is unknown at this time. For the purposes of this noise analysis, it was assumed that future railroad operations will be similar to those described earlier in this report. Therefore, the railroad noise monitoring results discussed in the existing setting, were used to calculate the predicted railroad noise exposure at the proposed residential uses associated with the project.

Construction Noise Impact Assessment

During the construction phases of the project, noise from construction activities would add to the noise environment in the immediate project vicinity. Activities involved in construction would generate maximum noise levels, as indicated in Table 4.4-5, ranging from 85 to 90 dB at a distance of 50 feet. Construction activities would be temporary in nature and are anticipated to occur during normal daytime working hours.

Noise would also be generated during the construction phase by increased truck traffic on area roadways. A significant project-generated noise source would be truck traffic associated with transport of heavy materials and equipment to and from construction sites. This noise increase would be of short duration, and would likely occur primarily during daytime hours.

Table 4.4-5 Construction Equipment Noise	
Type of Equipment	Maximum Level, dB at 50 feet
Bulldozers	87
Heavy Trucks	88
Backhoe	85
Pneumatic Tools	85

Source: Environmental Noise Pollution, Patrick R. Cunniff, 1977.

Project Impacts and Mitigation Measures

4.4-1 An increase in existing traffic noise levels on existing land uses within the project vicinity.

Base Project, Alternative 1, and Alternative 2

Existing residences located along major roadways in the vicinity of the project area would be exposed to elevated traffic noise levels under existing and cumulative buildout conditions either with or without the project. Table 4.4-6 shows the predicted traffic noise level increases on the local roadway network for existing conditions. In addition, Table 4.4-6 indicates that the existing traffic noise level increases resulting from the proposed project would range from +0.2 dB to +7.2 dB L_{dn} , relative to no-project conditions. Furthermore, Appendices A-H of the Noise Report provides the complete inputs and results to the FHWA model for each of the traffic scenarios.

Pursuant to the projects Significance Criteria, a significant increase in traffic noise levels is defined as 3 dB. Although the project will generate a significant amount of new vehicle trips, the new trips are generally not enough to cause a significant increase in traffic noise levels on the existing roadway network. However, a significant increase of 5.7-7.2 dB is predicted for Main Street, south of Cordelia Road under the various project alternatives. This increase in traffic noise is a result vehicles traveling from these residences to the project site. We anticipate that there will be some retail trips from these residences and other residences in the Downtown Suisun area interacting with the project site. While the number of additional trips is minimal, the percentage increase may be noticeable due to the low volume of trips found on this roadway.

Even with the increase in traffic volumes on the various streets in the Downtown Suisun area (such as Main Street), absolute noise levels are predicted to be well

below the City of Suisun exterior noise level standard of 65 dB L_{dn}. Therefore, this impact is considered to be *less-than-significant*.

Mitigation Measure(s)

None Required.

**Table 4.4-6
Existing Traffic Noise Levels With & Without Project**

		Noise Levels (L _{dn} , dB) 100 Feet From Centerline						
		Existing No Project (dB)	Existing Plus Base Project (dB)	Change (dB)	Existing Plus Alt 1 (dB)	Change (dB)	Existing Plus Alt 2 (dB)	Change (dB)
Roadway	Segment							
Texas Street	Pennsylvania to Jackson	63.1	63.8	0.7	63.6	0.5	63.5	0.4
Texas Street	Jackson to Webster	63.5	64.3	0.7	64.1	0.5	64.0	0.5
Texas Street	E. of Webster	63.8	64.5	0.7	64.3	0.5	64.3	0.5
Woolner Ave	W. of Beck	57.0	57.4	0.4	57.3	0.2	57.3	0.2
SR 12	Beck to Pennsylvania	70.4	70.8	0.5	70.7	0.4	70.7	0.3
SR 12	Pennsylvania to Marina	71.5	71.9	0.4	71.8	0.3	71.8	0.3
SR 12	E. of Grizzly	69.1	69.5	0.4	69.4	0.3	69.4	0.2
Lotz Way	Main to Civic Center	60.9	61.8	0.9	61.6	0.7	61.6	0.7
Cordelia Road	W. of Beck	59.7	60.2	0.6	60.1	0.4	60.2	0.6
Cordelia Road	Beck to Pennsylvania	59.5	61.7	2.2	60.9	1.4	60.8	1.3
Cordelia Road	Pennsylvania to Main	57.3	59.9	2.5	59.2	1.9	59.0	1.7
Cordelia Road	E. of Main	52.2	54.7	2.5	54.2	1.9	54.1	1.8
Beck Ave	SR 12 to Cordelia	54.3	54.8	0.5	54.5	0.2	54.5	0.2
Pennsylvania St.	N. of Texas	64.8	65.9	1.1	65.7	0.8	65.6	0.7
Pennsylvania St.	Texas to SR 12	63.5	65.8	2.2	65.4	1.8	65.2	1.7
Pennsylvania St.	SR 12 to Cordelia ¹	57.3	60.7	3.4	60.5	3.2	60.2	2.9
Jackson St	S. of Texas	60.3	60.8	0.5	60.8	0.5	60.7	0.4
Webster St.	S. of Texas	59.4	60.1	0.7	60.0	0.6	59.9	0.5
Main St.	Lotz to Cordelia	57.3	58.5	1.2	58.2	0.8	58.1	0.7
Main St.	S. of Cordelia	44.8	52.0	7.2	51.0	6.2	50.5	5.7
Civic Center Blvd	S. of Lotz	56.1	58.6	2.5	58.2	2.1	58.0	2.0
Marina Blvd	S. of SR 12	58.4	59.2	0.8	59.1	0.7	59.0	0.6

Bold = Significant increase in noise.

¹There are no existing noise sensitive uses adjacent to this roadway segment, therefore, this increase is not considered significant

Source: FHWA-RD-77-108 with inputs from Fehr & Peers Transportation Consultants, Caltrans and J.C. Brennan & Associates, Inc.

4.4-2 An increase in future traffic noise levels on proposed residential land uses within the project site.

Base Project, Alternative 1, and Alternative 2

Proposed residential land uses located adjacent to any of the major project area roadways would be impacted by traffic noise. Future traffic noise levels from SR 12, Pennsylvania Street, and Cordelia Road would exceed the 65 dB L_{dn} exterior noise level standard applicable to residential uses and may exceed an interior noise level standard of 45 dB L_{dn}.

The degree by which traffic noise levels would exceed the City of Suisun 65 dB CNEL/L_{dn} exterior noise level standard would depend on the proximity of the proposed noise-sensitive uses to the major roadways within the project vicinity, and the individual noise generation of those roadways.

The FHWA traffic noise prediction model was used to predict Cumulative + Project traffic noise levels at the proposed residential uses associated with the project. Table 4.4-7 shows the predicted traffic noise levels at the proposed residential uses adjacent to the major project-area arterial roadways. Table 4.4-7 also indicates the property line noise barrier heights required to achieve compliance with an exterior noise level standard of 65 dB L_{dn}. Appendices I and J of the Noise Report (See Appendix E to the Draft EIR) provide the complete inputs and results to the FHWA traffic noise prediction model and barrier calculations. The modeled noise barriers assume flat site conditions where roadway elevations, base of wall elevations, and building pad elevations are approximately equivalent.

**Table 4.4-7
Cumulative + Project Traffic Noise Levels At Proposed Residential Uses**

Roadway	Segment	Approximate Residential	Approximate ADT	Predicted Traffic Noise Levels, L _{dn} ²			
				No Wall	6' Wall	7' Wall	8' Wall
SR 12	Beck to Pennsylvania	100	50,060	72 dB	67 dB	66 dB	65 dB
Cordelia Road	Beck to Pennsylvania	75	18,090	67 dB	61 dB	60 dB	59 dB
Pennsylvania St.	SR 12 to Cordelia	75	12,350	66 dB	59 dB	59 dB	57 dB

¹ Setback distances are measured in feet from the centerlines of the roadways to the center of residential backyards.

² The modeled noise barriers assume flat site conditions where roadway elevations, base of wall elevations, and building pad elevations are approximately equivalent.

Source: FHWA-RD-77-108 with inputs from Fehr & Peers, Caltrans and J.C. Brennan & Associates, Inc.

The Table 4.4-7 data indicate that noise barriers ranging in height from 6-8 feet could be used to achieve compliance with the City of Suisun 65 dB L_{dn} exterior noise level standard for the proposed residential uses. Because the exterior noise level thresholds would be exceeded at various residential locations, the project would have a *potentially significant* impact.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level.

4.4-2(a) *Prior to occupancy of residential units, sound walls shall be constructed along the major project-area roadways, adjacent to proposed residential uses. Data contained in Table 4.4-7 shall be consulted to determine appropriate barrier heights. The final location and height of barriers shall be determined by the Community Development Director prior to issuance of building permits.*

4.4-2(b) *In order to ensure compliance with an interior noise level standard of 45 dB L_{dn} , a detailed analysis of interior noise levels should be conducted for proposed residential uses constructed in areas with unmitigated first-floor exterior noise levels of 67 dB CNEL/ L_{dn} or greater. This conclusion is based upon a typical exterior-to-interior noise level reduction of 25 dB provided by standard construction practices, consistent with the Uniform Building Code (UBC), and the fact that second-story noise levels are typically 2-3 dB higher than first floor levels due to reduced ground attenuation. Therefore, a first-floor floor noise exposure of 67 dB CNEL/ L_{dn} would likely result in a second-story exterior exposure of 70 dB CNEL/ L_{dn} and an interior noise level of 45 dB CNEL/ L_{dn} .*

4.4-3 Union Pacific Railroad noise levels on the project site.

Base Project, Alternative 1, and Alternative 2

The Base Project and both alternatives would create new residential uses within approximately 1,200 feet of the UPRR mainline to the east (within Planning Area 3). At this distance, the predicted railroad noise levels are predicted to be 59 dB L_{dn} . This level complies with the City of Suisun exterior noise level standard of 65 dB L_{dn} .

In addition, each of the project alternatives would create new residential uses within approximately 75 feet of the UPRR spur line. At this distance, the predicted railroad noise levels are predicted to be 62 dB L_{dn} . This level would not exceed the City of Suisun exterior noise level standard of 65 dB L_{dn} .

UPRR train activity is predicted to be less than the City of Suisun 65 dB L_{dn} exterior noise level standard applicable to residential uses. Therefore, this impact is considered to be *less-than-significant*.

Mitigation Measure(s)

None Required.

4.4-4 Future noise-producing uses developed within the project area.

A variety of noise sources are associated with future development within the project area which have the potential to create noise levels in excess of the applicable noise standards or result in annoyance at existing and future noise-sensitive developments within the project area.

At this time specific retailers are not known and detailed site and grading plans have not yet been developed. As a result, it is not feasible to identify specific noise impacts associated with each of the proposed uses. However, a general discussion and assessment of impacts can be conducted based upon the possible types of uses associated with the project. Following is a discussion of the potentially significant noise sources associated with the various types of proposed uses.

Supercenter

The proposed Base Project would include the construction of a 227,200 s.f. supercenter and the project Alternatives would include the construction of a 217,572 s.f. supercenter. Noise sources associated with a supercenter would include loading docks, delivery trucks, parking lots, HVAC equipment and an automotive center.

Home Improvement

The proposed Base Project would include the development of a 162,700 s.f. home improvement store and Alternative 1 include the development of a 169,793 s.f. home improvement store. Likely noise sources would include loading docks, delivery trucks, lumber-unloading activities, parking lots and HVAC equipment.

Various Retail Uses

Various retail uses would include apparel, home furnishings, restaurant, fast food, gas station, and other unknown retail uses. Noise sources would likely include parking lots, delivery trucks, HVAC, and drive through lanes.

In order to assess the impacts of the proposed commercial uses on the existing and proposed residential uses, a general assessment was conducted based upon the likely commercial uses associated with the project.

Loading Dock Noise

Due to the elevated noise emissions of heavy trucks and the common practice of utilizing loading docks during late night or early morning hours, adverse public reaction to loading dock usage is not uncommon. This is especially true if heavy trucks idle during unloading or if refrigeration trucks are parked in close proximity to residential boundaries.

Average noise levels for single idling trucks generally range from 60 to 65 dB Leq at a distance of 100 feet, and maximum noise levels associated with heavy truck passages range from 70 to 75 dB Lmax at a distance of 100 feet. Maximum noise levels generated by passages of medium duty delivery trucks generally range from 55 to 65 dB at a distance of 100 feet, depending on whether or not the driver is accelerating.

The potential for adverse noise impacts associated with loading dock usage could be reduced by restricting heavy truck arrivals or departures during the nighttime hours, by requiring that truck drivers turn off their engines while parked at the loading dock, and by requiring solid noise barriers along the side of the loading docks. It should be noted, however, that such measures may not be sufficient to ensure compliance with the applicable Noise Element and Community Plan standards. Due to the potential for adverse public reaction to new loading docks in close proximity to existing residential uses, the potential noise effects associated with proposals for new loading docks should be carefully evaluated.

Based upon analyses conducted for similar supercenters and home improvement stores, an assessment of loading dock noise impacts was conducted for each of the project alternatives.

Base Project and Alternative 1

To determine typical loading dock noise levels associated with the proposed loading docks, noise level measurement data collected for similar loading docks were used. These noise level measurements were conducted at a distance of 50 feet from the loading dock. During a one-hour sample of loading dock noise levels, there were three truck arrivals and four truck departures, and associated unloading activities.

The noise level measurements were conducted for a one-hour period, and the noise measurements of the loading dock activities were confirmed to represent a typical busy hour of loading dock operations. The results of the loading dock noise measurements indicate that a typical busy hour generated a maximum level of approximately 80 dB L_{max}, and an average noise level of 55 dB L_{eq}, at a reference distance of 50 feet.

The primary noise source associated with the loading dock areas is the heavy trucks stopping (air brakes), backing into the loading docks (back-up alarms), and pulling out of the loading docks (revving engines). If the heavy truck engines idle while the trucks are being unloaded, then this would be an additional source of noise at this location. Once the trucks have backed into the loading dock, they are unloaded from the inside of the store using a fork lift or hand cart, and most of that unloading noise is contained within the building and truck trailer.

The proposed loading dock configuration for the supercenter and home improvement store would locate the loading docks approximately 210 feet from the closest residential uses to the south or east. Using the data described above, the predicted hourly L_{eq} and L_{max} noise levels at the closest residences were calculated to be approximately 43 dB and 68 dB, respectively.

In order to assess compliance with the City of Suisun exterior noise level standards, the predicted loading dock noise levels must be converted to a L_{dn} value. To calculate the L_{dn} associated with this noise source at the closest receivers, it was assumed that the loading docks would be active for a total of five hours of the 24-hour day, including one hour during the nighttime. Therefore, the calculated L_{dn} at the closest residences to the south is approximately 41 dB. This level would comply with the City of Suisun exterior noise level standard of 65 dB L_{dn} at the nearest proposed residential uses. Therefore, this impact is considered to be *less-than-significant*.

Alternative 2

Alternative 2 would place loading docks within 130 feet of the nearest residential uses to the west. Therefore, the proposed L_{dn} value for loading docks would be 45 dB at the nearest residential uses. This level would comply with the City of Suisun exterior noise level standard of 65 dB L_{dn} at the nearest proposed residential uses. Therefore, this impact is considered to be *less-than-significant*.

Truck Circulation Noise

Based upon analyses conducted for similar supercenters and home improvement stores, an assessment of delivery truck circulation noise impacts was conducted for each of the project alternatives.

Base Project and Alternative 1

At this time, the exact truck routes are not known; however, it is expected that the proposed project would place residential uses within approximately 170 feet from on-site truck circulation routes.

Based upon information for similar supercenter projects, truck activity at the proposed site would conservatively consist of approximately 12 semi-trailer truck

deliveries per day. Twelve daily deliveries would result in 24 truck pass-bys when the separate arrivals and departures are considered. The truck traffic noise analysis was based on these figures and on reference noise level measurements conducted at similar commercial truck loading docks.

Truck pass-bys en route to the loading dock areas are expected to be relatively brief, and are estimated to produce an average Sound Exposure Level (SEL) of approximately 87 dB at a distance of 50 feet. The typical L_{max} level due to a truck pass-by has been measured to be approximately 75 dB at a distance of 50 feet.

In order to assess compliance with the City of Suisun/Solano County exterior noise level standards, the predicted loading dock noise levels must be converted to a L_{dn} value. The L_{dn} at the nearest residences resulting from truck passages would depend on the number of daily truck operations and the hours during which they occur. This is because in the calculation of L_{dn} , each nighttime truck passage generates the equivalent noise of 10 daytime truck deliveries (10 dB penalty for nighttime operations). Based on the assumption that one sixth of the total daily passages (2 trips) could occur during nighttime hours (10 p.m.-7 a.m.), the predicted L_{dn} would be approximately 44 dB L_{dn} at the nearest residences. This level would comply with the City of Suisun exterior noise level standard of 65 dB L_{dn} at the nearest proposed residential uses. Therefore, this impact is considered to be *less-than-significant*.

Alternative 2

Alternative 2 would place residential uses within 50 feet of the nearest truck circulation route behind the proposed supercenter. Therefore, the proposed L_{dn} value for truck circulation would be 52 dB at the adjacent residential uses. This level would comply with the City of Suisun exterior noise level standard of 65 dB L_{dn} at the nearest proposed residential uses. Therefore, this impact is considered to be *less-than-significant*.

HVAC Equipment Noise

HVAC equipment for the supercenter and home improvement store will likely consist of packaged rooftop units. Cold food storage refrigeration units may also be required for the proposed supercenter use.

Base Project and Alternative 1

Based on J.C. Brennan & Associates experience with similar projects, the primary cooling for the proposed supercenter and home improvement store will be produced by packaged rooftop air conditioning systems. The coolers will likely be evenly distributed across the roof of the building, starting at about 30 feet in from the edges of the roof.

During the peak of summer, it is expected that air conditioning units could be in operation simultaneously during all hours of the day and night.

The roof-top air conditioning systems are predicted to produce approximately 52 dB at a reference distance of 100 feet (per unit). Mechanical equipment noise exposure was calculated assuming 22 total rooftop coolers (all operating simultaneously) and standard spherical spreading loss (-6 dB per each doubling of distance from the source). These levels were computed to be approximately 55 dB L_{dn} at the closest residences based on the effective noise center of the rooftop equipment being the center of the store roof, and assuming 5 dB of shielding by rooftop parapets. This level would comply with the City of Suisun exterior noise level standard of 65 dB L_{dn} at the nearest proposed residential uses. Therefore, this impact is considered to be *less-than-significant*.

To quantify the noise emissions from food cold storage refrigeration equipment, J.C. Brennan & Associates, Inc. utilized noise level measurements at a supercenter in Reno, Nevada. At a distance of 50 feet from these units, a noise level of 66 dB L_{eq} was recorded. Based upon the reference levels and continuous operation, the predicted L_{dn} level would be 60 dB at the nearest residential uses. This level would comply with the City of Suisun exterior noise level standard of 65 dB L_{dn} at the nearest proposed residential uses. Therefore, this impact is considered to be *less-than-significant*.

Alternative 2

Utilizing the same methodology as above, the predicted HVAC noise levels at the nearest residential uses is predicted to be 58 dB L_{dn} . Food storage refrigeration equipment is predicted to be 64 dB L_{dn} at the nearest residential uses. These levels would comply with the City of Suisun exterior noise level standard of 65 dB L_{dn} at the nearest proposed residential uses. Therefore, this impact is considered to be *less-than-significant*.

Parking Lot Noise

Parking lot noise consists of a variety of variable noise sources including vehicle circulation, vehicles starting, people conversing, doors slamming, customer unloading/loading etc.

Base Project and Alternative 2

The Base Project and Alternative 2 would include a large central parking lot north of the primary retail anchors in addition to smaller parking lots for the other various retail uses. Due to distance and shielding from intervening structures, parking lot activities are not considered to be a significant noise source to the existing or proposed residential uses in the project vicinity. Therefore, this impact is considered to be *less-than-significant*.

Alternative 1

Alternative 1 would place residential uses adjacent to the parking lot for the proposed retail supercenter. The residential uses would receive noise exposure from approximately half of the 1821 space parking lot for Retail uses A1 and A2. As a means of determining the noise levels due to parking lot activities, j.c. brennan & associates, Inc., utilized noise level data collected for previous parking lot studies and operations data supplied by the project traffic engineer. A typical SEL due to vehicle arrivals/departures, including doors slamming and people conversing is approximately 71 dB, at a distance of 50 feet. It is assumed that 9700 vehicles will enter and leave the parking lot on a daily basis. For the purpose of this analysis, it was conservatively assumed that the supercenter would operate 24-hours per day with traffic being spread evenly during all operating hours. Parking lot noise levels were determined using the following formula:

$$L_{dn} = 71 + 10\log(N_{eq}) - 49.4$$

where 71 is the mean Sound Exposure Level (SEL) for an automobile operation, N_{eq} is the equivalent number of parking lot operations in a given 24-hours (N_{eq} is assumed to be 44,862 for this project after application of nighttime penalties) and 49.4 is 10 times the logarithm of the number of seconds in a 24-hour period.

The N_{eq} applies a penalty of three times the number of operations which occur during the evening period (7 p.m. to 10 p.m.) and ten times the number of operations which occur during the nighttime period (10 p.m. - 7 a.m.) which is important to note.

Using the equations and operations data described above, the proposed parking lot would result in noise levels of approximately 68 dB L_{dn} at a distance of 50 feet. Assuming that the closest residential receivers to the north are approximately 200 feet from the center of the proposed parking lot, the predicted noise levels are 56 dB L_{dn} . This level would comply with the City of Suisun exterior noise level standard of 65 dB L_{dn} at the nearest proposed residential uses. Therefore, this impact is considered to be *less-than-significant*.

Automotive Tire Center Noise

The proposed supercenter would likely include an automotive tire center. In order to estimate the noise impacts of an automotive center, data for a major tire store was utilized.

The use of air impacts wrenches would be the most significant source of noise associated with the automotive center. Based upon noise level measurements of air impact wrenches, the ½" air wrenches which are typically used for tire removal and installation typically produce a sound level of approximately 61 dB

L_{eq} and 72.8 dB SEL at a distance of 100 feet from the entrance of the tire change bays. The average duration of use is 15 seconds per wheel. In addition, each wheel involves two actions (on/off).

To determine the typical peak hour operations which may occur at the proposed automotive center an estimate of the peak hour and daily operations was obtained for a large tire shop. The usage estimate indicates that each tire bay could handle two vehicles in a busy hour. Assuming four vehicle bays operating at full capacity, the automotive center could handle a total of 8 vehicles per hour for a total of 32 wheel changes. Table 4.4-8 summarizes the Automotive Center assumptions.

Table 4.4- 8 Assumptions For Determining Peak Hour L_{eq} Due to ½" Air Wrenches							
Location	# of Bays	Vehicles /Hr./Bay	Wheel Changes/ Vehicle	Total Wheel Changes on & off	Duration per Wheel	Sound Level Data	
						SEL at 100'	Lmax at 75'
Tire Bay	4	2	4	32	15 Sec.	72.8 dB	66.5 dB
Source: J.C. Brennan & Associates, Inc.							

Assuming a scenario with all bays operating at full capacity, the hourly L_{eq} value for air wrench operations can be calculated as follows:

$$L_{eq} = 72.8 + 10\text{Log } 32 - 35.6, \text{ dBA where:}$$

72.8 is the mean SEL of the event, 32 is the sum of the number of operations, and 35.6 is 10 times the logarithm of the number of seconds in an hour. Based upon the calculation above, the noise level due to air impact wrench use is shown in Table 4.4-8.

Assuming that the store operates for 12 hours, the L_{dn} can be calculated as follows:

$$L_{dn} = 72.8 + 10\text{Log } 384 - 49.4, \text{ dBA where:}$$

72.8 is the mean SEL of the event, 384 is the total number of operations, and 49.4 is 10 times the logarithm of the number of seconds in day. Based upon the calculations above, the noise levels due to air impact wrench operations at 100 feet are shown in Table 4.4-9.

Table 4.4-9 Predicted Air Wrench Noise Levels at a Reference Distance of 100 feet		
Activity	Peak Hour L_{eq}	L_{dn}
Tire removal and installation	52 dB	49 dB
Source: J.C. Brennan & Associates, Inc.		

Base Project and Alternative 1

The Base Project and Alternative 1 would create new residential uses located within 250 feet of the proposed automotive center. At this distance the automotive center is predicted to generate exterior noise levels of 41 dB L_{dn} . This level would comply with the City of Suisun exterior noise level standard of 65 dB L_{dn} at the nearest proposed residential uses. Therefore, this impact is considered to be *less-than-significant*.

Alternative 2

Alternative 2 would create new residential uses located within 100 feet of the proposed automotive center. At this distance the automotive center is predicted to generate exterior noise levels of 49 dB L_{dn} . This level would comply with the City of Suisun exterior noise level standard of 65 dB L_{dn} at the nearest proposed residential uses. Therefore, this impact is considered to be *less-than-significant*.

Summary - Base Project, Alternative 1, and Alternative 2

As stated above, noise impacts associated with future uses developed within the planned retail areas cannot practically be evaluated due to the wide range of variables which would affect such noise generation. However, an estimate of noise impacts can be made based upon the best available information. Based upon the estimates discussed above, the proposed commercial uses are predicted to comply with an exterior noise standard of 65 dB L_{dn} at the nearest residential uses. Although the CNEL/ L_{dn} noise level standard tends to disguise short-term variations in the noise environment and a potential for annoyance exists to the adjacent residential uses, because the predicted noise levels do not exceed City standards, the impact would be *less-than-significant*.

Mitigation Measure(s)

Although the impact is identified as less-than-significant, the condition of approval proposed below would further reduce the above impact.

- 4.4-4(a) *The Covenants, Conditions, and Restrictions (CC&R) developed for the planned retail area shall require all uses developed within the area to generate noise levels which comply with the City of Suisun City Noise Element standards.*
- 4.4-4(b) *During project review, the Community Development Director shall make a determination as to whether or not the proposed use would likely generate noise levels which could adversely affect the adjacent residential areas. If it is determined from this review that proposed uses could generate excessive noise levels at noise-sensitive uses, the applicant shall be required to prepare an acoustical analysis to ensure that all appropriate noise control measures are incorporated into the project design so as to mitigate any noise impacts. Such noise control measures include, but are not limited to, use of noise barriers, site redesign, silencers, partial or complete enclosures of critical equipment, etc.*
- 4.4-4(c) *In order to minimize the risk for annoyance, buyer/renter notification shall be implemented for all residential uses adjacent to commercial areas. The buyer/renter notification shall inform residents that every attempt has been made to ensure compliance with the applicable City of Suisun noise standards, however, periods of elevated noise levels may occur.*

4.4-5 Short-term noise impacts from construction activities.

Base Project, Alternative 1, and Alternative 2

Activities associated with project construction would result in elevated noise levels, with maximum noise levels ranging from 85-88 dB at 50 feet, as shown in Table 4.4-5. Construction activities would be temporary in nature and would likely occur during normal daytime working hours. Nonetheless, because construction activities would result in periods of elevated noise levels, this impact is considered to be ***potentially significant***.

Mitigation Measure(s)

Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level.

- 4.4-5 *Construction activities shall adhere to the requirements of the City of Suisun City/Solano County with respect to hours of operation. In addition, all heavy construction equipment and all stationary noise sources (such as diesel generators) shall be fitted with factory-specified mufflers.*

Cumulative Impacts and Mitigation Measures

4.4-6 Cumulative Increase in Traffic Noise Levels.

Base Project, Alternative 1, and Alternative 2

The proposed project would contribute to cumulative traffic on the local roadway network. Table 4.4-10 shows the predicted traffic noise level increases on the local roadway network for cumulative conditions. In addition, Table 4.4-10 indicates that the cumulative traffic noise level increases resulting from the proposed project development would range from +0.1 dB to +6.8 dB L_{dn}, relative to cumulative no-project noise levels. Project-related traffic noise increases in the project vicinity, relative to Cumulative No Project noise levels, would not exceed 2.3 dB, with the exception of Main Street, south of Cordelia Road which would result in a 6.8 dB increase for the Base Project, a 5.8 dB increase for Alternative 1, and a 5.3 dB increase for Alternative 2, as shown in Table 4.4-10.

The noise-level increases for the Cumulative (2015) Plus Project setting would range from 0 to 2.3 dB. The Solano County General Plan indicates that an increase of 3 dB would barely be a noticeable difference and an increase of at least 5 dB would create a noticeable change in the community. Main Street, south of Cordelia Road is the only roadway segment that is greater than 5 dB, but is a residential court with no through connections to any other street and realistically would not result in significant increases in traffic noise levels as a result of the Base Project or Alternatives, as it would be below the 65 dB level of significance. Therefore, cumulative increases in traffic noise levels would be considered *less-than-significant*.

Mitigation Measure(s)

None Required.

**Table 4.4-10
Cumulative Traffic Noise Levels With & Without Project**

	Segment	Noise Levels (L_{dn} , dB) 100 Feet From Centerline						
		Cumulative No Project (dB)	Cumulative Plus Base Project (dB)	Change (dB)	Cumulative Plus Alt 1 (dB)	Change (dB)	Cumulative Plus Alt 2 (dB)	Change (dB)
Roadway								
Texas Street	Pennsylvania to Jackson	65.2	65.6	0.5	65.5	0.3	65.5	0.3
Texas Street	Jackson to Webster	65.4	65.9	0.5	65.7	0.4	65.7	0.3
Texas Street	E. of Webster	65.4	65.9	0.5	65.8	0.4	65.7	0.3
Woolner Ave	W. of Beck	59.3	60.6	1.3	60.6	1.3	60.6	1.3
SR 12	Beck to Pennsylvania	72.0	72.3	0.3	72.3	0.3	72.2	0.2
SR 12	Pennsylvania to Marina	74.0	74.2	0.2	74.2	0.2	74.1	0.1
SR 12	E. of Grizzly	72.1	72.3	0.2	72.3	0.1	72.2	0.1
Lotz Way	Main to Civic Center	62.8	63.3	0.5	63.1	0.3	63.1	0.3
Cordelia Road	W. of Beck	64.2	64.5	0.2	64.4	0.2	64.4	0.1
Cordelia Road	Beck to Pennsylvania	64.7	65.5	0.8	65.6	0.9	65.2	0.4
Cordelia Road	Pennsylvania to Main	63.7	64.4	0.7	64.2	0.5	64.1	0.5
Cordelia Road	E. of Main	53.5	55.5	2.0	55.1	1.5	54.9	1.4
Beck Ave	SR 12 to Cordelia	58.9	59.1	0.2	59.0	0.1	59.0	0.1
Pennsylvania St.	N. of Texas	67.2	67.9	0.7	67.7	0.5	67.7	0.4
Pennsylvania St.	Texas to SR 12	66.9	68.2	1.3	67.8	0.9	67.7	0.8
Pennsylvania St.	SR 12 to Cordelia	62.1	64.0	1.9	63.4	1.3	63.3	1.2
Jackson St	S. of Texas	61.2	61.7	0.5	61.4	0.2	61.6	0.3
Webster St.	S. of Texas	62.8	63.2	0.3	63.1	0.3	63.1	0.2
Main St.	Lotz to Cordelia	63.6	63.9	0.3	63.8	0.2	63.7	0.2
Main St.	S. of Cordelia	45.3	52.1	6.8	51.1	5.8	50.7	5.3
Civic Center Blvd	S. of Lotz	55.0	57.3	2.3	56.8	1.7	56.6	1.6
Marina Blvd	S. of SR 12	62.0	62.4	0.4	62.3	0.3	62.3	0.3

Bold = Significant increase in noise.

Source: FHWA-RD-77-108 with inputs from Fehr & Peers Transportation Consultants, Caltrans and J.C. Brennan & Associates, Inc.

Endnotes

¹ Acoustical Assessment of the Proposed Suisun-Gentry Mixed Use Development,, Suisun City, California, J.C. Brennan and Associates, Inc., January 2006.