

FINAL

ENVIRONMENTAL IMPACT REPORT

THE PRESERVE

STOCKTON, CALIFORNIA

EIR FILE NO. 11-05

SCH#2006092063

LSA

October 2008

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Submitted to:

City of Stockton
Community Development Department
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LSA Project No. AGS434

LSA

October 2008

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APPENDIX A – Recirculated Sections of the Draft EIR

1.0 INTRODUCTION

This document is a compilation of comments submitted on the Draft Environmental Impact Report (EIR) and responses to those comments. Comments have been submitted in the form of letters following the review of the Draft EIR document.

Final EIR Components

The basic Final Environmental Impact Report (Final EIR) for The Preserve Project consists of the Draft EIR document, the Responses to comments, and the Mitigation Monitoring and Reporting Program. Other components (separate from the Final EIR) of the environmental review process generally include the public meeting comments, the Statements of Facts and Findings and Overriding Considerations, resolutions, staff reports, hearing minutes and official notices.

Public Review of Draft EIR

On November 21, 2007, the 45 day public review period was initiated at the State Clearinghouse. The review period ended on January 4, 2008. Responses are provided for each comment letter on the Draft EIR.

Recirculated Sections of the Draft EIR

A recirculation of selected DEIR sections was prepared and distributed for public review on July 31, 2008. The document was prepared to document changes that have occurred with the proposed project and/or conditions that potentially affect previous findings presented in the November 2007 Draft Environmental Impact Report (EIR). As the issues involving Greenhouse Gas (GHG) are evolving as a science, at the time the November 2007 Draft EIR was circulated, information and the analysis contained in the document was presented to address the project impacts to the extent available at the time. In light of recent availability of information and analytical tools, the City of Stockton has re-examined the project's effects on global warming due to the contribution of GHG and has prepared the supplemental information and analyses presented in this revised document. This document can be seen in Appendix A. The review period for the recirculated sections of the draft EIR ended on September 15, 2008. Public review of the recirculated sections of the DEIR generated a duplicate comment letter from the Department of Transportation, as well as a new comment letter from the San Joaquin County Environmental Health Department which has been included in Chapter 2.0. In addition, comments previously raised by the City's Police Department were received.

Revised Project Description

Subsequent to circulating the Draft EIR for public review, the applicant and the City agreed to modify a portion of the discretionary approvals to achieve benefits for both parties. The modification involves the

elimination of the application to process a Master Development Plan, and substituting it with the Planned Development process. The Planned Development process is appropriate in light of the “all residential” land uses proposed for the project. Likewise, the Planned Development process does not require approval of a Development Agreement, and Public Facilities Financing Plan and Fiscal Impact Analysis. Other minor elements associated with the Master Development Plan that are not required by a Planned Development have also been eliminated. As a result of the similarities between the Master Development Plan process and the Planned Development process, all application requests for land use entitlement, and vesting tentative map reviews, etc. remain in place as previously submitted and unchanged. Further, the type, nature, and intensity of environmental effects remain unchanged.

Although the entitlement requests have been modified, the land use, density, yield and site plan layout remain unaffected. Consequently, the environmental review conducted by the City for the Preserve project remains valid and unchanged. The overall residential lot count, park and open space allocations, and general site development intensity remain unchanged. Environmental impacts, mitigation measures and level of significance findings as described in the Draft Environmental Impact Report are equally applicable to the Planned Development request.

Section 15088.5 of the California Environmental Quality Act (CEQA) outlines criteria that potentially trigger the re-circulation of an environmental document. “A Lead Agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability for the Draft EIR under Section 15087 but before certification.” “New information added to an EIR is not ‘significant’ unless an EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project’s proponents have declined to implement. ‘Significant new information’ requiring recirculation include, for example, a disclosure showing that (*italics statements reflect how the project corresponds to the points*):

- (1) A significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented. *In light of retaining the land use, site plan, yield and development intensity, all impacts and mitigation measures will remain identical to those contained in the Draft EIR.*
- (2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance. *The new information (e.g., change from Master Development Plan to Planned Development/elimination of Development Agreement) does not change the severity of any environmental impact described in the Draft EIR. Mitigation measures remain unchanged.*
- (3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the significant environmental impacts of the project, but the project’s proponents decline to adopt it. *No new alternatives or mitigation measures were required as the new Planned Development action does not increase environmental impact warranting re-examination of alternatives or mitigation measures.*
- (4) The Draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded. *The new Planned Development action does not cause any change to the environmental review contained in the Draft EIR. Therefore, the new information (e.g., change to Planned Development) does not change the adequacy or conclusions found in the Draft EIR. Through the preparation of this Final EIR, the City believes*

that the environmental document is adequate and that the conclusions are based on fact and reason.

Based upon our review of the changed processing from a Master Development Plan to a Planned Development it is the professional opinion of the author that the facts necessary to trigger a recirculation of the environmental document are not present.

1.1 FINAL EIR PROCESS

Response to Comments

The Responses to Comments provides a record of the changes that are required in the Draft EIR, as well as responses and clarifications raised by the comment letters. Together, the Draft EIR and the Responses to Comments record the environmental review process and findings, from the issuance of the Notice of Preparation, through the document certification.

The Responses to Comments include the original comment letter submitted by the commenting party (citizen, agency, etc.) followed by the EIR response. To facilitate reader convenience, each comment has been assigned a comment code, with each response linked by the same code. Due to the similarity or duplication of some comments, the reader maybe referred to a previous (or subsequent) response provided elsewhere in the Response to Comment portion of the Final EIR.

Decision-Makers Roles

The Planning commission and City Council will need to review the Response to Comments in conjunction with their recommended decisions on the proposed General Plan Amendment, Rezoning, Planned Development, Vesting Tentative Maps, and other decisions subject to environmental review in conjunction with the Final EIR. The Planning Commission will certify the Final EIR in conjunction with an action on the Tentative Map, and make a recommendation to the City Council as to the adequacy and completeness of the Final EIR for all other actions. Both the Planning Commission and City Council will use the information to understand the range of potential impacts associated with the project in making their respective decisions on the project.

1.2 ERRATA

The Final Environmental Impact Report is amended with these errata to address further refinements recommended by specific City departments. This coordination is relevant to the proposed project and is, therefore, included in the project record.

The following changes have been made to the DEIR:

Temporary Fire Station:

In a letter from the City of Stockton Fire Chief, Ronald L. Hittle, it was revealed that the temporary fire station planned for The Preserve is not required. This temporary substation was to be located on two 5,000 square foot lots within The Preserve until a new permanent location had been decided upon

by the City at which time the two lots would be returned to the Master Developer. In light of this new information, the fire station will not be built as part of the project and the two lots previously dedicated to the station will be developed as residential units.

Table 3.3.A will be revised accordingly:

Parks, Publicly Owned and Developed:

North East Park 5.00

Parks, Publicly Accessible, Privately Owned and Developed:

Linear Levee Park	19.10
Southwest Pocket Park	1.35
Southeast Pocket Park	1.59
Easement Park	12.31
South Central Park	<u>0.93</u>
	40.28

The following table will be added:

Atlas Parks Reimbursement Matrix:

	Fee Title	Land Reimb.	Frontage Reimb.	Const. Reimb.	O&M
North East Park	City	Yes	Yes	Yes	LMD
Easement Park	City	No	No	No	LMD
Linear Levee Park	City or HOA	No	No	No	LMD or HOA
SW Pocket Park	City or HOA	No	No	No	LMD or HOA
SE Pocket Park	City or HOA	No	No	No	LMD or HOA
S Central Pocket Park	HOA	No	No	No	HOA
Streetscape	City	No	No	No	LMD or HOA

Land Reimbursement: \$60k/acre

Frontage Reimb: includes 1/2 street section, curb, gutter, sidewalk, 1/2 street lights

Construction Reimb: includes all internal improvements, including play equipment, trees, grass, irrigation, etc.

Public Facilities and Services Goal 1, Policy 1 consistency statement will be revised as follows:

The proposed project, with 4,366 residents requires 22 acres of neighborhood and community parkland. Although the project falls short in traditionally configured public park land dedication by approximately 10 acres, it exceeds the total local park acreage requirement by approximately 18 acres when including privately developed, publicly accessible easements, green belts and pocket parks. If overall publicly accessible open space is included, the project provides over one hundred acres of public recreational areas in total.

Furthermore, the proposed project is required to provide thirteen (13) acres of regional parkland; however, the 2035 General Plan Land Use Diagram does not show a regional park site requirement within the project boundaries. Regional parkland requirements will be met off-site with payment of in lieu fees.

Existing Setting - City Neighborhood, Community Park, and Community Center changes:

The City of Stockton operates and maintains a total of 65 parks that range in size from 2 acres to 64 acres. The nearest neighborhood and community parks to the project site are the Garrigan, Sandman, Laughlin and Corren parks. The City of Stockton defines neighborhood parks as smaller (5 to 10 acres) local parks and community parks as medium sized parks (10 to 30 acres) which serve larger areas. All of these parks are located on the other side of the I-5 freeway to the east of the project site. The closest neighborhood park to the project site is Garrigan Park, which is accessible by the Bear Creek bike path and is within 2 mile east of the boundary of the project site. The closest Community Park to the project site is Sandman Park, approximately 13 miles southeast of the project site. Two additional parks are planned in Spanos Park West. A ten acre park (Falkis Park) is planned next to the apartments on Cosumnes Drive, and a 5-acre park (Iloilo Sister City Park) is planned on Scott Creek Drive adjacent to the Manilo Silva Elementary School.

The City now has five community centers. There is a new one located Panella Park off of Lorraine Avenue, south of the East Bay Mud Easement.

Northeast Park changes:

Subsequent to distribution of the Draft Environmental Impact Report, the City requested that the North East Park be moved westerly, directly adjacent to the Easement Park. The applicant will accommodate this request.

Goal and Policy Consistency change:

Page 4-124, Goal 2, Policy 7. It should be noted that the goal language is not consistent with Municipal code in that an 8 foot high masonry wall, constructed on private property, shall be located between private property and public parks.

New Mitigation Measure:

The following mitigation measure has been added to demonstrate consistency with the City's policy (per 2035 General Plan Update) involving regional park mitigation.

Mitigation Measure PR-2: Prior to issuance of building permits, the applicant shall pay in-lieu fees equivalent to the regional park acreage requirements (per City standards) that remain unfulfilled.

Parks/Utilities changes:

The document should state, in Section 4.9 Public Services, that: three phase electricity should be provided to all public park sites, telephone service shall be stubbed into each public park site, and

water, electric, storm, and sewer shall be stubbed into each public park site as required by the Director of the City Parks and Recreation Department or appointed representative.

Modifications to Section 4.4, Biological Resources:

Impact BR-1 should not reference “offsite/Shima Tract” as this is a different project. The last sentence of Mitigation Measure BR-1 shall read, “Documentation of fee payment shall be provided to the USFWS and CDFG prior to start of construction.”

Impact BR-2 should not reference “offsite/Shima Tract” as this is a different project. The last sentence of this discussion shall read, “Direct take of these species is covered provided the project implements Incidental Take Minimization Measures (ITMMs) and compensates for habitat losses through payment of appropriate fees to SJCOG for conversion of undeveloped lands. ITMMs included in the SJMSCP have been designed to avoid take as defined under the MBTA.”

Mitigation Measure BR-3: The last sentence of #1 shall read, “Documentation of fee payment shall be provided to the USFWS and CDFG prior to start of construction.”

Library Information:

The comment letter from the City Public Library, dated January 30, 2008 lists suggested changes to the Draft Environmental Impact Report.

The following information shall be added to section 4.9 Public Services, page 4-241:

The Library Facilities Master Plan to 2030 (2008) recommends different standards than those listed in Section 4.9. The standards/recommendations are revised and/or provided as follows:

- 0.4 – 0.6 square feet of library space per person with 2.2 – 2.5 readers’ seats per 1,000 persons is recommended.
- 1.75 – 2.25 volumes (books, media materials) per person are recommended.

The annual library attendance for Stockton and San Joaquin libraries in 2002 was 1,195,285. The library is a City/County system and Stockton customers use County branches and vice versa. Library attendance for just the Stockton libraries in 2002 was 791,912 people, not 21,000. Library collections in the City/County system totaled 1,347,775 items. Library collections in just the Stockton libraries in 2002 were 1,035,559 items, not 20,000.

Currently, the City has five, not four, libraries as well as a mobile library and mobile literacy services unit that serve residents. The Library Facility Master Plan to 2030 includes a recommendation for a Northwest Stockton branch library based upon current and future need.

The Library Facilities Master Plan to 2030 will be added to the list of references, as seen below:

CHAPTER 9.0 REFERENCES

- American Society of Civil Engineers, 1976. Historic Civil Engineering Landmarks of Sacramento and Northeastern California. The History and Heritage Committee, Sacramento Section, American Society of Civil Engineers, Sacramento, California.
- Bolt, Beranek & Newman, 1987. Noise Control for Building and Manufacturing Plants.
- California Air Resources Board (CARB). CARB Air Quality Almanac.
- California Department of Fish and Game (CDFG), 2002. Special animals. California Natural Diversity Data Base. July 2002.
- CDFG, 2002. Natural Diversity Data Base, Wildlife Habitat Data Analysis Branch, Sacramento, California.
- California Integrated Waste Management Board (CIWMB), 2003. Internet address: <http://www.ciwmb.ca.gov/SWIS/Search.asp>.
- California Native Plant Society (CNPS), 2001. Inventory of rare and endangered plants of California. California Native Plant Society, Sacramento, California.
- California Environmental Quality Act (CEQA), 1998. California Environmental Quality Act Guidelines.
- City of Stockton, 1990. City of Stockton General Plan. Adopted January 22, 1990.
- City of Stockton, 1992. Housing Element. Community Development Department, Planning Division. January 31, 1994.
- City of Stockton, Bicycle Facilities Master Plan. Community Development Department and Public Works Department. Updated January 26, 1999.
- City of Stockton, 2003. City of Stockton Official Website. Internet address: www.stocktongov.com.
- City of Stockton Municipal Utilities Department (MUD), 2004. Water Supply Assessment for Westlake Villages Master Plan Development. February 6, 2004.
- City of Stockton, 2008. Library Facilities Master Plan to 2030.
- Costello and Marvin, 1999. Stockton Waterfront Projects, Archaeological Research Design and Treatment Plan. Foothill Resources Ltd., Mokelumne Hill, California.

Traffic Mitigation Clarification:

The following identifies the impacts to the state highway system from The Preserve, as identified in the DEIR, and discusses the proposed mitigation measures. Additional analysis is presented where appropriate to ensure that the analysis and mitigation measures presented for The Preserve for the state highway system are consistent with the most recent plans for the area, as presented in *Interstate 5 Stockton Corridor Improvement Project Final Traffic Operations Study for PA/ED Phase*, February 11, 2008, Rajappan & Meyer.

Project impacts were identified at the following state facilities on I-5 (for the specified analysis scenarios):

- Eight Mile Road/I-5 Southbound Ramps (2035)
- Eight Mile Road/I-5 Northbound Ramps (EPAP, 2035)
- Otto Drive/I-5 Southbound Ramps (2025, 2035)
- Otto Drive/I-5 Northbound Ramps (2035)
- Hammer Lane/I-5 Southbound Ramps (2035)
- Hammer Lane/I-5 Northbound Ramps (2035)
- I-5 South of Hammer Lane – Northbound (EPAP, 2025)
- I-5 South of Hammer Lane – Southbound (EPAP, 2025)

EPAP Conditions

Under EPAP conditions, significant project impacts were identified at Eight Mile Road/I-5 Northbound Ramps, I-5 South of Hammer Lane – Northbound, and I-5 South of Hammer Lane – Southbound. Mitigation measures identified in the DEIR for these impacts, including widening of I-5 from Eight Mile Road to the Monte Diablo undercrossing and construction of a northbound loop-off ramp at I-5/ Northbound ramps, are consistent with the most recent PA/ED plans. No additional analysis or mitigation is necessary.

2025 Conditions

Under 2025 conditions, significant project impacts were identified at Otto Drive/I-5 Southbound Ramps, I-5 South of Hammer Lane – Northbound, and I-5 South of Hammer Lane – Southbound. Mitigation measures identified in the DEIR for these impacts for the mainline segments, widening of I-5 from Eight Mile Road to the Monte Diablo undercrossing, are consistent with the most recent PA/ED plans and no additional mainline analysis is necessary.

Since the preparation of the traffic analysis, the planned PA/ED improvements for the Otto Drive/I-5 Southbound Ramps intersection have been modified to include a free eastbound right-turn lane and dual westbound left-turn lanes. Operations of the intersection with the updated PA/ED configuration are shown in the table below. As shown below, with the most recent PA/ED improvement plans, the Otto Drive/I-5 Southbound Ramp intersection would operate at an acceptable service level and no mitigation beyond contribution to the planned interchange improvement would be required.

INTERSECTION		PEAK HOUR	FUTURE 2025 WITH PROJECT WITH PA/ED CONFIGURATION	
			DELAY	LOS
9.	Otto Drive/I-5 Southbound Ramps	AM	21	C
		PM	14	B

2035 Conditions

Under 2035 conditions, significant project impacts were identified at the Eight Mile Road, Otto Drive, and Hammer Lane interchanges with I-5. Since the preparation of the DEIR traffic analysis, the PA/ED interchange improvements have been modified to include a free eastbound right-turn lane and dual westbound left-turn lanes at the Otto Drive/I-5 Southbound Ramp intersection and dual westbound free right-turn lanes at the Eight Mile Road/I-5 Southbound Ramp intersection. Operations of the ramp intersections with the most recent PA/ED configuration are shown in the table below. With the current PA/ED improvement plans, the Eight Mile Road interchange at I-5 is projected to operate at acceptable service levels in the 2035 scenario with development of The Preserve and buildout of the City of Stockton General Plan Update. No mitigation beyond contribution to the planned interchange improvement would be required.

The southbound ramps at the I-5/Otto Drive interchange would operate deficiently during the AM peak hour and the northbound ramps would operate deficiently during the PM peak hour in 2035 with development of The Preserve and buildout of the City of Stockton General Plan Update and the currently planned PA/ED improvements. These deficient locations were identified in the DEIR as significant cumulative impacts. Additional improvements, consistent with those identified in the DEIR for The Preserve would be needed at these intersections to provide acceptable service levels, as shown below. These improvements include construction of a third eastbound lane to provide the following configuration: two through lanes, one shared through/right-turn lane and one right-turn only lane. For the Otto Drive/Northbound Ramp, construction of a northbound loop off ramp would result in acceptable service levels with development of The Preserve and buildout of the City of Stockton General Plan Update.

The southbound ramps at the I-5/Hammer Lane interchange would operate deficiently during the AM peak hour with development of The Preserve and buildout of the City of Stockton General Plan Update and the currently planned PA/ED improvements. Additional improvements, consistent with those identified in the DEIR, would be needed at this intersection to provide acceptable service levels, as shown below. The Improvement includes construction of a westbound Hammer Lane to Southbound I-5 loop on-ramp. This improvement would result in acceptable service levels with development of The Preserve and buildout of the City of Stockton General Plan Update.

INTERSECTION	PEAK HOUR	FUTURE 2035 WITH PROJECT WITH PA/ED IMPROVEMENT		FUTURE 2035 WITH PROJECT WITH PA/ED IMPROVEMENT & ADDITIONAL IMPROVEMENTS	
		DELAY	LOS	DELAY	LOS
3. Eight Mile Road/I-5 Southbound Ramps	AM PM	24 25	C A	No Additional Improvements Beyond PA/ED Needed	
4. Eight Mile Road/I-5 Northbound Ramps	AM PM	3 4	A A	No Additional Improvements Beyond PA/ED Needed	
9. Otto Drive/I-5 Southbound Ramps	AM PM	77 29	E C	18 34	B C
10. Otto Drive/I-5 Northbound Ramps	AM PM	32 91	C F	8 5	A A
16. Hammer Lane/I-5 Southbound Ramps	AM PM	140 37	F D	18 20	B B
17. Hammer Lane/I-5 Northbound Ramps	AM PM	22 49	C D	No Additional Improvements Beyond PA/ED Needed	

No additional improvements above those identified in the DEIR for The Preserve would be needed to mitigate the projects impacts to the state highway system.

Global Climate Change Mitigation

Mitigation Measure GCC-1 will be reworded as follows:

Mitigation Measure GCC-1. The owners, developers and/or successors-in-interest (ODS) shall be subject to and comply with the City’s adopted “Build It Green” Program, or green point rated guidelines in effect at the time of construction. Any housing or other development projects that are subject to Specific Plan, Master Development Plan, or projects of significance shall comply with all amendments and modifications to the 2035 General Plan required under the City, the California Attorney General and the Sierra Club Settlement Agreement, as approved by the Stockton City Council on September 9, 2008. Accordingly, the ODS shall adhere to the following standards:

- a. Utilize building insulation that exceeds Title 24 standards. Utilize high-performance windows that employ advanced technologies, such as protective coatings and improved frames, to retain heat during winter and prevent heat during summer.
- b. Incorporate building techniques that ensure tight building construction and efficient duct systems. Require the use of efficient heating and cooling equipment for all residential buildings.
- c. Utilize efficient building products with standards the meet *EnergyStar*TM criteria. *EnergyStar*TM qualified homes may also be equipped with *EnergyStar*TM qualified products- lighting fixtures, compact fluorescent bulbs, ventilation fans, and appliances, such as refrigerators, dishwashers, and washing machines.
- d. Require the use of reflective, *EnergyStar*TM cool roofs on all building structures in the project.

- e. The owners, developers, and/or successors-in-interest (ODS) shall obtain Build It Green certification, based on then-current Build It Green standards, or to comply with a green building program that the City, after consultation with the Attorney General determines is of comparable effectiveness for all new housing units.
- f. If housing units or non-residential buildings certify to standards other than, but of comparable effectiveness to, Build It Green or LEED Silver, respectively, such housing units or buildings shall demonstrate using an outside inspector or verifier certified under the California Energy Commission Home Energy Rating System (HERS), or comparably certified verifier that comply with the applicable standards.
- g. All new non-residential buildings that exceed 5000 square feet and all new municipal buildings that exceed 5000 square feet to be certified to LEED Silver standards at a minimum, based on then-current LEED standards, or to comply with a green building program that the City, after consultation with the Attorney General determines is of comparable effectiveness.

New Security Mitigation Measure

Section 4.9, Public Services, shall now include the following measure:

PP-1e: The following conditions shall be required during the construction phase of the project.

- A licensed, uniformed security guard must be present during the evening hours on weekdays (Monday through Friday), and 24 hours per day on weekends and holidays, when the developer is not on site.
- The entire construction area should be fenced and inaccessible to the public after hours, and on weekends and holidays. The fence should be well maintained as needed during construction of the project.
- The entire construction area should be well lit throughout the night, every night, so as to clearly illuminate the construction site and street(s).
- Portable video security monitors/cameras should be used during the construction phase, along with signs advertising such monitoring, to further serve as a deterrent.
- Appliances such as stoves, microwaves, refrigerators, etc., should not be installed until the day a new owner completes the final walkthrough of the residence. If installed earlier, the residence must remain securely locked after hours and on weekends/holidays.
- Cabinetry and other valuable items should be kept off site prior to installation. Once installed, the residence must be securely locked.

PP-1f: The following conditions shall be required during the post-construction phase of the project.

- The ODS is required to implement a mandatory Crime Free Multi-Housing program.
- Enclose the complex with wrought-iron fencing as appropriate.
- After construction is completed, parking areas and walkways should be well lighted and equipped with security cameras and recording equipment.
- Low-growth vegetation should be employed around the buildings and parking areas to facilitate maximum visibility.
- Install automatic gates to control ingress and egress.
- All vehicle entrance/exit gates must be Knox-Box compatible.

- Provide private licensed and uniformed security guards to monitor the property.
- The ODS is required to establish and maintain a homeowner's association to address nuisance properties, maintain common area lighting and landscaping, and arrange for security patrols.

2.0 RESPONSE TO COMMENTS

2.1 WRITTEN COMMENTS AND RESPONSES

The section that follows includes the comment letters submitted by various public agencies and private parties, and the responses to those comments. Commentors on the Draft EIR for The Preserve project are listed as follows:

San Joaquin Council of Governments (November 30, 2007)

Department of Water Resources (December 6, 2007)

Department of Transportation (January 8, 2008)

San Joaquin Regional Transit District (December 18, 2007)

Department of Toxic Substances Control (January 7, 2008)

San Joaquin County Public Works (January 10, 2008)

Morris Allen (January 3, 2008)

Department of California Highway Patrol (December 5, 2007)

San Joaquin County Environmental Health Department (December 7, 2007)



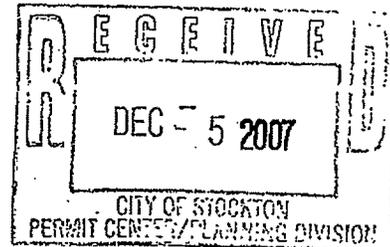
S J C O G, Inc.

555 East Weber Avenue • Stockton, CA 95202 • (209) 468-3913 • FAX (209) 468-1084

San Joaquin County Multi-Species Habitat Conservation & Open Space Plan (SJMSCP)

SJMSCP RESPONSE TO LEAD AGENCY ADVISORY AGENCY NOTICE TO SJCOG, Inc.

To: Jenny Liaw, City of Stockton Community Development Department
From: Anne-Marie Poggio-Castillou, SJCOG, Inc.
Date: November 30, 2007
Re: **Lead Agency Project Title:** The Preserve
Lead Agency Project Number: Draft EIR
Assessor Parcel Number(s): 071-070-02, -04, -05



Total Acres to be converted from Open Space Use: approximately 359 acres

Habitat Types to be Disturbed: Findings to be determined by SJMSCP biologist.

Species Impact Findings: Findings to be determined by SJMSCP biologist.

Dear Mrs. Liaw:

The City of Stockton is a signatory to San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). Participation in the SJMSCP satisfies requirements of both the state and federal endangered species acts, and ensures that the impacts are mitigated below a level of significance in compliance with the California Environmental Quality Act (CEQA). Although participation in the SJMSCP is voluntary, lead agents should be aware that if project applicants choose against participating in the SJMSCP, they will be required to provide alternative mitigation in an amount and kind equal to that provided in the SJMSCP.

- SJCOG, Inc. has reviewed the Draft Environmental Impact Report for The Preserve Specific Plan. This property is under a prior agreement, however due to ACOE 404 needed coverage, it is suggested for this project to seek participation in the SJMSCP as necessary. According to the DEIR, section 4.4.1, it states "Impacts to habitat for special status plant and animal species covered under the SJMSCP require payment of mitigation fees. Under the SJMSCP, ninety percent of the project site is mapped as C3. The fee for lands mapped as C3 is \$1,724 per acre." Again this is a prior agreement as noted; however, it is subject to the current fee schedule (2008 fee schedule attached). The fee is subject to change January 1st of each year.

This project involves the development 359 acres of residential development, consisting of single family residential lots (653 units), small lots (278 units), cluster residential (129 units), alley-load lots (248 units) and condominiums (96 units). This project site will contain approximately 52 acres of local park area. The public facilities within the project area will contain a 13-acre elementary school and a new fire station. The project is located to the west of I-5 and south of Bear Creek within the City of Stockton jurisdictional boundaries. The project site is bounded on the north by Bear Creek on the west and south by Mosher Slough, and on the east by the existing Twin Creeks Estates.

SJCOG-1

It should be noted that two important federal agencies (U.S. Army Corps of Engineers and the California Regional Water Quality Control Board) have not issued permits to the SJCOG and so payment of the fee to use the SJMSCP will not modify requirements that could be imposed by these two agencies. Potential waters of the United States [pursuant to Section 404 Clean Water Act] are believed to occur on the project site. It may be prudent to obtain a preliminary wetlands map from a qualified consultant. If waters of the United States are confirmed on the project site, the Corps and the Regional Water Quality Control Board (RWQCB) would have regulatory authority over those mapped areas [pursuant to Section 404 and 401 of the Clean Water Act respectively] and permits would be required from each of these resource agencies prior to grading the project site.

SJCOG-2

This Project is subject to the SJMSCP. Per requirements of the SJMSCP, this project must seek coverage due to required Army Corp permitting, and is subject to a case-by-case review. This can be a 90 day process and it is recommended that the project applicant contact SJMSCP staff as early as possible.

After this project is approved by the Habitat Technical Advisory Committee and the SJCOG Inc. Board, the following process must occur to participate in the SJMSCP:

- Schedule a SJMSCP Biologist to perform a pre-construction survey *prior to any ground disturbance*
- Sign and Return Incidental Take Minimization Measures to SJMSCP staff (given to project applicant after pre-construction survey is completed)
- Pay appropriate fee to the City of Stockton based on SJMSCP findings
- Receive your Certificate of Payment and release the required permit

If you have any questions, please call (209) 468-3913.



S J C O G, Inc.

555 East Weber Avenue • Stockton, CA 95202

(209) 468-3913 • FAX (209) 468-1084

San Joaquin County Multi-Species Habitat Conservation & Open Space Plan (SJMSCP)

Victor Mau
CHAIR

Ed Chavez
VICE CHAIR

Andrew T. Chesley
PRESIDENT

Member Agencies
CITIES OF
ESCALON,
LATHROP,
LODI,
MANTENCA,
RIPON,
STOCKTON,
TRACY,
AND
THE COUNTY OF
SAN JOAQUIN

2008 Updated Habitat Fees*

Habitat Type	Fee Per Acre
Multi-Purpose Open Space	\$6,165
Natural	\$ 12,329
Agriculture	\$ 12,329
Vernal Pool - uplands	\$ 35,143
Vernal Pool - wetted	\$ 71,125

* Effective January 1, 2008 – December 31, 2008

2008 Endowment Fees for In-lieu Land**

Type of Preserve	Enhancement Cost/acre	Land Management Cost/acre	TOTAL PER ACRE ENDOWMENT
Agricultural Habitat Lands	\$2,737.47	\$1,543.30	\$4,280.77
Natural Lands	\$2,737.47	\$1,543.30	\$4,280.77
Vernal Pool Habitat			
Vernal Pool Grasslands	\$515.51	\$5,647.82	\$6,163.33
Vernal Pool Wetted	\$36,497.43	\$5,647.82	\$42,145.25

** Effective January 1, 2008 – December 31, 2008 in lieu of fees to be used as the endowment for the preserve (Category B & C)

San Joaquin Council of Governments (November 30, 2007)

Response to Comments:

SJCOG-1: Comment noted. The project applicant will pay SJMSCP fees based on the most current fee schedule at the time the project is implemented.

SJCOG-2: Comment noted. The applicant is aware that permitting from the U.S. Army Corps of Engineers may be required.

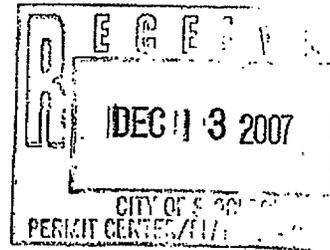
DEPARTMENT OF WATER RESOURCES

1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 942360001
(916) 653-5791



December 6, 2007

Jenny Liaw, Senior Planner
City of Stockton
345 North El Dorado Street
Stockton, California 95202



The Preserve
State Clearinghouse (SCH) Number: 2006092063

The project corresponding to the subject SCH identification number has come to our attention. The limited project description suggests your project may be an encroachment on the State Adopted Plan of Flood Control. You may refer to the California Code of Regulations, Title 23 and Designated Floodway maps at <http://recbd.ca.gov/>. Please be advised that your county office also has copies of the Board's designated floodways for your review. If indeed your project encroaches on an adopted food control plan, you will need to obtain an encroachment permit from the Reclamation Board prior to initiating any activities. The attached Fact Sheet explains the permitting process. Please note that the permitting process may take as much as 45 to 60 days to process. Also note that a condition of the permit requires the securing all of the appropriate additional permits before initiating work. This information is provided so that you may plan accordingly.

DWR-1

If after careful evaluation, it is your assessment that your project is not within the authority of the Reclamation Board, you may disregard this notice. For further information, please contact me at (916) 574-1249.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris Huitt".

Christopher Huitt
Staff Environmental Scientist
Floodway Protection Section

Enclosure

cc: Governor's Office of Planning and Research
State Clearinghouse
1400 Tenth Street, Room 121
Sacramento, CA 95814

Encroachment Permits Fact Sheet

Basis for Authority

State law (Water Code Sections 8534, 8608, 8609, and 8710 – 8723) tasks the Reclamation Board with enforcing appropriate standards for the construction, maintenance, and protection of adopted flood control plans. Regulations implementing these directives are found in California Code of Regulations (CCR) Title 23, Division 1.

Area of Reclamation Board Jurisdiction

The adopted plan of flood control under the jurisdiction and authority of the Reclamation Board includes the Sacramento and San Joaquin Rivers and their tributaries and distributaries and the designated floodways.

Streams regulated by the Reclamation Board can be found in Title 23 Section 112. Information on designated floodways can be found on the Reclamation Board's website at http://recbd.ca.gov/designated_floodway/ and CCR Title 23 Sections 101 - 107.

Regulatory Process

The Reclamation Board ensures the integrity of the flood control system through a permit process (Water Code Section 8710). A permit must be obtained prior to initiating any activity, including excavation and construction, removal or planting of landscaping within floodways, levees, and 10 feet landward of the landside levee toes. Additionally, activities located outside of the adopted plan of flood control but which may foreseeable interfere with the functioning or operation of the plan of flood control is also subject to a permit of the Reclamation Board.

Details regarding the permitting process and the regulations can be found on the Reclamation Board's website at <http://recbd.ca.gov/> under "Frequently Asked Questions" and "Regulations," respectively. The application form and the accompanying environmental questionnaire can be found on the Reclamation Board's website at <http://recbd.ca.gov/forms.cfm>.

Application-Review-Process

Applications when deemed complete will undergo technical and environmental review by Reclamation Board and/or Department of Water Resources staff.

Technical Review

A technical review is conducted of the application to ensure consistency with the regulatory standards designed to ensure the function and structural integrity of the adopted plan of flood control for the protection of public welfare and safety. Standards and permitted uses of designated floodways are found in CCR Title 23 Sections 107 and Article 8 (Sections 111 to 137). The permit contains 12 standard conditions and additional special conditions may be placed on the permit as the situation warrants. Special conditions, for example, may include mitigation for the hydraulic impacts of the project by reducing or eliminating the additional flood risk to third parties that may caused by the project.

Additional information may be requested in support of the technical review of

your application pursuant to CCR Title 23 Section 8(b)(4). This information may include but not limited to geotechnical exploration, soil testing, hydraulic or sediment transport studies, and other analyses may be required at any time prior to a determination on the application.

Environmental Review

A determination on an encroachment application is a discretionary action by the Reclamation Board and its staff and subject to the provisions of the California Environmental Quality Act (CEQA) (Public Resources Code 21000 et seq.). Additional environmental considerations are placed on the issuance of the encroachment permit by Water Code Section 8608 and the corresponding implementing regulations (California Code of Regulations – CCR Title 23 Sections 10 and 16).

In most cases, the Reclamation Board will be assuming the role of a “responsible agency” within the meaning of CEQA. In these situations, the application must include a certified CEQA document by the “lead agency” [CCR Title 23 Section 8(b)(2)]. We emphasize that such a document must include within its project description and environmental assessment of the activities for which are being considered under the permit.

Encroachment applications will also undergo a review by an interagency Environmental Review Committee (ERC) pursuant to CCR Title 23 Section 10. Review of your application will be facilitated by providing as much additional environmental information as pertinent and available to the applicant at the time of submission of the encroachment application.

These additional documentations may include the following documentation:

- California Department of Fish and Game Streambed Alteration Notification (<http://www.dfg.ca.gov/1600/>),
- Clean Water Act Section 404 applications, and Rivers and Harbors Section 10 application (US Army Corp of Engineers),
- Clean Water Act Section 401 Water Quality Certification, and
- corresponding determinations by the respective regulatory agencies to the aforementioned applications, including Biological Opinions, if available at the time of submission of your application.

The submission of this information, if pertinent to your application, will expedite review and prevent overlapping requirements. This information should be made available as a supplement to your application as it becomes available. Transmittal information should reference the application number provided by the Reclamation Board.

In some limited situations, such as for minor projects, there may be no other agency with approval authority over the project, other than the encroachment permit by Reclamation Board. In these limited instances, the Reclamation Board

may choose to serve as the "lead agency" within the meaning of CEQA and in most cases the projects are of such a nature that a categorical or statutory exemption will apply. The Reclamation Board cannot invest staff resources to prepare complex environmental documentation.

Additional information may be requested in support of the environmental review of your application pursuant to CCR Title 23 Section 8(b)(4). This information may include biological surveys or other environmental surveys and may be required at anytime prior to a determination on the application.

Department of Water Resources Letter (December 6, 2007)

Response to Comments:

DWR-1: In the summer/fall of 2006, the Atlas Tract levee system was improved to provide flood protection estimated to be in excess of the 200-year flood event. Based upon those improvements, the Federal Emergency Management Agency (FEMA) has recently issued a Letter of Map Revision demonstrating that the site now has flood protection exceeding the federal minimum.

Trinity Parkway is proposed for extension along the eastern boundary of the Atlas Tract parcel and will ultimately provide a local north-south roadway in this portion of the City parallel with Interstate 5. Improvements to Trinity Parkway were previously approved by the City of Stockton in conjunction with long-range plans to improve subregional circulation movement. Construction of Trinity Parkway would require realignment of the existing dry land levee that extends along the western edge of the Trinity Parkway right-of-way (in a north-south direction). The existing levee would be realigned approximately 300 feet to the west by placing engineering fill, constructing an approximately 4,000 linear foot levee and degrading the existing levee.

The dry land levee in the project area is designated as a Federal "project" levee, those levees that were constructed as part of the Sacramento River Flood Control Project and are the responsibility of the Corps. The Reclamation Board has requested a determination from the Corps (Title 33 of the United States Code, Section 408 [USC 33 408]) allowing modification of the federal project as proposed by the City. Federal authorization consists of Chief of Engineers approval of significant modifications or alterations to a locally or federally maintained Corps project consistent with the requirements of 33 USC 408.

A number of permits and approvals must be obtained in conjunction with the levee alteration project. These include, but are not limited, to the following:

- Permit Approval (Sections 8700 – 8723 of the Water Code) - State Reclamation Board
- Section 401 - California Regional Water Quality Control Board Water Quality Certification (issued October 2, 2007)
- Section 1602 - California Department of Fish and Game Streambed Alteration Agreement Issued December 17, 2007)
- NPDES permit from the California Regional Water Quality Control Board

In addition to the proposed Atlas Tract levee alteration permit actions, future improvements will be required in the vicinity that correspond to the extension of Trinity Parkway, and construction of the Mosher Slough Bridge project.

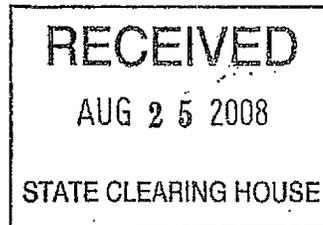
DEPARTMENT OF TRANSPORTATION

P.O. BOX 2048 STOCKTON, CA 95201
 (1976 E. CHARTER WAY/1976 E. DR. MARTIN
 LUTHER KING JR. BLVD. 95205)
 PHONE (209) 941-1921
 FAX (209) 948-7194
 TTY: 711



*Flex your power!
 Be energy efficient!*

August 25, 2008



CLEAR
 9.15.08
 e

10-SJ-5-PM 33.5
 Draft EIR
 SCH#2006092063
 The Preserve

Jenny Liaw
 City of Stockton
 Community Development Department
 Planning Division
 425 North El Dorado Street
 Stockton, CA 95202-1997

Dear Ms. Liaw:

The California Department of Transportation (Department) appreciates the opportunity to have reviewed the revised Draft Environmental Impact Report (EIR) and the Vesting Tentative Map for the proposed Preserve Master Development Plan (MDP), which would guide development of a residential community in four separate phases. The Preserve is a planned residential community of approximately 359 acres and approximately 1,404 residential units, consisting of five residential product types (traditional detached single-family lots, small lots, cluster lots, and condominiums). Approximately 52 acre parks will be dedicated as part of this proposed project which would include neighborhood/pocket parks and easement. The public facilities within the project site will contain a proposed 13-acre elementary school and a new fire station. A wetland feature is also planned within the power line easement that will serve to improve the water quality of project runoff and to provide flood control storage. The proposed development will be landscaped within the entire community. The bike and pedestrian trails will provide access to and between important destinations including on the top of the levees within the project area and links to outside the Preserve.

Entitlement being sought by the project applicant includes approval of General Plan Amendment, Rezoning, Development Agreement, Master Development Plan, and Vesting Tentative Map. The project is located to the west of I-5 and south of Bear Creek within the City of Stockton jurisdictional boundaries. The project site is bounded on the north by Bear Creek, on the west and south by Mosher Slough, and on the east by the existing Twin Creeks Estates, about 1,200 feet west of I-5. The Department previously provided comments on the Draft Environmental Impact Report (DEIR) SCH#2006092063 by letters dated January 8, 2008 and March 7, 2008.

Ms. Liaw
 August 25, 2008
 Page 2

The Department cannot recommend approval of the vesting tentative subdivision map until the previous comments have been addressed:

TIS STUDY AREA

The Traffic Impact Study (TIS) area does not follow Caltrans TIS guidelines since it does not analyze freeway facilities in which The Preserve trip generation significantly exceeds the generation threshold values shown in the CalTrans "*Guide for the Preparation of Traffic Impact Studies*" December 2002 edition

CT-1

The Preserve DEIR/TIS is too limited in the boundary area it analyzes. It should be re-evaluated to include the I-5 interchanges and freeway segments that will be potentially affected by The Preserve development traffic. A project of this size with a traffic generation of 1,076 AM peak hour trips and 1,164 PM peak hour trips will have potential significant impacts over a larger area than analyzed in this DEIR/TIS.

CT-2

Reviewing the TIS analysis, the I-5 interchanges and freeway segments at the perimeters of the current study area show significant impacts. This would support the contention that the TIS boundary area is too limited. For example, the TIS does not evaluate any interchanges south of Hammer Lane even though from Figure 4.7-6, the project's traffic generation at 2025 has a distribution of 55 percent south of Hammer Lane. Additionally, Figure 4.7-7 for the 2035 scenario shows 30 percent of the projects trip distribution south of Hammer Lane. The TIS shows in Table 4.7.K a mainline freeway segment south of Hammer Lane, however it is assumed this freeway segment is only the portion of I-5 between Hammer Lane to Benjamin Holt Drive. By limiting the study area the TIS avoids having to disclose any potential significant impacts to other major interchanges in Stockton such as I-5/Benjamin Holt Drive, and I-5/March Lane, and impacts to I-5 mainline segments south of Benjamin Holt Drive.

CT-3

TRAFFIC DISTRIBUTION TO INTERSECTIONS

The Preserve traffic volumes distributed to the I-5/Hammer Lane interchange southbound off-ramp and northbound on-ramp are unrealistically assigned to avoid showing significant impacts to the I-5/Hammer Lane interchange ramps. Figure 4.7-9A (Intersections No. 16 & No. 17) shows that there are no traffic volumes due to The Preserve assigned to the southbound off-ramp, or the northbound on-ramp. This is unrealistic since portions of the project traffic would be reasonably expected to use the I-5/Hammer Lane interchange southbound off-ramp and northbound on-ramp in lieu of all of the project generated traffic solely using Mariners Drive.

CT-4

TRAFFIC FORECAST VOLUMES

The DEIR for The Preserve uses forecasted traffic volumes which are essentially the same as the previous routed DEIR's for Sanctuary and Crystal Bay developments. However these forecasted traffic

CT-5

Ms. Liaw
 August 25, 2008
 Page 3

volumes substantially exceed those which are being used to design for the I-5 Widening and Interchange PA/ED project. In a meeting held on December 5, 2007 between the City of Stockton, Fehr & Peers, Rajappan & Meyer, SJCOG, and Caltrans, the developer's traffic consultant, Fehr & Peers, explained that the reason for the difference in the traffic volumes was that the DEIR's used the City of Stockton's traffic model which has a significantly greater level of development at build-out than the SJCOG traffic model which was used for the I-5 PA/ED project forecast.

This difference in the traffic volumes would invalidate any proposed mitigations in The Preserve's DEIR, which states that the I-5 PA/ED will provide the mitigation for the development's traffic. The I-5 PA/ED traffic volumes being used to design the interchanges and freeway facilities are based on the constrained SJCOG model which results in significantly lower traffic generation from these developments. This same comment applies to the previously routed Sanctuary and Spanos Park West Crystal Bay development DEIR's. To address this issue it was proposed in the meeting by the City of Stockton that the individual developments will provide additional analysis of the traffic impacts due to their increased traffic generation beyond the I-5 PA/ED traffic volumes and the results of this analysis will be incorporated into the project-specific EIRs within their current schedules.

CT-5
 Cont.

Due to the aforementioned differences in the forecasted traffic volumes used, the majority of The Preserve DEIR proposed mitigations for significant impacts to I-5 interchanges and freeways segments should be re-evaluated.

TIS ANALYSIS METHOD

The 95th percentile queuing analysis shown in the Synchro 6 printouts in Appendix J shown in the 2025 and 2035 scenarios at the I-5 interchanges the queue lengths in several instances exceed the available turn pocket storage lengths. Since the resultant 95th percentile queues exceed the available turn pocket storage lengths there will be queue blocking and additionally interaction between closely spaced intersections at off-ramps, on-ramps, and adjacent city street intersections. Using a Synchro 6 analysis, which calculates vehicle delay and LOS based on HCM methodology will provide a mis-leading estimate of the LOS condition since it will ignore the effects of queue blocking, and congestion at these ramp intersections. The TIS reports these underestimated impacts and LOS values. The end result is that basing the LOS and traffic impacts on solely HCM methods will result in showing a better level of service and fewer impacts since it ignores queue blocking.

CT-6

MITIGATION MEASURES

Even with the insufficient study area, the DEIR/TIS shows significant impacts to multiple freeway facilities:

- TRAF-1a I-5/Eight Mile Road Interchange, NB Ramps (Existing+Approved+ Project)
- TRAF-3 I-5 Mainline, South of Hammer Lane (Existing + Approved + Project)

CT-7

Ms. Liaw
 August 25, 2008
 Page 4

- TRAF-4d I-5/Otto Drive Interchange (2025)
- TRAF-5d I-5 Mainline, South of Hammer Lane (2025)
- TRAF-6b I-5/Eight Mile Road Interchange, SB Ramps (2035)
- TRAF-6c I-5/Eight Mile Road Interchange, NB Ramps (2035)
- TRAF-6e I-5/Otto Drive Interchange, SB Ramps (2035)
- TRAF-6f I-5/Otto Drive Interchange, NB Ramps (2035)
- TRAF-6h I-5/Hammer Lane Interchange, SB Ramps (2035)
- TRAF-6h I-5/Hammer Lane Interchange, NB Ramps (2035)

The Preserve development DEIR depends primarily on fair share contributions to the I-5 Interchange & Widening project to mitigate its disclosed traffic impacts. The I-5 project is currently in the Project Approval/Environmental Document phase (PA/ED). The DEIR incorrectly assumes that the I-5 Interchange & Widening project will be designing the facilities to accommodate the development's traffic generation. As explained in the above previous comments regarding "Traffic Forecast Volumes", the I-5 PA/ED project is designing facilities based on traffic volumes which do not account for this substantially increased level of buildout.

CT-7
 Cont.

As an example Table 4.7.U shows the Otto Drive/I-5 Northbound Ramps with a Future 2035 without Project of LOS F, and a Future 2035 with Project of LOS F. However Mitigation Measure TRAF 6f states, "The project applicant shall contribute their fair share toward improvement that would result in acceptable service levels at this interchange, reducing the project's impact to a less-than-significant level." Please explain how this is proposed since the I-5 PA/ED project is not designing Otto Drive Interchange to accommodate the greater traffic volumes due to the substantially increased traffic estimates.

The DEIR in the various scenarios analyzed shows significant impacts to the Interstate 5 interchanges and freeway segments. The DEIR states that, "However as these improvements are not yet identified nor fully funded, this mitigation would remain significant-and-unavoidable." Even though the DEIR has intentionally concluded that the majority of the traffic impacts to the highway system are "significant and unavoidable", this conclusion is based solely on the I-5 PA/ED's funding and timeline. However since the I-5 PA/ED does not account for this development's full traffic generation, the DEIR needs to address its own mitigations based on the traffic volumes above the I-5 PA/ED design volumes. As such the DEIR needs to conduct a separate analysis and mitigations instead of continuing to incorrectly rely on the I-5 PA/ED.

CT-8

SUMMARY

In summary, the TIS The Preserve DEIR, like the previous DEIR's for Sanctuary, and Spanos Park West Crystal Bay, suffers from the following flaws:

- Inadequate study boundary
- Analysis methodology which ignores queue blocking

CT-9

Ms. Liaw
August 25, 2008
Page 5

- Assumes I-5 Interchange & Widening PA/ED will mitigate its traffic impacts

As a result of these errors the DEIR does not accurately disclose and address the potential project impacts. The affected areas and the severity of the impacts to traffic would be greater than that stated in this DEIR. The DEIR does not realistically mitigate the development's traffic impacts.

The traffic impact analysis portion of this DEIR needs to be revised to account for the additional analysis which the City of Stockton proposed at the December 5th meeting involving the City of Stockton, Fehr & Peers, Rajappan & Meyer, SJCOG, and Caltrans. This additional analysis is needed to disclose and document what the development needs to propose to mitigate traffic impacts based on the greater traffic generation of these proposed developments for which the I-5 PA/ED is not designing the facilities to accommodate. Once these revisions are available, Caltrans will need to have additional routing and review time to provide comments on the revised traffic analysis, impacts, and mitigations.

If you have any questions or would like to discuss our comments in more detail, please contact Barbara Hempstead at (209) 948-3909 (e-mail: Barbara_hempstead@dot.ca.gov) or me at (209) 941-1921.

Sincerely,



 TOM DUMAS, CHIEF
OFFICE OF METROPOLITAN PLANNING

CT-9
Cont.

Department of Transportation (January 8, 2008)

Response to Comments:

CT-1: The EIR and traffic study evaluated freeway segments and intersections by employing methods and guidelines for conducting such studies that are generally accepted by practitioners and traffic experts.

The traffic study involved a comprehensive and complete geographic study area. The project's impacts were evaluated for a total of 22 intersections (including six freeway ramp intersections) and eight freeway segments. These study locations were selected in conjunction with City staff based on project traffic assignments using the City's model. The traffic study included an evaluation of all intersections and freeway segments that might be impacted significantly by the project.

For example, the study included an evaluation of those intersections and segments that were likely to experience an increase in traffic volumes of 5 percent or more, and thus exceed one of the significance thresholds identified in the EIR. Intersections and freeway segments beyond the study-area boundary were not included because those intersections and segments were not anticipated to exceed the thresholds of significance specified in the DEIR; namely, those intersections and segments are not anticipated to see an increase in total traffic volumes of 5% or more as a result of the project, nor are they anticipated to experience a deterioration in the level of service (e.g., from LOS D to LOS E, or LOS E to LOS F).

CT-2: The analysis evaluated impacts to freeway segments, including I-5 south of Hammer Lane. The DEIR identified significant project impacts on I-5 south of Hammer Lane under near-term and 2025 analysis scenarios¹. While the southern limits of this segment were not specified in the DEIR, the impacts identified in the DEIR extend south on I-5 to the Monte Diablo undercrossing. The mitigation identified in the DEIR similarly extends to Monte Diablo on I-5. Furthermore, the identified mitigation measures and fees levied on the project by the City as part of its impact fee program will similarly contribute to improvements on the I-5 freeway segments extending even further south, and includes the interchanges at Ben Holt and March Lane.

CT-3: See response to CT-1 and CT-2.

CT-4: Contrary to the commenter's assertion, the 2025 project traffic assignment was not selected to avoid impacts to the I-5/Hammer Lane interchange ramps. Project trips bound to I-5 north were primarily assigned to take the shortest route, Otto Drive, to the freeway. Some I-5 north bound project trips were assigned to the Eight Mile Road interchange. These trips were not assigned to the Hammer Lane interchange as it is unlikely for project trips to backtrack (go south and then go north and vice

¹ The analysis was conducted for near-term conditions including Existing plus Approved Projects (EPAP) and two cumulative scenarios: one based on the 1990 General Plan (identified as 2025 conditions), and the other based on the General Plan Update (identified as 2035 conditions).

versa). The selected assignment also presents a conservative estimate of vehicle traffic through the Mariners Drive neighborhood.

However, to ensure that the project would not result in an unidentified impact at the Hammer Lane/I-5 ramps in the 2025 condition, additional analysis was conducted reassigning some project traffic to the I-5 southbound off-ramp/northbound on-ramp at Hammer Lane. In the 2025 condition, the Hammer Lane/I-5 southbound and I-5 northbound ramp intersections are projected to operate at acceptable levels of service during the AM and PM peak hours. Reassigning project traffic to the southbound off-ramp/northbound on-ramp would not result in deficient operations at either location.

Therefore, reassigning project traffic would not result in any additional significant impacts at the Hammer Lane interchange. However, it should be noted that the Project Applicant will contribute to planned improvements at this interchange through the payment of the City's traffic impact fee.

CT-5: The I-5 North Stockton PA/ED is being prepared to address the widening of I-5 and the construction or modification of the following interchanges: Hammer Lane, Otto Drive, Eight Mile Road, and Gateway Boulevard. The PA/ED is currently underway and the final interchange configurations have not yet been determined. As noted the procedure used to develop traffic forecasts for the PA/ED differs from that used in the DEIR (and other project-level EIRs throughout the City of Stockton). The cumulative scenario for these EIRs is based on full buildout of the City of Stockton General Plan, consistent with the City's guidelines for traffic impact studies. In contrast, traffic forecasts for the I-5 North Stockton PA/ED are based on a 20-year planning horizon consistent with SJCOG regional projections, per the approach agreed upon with Caltrans and SJCOG. This latter approach is necessary for infrastructure projects so as to provide consistency with the air quality conformity analysis completed by SJCOG.

As a result of these differences in approach, the traffic projections used in the DEIR are higher than the projections used in the PA/ED. (However, the PA/ED forecasts include full buildout of the developments in the vicinity of the improvement projects.) Therefore, there are some circumstances in which the mitigations outlined in the DEIR exceed the interchange configurations that are currently under study in the PA/ED. However, as noted above, the PA/ED has not been completed and further adjustments to the interchange configurations may be incorporated.

Specifically, project impacts were identified at the following State Highway facilities on I-5 (for the specified analysis scenarios):

- Eight Mile Road/I-5 Southbound Ramps (2035)
- Eight Mile Road/I-5 Northbound Ramps (EPAP, 2035)
- Otto Drive/I-5 Southbound Ramps (2025, 2035)
- Otto Drive/I-5 Northbound Ramps (2035)
- Hammer Lane/I-5 Southbound Ramps (2035)
- Hammer Lane/I-5 Northbound Ramps (2035)
- I-5 South of Hammer Lane – Northbound (EPAP, 2025)

- I-5 South of Hammer Lane – Southbound (EPAP, 2025)

The DEIR acknowledges that the PA/ED is being conducted for interchange and freeway mainline improvements in the study area. However, the DEIR does not include statements that the improvements currently identified in the I-5 PA/ED would provide complete mitigation for project impacts to the state highway system, as additional improvement were identified at locations where the PA/ED improvements would not result in acceptable peak hour operations.

The DEIR identifies an improvement at each impacted location that would be needed to reduce the impact to a less-than-significant level based traffic forecasts including General Plan buildout. The planned (as of December 2007) I-5 PA/ED improvements are consistent with the mitigation measures identified in the DEIR at the Eight Mile Road/I-5 Southbound Ramps (TRAF 6a), Eight Mile Road/I-5 Northbound Ramps (TRAF 1a, TRAF 5b, TRAF 6b), Hammer Lane/I-5 Northbound Ramps (TRAF 5e, 6i), and I-5 South of Hammer Lane (northbound and southbound) (TRAF 4, TRAF 6). At Otto Drive/I-5 Southbound Ramp (TRAF 4d and 6e), Otto Drive/I-5 Northbound Ramp (TRAF 6f), and Hammer Lane/I-5 Southbound Ramp (TRAF 6h), additional improvements above those identified in the PA/ED were identified in the DEIR. Therefore the DEIR identifies appropriate mitigation measures and a re-evaluation is not needed.

CT-6: The City of Stockton adopted the *Highway Capacity Manual* (HCM) method and the Traffix software program for intersection operations analyses in their *Transportation Impact Analysis Guidelines*. This method is used to evaluate all of the intersections in The Preserve's DEIR analysis, except for the intersections near freeway interchanges. For the intersections near freeway interchanges, because they are so closely-spaced, the traffic consultant used the Synchro 6.0 software program, which more accurately evaluates the effects of signal coordination of closely spaced intersections. Significant impacts were identified at the Eight Mile Road, Otto Drive, and Hammer Lane interchanges. Use of a different analysis tool would not result in any additional impacts on the State Highway system in the study area.

CT-7: The City is in the process of updating the street improvement fee program to incorporate all of the interchange improvements identified in this and other project-specific EIRs, including interchange improvements beyond those in the current PA/ED. The applicant will pay the City's impact fee as its fair share contribution to these more-encompassing improvements.

CT-8: The DEIR analysis is based on traffic projections that include The Preserve's full trip generation and General Plan buildout of the City of Stockton. These projections exceed the 20-year projections used in the I-5 PA/ED. Project impacts to the roadway system and mitigation measures (roadway improvements) needed to achieve acceptable operating levels based on these projections are identified in the DEIR. Because it cannot be concluded with certainty that the mitigation measures cited in this DEIR will be constructed, and because there are no assurances that the mitigation will be completed in a manner and timeline that adequately addresses each impact because the City does not have jurisdiction to control the implementation process for changes to the State Highway system, the impacts are identified as significant and unavoidable.

The City is in the process of updating the street improvement fee program to incorporate all of the interchange improvements identified in this and other project-specific EIRs, including those beyond the improvement identified in the I-5 PA/ED. The applicant will pay the City's impact fee as its fair share contribution to these improvements.

A California appeals court recently held that programs in which developers pay their "fair share" for improvements to public facilities made necessary by new development are considered reasonable mitigation. In *Friends of Lagoon Valley v. City of Vacaville* (2007) 154 Cal.App.4th 807, 818-819, the group Friends of Lagoon Valley complained that there was no guarantee that improvements to freeway ramps, freeway widening and offsite road improvements would be implemented due to the "current funding situation of the state in general, and Caltrans in particular." *Id.* The Court rejected this argument, noting that "All that is required by CEQA is that there be a reasonable plan for mitigation. Nothing required the City to set forth a time-specific schedule for the completion of specific roadway improvements." *Id.* at 819. Similarly here, a reasonable plan for mitigation exists and the project applicant will be required to pay its fair share contribution to these mitigation programs.

CT-9: See Responses to comments CT-1 through CT-8.



December 18, 2007

Ms. Jenny Liaw, Sr. Planner
 Community Development Department
 Planning Division
 345 North El Dorado Street
 Stockton, CA 95202

Dear Ms. Liaw:

The San Joaquin Regional Transit District (RTD) appreciates the opportunity to review and comment on the Notice of Preparation/Initial Study for "The Preserve" Project EIR 11-05, RTD Reference #052039004-101606-102406-78.

RTD implemented new fixed route service to the A.G. Spanos Boulevard and Spanos Park West neighborhoods with the Route 66 in January 2007. With the new Spanos Park West service now in service, RTD will study possible extensions of service to "The Preserve".

Thank you for the opportunity to respond to this proposal. Please contact Nate Knodt, Planning Manager at (209) 948-5566 ext. 652 if you have any questions or require additional information.

Sincerely,

A handwritten signature in cursive script that reads "Nate Knodt".

Nate Knodt
 Planning Manager

Cc: Donna Kelsay, General Manager/CEO

RTD-1

BOARD OF DIRECTORS: CHAIR D. David Smith, VICE CHAIR Joni Bauer, Duane Isetti, Floyd H. Weaver, Anthony H. Stevens
 GENERAL MANAGER: CEO Donna Kelsay

San Joaquin County Regional Transit District (December 18, 2007)

Response to Comments:

RTD-1: Comment noted.



Department of Toxic Substances Control

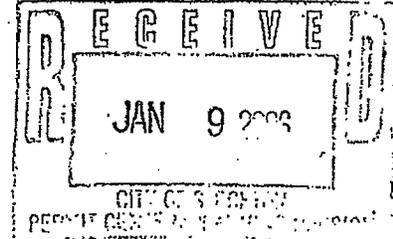
Linda S. Adams
Secretary for
Environmental Protection

Maureen F. Gorsen, Director
8800 Cal Center Drive
Sacramento, California 95826-3200

Arnold Schwarzenegger
Governor

January 7, 2008

Ms. Jenny Liaw, Senior Planner
City of Stockton
345 North El Dorado Street
Stockton, California 95202



DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR) FOR THE PRESERVE PROJECT (SCH #2006092063)

Dear Ms. Liaw:

The Department of Toxic Substances Control (DTSC) has reviewed the document described above that proposes building residential housing on agricultural land. The DEIR states that there may be contamination from historical pesticide use at the site, but does not discuss how it will be addressed. DTSC sent a letter dated September 26, 2006 in response to the *Public Review of the Notice of Preparation* recommending that the possibility of contamination due to past agricultural use be addressed in the DEIR. A copy of that letter is enclosed for reference.

DTSC recommends that additional research be conducted to determine whether pesticides were used on the proposed development site. The site should be evaluated to determine if and where storage, mixing, rinsing and disposal of pesticides may have occurred and whether contamination exists.

DTSC-1

In addition, although DTSC does not regulate pesticides legally applied to crops, if pesticides have historically been used on the property, we strongly recommend that these areas be tested for environmentally persistent pesticides such as organic pesticides and metals prior to development. The results of any testing should be evaluated to determine if concentrations present in soils will be protective of residents and workers.

Please contact me by email at tmiles@dtsc.ca.gov or by telephone at (916) 255-3710, if you have any questions.

Sincerely,

Tim Miles
Hazardous Substances Scientist

Enclosure

cc: See next page

Ms. Jenny Llaw, Senior Planner
January 7, 2008
Page 2

cc: Planning & Environmental Analysis Section (PEAS)
CEQA Tracking Center
1001 I Street, 22nd Floor
P.O. Box 806
Sacramento, California 95812-0806

State Clearinghouse
Office of Planning and Research
1400 10th Street, Room 121
Sacramento, California 95814-0613

Ms. Donna Heran, Director
San Joaquin County Environmental Health
304 East Weber Avenue, Third Floor
Stockton, California 95202

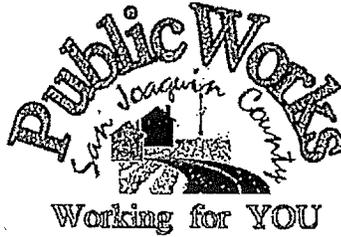
Department of Toxic Substances Control (January 7, 2009)

Response to Comments:

DTSC-1: Kleinfelder conducted limited soil sampling and analysis to evaluate the shallow soil at the project site for potential residual pesticides and elevated concentrations of metals. No organochlorine pesticides were detected in any of the ten soil samples collected from throughout the site. Based on those results, previous application of pesticide chemicals appear to have dissipated in the soil. It does not appear that shallow soils at the site have been impacted by the normal application of pesticides and that additional sampling for OCPs is not warranted at this time.



THOMAS R. FLINN
DIRECTOR



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CHIEF DEPUTY DIRECTOR

MANUEL SOLORIO
DEPUTY DIRECTOR

STEVEN WINKLER
DEPUTY DIRECTOR

ROGER JAMES
BUSINESS ADMINISTRATOR

January 10, 2008

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JAN 1 2008

PERMIT CENTER
PLANNING DIVISION

Ms. Jenny Liaw, Senior Planner
City of Stockton
Community Development Department
345 North El Dorado Street
Stockton, California 95202

SUBJECT: PUBLIC REVIEW OF THE DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE PRESERVE MASTER DEVELOPMENT PLAN (EIR-05)

Dear Ms. Liaw:

The San Joaquin County Department of Public Works has reviewed the above referenced document and has the following concerns:

Transportation Planning Comments:

- | | | |
|---|--|--------|
| <p>1. Under the heading of 4.7 Traffic and Circulation, page 1-15, the impact column lists TRAF-1a, b, c, d, e, and f, but there are only mitigations listed for a-d. Address mitigations for e-f, or remove them from the impacts column. Impacts TRAF-4a-f and TRAF-6a-m have similar issues – revise accordingly.</p> | | SJPW-1 |
| <p>2. Identify affected intersections for mitigations TRAF-4c on page 1-19, TRAF-4f on page 1-20, TRAF-6d on page 1-21, and TRAF-6l on page 1-23.</p> | | SJPW-2 |
| <p>3. The description of Interstate 5 on page 4-131 contains a reference to "an interchange at Hammer Lane and Eight Mile Road." Please correct this to identify both interchanges separately.</p> | | SJPW-3 |
| <p>4. Figure 4.7-1 incorrectly shows Blackswain Place connecting to Mariners Drive in three separate locations – show correctly, with no connections on the north and south ends.</p> | | SJPW-4 |
| <p>5. Mitigation Measure TRAF-1d: Rather than requiring the applicant to construct the listed mitigation on Pershing Avenue, which does not fit with current County plans, the City should instead collect the fair share dollar amount of the mitigation, for application toward future improvements at this intersection.</p> | | SJPW-5 |

PRESERVE MASTER DEVELOPMENT PLAN

6. Figures 4.7-11B and 4.7-20D both show the existing, plus approved, projects lane configuration for the intersection of Hammer Lane and Pershing Avenue, as having two through lanes in both the northbound and southbound directions. The County recently completed an alternatives analysis for the Pershing Avenue corridor which includes the Hammer Lane intersection. The study recommends one through lane in each direction with a continuous center two-way left-turn lane for Pershing Avenue. Please include this configuration in the project's traffic analysis and revise accordingly.

SJPW-6

7. Figure 4.7.2 (Bike Plan, page 4-135), needs to show planned bike routes, within the project site, connected with those existing and planned outside of the project area.

SJPW-7

Solid Waste Comments:

8. No reference to Solid Waste in the DEIR except to say that Stockton's General Plan includes a goal of diversion. Please address.

SJPW-8

Thank you for the opportunity to be heard. Should you have questions or need additional information regarding the above comments, please contact me at 468-3085.

Sincerely,



MARK HOPKINS
Environmental Coordinator

- c: James B. Giottonini, Director/City of Stockton Public Works Department
- Michael C. Selling, Senior Civil Engineer
- Jeffrey Levers, Associate Engineer
- Elisa Moberly, Solid Waste Management Analyst
- Michael S. Siazon, Associate Planner

San Joaquin County Public Works (January 10, 2008)

Response to Comments

SJPW-1: In the impact statement, all potential impacts are identified. Mitigation measures are only identified for those impacts that reach a level of significance. Mitigations are only listed for a-d for impact TRAF-1 as impacts e and f were found to be less-than-significant. This is also true for impacts without mitigation in TRAF-4 and TRAF-6.

SJPW-2: The Final EIR will reflect mitigation for application intersections for measures TRAF-4c, TRAF-4f, TRAF-6d, and TRAF-6l. These measures are revised/clarified as follows:

TRAF-4c: The project applicant shall contribute their fair share to intersection improvements at the McAuliffe Drive/Trinity Parkway intersection that would result in acceptable intersection operations: provide a shared left-turn-right-turn lane and a right-turn lane on the westbound approach. With implementation of this mitigation, the project impact would be to a less-than-significant level, as shown in Table 4.7.R.

TRAF-4f: Mitigation of this impact would require two left-turn lanes (300 feet each), two through lanes, and a right-turn lane (200 feet) on the northbound approach, two left-turn lanes (300 feet each), three through lanes, and a right-turn lane on the eastbound approach, and two left-turn lanes (300 feet each), three through lanes, and a shared through/right-turn lane on the westbound approach at the Hammer Lane/Pershing Avenue intersection. The project applicant shall contribute their fair share towards this improvement, reducing the project impact to a less-than-significant level. However, as this intersection is located within San Joaquin County and its implementation cannot be assured by the City of Stockton, this impact is significant-and-unavoidable.

TRAF-6d. The project applicant shall contribute its fair share to provide a third eastbound and a third westbound lane through the Otto Drive/Trinity Parkway intersection. Implementation this improvement would reduce the impact to a less-than-significant level, as shown in Table 4.7.W.

TRAF-6l. The project applicant shall contribute their fair share towards improvements at the Hammer Lane/Pershing Avenue intersection that would result in acceptable service levels, reducing the project's impact to a less-than-significant level. Improvement that would result in acceptable service levels include: two left-turn lanes (300 feet each), two through lanes, and a right-turn lane (200 feet) on the northbound approach, two left-turn lanes (300 feet each), four through lanes, and a right-turn lane both the eastbound and westbound approaches. However, as this intersection is located within San Joaquin County and its implementation cannot be assured by the City of Stockton, this impact is significant-and-unavoidable.

SJPW-3: The sentence on page 4-131 will be revised to "Access to the site from I-5 would be provided via interchanges at both Hammer Lane and Eight Mile Road."

SJPW-4: The Figure has been updated (see page 2-29).

SJPW-5: The project applicant shall contribute their fair share to improvements currently planned by San Joaquin County at the Hammer Lane/Pershing Avenue intersection. Based on the PM peak hour traffic volumes, existing traffic accounts for approximately 83 percent, approved projects account for 10 percent, and the proposed project accounts for 7 percent of traffic through the intersection in the near-term condition. The City of Stockton and Project applicant shall work with San Joaquin County staff to identify intersection improvement costs.

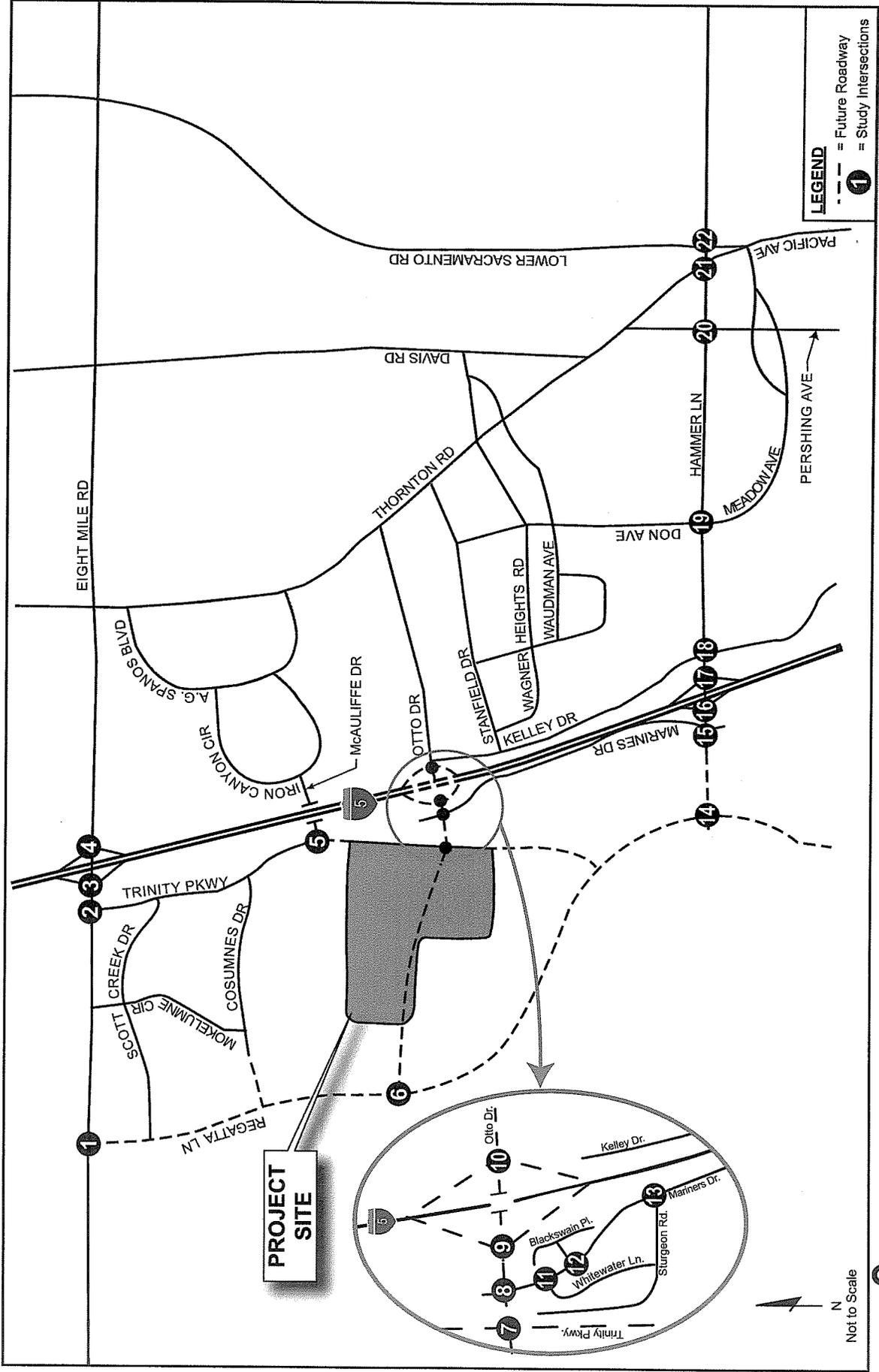
SJPW-6: The Figures have been revised (see page 2-31 and 2-32) to reflect the planned cross-section on Pershing Avenue. Results of the revised analysis are shown below. With the updated lane configurations, the impact identified in the DEIR would still occur, and the mitigation measure proposed in the DEIR, to which the Project Applicant shall contribute a fair share per comment 5, would mitigate the project impact at this location.

INTERSECTION		CONTROL ¹	PEAK HOUR	EXISTING PLUS APPROVED PROJECTS		EXISTING PLUS APPROVED PROJECTS PLUS PROJECT		EXISTING PLUS APPROVED PROJECTS PLUS PROJECT PLUS MITIGATION	
				DELAY ²	LOS	DELAY ²	LOS	DELAY ²	LOS
20.	Hammer Lane/ Pershing Avenue	Signal	AM PM	46	D	52	D	27	C
				156	F	174	F	43	D

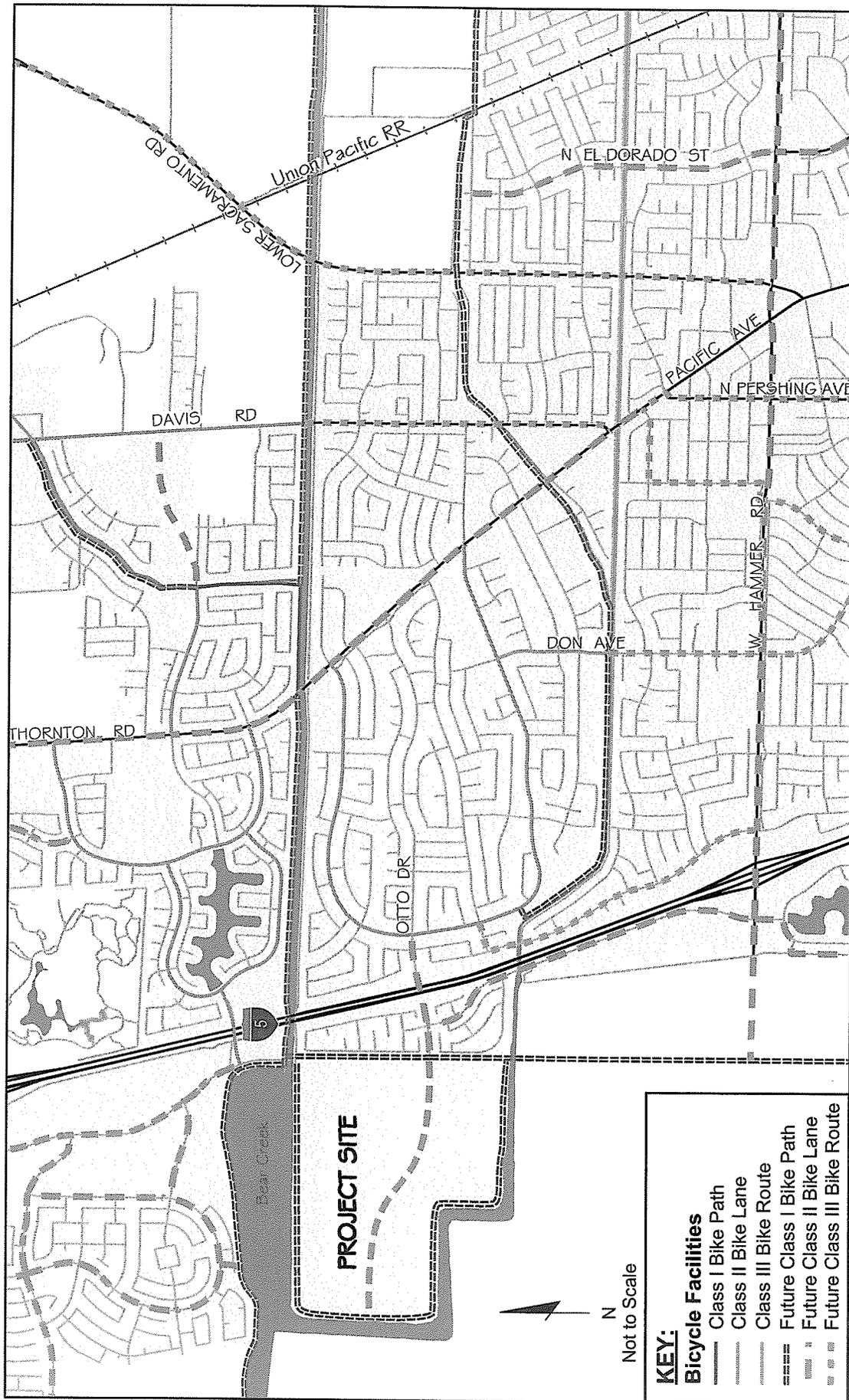
Source: Fehr & Peers, 2008.
Bold: indicates deficient service level. **Bold/Italics** Indicates significant project impact (i.e. the addition of project traffic results in deficient LOS E or F conditions, or increases average delay by more than 5 seconds at an intersection already operating at a deficient LOS E or F).
¹Signal = Signalized intersection; AWSC = All-way stop-controlled intersection; SSSC = Side-street stop-controlled intersection.
²Signalized intersection average control delay (in seconds per vehicle) and LOS calculated using the Highway Capacity Manual (Transportation Research Board, 2000) method.

SJPW-7: The figure has been revised to show future bicycle facilities within the development (see page 2-30).

SJPW-8: Solid waste is discussed, in detail, in Section 4.9 of the DEIR. Impact statements SW-1 and SW-2 examine the possible impacts regarding the generation of solid waste by the proposed project. Since the City of Stockton General Plan indicates landfill capacity until 2054, solid waste impacts were found to be less than significant.



PROJECT SITE AND STUDY INTERSECTION LOCATIONS
FIGURE 4.7-1



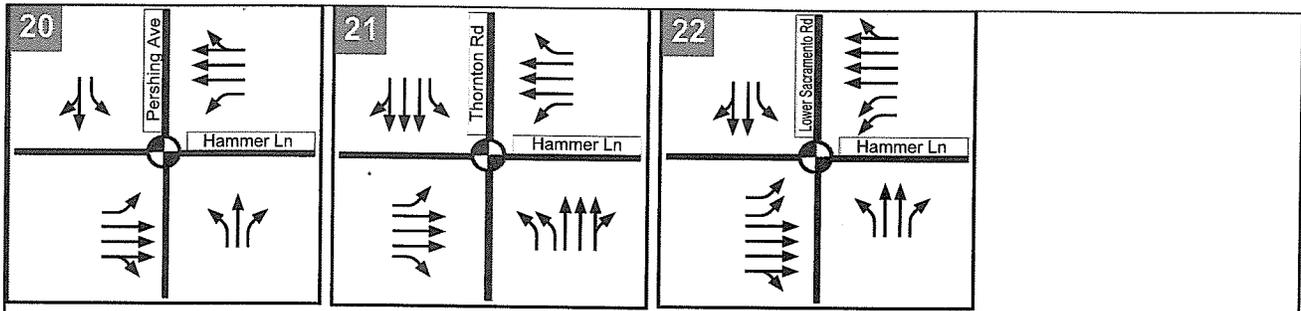
Atlas Tract EIR

EXISTING AND FUTURE BICYCLE NETWORK
FIGURE 4.7-2



FEHR & PEERS
 TRANSPORTATION CONSULTANTS

February 2008
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KEY:
 = Signalized Intersection



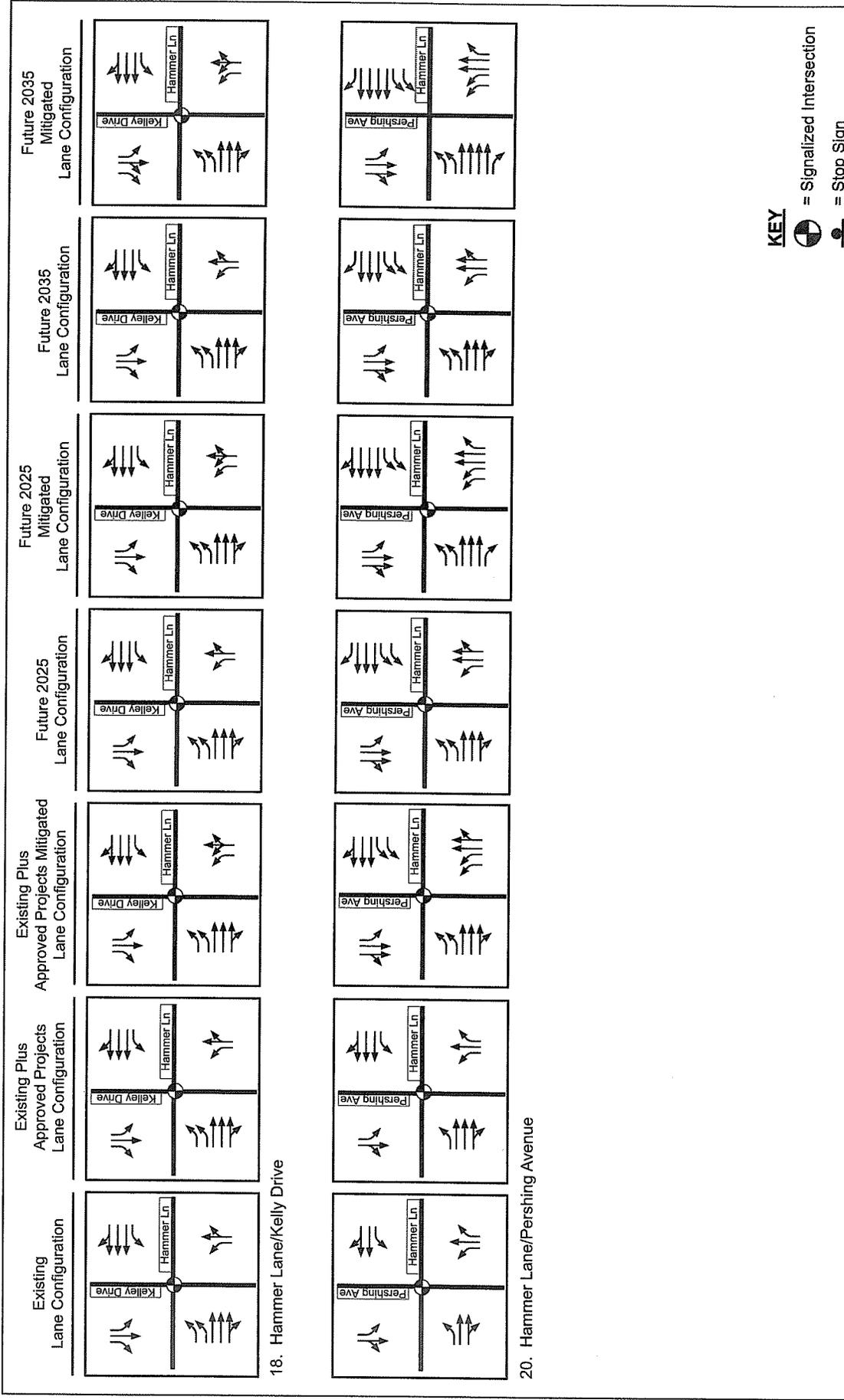
Atlas Tract EIR

FEHR & PEERS
 TRANSPORTATION CONSULTANTS

**EXISTING PLUS APPROVED PROJECTS
 LANE CONFIGURATIONS AND TRAFFIC CONTROL**

February 2008
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FIGURE 4.7-11B



KEY

= Signalized Intersection

= Stop Sign



Atlas Tract EIR

FEHR & PEERS
TRANSPORTATION CONSULTANTS

February 2008
Graphics\Feb08\WC05-2223_4.7-20D

INTERSECTION MITIGATION MEASURE SUMMARY

FIGURE 4.7-20D

DSS / JL

Morris L. Allen
Consulting Civil Engineer
6881 Atlanta Circle
Stockton CA 95219
Telephone and FAX: (209) 474-6716
Cell: (209) 639-9683

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JAN 10 2008
CITY OF STOCKTON
COMMUNITY DEVELOPMENT DEPT.

January 3, 2008

Mike Niblock
Director of Community Development
City of Stockton
345 N. El Dorado Street
Stockton CA 95202-1997

Attention: Jenny Liaw

THE PRESERVE MASTER DEVELOPMENT PLAN DRAFT EIR

Background

The consulting firm of LSA Associates has developed a draft EIR (DEIR) for the Preserve Master Development Plan (TPMDP) for the City of Stockton. This Plan is intended to provide for expansion of public services to an approximately 360 acre, mainly residential subdivision development with an anticipated population of approximately 5,200 residents. This Specific Plan Area is within the current Urban Services Area of the 1990 General Plan; and therefore, zoning and land use changes proposed in this TPMDP would not result in an increase in the projections of population and water use in the 1990 General Plan. In preparing this DEIR, the Consultant has relied upon Appendix H – Water Supply Assessment for the Preserve (Atlas Tract Crossing Specific Plan) Master Plan Development (WSA).

As requested by my Client, the Morada Area Association, I have carefully reviewed the above document, including pertinent sections of the TPMDP DEIR that pertain to water supply for this project, and have the following comments:

The Water Supply Assessment (WSA) for the Preserve (Atlas Tract Crossing Specific Plan) provides, as a foreword, an assessment of the legal viability of transfer and use of riparian water rights available to the Atlas Tract for future use for the Preserve development for municipal and industrial use, parks, and recreational purposes. While the continued exercise of riparian rights to water for irrigation use on the parcels is not in question, the issue of transfer of these rights to the City of Stockton for diversion at site of the future Delta Water Supply Intake for general municipal purposes is highly questionable, and the legal citation given on Page 3 of the Foreword is not on point. To my knowledge, the issue of transfer of riparian rights formerly used for agricultural purposes to a municipality for general uses has not been litigated. In addition, this option was previously studied and rejected by the City Attorney's Office as a viable alternative for the City of Stockton. The City of Stockton was therefore correct to take a

MA-1

THE PRESERVE MASTER DEVELOPMENT PLAN DRAFT EIR

conservative approach by discounting this possibility in preparing its WSA for this project. These comments will mirror the approach taken by the City of Stockton in its WSA.

The consultants in the TPMDP DEIR largely sidestep the issue of regional groundwater overdraft, and, instead, focus on the narrow issues regarding groundwater availability and use in the urban area. This is a major and very significant discrepancy in the TPMDP DEIR for two main reasons.

1. Historically, the City of Stockton metropolitan area (COSMA) has met its water supply requirements by total reliance on groundwater. San Joaquin County's groundwater system is the Northeastern San Joaquin subbasin of the larger San Joaquin Valley Groundwater Complex. The largest historical user in terms of volume of groundwater has been agriculture. Because the volume of groundwater withdrawals has grossly exceeded natural recharge, this subbasin has been classified by the Department of Water Resources as "in a critical condition of overdraft". The actual amount of the overdraft has been estimated by different authorities as 160,000 acre feet/year (San Joaquin County); 200,000 acre feet/year (USA Corps of Engineers); and 150,000 acre feet/year (US Geological Survey). The TPMDP DEIR fails to note that this subbasin is being overdrafted by at least 150,000 acre feet per year. As a result of the overdraft, the basin has lost 1,000,000 acre feet of active storage, and groundwater levels have declined by as much as 100 ft (USA Corps of Engineers) over the last 30 to 40 years. The subbasin serves the cities of Ripon, Manteca, Lathrop, Stockton, and Lodi, in addition to agricultural areas generally east of the urbanized areas. According to the *Eastern San Joaquin Groundwater Management Plan*, "Current and historical groundwater pumping rates exceed the sustainable yield of the underlying groundwater basin on an average annual basis."

As a result of this situation, in 1977, the Stockton East Water District (Stockton East) began to supply treated surface water to the urban area to replace groundwater. At that time, the source of this surface water was the Calaveras River via New Hogan Dam. In approximately 1990, this supply was extended to the north Stockton area. In 1983, Stockton East contracted with the US Bureau of Reclamation (Bureau) for an additional supply of water from the Stanislaus River; however, the WSA erroneously calls this a firm supply. This should not be noted as a firm supply. The Bureau characterizes this supply only as "long-term interim". The TPMDP DEIR does mention, however, that the Stanislaus River supplies are only anticipated to be available in above-normal and wet years. This is not the type of water supply source that can be committed to new (or existing) customers, because of its intermittent and unreliable nature. In addition, the Central San Joaquin Water Conservation District's (Central) contract with the Bureau for New Melones Water calls for 49,000 acre feet of firm and 31,000 acre feet of "long-term interim" supply per year. However, neither Stockton East nor Central has received either the firm or "long-term interim" supply on a reliable basis each year, and as a result, Stockton East sued the federal government to perfect this right. However, the TPMDP DEIR fails to note that Stockton East recently lost its case before the Court of Claims to force the Bureau to live up to the terms of its contract with the Districts. In addition, Stockton East receives excess water from the

MA-2

MA-3

THE PRESERVE MASTER DEVELOPMENT PLAN DRAFT EIR

Stanislaus River under a temporary contract with Oakdale and South San Joaquin Irrigation Districts. As noted in Appendix H of the TPMDP DEIR, this contract expires in 2009. While negotiations are currently underway to renew this agreement, the agreement has not been renewed, and therefore this water cannot be assured to the City or Cal-Water, and should not be shown as available to support the requirements of this Mater Development Plan.

MA-4

At Page 15 of the WSA, there begins a discussion and "clarification" of the water rights and entitlements of the Stockton East Water District (SEWD). This discussion is totally irrelevant except insofar as the Second Amended Contract of 1987 is concerned. This Contract provides for a firm entitlement of only 20,000 acre feet per year of treated water to the City of Stockton Metropolitan Area (COSMA), shared in proportion to the total water use of the City of Stockton's Water Utility, California Water Service Company (Cal-Water), and San Joaquin County Maintenance Districts. The COSMA itself is not a political entity or a water purveyor, and therefore has no source of surface water available to it. COSMA did not prepare the Water Supply Assessment for this DEIR; it was prepared by the City of Stockton. Therefore, it is incorrect for the WSA to state, at Page 15, that "the COSMA currently has 134.17 TAF/year" yield available to it. It is also incorrect to state that "COSMA" has 104.17 TAF/year in "firm" surface water contracts. "COSMA" does not have any surface or any other contracts, since it is not a legal entity, and, furthermore, what the WSA calls "firm" surface water is not firm at all, but optimal yields under the most favorable climatological conditions. The State Water Code requires a WSA to consider existing "firm" surface water contracts of the entity or water purveyor preparing the WSA, not the wholesaler who supplies water to that entity. SEWD is not the water purveyor to the City of Stockton's proposed General Plan 2035, or to this Master Development Plan area.

MA-5

MA-6

2. The second reason why this TPMDP DEIR is inadequate is that it and the accompanying WSA should discuss groundwater issues relevant and pertinent to the area proposed for development. It is significant that the development plan does not show the location of any new wells in the development, even though the WSA, on page 3, describes the need for approximately 765,583 gallons per day average domestic water demand at buildout, or 855 acre feet per year. This level of demand would normally require at least one new water supply well to be located within the subdivision. Neither the WSA nor the TPMDP DEIR point out, however, that the groundwater in the project area is totally unsuitable for potable well development. Furthermore, the WSA is in effect claiming a safe groundwater yield for this acreage of 270 acre feet, by including this acreage in the total safe yield of the urban area. Even if the WSA is correct in claiming that the City of Stockton can rely on a safe yield of 0.6 acre feet/acre/year in the urbanized area (and my discussion below will refute this assumption), the TPMDP Subdivision is starting out with an initial groundwater deficit of 639 acre feet per year which will have to be made up from offsite groundwater sources located east of the development.

MA-7

The state's common law groundwater rules are relatively straightforward. Overlying owners

THE PRESERVE MASTER DEVELOPMENT PLAN DRAFT EIR

generally may pump groundwater from aquifers beneath their land for use on that land. *See City of Barstow v. Mojave Water Agency*, 23 Cal.4th 1224, 1240 (2000). If multiple owners overlie the same aquifer, as in the Morada area, their use rights are “correlative,” meaning that in times of shortage each has only the right to pump his “reasonable share.” *Pasadena v. Alhambra*, 33 Cal.2d 908, 926 (1949); *see San Bernardino v. Riverside*, 186 Cal. 7, 14 (1921) (explaining the hydrologic basis for this rule). Those owners also must use water “reasonably,” meaning they cannot use water wastefully or with excessive inefficiency. Cal Const. art X § 2; *Barstow*, 23 Cal.4th at 1240. If a surplus exists, appropriators—that is, users who would pump the water for non-overlying or municipal use—may take a share, but their rights always are subservient to those of overlying users. *Barstow*, 23 Cal.4th at 1240; *Peabody v. Vallejo*, 2 Cal. 2d 351, 370-71 (1935); *San Bernardino*, 186 Cal. at 15. *State of Cal. v. Rank* (1961) 293 F. 2d 340

However, where a surplus does *not* exist, and the aquifer is in overdraft as it is here, overlying users can assert the primacy of their rights and obtain declaratory or injunctive relief precluding water exports. *Peabody v. Vallejo*, 2 Cal. 2d at 374 (observing that superior water rights are entitled to protection “at law or equity”). The Preserve project would be considered an “appropriator” and with the current long term overdraft would have no legal right to the water. Stockton, likewise, given the situation in the aquifer, would have no legal right to send water to The Preserve. One danger for the developer is at that at some time, should the overdraft increase because of new developments overlying the aquifer, then a person overlying the aquifer, or an association, could obtain injunctive relief to prevent the shipping of water to the proposed development. Given this possibility, it is hard to imagine how the water requirements for The Preserve can be met in a fashion that will insure that they are actually available. *Vineyard Area Citizens v Rancho Cordova* (2007) 40 Cal. 4th 412 .

MA-8

Existing Water Sources

Table 5 of the City’s Water Supply Assessment purports to provide information regarding SEWD’s sources of supply and critical year availability. The numbers shown in this Table are unsubstantiated by any reference to an independent hydrologic analysis, and therefore only represent the conclusion of the WSA preparer. Furthermore, these sources are not controlled by or attributable to the City of Stockton and cannot be claimed to support the requirements of the TPMDP. As the Water Supply Assessment correctly notes, these sources are attributable to the Stockton East Water District. Therefore, despite claims to the contrary in the City’s Water Supply Assessment and the TPMDP DEIR, the only firm water sources available to the City’s Water Utility at this time to support the increased water demands described in the TPMDP DEIR are as follows:

- Surface Water via Stockton East Water District (Second Amended Agreement) – 20,000 acre feet/yr, allocated to the City of Stockton’s Water Utility, San Joaquin County Maintenance Districts, and to Cal-Water on a basis proportionate to overall consumption

Non-firm supplies being relied upon by the City of Stockton’s Water Utility to meet demand

THE PRESERVE MASTER DEVELOPMENT PLAN DRAFT EIR

from this proposed subdivision and other anticipated developments:

- Groundwater basin (currently in critical overdraft). In my professional opinion, the existing groundwater basin cannot be considered a firm water supply for the TPMDP since it has been found by the Department of Water Resources and the authorities noted above to be in critical overdraft; however, the consultants who have prepared the TPMDP DEIR do not concur with this assessment, and indicate that “the basin is recovering and is stabilized”. If this statement is correct, why are all of the water agencies, including San Joaquin County, the City of Stockton and the City of Lodi, working diligently to find ways and means to recharge the basin?
- Surface water supplied from Stockton East from the Stanislaus River under contract from the US Bureau of Reclamation – quantity varies from 0-40,000 acre feet/yr.
- Surface water supplied from Stockton East from the Stanislaus River under contract from OID/SSJID – quantity varies from 8-30,000 acre feet/yr.

MA-9

While this combination of sources has been meeting the immediate demands of the City of Stockton and the other retail water agencies, they can not be considered firm or reliable, nor can they legally be committed to new developments; and the net result of the City of Stockton’s utilizing increasing amounts of groundwater to meet the needs of an increasing number of customers has been to make a significant contribution to the groundwater overdraft in this subbasin.

Existing Water Demands

Water use for the COSMA has varied over the years, consisting of a mix of groundwater and surface water supplied by Stockton East. Average use of surface water over the last twelve years has been 39,527 acre feet per year, as reported by the City of Stockton. During this same period, an average of 23,422 acre feet per year of groundwater has been used (please refer to Figure 10, from the City’s *Water Supply Assessment*). Average total COSMA water demand is therefore 62,949 acre feet per year, and the 2005 water year use is 68,777 acre feet. Although the Stockton East Water District has been able to consistently supply to the COSMA almost 20,000 acre feet per year is in excess of its firm supply, this amount cannot be relied upon in drier than normal years or extended drought cycles, and can therefore not be allocated to new developments. Also, COSMA urban uses have been contributing to the existing groundwater basin overdraft by an average of over 23,000 acre feet per year. This amount represents at least 10% of the existing Eastern San Joaquin groundwater basin overdraft. Based upon the City’s analysis of new potable water demands for this project, at least an additional 855 acre feet of groundwater overdraft will be created by the TPMDP, since no new surface supplies will be available to meet this new demand, as further explained below. Also, this new demand has been grossly underestimated in the City’s WSA. The most commonly accepted value for water consumption by urban single-family residential customers is 0.5 acre feet/year/connection, and for urban multi-family residential of 0.33 acre feet/year/connection. Applying these estimating factors results in an estimated domestic water demand of 1022 acre feet/year for residential and 74 acre feet for parks

MA-10

MA-11

MA-12

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and other uses for a total potable water demand and additional groundwater overdraft of 1096 acre feet/year.

MA-12
Cont.

Not accounted for in the above water use statistics is water used within the COSMA by agriculture, which amounts to approximately 17,000 acre feet of groundwater per year. Figure 10 of the City's *Water Supply Assessment* should be corrected to reflect this additional 17,000 acre feet per year of groundwater use. Therefore, including agricultural use, the total existing overdraft within the COSMA is closer to 40,000 acre feet per year, and this project would increase the overdraft to approximately 41,000 acre feet per year.

MA-13

Delta Water Supply Project

In 1996, the City of Stockton submitted an Application to the State Water Resources Control Board (SWRCB) for the right to divert water from the San Joaquin River Delta. The intent of the Application was to correct existing supply deficiencies and provide sufficient supplies to support the population projections of the 1990 General Plan, and anticipated growth in water demands to 2050. The Application was later bifurcated to request water rights sufficient to support only the requirements anticipated in the 1990 General Plan. This right was requested in accordance with Section 1485 of the Water Code, which provides that the City of Stockton has the right to obtain water from the Delta in an amount roughly equal to the amount of reclaimed water discharged to the Delta via the San Joaquin River. Any future needs above this amount must be the subject of a future Application process. In December, 2005, the SWRCB issued a Permit to the City to divert up to a maximum of 33,000 acre feet per year, subject to Standard Term 91 and other conditions. Standard Term 91 is imposed by the SWRCB to prevent diversions whenever the diversion would require the release of State or Federal Project water to maintain water quality requirements in the Delta. This means that, if the State or Federal projects are required to release water to keep the Delta in balance, in consideration of existing exports and inbasin uses, the City (or other Term 91 users) must curtail diversions. Also, the City must curtail diversions to protect Delta Smelt and other protected species.

MA-14

Based upon the *City of Stockton Delta Water Supply Project Modeling Technical Appendix*, Tables 4-5, 4-13, and 4-20, for the majority of the time that Stockton proposes to divert at either the current Permitted 30 MGD level, or at the projected 160 MGD level, the Delta is in a "balanced" condition. Quoting from this report, at page 4-13: "Balanced water condition diversions must be off-set by a corresponding increase in Delta inflow from CVP-SWP storage release, or a reduction in CVP-SWP exports." Therefore, under Term 91, the City will be **unable to divert water at these times**. The additional yields noted by the Water Supply Assessment for the Delta Water Supply Project to meet immediate, foreseeable and long-term demands will not be available at the levels indicated in the City's *Water Supply Assessment* and cannot be included in the determination of sufficiency for this TPMDP. As the City's *Water Supply Assessment* indicates, without the water supply available from the Delta Water Supply project, there is insufficient water supply available to support this project, along with all of the

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other pending development projects which have been approved or anticipated.

Water Production Estimates

The City's *Water Supply Assessment for the Atlas Tract Crossing Specific Plan* (The Preserve) and the *Water Supply Evaluation for the General Plan* consistently overstate the water production from the existing and proposed water treatment facilities by confusing capacity with production. A water treatment facility cannot produce treated water up to its design capacity on a consistent basis due to operational considerations, even if there is a consistent incoming water source of supply. For example, filters are taken off line routinely for backwashing. Equipment malfunctions or fails and must be repaired. Routine maintenance of all of the facilities is required to keep them operating efficiently. For planning purposes, it should not be assumed that a water production facility can be more than 75% efficient. This means that, for a 45 MGD water treatment plant, the facility owned and operated by Stockton East, only 34 MGD can be produced on a long-term, reliable basis. This compares favorably with actual statistics from Stockton East, and shows that the District is doing a first-class job in maintaining their water treatment plant. Therefore, the total water production estimates given in the referenced documents are overstated by 25% and must be reduced accordingly. Also, the analysis in the City's *Water Supply Assessment* assumes that capacity of the Stockton East Water Treatment Plant will be increased to 60 MGD by 2009, and a production amount of 66,000 acre feet is assumed. This amount, which should be reduced to 49,500 acre feet/year for the reasons noted above, is highly speculative and requires that Stockton East acquire rights to new sources of water from the SWRCB. At the present time, water sources available to Stockton East will only support current Plant capacity. In my professional judgment, this type of speculation has no place in a water supply assessment, and is not allowed by the statute.

MA-15

Additional Water Supplies Necessary to support the TPMDP

The several technical reports cited above which are intended to justify the sufficiency of water supplies necessary to support the additional demand of The Preserve Master Development Plan along with other anticipated growth in water demand rely on overstated water production from existing and new water treatment plants, and highly optimistic assumptions of the availability of water sources and allocation of additional water rights. In my professional opinion, the speculations and wishful thinking contained in these documents is highly inappropriate in a Draft EIR or Water Supply Assessment. In order to meet the requirements of CEQA, the DEIR must undertake a rigorous analysis of supply and demand and resource limitations.

Page 12 of the City's *Water Supply Assessment* notes that the average water demands within COSMA are expected to increase to 156,083 acre feet per year at buildout of the proposed *2035 General Plan Update*. In order to meet this average water demand, the COSMA will have to develop an average of about 90,000 acre feet per year of new water supplies. Considering the fact that the COSMA now has only 20,000 acre feet per year of firm water supplies to rely on under contract with Stockton East, by 2035, COSMA will be exceeding its firm supplies by 136,000 acre feet per year.

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While the City of Stockton and Stockton East are engaged in a number of activities to develop additional water rights for additional water supplies to serve COSMA, there is no assurance whatsoever that any additional water rights will be obtained for either expanding the Delta Water Supply Project as planned, or for expanding the Stockton East Water Treatment Plant as assumed in the City's *Water Supply Assessment*. This means that the additional 136,000 acre feet per year required to support growth contemplated in the City's proposed General Plan Update-2035 and the City's *Water Supply Assessment for the TPMDP* must come from groundwater, which is already seriously overdrafted. This will increase the groundwater overdraft in the subbasin to at least 300,000 acre feet per year, which, in my professional judgment, would place the overdraft at the crisis level.

Setting aside the issue of firm water supplies for a moment, let's assume for purposes of argument that, on average, the COSMA continues to receive its allotment from Stockton East Water District, and that Stockton East Water District does expand its Water Treatment Plant to 60 MGD by 2016. Let's also assume that the City is able to pump 50% of the time from the Delta (even though the City's own analysis of this project indicates this will not be possible due to "balanced conditions" prohibitions). Under these most favorable conditions, this means that a total of 61,875 acre feet of surface water will be available, on average, to meet a COSMA average demand of 156,083 acre feet, and the remaining demand of 94,208 acre feet must come from the existing overdrafted groundwater basin. This would still create an overdraft of at least 250,000 acre feet per year in this subbasin, also at the crisis level.

Impact on Groundwater Basin

As previously noted, the Eastern San Joaquin Groundwater Basin is in a "critical condition of overdraft." The City and its consultants need to acknowledge in the Water Supply Assessment that the Eastern San Joaquin Groundwater Basin is one basin, and that it does not have a hydrogeologic barrier that divides the agricultural areas from the urban areas. Even though some of the urban area's monitoring wells do show an increase in groundwater elevations, the basin as a whole is still in critical condition of overdraft, and therefore cannot be counted upon as a firm source of water until the basin is in hydrologic balance. Any additional groundwater extracted by the urban area to support new developments worsens the groundwater basin overdraft.

MA-16

As I have noted in the above discussion, appropriators of groundwater such as the City cannot legally rely on this source of water unless there is an excess of water in the groundwater basin, since to do so jeopardizes the rights of existing individual groundwater pumpers extracting water legally from beneath their properties. A groundwater basin in a critical condition of overdraft does not have an excess of water available for appropriation. Also, the TPMDP DEIR and the Water Supply Assessment does not acknowledge the fact that other San Joaquin County cities, including Ripon, Lathrop, Manteca, and Lodi all rely heavily on groundwater use, and that significant growth is also occurring in these cities.

MA-17

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The City of Stockton must combine its current and planned uses of groundwater with those of all other San Joaquin County cities to determine what impact all cities, including Stockton, will have on groundwater availability. There are no estimates in any of Stockton's documentation that attempt to quantify the groundwater demands of the other cities overlying the Eastern San Joaquin Groundwater Basin. This is a serious flaw in the analysis, because it underestimates the City's significant adverse direct and cumulative impacts on regional groundwater supplies.

MA-17
Cont.

The *Stockton Delta Water Project Draft EIR*, at page 5-18, presents graphic illustrations of the effect this additional pumping will have on groundwater.

Figure 5-5 of this report, reproduced below, illustrates the simulated responses to the groundwater basin represented by six wells located in and around the COSMA. This figure shows that, despite the City's claim that the portion of the groundwater basin under the COSMA is "stabilized" and at "equilibrium", groundwater levels have continued to decline, and the rate of decline is increasing. Unless substantial amounts of surface water are imported into the COSMA to reduce groundwater pumping and offset this trend, growth contemplated by the General Plan 2035 DPEIR and this TPMDP DEIR will cause an even more rapid decline in groundwater levels. Declining groundwater levels will result in (1) increased pumping costs for all existing residential, commercial, agricultural and industrial users due to increased hydraulic lift; (2) decreased yields due to decreased aquifer saturated thickness, and (3) greater tendency for eastward migration of saline water from the west due to a steeper hydraulic gradient. Eastward movement of salinity will threaten and eventually eliminate many existing municipal wells on the westward edge of the COSMA as salinity exceeds the maximum contaminant levels set by the State for drinking water.

MA-18

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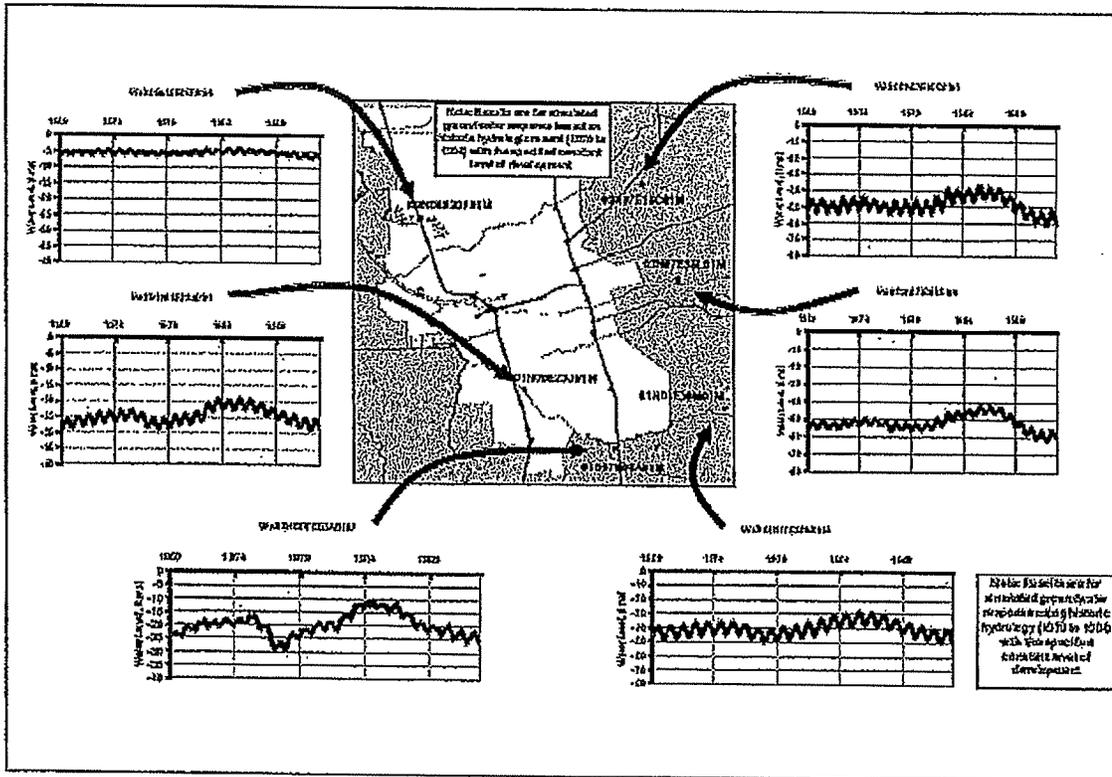
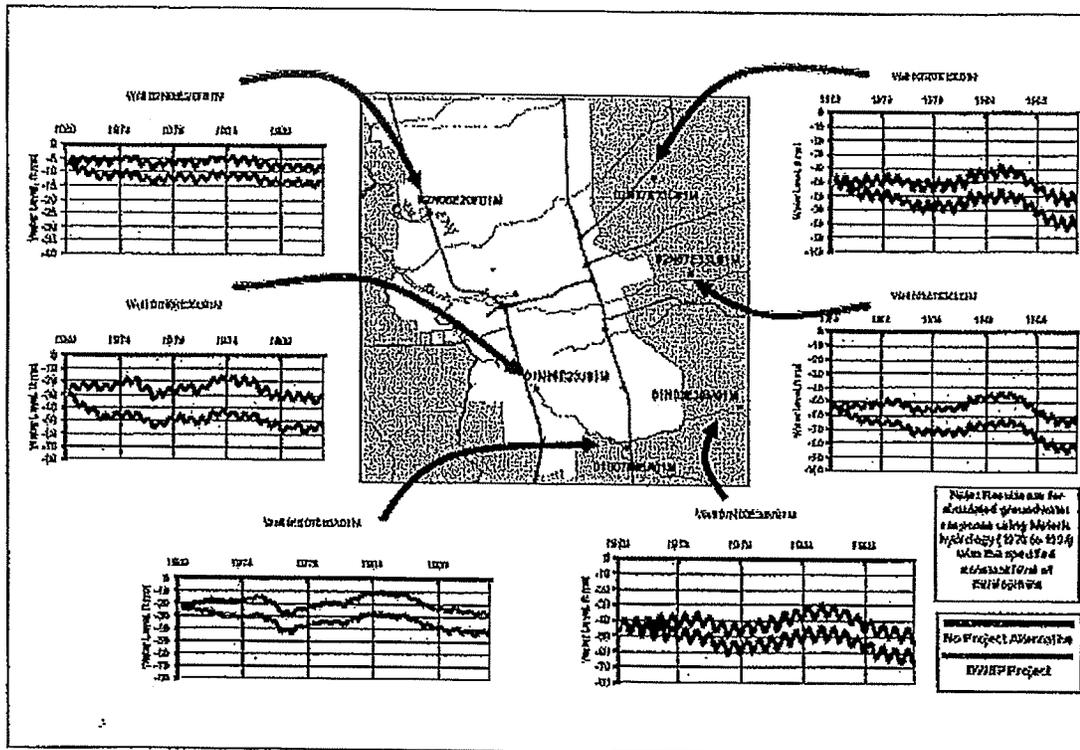


Figure 5-5

Figure 5-7 reproduced below illustrates the effect on groundwater if growth contemplated in the GPU-2035 continues until 2050. Also illustrated is the effect of the importation of surface water developed from the proposed Delta Water Supply Project at the Delta Water Supply's ultimate development. This figure shows that, even in the unlikely event of full development of the water supply contemplated by the Delta Water Supply Project, groundwater levels will continue to decline, although, of course, groundwater levels would be significantly improved by the addition of this surface water. However, as noted above, it is **highly unlikely** that the City will ever be able to achieve the level of importation of Delta water contemplated and desired, due to the restriction on pumping during "balanced conditions" in the Delta. Furthermore, the figure assumes that the City will be able to recharge the groundwater aquifer with any surface water pumped from the Delta and not immediately needed by water users within COSMA. The City does not have the rights for this additional water over and above the Phase I Project, nor does it have the right to store this water underground, or have any project or system contemplated to do this. Therefore, what can only be predicted from the impact of population growth projected from the GPU-2035 is an average of a 20 foot decline in groundwater levels by 2050.

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SOURCE: GDM, 2002 and Environmental Science Foundation, 2001

Data Water Supply Project / 2008 DWP

Figure 5-7
 Simulated Groundwater Level Response
 Comparison of Project and No Project - 2050 Cumulative Conditions

The USGS has evaluated groundwater in wells in the Eastern San Joaquin County subbasin of the Central Valley Groundwater Basin and has published a report of its findings (Open File Report 2006-1309). They have found that water levels have declined, and chloride concentrations have increased in a number of public supply, agricultural and domestic wells in this area. Many of the wells now exceed the USEPA Secondary maximum Contaminant Level for chloride of 250 milligrams per liter. The USGS found that the high chloride levels have been found further to the east since measurements began to be taken in 1984. While the USGS found a number of sources for the high chloride water found in wells, lowering of the ground water table by pumping in excess of natural recharge has and will continue to exacerbate the problem.

Agricultural Credits

In its *Water Supply Assessment*, at Page 48, the City refers to the concept of "Agricultural Credits" which it introduced in its *Water Supply Evaluation* for the General Plan 2035 Update DPEIR. The City attempts to justify this "credit" by stating that this "acknowledges that the groundwater basin was being used for agriculture prior to urbanization." To account for this prior agricultural pumping, which has not been quantified with any documentation, the City uses a "credit" of not to exceed 1.0 acre foot per acre per year as a firm yield from the groundwater basin in these areas. In my professional opinion, there is absolutely no merit to this argument,

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and it runs completely contrary to what the City says it is trying to achieve by setting a "target" yield from the groundwater basin of not more than 0.6 acre feet per acre per year.

As noted above, the groundwater basin is in a critical condition of overdraft. This has resulted from all users exceeding the safe yield of the groundwater basin. In the case of a basin in critical overdraft, no "credit" can be assumed by converting from one groundwater use to another. At best, the "critical condition of overdraft" has been slightly reduced by some unquantified level of agricultural pumping. This type of speculation is a very poor substitute for actual documentation of prior water uses on the subject property, and has no place in a Water Supply Assessment.

The basic flaw in the analysis of "groundwater credits" can be taken from Exhibit "F" to the City's *Water Supply Evaluation* for the General Plan 2035 Update Draft Program EIR at Page 1. This report states that "If any one of these groundwater extractors are [sic] removed or are [sic] taken off of groundwater there is a recognition that, if *groundwater elevations are acceptable today* [my emphasis] and the *groundwater basin is in a state of equilibrium*, [my emphasis] that groundwater pumping can continue at the same rate without further impacting the groundwater basin". As noted in the above discussion, the Department of Water Resources, San Joaquin County, and the US Geological Survey all classify the groundwater basin as being overdrafted with groundwater elevations declining. The City can not therefore claim any "groundwater credits". The City's report goes on to state that the City is interested in reducing reliance on groundwater over time and wishes to target groundwater use to below today's level. The use of a "groundwater credit" in a Water Supply Assessment is therefore invalid on the City's own terms, and must be discarded.

The stated goal of the water agencies and cities in northern San Joaquin County is to maximize the use of surface water and minimize the use of groundwater to reduce the drain on the overdrafted groundwater basin. Records of groundwater production in the agricultural areas proposed for urbanization are either not available or not accurate. COSMA should therefore not use "agricultural credits" in any calculation of groundwater yield. The intent of this proposed action by the City is clear on Page 5 of Exhibit "F" by the statement: "the COS wishes to take some credit for this benefit by extracting a greater amount of groundwater until recharge technologies or more surface water becomes available to replace this need". In my professional opinion, this statement meets the classic definition of a "mining" of groundwater, and application of this "credit" by the City will result in an adverse impact on the groundwater basin.

Summary

Approval of the development proposed in the TPMDP DEIR will result in an additional demand on the COSMA potable water system of at least 855 acre feet per year. However, because the domestic water requirements are grossly underestimated in the WSA, this additional domestic demand will be closer to 1,100 acre feet/year.

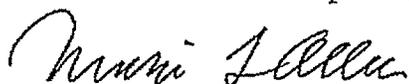
COSMA water utilities currently rely on an overdrafted groundwater basin and favorable

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hydrologic conditions to provide for an estimated 276,000 persons, with an estimated total demand of approximately 70,000 acre feet per year. Firm sources of water supply available to the COSMA water utilities amount to only 20,000 acre feet per year under a contract with the Stockton East Water District. Under historical drought conditions, Stockton East has only been able to supply approximately 12,000 acre feet per year to the COSMA. The groundwater basin is not a firm source of supply to the COSMA appropriators because it is in a "critical condition of overdraft."

In order to partially alleviate this problem, the City has received a Water Rights Permit from the Water Resources Control Board to extract as much as 33,000 acre feet of water from the Delta. An actual project to finance and construct an intake and treatment facility to appropriate this water is not yet underway, much less completed. Constraints placed upon the City's proposed new facilities are so severe that it is unlikely that the City will be able to obtain more than a small fraction of this amount. In addition, a recent decision in Federal Court affecting State and Federal diversions from the Delta may make Stockton's Delta Water Supply Project infeasible.

The only source of water supply legally available to the City of Stockton for this proposed TPMDP development is therefore from the already overdrafted groundwater basin. This will increase the overdraft in the basin by at least 855 acre feet per year, and potentially 1,096 acre feet per year if my estimates of residential water use are accurate. This is an unacceptable adverse environmental impact which has not been mitigated.



MORRIS L. ALLEN, P.E.
CONSULTING CIVIL ENGINEER

Morris Allen (January 3, 2008)

Response to Comments

MA-1: The comment misunderstands the potential use of the riparian water. Riparian water confirmed to the project land would not be “transferred” to the City of Stockton, as this would sever the riparian right. Rather, as stated in the WSA: “Riparian water rights will be retained for the eligible parcels within the project site, a proposed Community Services District (or other public agency) will take an assignment of those rights from the future property owners, withdraw water from the Delta using these rights, treat and distribute the same volume of water to those same parcels.” This approach is legally valid as the riparian parcels continue to hold and use their riparian rights. Riparian water diverted pursuant to rights held by the development lands could also be diverted at the intake facility developed for the COS DWSP, located on the southwest tip of Empire Tract adjacent to the San Joaquin River. Although the properties’ riparian rights extend to Telephone Cut, and have historically been diverted at this location, the point of diversion for a riparian right can be changed to upstream or downstream of the riparian land provided the change does not injure the rights of other lawful users. The riparian water diverted at the COS DWSP intake facility would also be conveyed to and treated at the planned COS WTP to be constructed approximately three miles east of I-5 and 0.5 mile north of Eight Mile Road along Lower Sacramento Road.

MA-2: The comment that the New Melones supply should not be noted as a firm supply is correct. The Stanislaus River water supply is a “long-term interim” contract. However, although the WSA refers to the total supplies as “firm” in one statement, the WSA expressly recognizes that these supplies are not firm when it states:

This Stanislaus River water source is only available in wet and above-normal years. Under a Bureau of Reclamation contract as part of the Central Valley Project, SEWD is entitled to 40,000 AF/year for municipal and industrial uses. The infrastructure to supply this water is complete, but the source is not reliable since the Central Valley Project Improvement Act and other regulatory actions have reduced the quantity of water available from this source.

The New Melones Project is operated in accordance with the Interim Plan of Operation. The City ran the IPO pursuant to the 70-year hydrology and came up with a long-term average. The WSA acknowledges, however, that there will be no water from New Melones available in dry years. There are significant amounts of water available from New Melones in many year types, and the WSA would be foolish not to incorporate those on a conjunctive use basis. Wet year water supplies can be committed to a municipal supply when there are sufficient substitute supplies available in drier years. This method is called conjunctive use, and it is the basis for the WSA.

MA-3: Stockton East did not sue the federal government to perfect its right; its right was perfected in 1983 when it entered into a water supply contract with the United States. Stockton East sued in an attempt to receive water more frequently than contemplated by the IPO. The result of the suit has no

impact on the continued availability of New Melones water pursuant to the IPO, upon which the calculations in the WSA are based.

MA-4: It is true that this contract has not yet been renewed. However, (1) the existing contract has a renewal provision, and (2) the Boards of both OID and SSJID have indicated their willingness to renew the contract with price being the only term being negotiated. In fact, the WSA assumes only that one of the contracts will be renewed, which is very conservative for planning purposes, as it appears that both contracts will be renewed shortly for an additional 10-year period.

MA-5: This discussion is most relevant. While the City of Stockton does have a contract with the Stockton East Water District that guarantees an annual entitlement of 20,000 acre feet of water, the past practice of SEWD has been to provide the urban area with all available water that can be treated at the treatment plant. This practice is illustrated by the historic SEWD deliveries to the City. Table 1 (provided by Stockton East Water District) depicts how much water was provided by the SEWD Water Treatment Plant (WTP) to its urban contractors for the past 10 years. It is clear that in no year has the 20,000 acre foot entitlement been a limiting factor in water deliveries to the urban area.

Water Year	Water Actually Delivered from WTP (AF)
1996-1997	41,149
1997-1998	36,617
1998-1999	40,336
1999-2000	39,698
2000-2001	38,729
2001-2002	38,345
2002-2003	40,022
2003-2004	39,725
2004-2005	39,052
2005-2006	42,070
2006-2007	43,640

MA-6: The assertion of what is included in the State Water Code is incorrect.

- The Water Code sections governing Water Supply Assessments, §§10910 – 10915, do not include the word “firm”.
- The WSA defines the term “sufficient water supply” as “the total water supplies available during the normal, single-dry, and multiple-dry years within a 20 year projection that will meet the projected demand associated with the proposed subdivisions, in addition to existing and planned future uses, including, but not limited to, agricultural and industrial uses.” This definition comes directly from Government Code section 66473.7(a)(2), which was adopted by SB 221 legislation, a companion bill to SB 610.

- Water Code Section 10910 is much broader than described. It is not limited to a consideration of the contracts held by the public water system preparing the WSA. It also includes:
 - “total projected water supplies” §10910(c)(3)
 - “any existing water supply entitlements, water rights, or water service contracts” §10910(d)(2)
 - “written contracts **or other proof of entitlement** to an identified water supply” §10910(d)(2)(A) (emphasis added)

The WSA correctly and accurately informs the reader that the underlying contracts for water are held by the Stockton East Water District, and explains the contractual relationship between the City of Stockton and the district.

MA-7: This is not a requirement of the Water Code, and makes little legal or hydrogeologic sense. Groundwater at the area proposed for development is not evaluated because no wells are being proposed for the property. The City’s groundwater system contributes water on a conjunctive use basis to the City’s system **as a whole**. Consequently, the impact of groundwater pumping must be evaluated on the City as a whole, and the WSA does so.

MA-8: Again, the assertions of California law are not correct. The City of Stockton is considered a groundwater appropriator from the basin. It does not legally follow that the City does not have a right to appropriate simply because the Department of Water Resources concluded the basin water overdrafted in 1981, for various reasons.

The determination of whether or not the existing groundwater basin can be considered a water supply for the CBMDP is not determined by the 1981 conclusion by the Department of Water Resources that the basin was overdrafted. As stated by DWR in its Bulletin 118-03 in Chapter 6:

Despite its common usage, the term overdraft has been the subject of debate for many years. Groundwater management is a local responsibility; therefore, the decision whether a basin is in a condition of overdraft is the responsibility of the local groundwater or water management agency. In some cases local agencies may choose to deliberately extract groundwater in excess of recharge in a basin (known as “groundwater mining”) as part of an overall management strategy. An independent analysis of water levels in such a basin might conclude that the basin is in overdraft. In other cases, where basin management is less active or nonexistent, declining groundwater levels are not considered a problem until levels drop below the depth of many wells in the basin.

Second, the assertion that a condition of overdraft is equivalent to no surplus is not correct. The determination of overdraft to determine the right of a groundwater appropriator must be undertaken by the court. There has been no challenge to the City’s pumping, and no court determination that no surplus water is available in the basin.

A court determination on this issue is complicated. The definition of overdraft was articulated by the California Supreme Court in 1975. There, the court held that overdraft begins when extractions exceed the safe yield of a basin plus any temporary surplus. Safe yield is defined as the maximum quantity of

water which can be withdrawn annually from a groundwater supply under a given set of conditions without causing a gradual lowering of the groundwater levels resulting, in turn, in the eventual depletion of the supply. "Temporary surplus" is the amount of water that can be pumped from a basin to provide storage space for surface water that would be wasted during wet years if it could not be stored in the basin.

Notwithstanding the priority of overlying users as against appropriators, it does not necessarily follow that overlying users may prevent extractions by an appropriator depending upon the timing of an action against the appropriator and the appropriator's use of the water. Where the appropriated water has been put to public use, an injunction prohibiting further appropriation may not necessarily be issued. If an overdraft continues for more than five years prescriptive rights can accrue to those parties who extract water during the overdraft period. *City of Pasadena v. City of Alhambra* (1949) 22 Cal.2d 908. One court has stated "where the interests of the public are involved and the court can arrive in terms of money at the loss . . . an absolute injunction should not be granted, but an injunction conditional merely upon the failure of the defendant to make good the damage which results from its work. Such an action, if successful, should be regarded in its nature as the reverse of an action in condemnation." Also, an absolute injunction will not be granted where other forms of relief are available and would be adequate.

Further, the comment addresses only native groundwater, i.e., percolating groundwater that occurs naturally and is not imported. Imported water is water derived from outside the watershed that is purposefully recharged into the groundwater basin, essentially creating an "account" for the recharger. Imported water belongs solely to the importer, who may extract it (even if the basin is in overdraft) and use or export it without liability to other basin users. *Los Angeles v. San Fernando* (1975) 14 Cal.3d 1991. Since 1976 the City has been importing water, and has conducted in-lieu recharge of the groundwater basin. That water belongs to the City and can be extracted for use without challenge from overlying groundwater users.

MA-9: The determination of whether or not the existing groundwater basin can be considered a water supply for the CBMDP is not determined by the 1981 conclusion by the Department of Water Resources that the basin was overdrafted. As stated by DWR in its up date to Bulletin 118 (*Bulletin 118-03*) in Chapter 6:

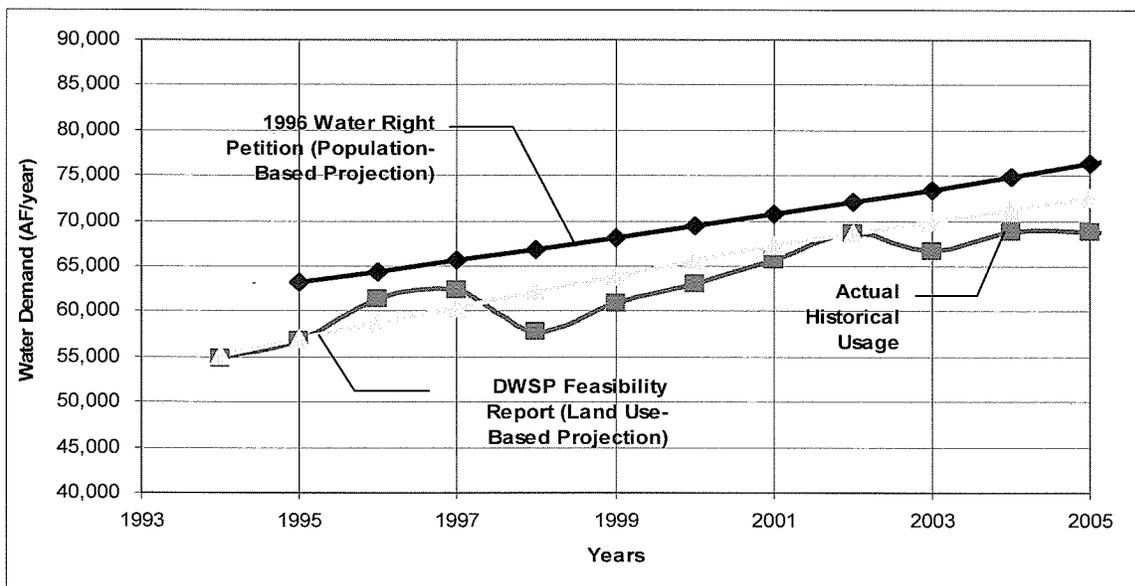
Despite its common usage, the term overdraft has been the subject of debate for many years. Groundwater management is a local responsibility; therefore, the decision whether a basin is in a condition of overdraft is the responsibility of the local groundwater or water management agency. In some cases local agencies may choose to deliberately extract groundwater in excess of recharge in a basin (known as "groundwater mining") as part of an overall management strategy. An independent analysis of water levels in such a basin might conclude that the basin is in overdraft. In other cases, where basin management is less active or nonexistent, declining groundwater levels are not considered a problem until levels drop below the depth of many wells in the basin.

MA-10: This statement is consistent with the conclusions in the WSA. The WSA makes very clear that surface water supplies available from Stockton East Water District are not available in all year types and

are not solely relied upon to sustain new development. The surface water supplies available from Stockton East Water District are combined in the WSA with groundwater supplies on a conjunctive use basis.

MA-11: These assertions are not factually supported. In fact, since 1976 the City has been importing water, and has conducted in-lieu recharge of the groundwater basin. That water belongs to the City and can be extracted for use without challenge from overlying groundwater users, and does not contribute to the overdraft. In addition, the WSA has demonstrated that there are new surface water supplies available when combined with the use of groundwater on a conjunctive use basis that will meet the new demand.

MA-12: Development of the estimated water demand for the SMDP is based on historical unit water demand factors assigned to the various General Plan and Project land use categories. COSMUD developed gross-demand factors as part of the DWSP Feasibility Report. The DWSP demand calculations were based on unit-demand factors developed from actual metered water for each land use category and records from production facilities such as the SEWD water treatment plant and the COSMA's groundwater wells. Compared to other municipal agencies in Northern California, COSMUD's unit-demand factors are statistically low. This is due primarily to the City's implementation of water conservation measures, including metered pricing, and less water intensive landscaping (drought tolerant) over the past 30+ years. In the COS's water right petition submitted in 1996, on the other hand, a forecasted water demand was provided based on population projections (i.e., a constant 1.9% annual increase) consistent with the 1990 General Plan. These population-based water demands were developed prior to the determination of the acreage demand factors. In 2002, when the DWSP Feasibility Report (DWSP Report) was completed, a comparison was done to verify the accuracy of its forecasts in the water right petition. A comparison of the approaches found that actual water demands were actually lower than the population-based forecasts in the water rights petition. The acreage-based water demand factors thus provide more accurate estimates of actual water demand. This is shown in the figure below:



In addition to calculating the SMDP's water demand based on the land-use based method, the WSA also applied the more conservative (and less accurate) population-based method for gross acreage (1,967 acres). So while the project water demand was identified as 2,667 AF/year, the water demand used for purposes of the WSA was actually 3,147 acre feet/year (See Section 2.3 of the SMDP WSA.). Under either method, however, the conclusion remains the same – with build-out of the DWSP Phase 1, COSMUD's water supplies will be sufficient to meet the demands of the SMDP, as well as existing and planned future uses within the service area.

MA-13: The commenter incorrectly states that agricultural demand within the COSMA has not been considered. Agricultural demand for groundwater has been factored into the calculations of sustainable yield by reducing the total acreage of allowable allocation towards the sustainable yield by the agriculture water demands that have existed over time (e.g., total urban acreage * 0.60 acre feet/acre/year = sustainable yield; whereas, total agricultural acreage * [x] = sustainable yield for existing agricultural production). Furthermore, the WSA recognizes that agricultural water demands have priority water rights to both surface water and groundwater. In the DWSP Report, agricultural water demands were considered in the determination of the sustainable yield of the groundwater basin in the following manner:

“AGRICULTURAL WATER DEMAND PROJECTIONS FOR GROUNDWATER MANAGEMENT PURPOSES - The 17,000 acre feet/year of groundwater demand for agricultural uses presented in Table 2-3 [not shown] is added to the amount of groundwater for urban uses and included as part of the City's overall management of the groundwater supply. Over time, the 17,000 acre feet/year is assumed to decrease as agricultural areas shown within the General Plan Boundary (within and outside of the Urban Service Area) are urbanized. At General Plan build-out (anticipated to be 2015), the agricultural water demand served by groundwater within the Urban Service Area is estimated at 12,400 acre feet/year. Because the COSMA's water rights application extends beyond General Plan build-out, continued decreases in agricultural demands are assumed to occur until agricultural groundwater demands have been replaced with urban demands.” (DWSP Report, January 2003, Pg 2-14)

“Based on the 0.75 acre feet/ac/year factor, the COSMA's Urban Services Area of 66,000 acres could potentially use up to 50,000 acre feet/year of groundwater. Currently, the total estimated groundwater extraction within the Urban Services Area is 44,000 acre feet/year that includes approximately 17,000 acre feet/year from agricultural uses, and 27,000 acre feet/year from municipal uses including the COSMA, Cal Water, and County service areas.” (DWSP Report, January 2003, Pg 3-10)

Using this approach, the WSA finds that existing groundwater extractions by agriculture and municipal uses fall well below the sustainable yield of 0.75 acre feet/acre/year. With the displacement of agriculture due to urbanization, total groundwater use is expected to remain below the sustainable yield of the groundwater basin and sub-basins.

MA-14: This statement is factual error. Permit 21176 issued for Phase I of the Delta Water Supply Project is based upon Water Code Section 1485 and does not include Standard Term 91. The permit allows year-

round diversion equal to the 125-day running average of discharges of effluent from the Regional Wastewater Control Facility into the San Joaquin River, not to exceed 33,600 acre feet annually.

MA-15: The current actual capacity of Stockton East Water District's Dr. Joe Waidhofer Water Treatment Plant is 50 MGD (the plant received DHS recertification for treating 50 mgd in May 2007). SEWD plans to expand the WTP and the pipelines supplying the WTP to an average and peak capacity of 60 and 70 MGD, respectively. SEWD is investigating the existing treatment facilities to determine the required upgrades to expand the DJWWTP to treat 72 mgd.

The WSA assumed that SEWD would maintain its existing 50 mgd surface WTP until 2016 when it is assumed that SEWD WTP capacity would be expanded to 60 mgd. The WSA (Figure 12) does not contemplate ever receiving more than 50,000 acre-feet annually from SEWD, well within the long-term average of the expanded 60 mgd treatment plant.

MA-16: To clarify, the COSMA is within a sub-basin of the Central Valley groundwater basin, which includes the Eastern San Joaquin Groundwater Basin. The COSMA sub-basin extends from the Mokelumne River to the north, the Stanislaus River to the south, the San Joaquin River and Delta to the west, and the Sierra Nevada foothills to the east.

In addition:

- There has been no determination made that the basin is still in a critical condition of overdraft (as acknowledged by DWR in Bulletin 118-03).
- There is no support for the statement that a groundwater basin must be in hydrologic balance before it can be identified as a source of water.

The COSMA has consistently described its continued use of the aquifer in a conservative manner as described in published documents (the DWSP Feasibility Report, General Plan Update WSE, SMDP WSA and COSMUD's 2005 Urban Water Management Plan). Further discussion is presented in Response to Comment 8-2. The Central Valley groundwater basin (and the COSMA's sub-basin) is a firm and reliable water supply for the COSMA so long as average groundwater withdrawals remain below sustainable levels. These withdrawals can occur without worsening the overdrafted condition. Indeed, reduced pumping within urban areas, including the COSMA, can improve conditions throughout the basin. COSMA's location adjacent to the significant groundwater recharge sources of the San Joaquin River and Delta make it an ideal location for maintaining a strong hydraulic connection with the recharge source and management of withdrawals to help avoid or minimize the rate of movement of saline water from the west.

The analysis in the WSA concludes that projected water use within the entire basin will stay within the pumping amounts contemplated in the Eastern San Joaquin Groundwater Basin Groundwater Management Plan (GMP) (Northeastern San Joaquin County Groundwater Banking Authority, September 2004). The GMP contains significant and relevant information as it relates to the evaluation of basin-wide sustainability and the need to monitor groundwater elevations and provide the most efficient means of bringing surface water into the basin. While the GMP concludes that substantive

measures need to take place within the groundwater basin to protect groundwater supplies, the findings indicate that through integrated regional cooperation, groundwater use can be sustainable. In Tables 2-4 and 2-5 of the GMP, total water demand for the entire Basin (including the Central Valley sub-basin) in 1996 is estimated to be 82 TAF/year for M&I and 1,522 TAF/year for agriculture. In 2030, the estimates for M&I and agriculture are 241 TAF/year, and 1,390 TAF/year, respectively. When combined, the total difference results in a net increase in water demands of 27 TAF/year over the next 22 years. Demands used in the regional groundwater modeling assumed that M&I and agricultural demands outside the COSMA remain at 1990 levels. But we know that this is not the case, particularly as agricultural demands are decreasing with the conversion from agricultural uses (over 4 AF/acre/year) to much less demanding municipal uses (less than 2 - 2.5 AF/acre/year, as the gross weighted average at Sanctuary was calculated at 1.36 AF/acre/year). By assuming full build of the COSMA General Plan Update, the WSE predicts even greater conversion from agricultural to urban uses. Thus, the WSE is even more conservative than contemplated in the basin-wide GMP.

Furthermore, the GMP and DWSP go hand-in-hand in helping to achieve regional groundwater sustainability. The GMP provides several Basin Management Objectives (BMOs), as well as Best Management Practices (BMPs) for meeting those objectives. This regional objective is consistent with the third objective of the DWSP to improve the quality and quantity of groundwater supplies. Consequently, the DWSP is one of several conjunctive use programs that can help achieve the BMOs of the GMP, by helping to maintain and enhance regional groundwater elevations to meet the long-term needs of the basin's groundwater users.

The COSMUD has endeavored, and will continue to endeavor, to maintain groundwater extractions within the conservative sustainable yield of the regional aquifer consistent with its own policies in coordination with such agencies as the Northeastern San Joaquin County Groundwater Banking Authority. The COSMA also supports regional programs outside the COSMA. The monitoring of groundwater elevations, completed a minimum of twice a year, show the recovery and stabilization of the aquifer underlying the COSMA and adjacent areas over the past 10 years (note: groundwater elevation graphs are included in the WSA at three control points in the sub-basin). As stated above, the portion of the groundwater basin underlying the COSMA is not critically over-drafted as suggested. SEWD, COSMA, and agricultural users continue to seek opportunities and partnerships in groundwater management strategies (e.g., the Integrated Regional Water Management Plan), and the COSMA water purveyors continue to manage their portions of the groundwater basin within the existing partnership with SEWD. This combination of efforts results in an optimization of San Joaquin County's total water resources without impacting overall groundwater quality or quantity in the COSMA and surrounding areas.

A contemplated future element of COSMUD's conjunctive use program is the recognition that the conversion of agricultural (groundwater only) pumping to urban conjunctive use pumping results in a net decrease in the basin's groundwater extractions. This decrease in extractions is acknowledged as a benefit to the groundwater basin that can be exercised in a manner that will not impact the aquifer or users of the aquifer. This net benefit results in COSMUD's ability to pump slightly more than its self-imposed 0.75 AF/acre/year limit in a single dry year, and still achieve less overall groundwater extraction when compared to the previous long-term agricultural pumping that is displaced by urban development. In other words, COSMUD can reasonably calculate and rely on the benefits associated with decreases in agricultural uses.

As written in studies of agricultural credits (see Appendix F of the Water Supply Evaluation of the General Plan Update), the use of groundwater for municipal purposes in areas that have historically extracted groundwater for irrigation uses results in a significant decrease in groundwater pumping, contrary to comments made that equate urban pumping with agricultural pumping. Agricultural uses require anywhere from 2 to 4 acre feet/acre/year from groundwater. Under self-imposed groundwater management programs, the sustainable yield for lands converted to urban uses within the COSMA is 0.75 acre feet/acre/year. That is, as each new acre of planned development occurs, a maximum of 0.75 acre feet/year of groundwater can be extracted in any one given year, and the average over multiple years cannot exceed 0.60 acre feet/year).

The assumptions used in the Agricultural Credit study that was completed in support of the Water Supply Evaluation considered the entire groundwater basin. The benefits of converting agricultural uses to urban uses were quantified through a regional groundwater model that covered all of San Joaquin County and included pumping from all users of the basin(s) with water demands as described above. Three constraints to the groundwater were formulated for the protection of the groundwater as follows:

1. Do not increase the rate of movement of the known salinity front along the western boundary of the COSMA. The gradient (or slope) of the groundwater piezometric surface (groundwater table) should not increase (or steepen) in the area of the existing salinity front.
2. Groundwater elevations within the COSMA should not go below pre-development conditions (assuming agricultural pumping) anywhere throughout the basin. This translates into a model constraint on groundwater elevations such that elevations shall not drop more than a foot within the COSMA. As a result, areas of historical agricultural pumping improve considerably due to the shift in pumping from those lands to the M&I wells of the three water retailers.
3. For regional basin protection, the lowest elevation of the regional cone of depression for San Joaquin County is not to be lowered.

The resulting groundwater yield based on meeting these criteria was determined to be 0.87 acre feet/acre/year (a 0.12 acre feet/acre/year increase from the 0.75 acre feet/acre/year factor) and resulted in an increase of approximately 4.5 feet in groundwater elevations in the agricultural areas previously irrigated with groundwater. The accounting of an agricultural credit is made at the time the irrigated lands develop to urban uses to avoid having the agricultural credit taken and used while agricultural irrigation is continuing to take place. This will likely take place close to build-out of the proposed 2035 Stockton General Plan Update, if approved.

In sum, increases in groundwater uses for municipal purposes throughout the basin are not anticipated to worsen present overdraft conditions. Instead, conversion from agricultural to urban uses should result in a net-decline in overall groundwater use, and increased flexibility in implementing conjunctive use programs.

MA-17: Water Code section 10910(f) describes the information that must be included in a Water Supply Assessment when a water supply for a proposed project includes groundwater. This information includes: a description of the basin; information on what DWR has reported in its most

current bulletin to characterize the basin and whether DWR has characterized it as being in overdraft; information on the past 5 years of pumpage by the public water system; a 20-year projection of the groundwater to be pumped by the public water system; and a determination of the sufficiency of the groundwater from the basin to meet the projected water demands of the proposed project. Water Code §§10910(f)(2)-(5). The WSA includes each of these required elements. The water code does not require that a WSA estimate undocumented historical or future pumping outside of the City of Stockton.

MA-18: The referenced figure illustrates the existing condition of groundwater in the COSMA. This information is not relevant to the information contained and conclusions reached in the WSA.

MA-19: It is not necessary to address these comments because the WSA makes very clear that while the concept of “Agricultural Credits” is discussed, the determination of sufficiency in the WSA concludes that the use of agricultural credits is not required.

DEPARTMENT OF CALIFORNIA HIGHWAY PATROL

3330 Ad Art Road
Stockton, CA 95208
(209) 943-8666
(800) 735-2929 (TT/TDD)
(800) 735-2922 (Voice)



December 5, 2007

File No.: 265.11045.11012.Preserve



Ms. Marie Schelling
State Clearing House
1400 Tenth Street, Room 121
Sacramento, CA 95814

Dear Ms. Schelling:

Thank you for the opportunity to review the Notice of Completion and Environmental Impact Report (EIR) for the "Preserve" project located south of Bear Creek and west of Interstate 5 (I-5), within the jurisdictional boundaries of the City of Stockton (SCH# 2006092063). Specifically, this project is bounded on the north by Bear Creek, on the west and south by Mosher Slough, and on the east by the existing Twin Creeks Estates subdivision. In addition, this project will involve the development of approximately 360 acres and will include approximately 1,404 residential units.

CHP-1

As indicted in the EIR, this project will have significant impacts on surrounding roadways as well as I-5. These roadways will see a measurable increase in the average daily traffic volumes as a result of this project, especially during peak hours.

Although the EIR indicates several plans to mitigate the expected increased traffic volumes throughout this project, on adjacent roadways, and on I-5, it stops short of solving several potential issues. Several of the attempts at mitigation involve funding for future improvements and yet to be identified projects. Although future planning is admirable, the EIR includes the statement "However as these improvements are not yet identified nor fully funded, this impact would remain significant-and-unavoidable." Therefore, I would like to recommend the City of Stockton work closely with the Department of Transportation (Caltrans) as well as the California Highway Patrol (CHP) in developing long range and short term plans that are beneficial to all the citizens utilizing the highway system.

CHP-2

The impacts on local traffic created by this project will be significant and felt by local commuters. As you know, the CHP has the primary responsibility for traffic enforcement on county roads as well as this interstate. This project will require the CHP to redirect staffing to effectively manage traffic absent an increase in resources.

CHP-3

Ms. Marie Schelling
Page 2
December 5, 2007

The impacts of this project should be further addressed in the project's EIR. Should you have any questions, please feel free to call me or Lieutenant Scott Lynch of my staff at (209) 943-8666.

Sincerely,

A handwritten signature in black ink, appearing to read "S. M. Coutts". The signature is stylized and cursive, written over the word "Sincerely,".

S. M. COUTTS, Captain
Commander
Stockton Area

Department of California Highway Patrol (December 5, 2007)

Response to Comments

CHP-1: Although the City of Stockton supports Caltrans both politically and monetarily, it is the responsibility of Caltrans to plan for State highway improvements, including the California Highway Patrol (CHP). Currently, efforts are being pursued by the City of Stockton and Caltrans to provide capacity enhancing improvements to Interstate 5 and associated roadways in anticipation of proposed development projects such as The Preserve. At the local level, the City of Stockton Police Department will be responsible for traffic enforcement, thus relieving this burden from the CHP. Impact fees will provide funding to offset local police protection services, and to assist in funding mainline improvements on I-5.

CHP-2: The comment is correct in noting that the impacts on the State highway system are identified as significant and unavoidable. The DEIR identifies improvements required to mitigate the impacts to a less-than-significant level or to the extent feasible. It also acknowledges that a PA/ED is being prepared to identify improvements to the freeway mainline segments and freeway interchanges in the study area. However, as neither the City nor Project Applicant can control the scope, timing or implementation of improvements to state facilities the impacts are identified as significant and unavoidable. Nonetheless, the impacts to the highway system have not been ignored. Indeed, the DEIR identifies those impacts and their importance explicitly in the document.

Once the relevant freeway interchange configurations are determined and the PA/ED is completed, the applicant will pay the City's impact fee as its fair share contribution. Until then, it is impracticable to determine the precise mitigation. Because it cannot be concluded with certainty that the mitigation measures will be constructed, the impacts are identified as significant and unavoidable. California courts have held that the project's payment of traffic impact fees is a reasonable mitigation. While there must be a reasonable plan for mitigation (as is the case here), there is no requirement that the project set forth a time-specific schedule so early in the planning process.

CHP-3: See response to CHP-1.



San Joaquin County
Environmental Health Department
600 East Main Street
Stockton, California 95202-3029

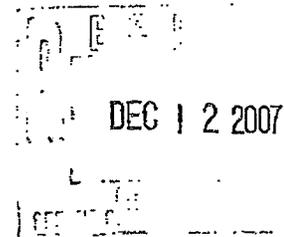
Website: www.sjgov.org/ehd
Phone: (209) 468-3420
Fax: (209) 464-0138

DIRECTOR
Donna Heran, REHS
ASSISTANT DIRECTOR
Laurie Cotulla, REHS

PROGRAM COORDINATORS
Carl Borgman, REHS
Mike Huggins, REHS, RDI
Margaret Lagorio, REHS
Robert McClellon, REHS
Jeff Carruesco, REHS, RDI
Kasey Foley, REHS

December 7, 2007

Mark Martin, Project Manager III
City of Stockton Community Development Department
425 North El Dorado Street
Stockton, California 95202



**RE: PUBLIC REVIEW OF THE DRAFT ENVIRONMENTAL IMPACT
REPORT FOR "THE PRESERVE" PROJECT (EIR 11-05)**

The San Joaquin County Environmental Health Department requests the following comments be added to the above project for consideration:

1. Any existing onsite water wells shall be destroyed under permit and inspection by the Environmental Health Department. | EHD-1
2. It is recommended that the project site soil be analyzed for the presence of agricultural pesticides. Any remedial measures indicated by the sampling results should be completed prior to development. | EHD-2

Should you have any questions, please call Rod Estrada, Lead Senior R.E.H.S. of my staff at (209) 468-0331.

Donna Heran, R.E.H.S., Director


Mike Huggins, Program Coordinator, R.E.H.S., R.D.I.
Environmental Health Department

MH: tl



**San Joaquin County
Environmental Health Department
600 East Main Street
Stockton, California 95202-3029**

**Website: www.sjgov.org/ehd
Phone: (209) 468-3420
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Robert McClellon, REHS
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Kasey Foley, REHS

August 25, 2008

RECEIVED

AUG 26 2008

CITY OF STOCKTON
COMMUNITY DEVELOPMENT DEPT.

Jenny Liaw, Senior Planner
City of Stockton Community Development Department
425 North El Dorado Street.
Stockton, CA 95202

**Subject: Public Review of the Recirculated Draft Environmental Impact
Report for Revised Air Quality and Global Climate Change
Sections for the Preserve Planned Development (EIR11-05)**

The San Joaquin County Environmental Health Department (EHD) is supportive of this project in regards to the provision of full public services, and has no conditions to impose on this project.

If you have any questions, please call Rodney Estrada, Lead Senior Registered Environmental Health Specialist, at (209) 468-0331.

Mike Huggins, REHS, RDI
Program Coordinator

MH:tl

San Joaquin County Environmental Health Department (December 7, 2007)

Response to Comments

EHD-1: Destruction of existing wells under permit and inspection by the Environmental Health Department are standard provisions and the applicant will adhere to these requests as indicated.

EHD-2: See response to DTSC-1.

3.0 TRANSMITTALS, NOTICES AND LEGAL ADVERTISEMENTS



STATE OF CALIFORNIA
GOVERNOR'S OFFICE of PLANNING AND RESEARCH
STATE CLEARINGHOUSE AND PLANNING UNIT



ARNOLD SCHWARZENEGGER
GOVERNOR

CYNTHIA BRYANT
DIRECTOR

January 11, 2008

Jenny Liaw
City of Stockton
345 North El Dorado Street
Stockton, CA 95202

Subject: The Preserve
SCH#: 2006092063

Dear Jenny Liaw:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on January 9, 2008, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Terry Roberts
Director, State Clearinghouse

Enclosures
cc: Resources Agency

RECEIVED
CITY OF STOCKTON

2008
PERMIT CENTER
PLANNING DIVISION

**Document Details Report
State Clearinghouse Data Base**

SCH# 2006092063
Project Title The Preserve
Lead Agency Stockton, City of

Type EIR Draft EIR

Description Development of "The Preserve" will include the master planning of +/- 359 acres of residential development, consisting of single family residential lots (653 units), small lots (278 units), cluster residential (129 units), alley-load lots (248 units) and condominiums (96 +/- units). The project site will contain approximately 52 acres of local park area including easement parks under WAPA power line easement. The public facilities within the project area will contain a 13-acre elementary school and a new fire station. A wetland feature is also planned within the power line easement that will serve to improve the water quality of project runoff and to provide flood control storage. A separate levee improvement project, administered by Reclamation District 2126, will surround the site on three sides providing 300-year flood protection. The project will develop a trails system on top of the levees, once the levee improvement project is complete. The project is located to the west of I-5 and south of Bear Creek within the City of Stockton jurisdictional boundaries. The project site is bounded on the north by Bear Creek, on the west and south by Mosher Slough, and on the east, by the existing Twin Creeks Estates, about 1,200 feet west of I-5.

Lead Agency Contact

Name Jenny Liaw
Agency City of Stockton
Phone 209-937-8316 **Fax**
email
Address 345 North El Dorado Street
City Stockton **State** CA **Zip** 95202

Project Location

County San Joaquin
City Stockton
Region
Cross Streets I-5 and Otto Drive
Parcel No. 071-170-02, -04, -05
Township 2N **Range** 5E **Section** **Base** MDB&M

Proximity to:

Highways I-5
Airports
Railways
Waterways Bear Creek and Mosher Slough
Schools Manilo Silva Elementary, Christa McAuliffe Middle School
Land Use Land Use: Agriculture
Zoning: CG - Commercial General, RL - Single-Family Residential
GP: Commercial, Low-Medium Density Residential

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Drainage/Absorption; Economics/Jobs; Fiscal Impacts; Flood Plain/Flooding; Geologic/Seismic; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Wildlife; Growth Inducing; Landuse; Cumulative Effects; Other Issues

Note: Blanks in data fields result from insufficient information provided by lead agency.

**Document Details Report
State Clearinghouse Data Base**

Reviewing Agencies Resources Agency; Department of Conservation; Department of Fish and Game, Region 2; Delta Protection Commission; Department of Parks and Recreation; Reclamation Board; Department of Water Resources; Office of Emergency Services; California Highway Patrol; Caltrans, District 10; Regional Water Quality Control Bd., Region 5 (Sacramento); Department of Toxic Substances Control; Native American Heritage Commission; Department of Housing and Community Development

Date Received 11/21/2007 **Start of Review** 11/21/2007 **End of Review** 01/09/2008



STATE OF CALIFORNIA

GOVERNOR'S OFFICE of PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT



ARNOLD SCHWARZENEGGER
GOVERNOR

CYNTHIA BRYANT
DIRECTOR

September 16, 2008

RECEIVED
SEP 18 2008
CITY OF STOCKTON
COMMUNITY DEVELOPMENT DEPT.

Jenny Liaw
City of Stockton
345 North El Dorado Street
Stockton, CA 95202

Subject: Recirculation of The Preserve Planned Development Project
SCH#: 2006092063

Dear Jenny Liaw:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on September 15, 2008, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Terry Roberts
Director, State Clearinghouse

Enclosures
cc: Resources Agency

**Document Details Report
State Clearinghouse Data Base**

SCH# 2006092063
Project Title Recirculation of The Preserve Planned Development Project
Lead Agency Stockton, City of

Type EIR Draft EIR

Description Development of "The Preserve" will include the master planning of +/- 359 acres of residential development, consisting of single family residential lots (653 units), small lots (278 units), cluster residential (129 units), alley-load lots (248 units) and condominiums (96 +/- units). The project site will contain approximately 52 acres of local park area including easement parks under WAPA power line easement. The public facilities within the project area will contain a 13-acre elementary school and a new fire station. A wetland feature is also planned within the power line easement that will serve to improve the water quality of project runoff and to provide flood control storage. A separate levee improvement project, administered by Reclamation District 2126, will surround the site on three sides providing 300-year flood protection. The project will develop a trails system on top of the levees, once the levee improvement project is complete. The project is located to the west of I-5 and south of Bear Creek within the City of Stockton jurisdictional boundaries. The project site is bounded on the north by Bear Creek, on the west and south by Mosher Slough, and on the east, by the existing Twin Creeks Estates, about 1,200 feet west of I-5.

On November 26, 2007, the City of Stockton circulated the November 2007 Draft EIR document for public review initiating a 45-day public review period that ended on January 9, 2008. Several comments received by the City involved greenhouse gas (GHG) emissions generated by the project and the potential effects expected on global warming. The City of Stockton has re-examined the project's effects on global warming due to the contribution of GHG and determined to prepare the supplemental information and analyses presented in this revised Air Quality and Global Climate Change sections for recirculation.

**Document Details Report
State Clearinghouse Data Base**

Lead Agency Contact

Name Jenny Liaw
Agency City of Stockton
Phone (209) 937-8316 **Fax**
email
Address 345 North El Dorado Street
City Stockton **State** CA **Zip** 95202

Project Location

County San Joaquin
City Stockton
Region
Lat / Long
Cross Streets I-5 and Otto Drive
Parcel No. 071-170-02, -04, -05
Township 2N **Range** 5E **Section** **Base** MDB&M

Proximity to:

Highways I-5
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Waterways Bear Creek and Mosher Slough
Schools Manilo Silva Elementary, Christa McAuliffe Middle School
Land Use Land Use: Agriculture
Zoning: CG - Commercial General, RL - Single-Family Residential
General Plan: Commercial, Low-Medium Density Residential

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Cumulative Effects; Drainage/Absorption; Economics/Jobs; Fiscal Impacts; Flood Plain/Flooding; Geologic/Seismic; Growth Inducing; Landuse; Noise; Other Issues; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Wildlife

Reviewing Agencies Resources Agency; Regional Water Quality Control Bd., Region 5 (Sacramento); Department of Parks and Recreation; Native American Heritage Commission; Public Utilities Commission; Department of Housing and Community Development; Office of Emergency Services; Department of Fish and Game, Region 2; Department of Water Resources; Department of Conservation; California Highway Patrol; Caltrans, District 10; Department of Toxic Substances Control; State Lands Commission

Date Received 07/31/2008 **Start of Review** 07/31/2008 **End of Review** 09/15/2008

Notice of Completion and Environmental Document Transmittal

SCH # 2006092063

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 916/445-0613

Project Title: The Preserve
 Lead Agency: City of Stockton Contact Person: Jenny Liaw, Senior Planner
 Street Address: 345 N. El Dorado Street Phone: (209) 937-8316
 City: Stockton Zip: 95202 County: San Joaquin

Project Location:

County: San Joaquin City/Nearest Community: Stockton
 Cross Streets: I-5/Otto Drive Zip Code: 95219 Total Acres: 359
 Assessor's Parcel No(s): 071-170-02, -04, -05 Twp. T2N Range: R5E Base: MDM
 Within 2 Miles: State Hwy #: I-5 Waterways: Bear Creek, Mosher Slough
 Airports: N/A Railways: n/a Schools: Manilo Silva Elementary, Christa McAuliffe Middle

Document Type:

CEQA: NOP Supplement/Subsequent EIR NEPA: NOI Other: Joint Document
 Early Cons (Prior SCH No.) EA Final Document
 Neg Dec Other Draft EIS Other
 Draft EIR FONSI

Local Action Type:

General Plan Update Specific Plan Rezone Annexation
 General Plan Amendment Master Plan Prezone Redevelopment
 General Plan Element Planned Unit Development Use Permit Coastal Permit
 Community Plan Site Plan Land Division (Subdivision, etc.) Other Development Agreement

Development Type:

Residential: Units 1,404 Acres 359(approx.) Water Facilities: Type _____ MGD _____
 Office: Sq. ft. _____ Acres _____ Employees _____ Transportation: Type _____
 Commercial: Sq. ft. _____ Acres _____ Employees _____ Mining: Mineral _____
 Industrial: Sq. ft. _____ Acres _____ Employees _____ Power: Type _____ Watts _____
 Educational: 13 ac. Elementary school Waste Treatment: Type _____
 Recreational Hazardous Waste: Type _____
 Other: _____

Funding (approx.): Federal \$ _____ State \$ _____ Total \$ _____

Project Issues Discussed in Document:

Aesthetic/Visual Flood Plain/Flooding Schools/Universities Water Quality
 Agricultural Land Forest Land/Fire Hazard Septic Systems Water Supply/Groundwater
 Air Quality Geologic/Seismic Sewer Capacity Wetland/Riparian
 Archeological/Historical Minerals Soil Erosion/Compaction/Grading Wildlife
 Coastal Zone Noise Solid Waste Growth Including
 Drainage/Absorption Population/Housing Balance Toxic/Hazardous Landuse
 Economic/Jobs Public Services/Facilities Traffic/Circulation Cumulative Effects
 Fiscal Recreation/Parks Vegetation Other WAPA

Present Land Use/Zoning/General Plan Designation: Present :Agriculture; Z: CG - Commercial General, RL - Single-Family Residential, GP: Commercial, Low-Medium Density Residential

Project Description: Development of "The Preserve" will include the master planning of ±359 acres of residential development, consisting of single family residential lots (653 units), small lots (278 units), cluster residential (129 units), alley-load lots (248 units) and condominiums (96± units). The project site will contain approximately 52 acres of local park area including easement parks under WAPA power line easement. The public facilities within the project area will contain a 13-acre elementary school and a new fire station. A wetland feature is also planned within the power line easement that will serve to improve the water quality of project runoff and to provide flood control storage. A separate levee improvement project, administered by Reclamation District 2126, will surround the site on three sides providing 300-year flood protection. The project will develop a trails system on top of the levees, once the levee improvement project is complete. The project is located to the west of I-5 and south of Bear Creek within the City of Stockton jurisdictional boundaries. The project site is bounded on the north by Bear Creek, on the west and south by Mosher Slough, and on the east, by the existing Twin Creeks Estates, about 1,200 feet west of I-5.

REVIEWING AGENCIES CHECKLIST

Form A, continued

KEY

- S** = Document sent by lead agency
- X** = Document sent by SCH
- √** = Suggested distribution

Resources Agency

- _____ Boating & Waterways
- _____ Coastal Commission
- _____ Coastal Conservancy
- _____ Colorado River Board
- _____ Conservation
- _____ Fish & Game
- _____ Forestry & Fire Protection
- _____ Office of Historic Preservation
- _____ Parks & Recreation
- _____ Reclamation Board
- _____ S.F. Bay Conservation & Development Commission
- _____ Water Resources (DWR)

Business, Transportation & Housing

- _____ Aeronautics
- _____ California Highway patrol
- _____ CALTRANS District # _____
- _____ Department of Transportation Planning (Headquarters)
- _____ Housing & Community Development

Food & Agriculture

Health & Welfare

- _____ Health Services _____

State & Consumer Services

- _____ General Services
- _____ OLA (Schools)

Environmental Protection Agency

- _____ Air Resources Board
- _____ California Waste Management Board
- _____ SWRCB: Clean Water Grants
- _____ SWRCB: Delta Unit
- _____ SWRCB: Water Quality
- _____ SWRCB: Water Rights
- _____ Regional WQCB # _____ (_____)

Youth & Adult Corrections

- _____ Corrections

Independent Commissions & Offices

- _____ Energy Commission
- _____ Native American Heritage Commission
- _____ Public Utilities Commission
- _____ Santa Monica Mountains Conservancy
- _____ State Lands Commission
- _____ Tahoe Regional Planning Agency
- _____ Other _____

Public Review Period (to be filled in by lead agency)

Starting Date: November 26, 2007

Ending Date: January 9, 2008

Signature _____

Jenny Liaw

Date: November 21, 2007

Lead Agency (Complete if applicable):

Consulting Firm: LSA Associates, Inc.
 Address: 4200 Rocklin Blvd., Suite 11B
 City/State/Zip: Rocklin, CA 95677
 Contact: Bill Mayer
 Phone: (916) 630-4600

For SCH Use Only:

Date Received at SCH _____
 Date Review Starts _____
 Date to Agencies _____
 Date to SCH _____
 Clearance Date _____

Notes:

Applicant: Spanos Family Partnershp, Jim Panagopoulos

Address: 10100 Trinity Parkway, Fifth Floor
 City/State/Zip: Stockton, CA 95219
 Phone: (209) 955-2550

SCH # 2006092063

Notice of Completion and Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 916/445-0613

Project Title: Recirculation of The Preserve Panned Development project
Lead Agency: City of Stockton
Street Address: 345 N. El Dorado Street
City: Stockton
Contact Person: Jenny Liaw, Senior Planner
Phone: (209) 937-8316
County: San Joaquin

Project Location:

County: San Joaquin
City/Nearest Community: Stockton
Cross Streets: I-5/Otto Drive
Zip Code: 95219
Total Acres: 359
Assessor's Parcel No(s): 071-170-02, -04, -05
Twp. T2N Range: R5E Base: MDM
Waterways: Bear Creek, Mosher Slough
Schools: Manlio Silva Elementary, Christa McAuliffe

Document Type:

- CEQA: [] NOP, [] Early Cons, [] Neg Dec, [x] Draft EIR
[] Supplement/Subsequent EIR (Prior SCH No.)
[] Other
NEPA: [] NOI, [] EA, [] Draft EIS, [] FONSI
Other: [] Joint Document, [] Final Document, [] Other

Local Action Type:

- [] General Plan Update, [x] General Plan Amendment, [] General Plan Element, [] Community Plan
[] Specific Plan, [x] Master Plan, [x] Planned Unit Development, [] Site Plan
[x] Rezone, [] Prezone, [] Use Permit, [x] Land Division (Subdivision, etc.)
[] Annexation, [] Redevelopment, [] Coastal Permit, [x] Other

Development Type:

- [x] Residential: Units 1404, Acres 359(approx.)
[] Office: Sq. ft., Acres, Employees
[] Commercial: Sq. ft., Acres, Employees
[] Industrial: Sq. ft., Acres, Employees
[] Educational: 13 ac. Elementary school
[] Recreational
[] Water Facilities: Type, MGD
[] Transportation: Type
[] Mining: Mineral
[] Power: Type, Watts
[] Waste Treatment: Type
[] Hazardous Waste: Type
[] Other:

Funding (approx.): Federal \$ State \$ Total \$

Project Issues Discussed in Document:

- [x] Aesthetic/Visual, [x] Agricultural Land, [x] Air Quality (Revised), [x] Archeological/Historical, [] Coastal Zone, [x] Drainage/Absorption, [x] Economic/Jobs, [x] Fiscal
[x] Flood Plain/Flooding, [] Forest Land/Fire Hazard, [x] Geologic/Seismic, [] Minerals, [x] Noise, [x] Population/Housing Balance, [x] Public Services/Facilities, [x] Recreation/Parks
[x] Schools/Universities, [] Septic Systems, [] Sewer Capacity, [x] Soil Erosion/Compaction/Grading, [x] Solid Waste, [x] Toxic/Hazardous, [x] Traffic/Circulation, [x] Vegetation
[x] Water Quality, [x] Water Supply/Groundwater, [x] Wetland/Riparian, [x] Wildlife, [x] Growth Inducing, [x] Landuse, [x] Cumulative Effects, [x] Other WAPA, Global Climate Change section

Present Land Use/Zoning/General Plan Designation: Present :Agriculture; Z: CG - Commercial General, RL - Single-Family Residential, GP: Commercial, Low-Medium Density Residential

Project Description: Development of "The Preserve" will include the master planning of ±359 acres of residential development, consisting of single family residential lots (653 units), small lots (278 units), cluster residential (129 units), alley-load lots (248 units) and condominiums (96± units). The project site will contain approximately 52 acres of local park area including easement parks under WAPA power line easement. The public facilities within the project area will contain a 13-acre elementary school and a new fire station. A wetland feature is also planned within the power line easement that will serve to improve the water quality of project runoff and to provide flood control storage. A separate levee improvement project, administered by Reclamation District 2126, will surround the site on three sides providing 300-year flood protection. The project will develop a trails system on top of the levees, once the levee improvement project is complete. The project is located to the west of I-5 and south of Bear Creek within the City of Stockton jurisdictional boundaries. The project site is bounded on the north by Bear Creek, on the west and south by Mosher Slough, and on the east, by the existing Twin Creeks Estates, about 1,200 feet west of I-5. On November 26, 2007, the City of Stockton circulated the November, 2007 Draft EIR document for public review initiating a 45 day public review period that ended on January 9, 2008. Several comments received by the City involved greenhouse gas (GHG) emissions generated by the project and the potential effects expected on global warming. The City of Stockton has re-examined the project's effects on global warming due to the contribution of GHG and determined to prepare the supplemental information and analyses presented in this revised Air Quality and Global Climate Change sections for recirculation.

REVIEWING AGENCIES CHECKLIST

Form A, continued

KEY

S = Document sent by lead agency

X = Document sent by SCH

√ = Suggested distribution

Resources Agency

- Boating & Waterways
Coastal Commission
Coastal Conservancy
Colorado River Board
Conservation
Fish & Game
Forestry & Fire Protection
Office of Historic Preservation
Parks & Recreation
Reclamation Board
S.F. Bay Conservation & Development Commission
Water Resources (DWR)

Business, Transportation & Housing

- Aeronautics
California Highway patrol
CALTRANS District #
Department of Transportation Planning (Headquarters)
Housing & Community Development

Food & Agriculture

Health & Welfare

Health Services

State & Consumer Services

- General Services
OLA (Schools)

Environmental Protection Agency

- Air Resources Board
California Waste Management Board
SWRCB: Clean Water Grants
SWRCB: Delta Unit
SWRCB: Water Quality
SWRCB: Water Rights
Regional WQCB # ()

Youth & Adult Corrections

Corrections

Independent Commissions & Offices

- Energy Commission
Native American Heritage Commission
Public Utilities Commission
Santa Monica Mountains Conservancy
State Lands Commission
Tahoe Regional Planning Agency
Other

Public Review Period (to be filled in by lead agency)

Starting Date: August 1, 2008

Ending Date: September 15, 2008

Signature: Jenny Loan

Date: July 31, 2008

Lead Agency (Complete if applicable):

Consulting Firm: LSA Associates, Inc.
Address: 4200 Rocklin Blvd., Suite 11B
City/State/Zip: Rocklin, CA 95677
Contact: Bill Mayer
Phone: (916) 630-4600

For SCH Use Only:

Date Received at SCH
Date Review Starts
Date to Agencies
Date to SCH
Clearance Date

Applicant: Spanos Family Partnershp, Jim Panagopoulos

Address: 10100 Trinity Parkway, Fifth Floor
City/State/Zip: Stockton, CA 95219
Phone: (209) 955-2550

Notes:

CITY OF STOCKTON
PUBLIC NOTICE OF AVAILABILITY
DRAFT ENVIRONMENTAL IMPACT REPORT
(Pursuant to Public Resources Code Sections 21092 and 21092.3 and
Cal. Code of Regulations Title 14, Section 15087)

The City of Stockton Community Development Department has completed, independently reviewed and analyzed the following Draft Environmental Impact Report: DEIR 11-05 for the Preserve Master Development Plan (MDP), which would guide development of a residential community in four separate phases. The Preserver is a planned residential community of ±359 acres and approximately 1,404 residential units, consisting of five residential product types (traditional detached single-family lots, small lots, cluster lots, and condominiums). A total of ±52 acre parks will be dedicated as part of this proposed project which would include neighborhood/pocket parks and easement parks under power line easement. The public facilities within the project site will contain a proposed 13-acre elementary school and a new fire station. A wetland feature is also planned within the power line easement that will serve to improve the water quality of project runoff and to provide flood control storage. The proposed development will be landscaped within the entire community. The bike and pedestrian trails will provide access to and between important destinations including on the top of the levees within the project area and links to outside The Preserve.

Entitlement being sought by the project applicant includes approval of General Plan Amendment, Rezoning, Development Agreement, Master Development Plan, and Vesting Tentative Map. The project is located to the west of I-5 and south of Bear Creek within the City of Stockton jurisdictional boundaries. The project site is bounded on the north by Bear Creek, on the west and south by Mosher Slough, and on the east, by the existing Twin Creeks Estates, about 1,200 feet west of I-5.

A copy of the Draft EIR may be reviewed and/or obtained at the following addresses:

Community Development Department
Planning Division
345 North El Dorado Street
Stockton, CA 95202

or at: <http://www.stockton.gov/CD/index.cfm>

The Draft EIR may also be reviewed at the following public library locations:

Cesar Chavez Central Library
605 North El Dorado Street
Stockton, CA 95202

Maya Angelou Branch Library
2324 Pock Lane
Stockton, CA 95205

Fair Oaks Branch Library
2370 East Main Street
Stockton, CA 95205

Margaret K. Troke Branch Library
502 West Benjamin Holt Drive
Stockton, CA 95207

Any written comments on this document must be received at this same address no later than **January 9, 2008 at 5:00 p.m.** Further information may be obtained by contacting the City Planning Division at (209) 937-8266.

MICHAEL M. NIBLOCK, DIRECTOR
COMMUNITY DEVELOPMENT DEPARTMENT

CITY OF STOCKTON
PUBLIC NOTICE OF AVAILABILITY
RECIRCULATION OF DRAFT ENVIRONMENTAL IMPACT REPORT
FOR REVISED AIR QUALITY AND GLOBAL CLIMATE CHANGE SECTIONS

(Pursuant to Public Resources Code Sections 21092 and 21092.3 and
Cal. Code of Regulations Title 14, Section 15087)

The City of Stockton Community Development Department has completed, independently reviewed and analyzed the following Draft Environmental Impact Report: DEIR 11-05 for the Preserve Planned Development (PD), which would guide development of a residential community in four separate phases. The Preserver is a planned residential community of ±359 acres and approximately 1,404 residential units, consisting of five residential product types (traditional detached single-family lots, small lots, cluster lots, and condominiums). A total of ±52 acre parks will be dedicated as part of this proposed project which would include neighborhood/pocket parks and easement parks under power line easement. The public facilities within the project site will contain a proposed 13-acre elementary school. A wetland feature is also planned within the power line easement that will serve to improve the water quality of project runoff and to provide flood control storage. The proposed development will be landscaped within the entire community. The bike and pedestrian trails will provide access to and between important destinations including on the top of the levees within the project area and links to outside The Preserve. On November 26, 2007, the City of Stockton circulated the November, 2007 Draft EIR document for public review initiating a 45 day public review period that ended on January 9, 2008. Several comments received by the City involved greenhouse gas (GHG) emissions generated by the project and the potential effects expected on global warming. The City of Stockton has re-examined the project's effects on global warming due to the contribution of GHG and determined to prepare the supplemental information and analyses presented in this revised Air Quality and Global Climate Change sections for recirculation.

Entitlement being sought by the project applicant includes approval of General Plan Amendment, Rezoning, Development Agreement, Planned Development, and Vesting Tentative Map. The project is located to the west of I-5 and south of Bear Creek within the City of Stockton jurisdictional boundaries. The project site is bounded on the north by Bear Creek, on the west and south by Mosher Slough, and on the east, by the existing Twin Creeks Estates, about 1,200 feet west of I-5.

A copy of the Recirculated Draft EIR for revised Air Quality and Global Climate Change sections may be reviewed and/or obtained at the following addresses:

Community Development Department
Planning Division
345 North El Dorado Street
Stockton, CA 95202

or at: <http://www.stocktongov.com/CD/index.cfm>

The Recirculated Draft EIR for revised Air Quality and Global Climate Change sections may also be reviewed at the following public library locations:

Cesar Chavez Central Library
605 North El Dorado Street
Stockton, CA 95202

Maya Angelou Branch Library
2324 Pock Lane
Stockton, CA 95205

Fair Oaks Branch Library
2370 East Main Street
Stockton, CA 95205

Margaret K. Troke Branch Library
502 West Benjamin Holt Drive
Stockton, CA 95207

Any written comments on this document must be received at this same address no later than **September 15, 2008 at 5:00 p.m.** Further information may be obtained by contacting the City Planning Division at (209) 937-8266.

MICHAEL M. NIBLOCK, DIRECTOR
COMMUNITY DEVELOPMENT DEPARTMENT

CITY OF STOCKTON
STATE CLEARINGHOUSE TRANSMITTAL LETTER
FOR ENVIRONMENTAL DOCUMENTS

TO: State Clearinghouse
Office of Planning & Research
P.O. Box 3044
Sacramento, CA 95812-3044

FROM: Lead Agency
City of Stockton
c/o Community Development Dept.
Planning Division
345 North El Dorado Street
Stockton, CA 95202-1997

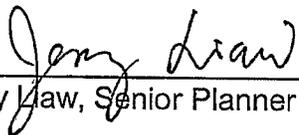
SUBJECT: **PUBLIC REVIEW OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE PRESERVE MASTER DEVELOPMENT PLAN PROJECT (EIR11-05)**

Enclosed please find 15 copies of the above-named environmental document for review, comments, recommendations, and distribution to other State agencies which have jurisdiction over one or more aspects of the project. Also enclosed is a list of agencies to which the environmental document and/or related Public Notice of Completion (NOC) has been referred directly.

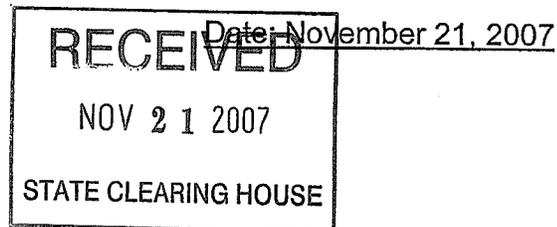
Please schedule the review period to end on **January 9, 2008 by 5:00 p.m.** and return the comments to the above-noted Lead Agency address.

If you have any questions or comments regarding this matter, please contact Jenny Liaw, Senior Planner the above-noted Lead Agency address or by telephone at (209) 937-8316.

MICHAEL M. NIBLOCK, DIRECTOR
COMMUNITY DEVELOPMENT DEPARTMENT

By 
Jenny Liaw, Senior Planner

Enclosures



MMN:

CITY OF STOCKTON
STATE CLEARINGHOUSE TRANSMITTAL LETTER
FOR ENVIRONMENTAL DOCUMENTS

TO: State Clearinghouse
Office of Planning & Research
P.O. Box 3044
Sacramento, CA 95812-3044

FROM: Lead Agency
City of Stockton
c/o Community Development Dept.
Planning Division
345 North El Dorado Street
Stockton, CA 95202-1997

SUBJECT: **PUBLIC REVIEW OF THE RECIRCULATED DRAFT ENVIRONMENTAL
IMPACT REPORT FOR REVISED AIR QUALITY AND GLOBAL CLIMATE
CHANGE SECTIONS FOR THE PRESERVE PLANNED DEVELOPMENT
PROJECT (EIR11-05)**

Enclosed please find 15 copies of the above-named environmental document for review, comments, recommendations, and distribution to other State agencies which have jurisdiction over one or more aspects of the project. Also enclosed is a list of agencies to which the environmental document and/or related Public Notice of Completion (NOC) has been referred directly.

Please schedule the review period to end on **September 15, 2008 by 5:00 p.m.** and return the comments to the above-noted Lead Agency address.

If you have any questions or comments regarding this matter, please contact Jenny Liaw, Senior Planner the above-noted Lead Agency address or by telephone at (209) 937-8316.

MICHAEL M. NIBLOCK, DIRECTOR
COMMUNITY DEVELOPMENT DEPARTMENT

By 
Jenny Liaw, Senior Planner

Date: July 31, 2008

Enclosures

MMN:

::ODMA\GRPWISE\COS.CDD.CDD_Library:69439.1

CITY OF STOCKTON
ENVIRONMENTAL DOCUMENT TRANSMITTAL LETTER

November 21, 2007

TO: (See Attached List)

FROM: Lead Agency
City of Stockton
c/o Community Development Dept.
Planning Division
345 North El Dorado Street
Stockton, CA 95202

SUBJECT: PUBLIC REVIEW OF THE DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE PRESERVE MASTER DEVELOPEMENT PLAN (EIR11-05)

Enclosed is a copy of the Notice of Availability (NOA) and Notice of Completion (NOC) for the above-named environmental document. Also, a copy of the environmental document, with applicable attachments, is also being transmitted to each "Responsible", "Trustee", and other public agency included on the attached list, as applicable. State agencies, however, should obtain the environmental document, with attachments, directly from the State Clearinghouse.

The remaining agencies, organizations and individuals on the attached list are receiving only this transmittal letter and the NOA/NOC. Public agencies may obtain a free copy of the above-named environmental document at the above-noted Lead Agency address. Private individuals, organizations, and corporations may purchase a copy of the environmental document for a fee of \$50.00. If mailing is requested, please remit an additional fee of \$5.00 for postage and handling. A CD version of the DEIR is available for a fee of \$5.00. If mailing is requested, please remit an additional fee of \$2.00 for postage and handling. The DEIR is available on the City's website: www.stocktongov.com. Checks should be made payable to the City of Stockton and any written orders must identify the project title and document identification number, as noted above.

Any written comments regarding the above-named environmental document must be received at the Lead Agency address no later than **January 9, 2008 by 5:00 p.m.** If no comments are received by the date indicated, it will be assumed that the document is acceptable. Further information may be obtained by contacting Jenny Liaw, Senior Planner the Community Development Department, Planning Division at (209) 937-8316.

MICHAEL M. NIBLOCK, DIRECTOR
COMMUNITY DEVELOPMENT DEPARTMENT

By Jenny Liaw
Jenny Liaw, Senior Planner

Date November 21, 2007

MMN: JL

Enclosures

CITY OF STOCKTON
ENVIRONMENTAL DOCUMENT TRANSMITTAL LETTER

August 1, 2008

TO: (See Attached List)

FROM: Lead Agency
City of Stockton
c/o Community Development Dept.
Planning Division
345 North El Dorado Street
Stockton, CA 95202

SUBJECT: **PUBLIC REVIEW OF THE RECIRCULATED DRAFT ENVIRONMENTAL IMPACT REPORT FOR REVISED AIR QUALITY AND GLOBAL CLIMATE CHANGE SECTIONS FOR THE PRESERVE PLANNED DEVELOPEMENT (EIR11-05)**

Enclosed is a copy of the Notice of Availability (NOA) and Notice of Completion (NOC) for the above-named environmental document. Also, a copy of the environmental document, with applicable attachments, is also being transmitted to each "Responsible", "Trustee", and other public agency included on the attached list, as applicable. State agencies, however, should obtain the environmental document, with attachments, directly from the State Clearinghouse.

The remaining agencies, organizations and individuals on the attached list are receiving only this transmittal letter and the NOA/NOC. Public agencies may obtain a free copy of the above-named environmental document at the above-noted Lead Agency address. Private individuals, organizations, and corporations may purchase a copy of the environmental document for a fee of \$30.00. If mailing is requested, please remit an additional fee of \$5.00 for postage and handling. A CD version of the DEIR is available for a fee of \$5.00. If mailing is requested, please remit an additional fee of \$2.00 for postage and handling. The DEIR is available on the City's website: www.stocktongov.com. Checks should be made payable to the City of Stockton and any written orders must identify the project title and document identification number, as noted above.

Any written comments regarding the above-named environmental document must be received at the Lead Agency address no later than **September 15, 2008 by 5:00 p.m.** If no comments are received by the date indicated, it will be assumed that the document is acceptable. Further information may be obtained by contacting Jenny Liaw, Senior Planner the Community Development Department, Planning Division at (209) 937-8316.

MICHAEL M. NIBLOCK, DIRECTOR
COMMUNITY DEVELOPMENT DEPARTMENT

By Jenny Liaw
Jenny Liaw, Senior Planner

Date July 31, 2008

MMN: JL

Enclosures

::ODMA\GRPWISE\COS.CDD.CDD_Library:69434.1

PROOF OF PUBLICATION
NOTICE

STATE OF CALIFORNIA
COUNTY OF SAN JOAQUIN

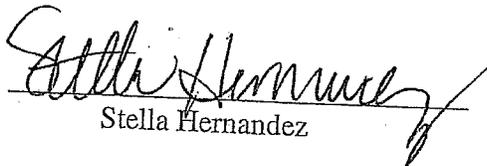
THE UNDERSIGNED SAYS:

I am a citizen of the United States and a resident of San Joaquin County; I am over the age of 18 years and not a part to or interested in the above-entitled matter. I am the principal clerk of the printer of THE RECORD, a newspaper of general publication, printed and published daily in the City of Stockton, County of San Joaquin and which newspaper has been adjudged a newspaper of general circulation in the City of Stockton and the County of San Joaquin by the Superior Court of the County of San Joaquin, State of California, under the date of February 26, 1952, File No. 52857, San Joaquin County Records; that the notice of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates,

To wit, November 26 2007

All in the year, 2007

I declare under penalty of perjury that the foregoing is true and correct.
Executed on: November 26, 2007
In Stockton, California.


Stella Hernandez

CITY OF STOCKTON
PUBLIC NOTICE OF AVAILABILITY
DRAFT ENVIRONMENTAL IMPACT REPORT
(Pursuant to Public Resources Code Sections 21092 and 21092.6 and
California Code of Regulations, Title 14, Section 15007)

The City of Stockton Community Development Department has completed independently reviewed and analyzed the following Draft Environmental Impact Report (DEIR) 1905 for the Preserve Master Development Plan (MDP) which would guide development of a residential community in four separate phases. The Preserve MDP is a planned residential community of 359 acres and approximately 1,400 single-family lots, consisting of five residential product types (detached, detached neighborhood/pocket parks and basements, parks, under power line easement, school, and a new fire station). A wetland feature is also planned within the power line easement that will serve to improve the water quality of project runoff and provide flood control storage. The proposed development will be landscaped within the entire community. The parks and pocket parks will provide access to and be a great link to outside the preserve.

Entitlement being sought by the project applicant includes a General Plan Amendment, Rezoning, Development Agreement, Master Development Plan and Vesting Tentative Map. The project is located to the west of Bear Creek and Creek within the City of Stockton. Conditional boundaries of the project site are bounded to the north by Bear Creek, to the west and south by Mosher Slough and to the east by the existing twin creeks. It states about 1,200 feet west of 15.

A copy of the Draft EIR may be reviewed and obtained at the following address:
Community Development Department
Planning Division
345 North Colorado Street
Stockton, CA 95202
Local: <http://www.stockton.gov/cdm/ma2x.cfm>

The Draft EIR may also be reviewed at the following public library locations:
Cesar Chavez Central Library, 605 North Colorado Street, Stockton, CA 95202
Maya Angelou Branch Library, 2349 Stock Lane, Stockton, CA 95205
Fair Oaks Branch Library, 2570 East Main Street, Stockton, CA 95205
Mariano Rivera Branch Library, 302 West Benjamin, Stockton, CA 95204

All written comments on this document must be received at this address no later than December 17, 2007. Further information may be obtained by contacting the City Planning Division at (209) 938-8366.

648209-11/26/07
MICHAEL MANJOCK, DIRECTOR
COMMUNITY DEVELOPMENT DEPARTMENT

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**CITY OF STOCKTON
PUBLIC NOTICE OF AVAILABILITY
DRAFT ENVIRONMENTAL IMPACT REPORT**
(Pursuant to Public Resources Code Sections 21092 and 21092.3 and
Cal. Code of Regulations Title 14, Section 15087)

The City of Stockton Community Development Department has completed, independently reviewed and analyzed the following Draft Environmental Impact Report: DEIR 11-03 for the Preserve Master Development Plan (MDP), which would provide development of a residential community in four separate phases. The Preserve is a planned residential community of approximately 359 acres and approximately 1,000 residential units, consisting of five residential product types (traditional detached single-family lots, small lots, cluster lots, and condominiums). A total of approximately 22 acres will be dedicated as part of this proposed project which would include neighborhood/pocket parks and easement parks under power line easement. The public facilities within the project site will contain a proposed 13-acre elementary school and a new fire station. A wetland feature is also planned within the power line easement that will serve to improve the water quality of project runoff and to provide flood control storage. The proposed development will be landscaped within the entire community. The bike and pedestrian trails will provide access to and between important destinations including on the top of the levees within the project area and links to outside The Preserve.

Entitlement being sought by the project applicant includes approval of General Plan Amendment, Rezoning, Development Agreement, Master Development Plan, and Visting Tentative Map. The project is located to the west of I-5 and south of Bear Creek within the City of Stockton jurisdictional boundaries. The project site is bounded on the north by Bear Creek, on the west and south by Mosher Slough, and on the east, by the existing Twin Creeks Estates, about 1,200 feet west of I-5.

A copy of the Draft EIR may be reviewed and/or obtained at the following addresses:

Community Development Department
Planning Division
345 North El Dorado Street
Stockton, CA 95202 or at <http://www.stockton.gov/CD/index.cfm>

The Draft EIR may also be reviewed at the following public library locations:

Cesar Chavez Central Library 605 North El Dorado Street Stockton, CA 95202	Maya Angelou Branch Library 2324 Pack Lane Stockton, CA 95205
Fair Oaks Branch Library 2370 East Main Street Stockton, CA 95205	Margaret K. Troke Branch Library 502 West Benjamin Holt Drive Stockton, CA 95207

Any written comments on this document must be received at this same address no later than December 17, 2007. Further information may be obtained by contacting the City Planning Division at (209) 937-8256.

MICHAEL M. NIBLOCK, DIRECTOR
COMMUNITY DEVELOPMENT DEPARTMENT

#048209 11/26/07

CITY OF STOCKTON
PUBLIC NOTICE OF AVAILABILITY
RECIRCULATION OF DRAFT ENVIRONMENTAL IMPACT REPORT FOR AIR
QUALITY AND GLOBAL CLIMATE CHANGE SECTIONS
(Pursuant to Public Resources Code Sections 21092 and 21092.3 and
Local Code of Regulations Title 14, Section 15087)

The City of Stockton Community Development Department has completed, independently reviewed and analyzed the following Draft Environmental Impact Report: DEIR 11-05 for the Preserve Planned Development Plan (PD), which would guide development of a residential community in four separate phases. The Preserve is a planned residential community of 359 acres and approximately 1,404 residential units, consisting of five residential product types (traditional detached, single-family lots, small lots, cluster lots, and condominiums). A total of ±52 acre parks will be dedicated as part of this proposed project which would include neighborhood pocket parks and easement parks under power line easement. The public facilities within the project site will contain a proposed 13-acre elementary school. A wetland feature is also planned within the power line easement that will serve to improve the water quality of project runoff and to provide flood control storage. The proposed developments will be landscaped within the entire community. The bike and pedestrian trails will provide access to and between important destinations including on the top of the levees within the project area and links to outside The Preserve. On November 26, 2007, the City of Stockton circulated the November 2007 Draft EIR document for public review initiating a 45 day public review period that ended on January 9, 2008. Several comments received by the City involved greenhouse gas (GHG) emissions generated by the project and the potential effects expected on global warming due to the contribution of GHG and determined to prepare the supplemental information and analyses presented in this revised Air Quality and Global Climate Change sections for recirculation.

Entitlement being sought by the project applicant includes approval of General Plan Amendment, Rezoning, Development Agreement, Plan Development, and Vetting Tentative Map. The project is located to the west of I-5 and south of Bear Creek within the City of Stockton jurisdictional boundaries. The project site is bounded on the north by Bear Creek, on the west and south by Mosher Slough, and on the east, by the existing Twin Creeks Estates, about 1,200 feet west of I-5.

A copy of the Recirculated Draft EIR for revised Air Quality and Global Climate Change sections may be reviewed and/or obtained at the following addresses:

Community Development Department
Planning Division
345 North El Dorado Street
Stockton, CA 95202
or at: <http://www.stockton.gov/CD/index.cfm>

The Recirculated Draft EIR for revised Air Quality and Global Climate Change sections may also be reviewed at the following public library locations:

Cesar Chavez Central Library
605 North El Dorado Street
Stockton, CA 95202

Maya Angelou Branch Library
2324 Pock Lane
Stockton, CA 95205

Fair Oaks Branch Library
2370 East Main Street
Stockton, CA 95205

Margaret K. Troke Branch Library
502 West Benjamin Holt Drive
Stockton, CA 95207

Any written comments on this document must be received at this same address no later than September 15, 2008, at 5:00 p.m. Further information may be obtained by contacting the City Planning Division at (209) 937-8266.

MICHAEL M. NIBLOCK, DIRECTOR
COMMUNITY DEVELOPMENT DEPARTMENT

#703219 8/1/08

APPENDIX A
RECIRCULATED SECTIONS OF THE DRAFT EIR

SELECTED SECTIONS

REVISED DRAFT

ENVIRONMENTAL IMPACT REPORT

THE PRESERVE

STOCKTON, CALIFORNIA

EIR FILE NO. 11-05

SCH#2006092063

LSA

August 2008

SELECTED SECTIONS

REVISED DRAFT

ENVIRONMENTAL IMPACT REPORT

THE PRESERVE

STOCKTON, CALIFORNIA

EIR FILE NO. 11-05

SCH#2006092063

Submitted to:

City of Stockton
Community Development Department
345 N El Dorado Street
Stockton, CA 95202

Prepared by:

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Rocklin, California 95677
(916) 630-4600

LSA Project No. AGS434

LSA

August 2008

CHAPTER 1.0 INTRODUCTION

This document has been prepared to document changes that have occurred with the proposed project and/or conditions that potentially affect previous findings presented in the November 2007 Draft Environmental Impact Report (EIR) prepared for The Preserve project. Specifically, this document includes revisions to the Air Quality Section (Section 4.2) of the November 2007 DEIR, which address comments received by the City of Stockton during the public circulation period and revisions to the Air Quality Section that address consistency with the City's recently adopted 2035 General Plan.

Revised Project Description

Subsequent to circulating the Draft EIR for public review, the applicant and the City agreed to modify a portion of the discretionary approvals to achieve benefits for both parties. The modification involves the elimination of the application to process a Master Development Plan, and substituting it with the Planned Development process. A Master Development Plan, per the provisions of the Development Code, is intended to provide a comprehensive framework for the development of property which has a mix of land uses. However, because the project site will be primarily developed with residential uses and amenities, it does not meet the Master Development Plan criteria. Therefore, a Planned Development (PD) application was submitted in June, 2008 to replace the MDP application. The Planned Development process does not require approval of a Development Agreement, but the completion of Public Facilities Financing Plan and Fiscal Impact Analysis need be required before scheduling the Planning Commission public hearing. As a result of the similarities between the Master Development Plan process and the Planned Development process, all applications that request for land use entitlement including General Plan Amendment, Rezoning, and Vesting Tentative Map reviews, etc. remain in place as previously submitted and unchanged. Further, the type, nature, and intensity of environmental effects remain unchanged.

Revised/New EIR Sections (Section 4.2 Air Quality, Section 4.15 Global Climate Change)

On November 21, 2007, the City of Stockton circulated the Preserve Draft EIR document for public review initiating a 45 day public review period that ended on January 4, 2008. A number of comments were received by the City of Stockton on the project that will be addressed in conjunction with the preparation of the Final Environmental Impact. At this time, comments for several projects involving greenhouse gas (GHG) emissions and the potential effects expected on global warming were received by the City. As the issues involving GHG are evolving as a science, information and the analysis contained in the document was presented to address the project impacts to the extent available at the time. In light of the comments received, and recent availability of information and analytical tools, the City of Stockton has re-examined the project's effects on global warming due to the contribution of GHG and has prepared the supplemental information and analyses presented in this revised document.

The November 2007 EIR includes a section on air quality (Section 4.2) that addresses project-related climate changes. The new information included in this document has resulted in a clarification to the

findings presented in the November 2007 Draft EIR with respect to the air quality section and specifically to global warming and climate change issues. In the document, the EIR concludes that the project does not generate sufficient GHG emissions to create a significant impact. Specifically, the EIR concludes:

“The proposed project would contribute to greenhouse gas concentrations due to increase vehicle trips and stationary pollution sources such as the consumption of natural gas and electricity. Concerns associated with GHG emissions include the rise in sea levels and the associated rise in delta water levels. The Atlas Tract levee systems will provide adequate freeboard up to the 300 year storm event and protection against long term delta rise. Mitigation measures proposed in this section and compliance with the local air quality district will help reduce greenhouse gas emissions. The proposed project is considered to have a less than significant impact regarding global warming due to the high degree of uncertainty in modeling near-term climate scenarios.”

Based on project-related greenhouse gas emissions estimates, it is anticipated that the project emissions will contribute to the global inventory of greenhouse gas emissions. As a result of the blending of the air quality assessment with the global warming/climate change assessment, the project level findings and cumulative level findings require additional clarity. For this reason, a separate global warming/climate change section was created to assist in distinguishing the project’s effects from GHG emissions.

In accordance with CEQA Guidelines Section 15088.5, “Recirculation of an EIR Prior to Certification”, the City has determined that based on the new information and change to the previous findings with respect to global warming issues, recirculation is appropriate. As allowed in subsection (2), when an EIR is revised in part and the lead agency is recirculating only the revised chapters or portions of the EIR, the lead agency may request that reviewers limit their comments to the revised chapters.

Overall, all other sections, discussions, analysis, etc., included in the November 2007 EIR remain as presented in that document. Only the section involving Section 4.2 Air Quality has been amended/changed. This section has been modified to eliminate the global warming/climate changes from the Air Quality Section, creating an entirely new section on Global Climate Change (Section 4.15). Other minor modifications have also been included in this section for clarification purposes.

The remaining air quality section remains valid despite the removal of the global warming/climate discussions from Section 4.2, Air Quality. With the reformatting of the EIR to provide a separate Global Climate Change section, Section 4.2 Air Quality must also be revised to omit the global climate change discussion. The previously described Impact AIR-7 statement has been removed and the Air Quality Section reformatted and impact statements renumbered accordingly. The revised Section 4.2 Air Quality is attached for the reader presenting the new format for separating the Air Quality and Global Climate Change sections per the selected sections of this recirculated DEIR.

4.2 AIR QUALITY

Air quality analysis is provided in Appendix E.

4.2.1 Existing Setting

Air pollution in the project area is from a combination of natural and man-made sources. Natural and man-made sources of air pollution consist of windblown dust, agricultural operations, fires from prescribed burning and agricultural burning, hydrocarbons emitted from natural vegetation, and other pollutants from mobile and stationary sources.

Climate and Meteorology

A region's topographic features have a direct correlation with air pollution flow and therefore are used to determine the boundary of air basins. A local air district is then assigned to each air basin and is responsible for providing air quality strategies to bring the air basin into compliance with the National Ambient Air Quality Standards (NAAQS). The proposed project is located in the San Joaquin Valley Air Basin (SJVAB), which is comprised of approximately 25,000 square miles and covers all of seven counties including Fresno, Kings, Madera, Merced, San Joaquin, Stanislaus and Tulare, and the western portion of an eighth, Kern. San Joaquin Valley Air Pollution Control District (SJVAPCD) is the agency responsible for air quality in SJVAB.

The SJVAB is defined by the Sierra Nevada mountains in the east (8,000 to 14,000 feet in elevation), the Coast Ranges in the west (averaging 3,000 feet in elevation), and the Tehachapi mountains in the south (6,000 to 8,000 feet in elevation). The valley is basically flat with a slight downward gradient to the northwest. The valley opens to the sea at the Carquinez Straits where the San Joaquin-Sacramento Delta empties into San Francisco Bay. An aerial view of the SJVAB would simulate a 'bowl' opening only to the north. These topographic features restrict air movement through and out of the basin.

Although marine air generally flows into the basin from the San Joaquin River Delta, the Coast Range hinders wind access into the SJVAB from the west, the Tehachapi mountains prevent southerly passage of air flow, and the high Sierra Nevada range is a significant barrier to the east. These topographic features result in weak air flow which becomes blocked vertically by high barometric pressure over the SJVAB. As a result, the SJVAB is highly susceptible to pollutant accumulation over time. Most of the surrounding mountains are above the normal height of summer inversion layers (1,500 to 3,000 feet).

Local climatological effects, including wind speed and direction, temperature, inversion layers, and precipitation and fog, can exacerbate the air quality in the SJVAB. Wind speed and direction play an important role in dispersion and transport of air pollutants. Wind at the surface and aloft can disperse pollution by mixing vertically and by transporting it to other locations. For example, in the summer, wind usually originates at the north end of the SJVAB and flows in a south-southeasterly direction through the SJVAB, through Tehachapi pass, into the Southeast Desert Air Basin. However, in the winter, wind direction is reversed and flows in a north-northwesterly direction. In addition to the seasonal wind flow, a sea breeze flows into SJVAB during the day and a land breeze flowing out of the SJVAB at night. The diversified wind flow enhances the pollutant transport capability within SJVAB.

The climatological station monitoring temperature closest to the project site is the Stockton Hazelton Station. Monthly average temperature recorded at the Stockton Hazelton Station for the last 57 years ranges from 54.1° F in January to 92.5°F in July. January is typically the coldest month in this area. The Stockton Hazelton monitoring station also records precipitation throughout the year. The majority of annual rainfall in the Basin occurs between November and April. Summer rainfall is minimal and generally limited to scattered thundershowers along the coastal side of the mountains. Average monthly rainfall measured at the station during that period varied from 3.25 inches in January to 0.48 inches or less between May and October, with an annual total of 16.09 inches. Patterns in monthly and yearly rainfall totals are unpredictable due to fluctuations in the weather. The locations of air quality monitoring stations are shown on Figure 4.2.1.

The vertical dispersion of air pollutants in the SJVAB is limited by the presence of persistent temperature inversions. Because of expansional cooling of the atmosphere, air temperature usually decreases with altitude. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. Inversions can exist at the surface, or at any height above the ground. The height of the base of the inversion is known as the "mixing height." This is the level within which pollutants can mix vertically. Air above and below the inversion base does not mix because of the differences in air density. Warm air above the inversion is less dense than below the base. The inversion base represents an abrupt density change where little exchange of air occurs. Semi-permanent systems of high barometric pressure fronts frequently establish themselves over the SJVAB, deflecting low pressure systems that might otherwise bring cleansing rain and winds.

Inversion layers are significant in determining ozone formation, and carbon monoxide (CO) and fine particulate matter (PM₁₀) concentrations. Ozone and its precursors will mix and react to produce higher ozone concentrations under an inversion. The inversion will also simultaneously trap and hold directly emitted pollutants such as carbon monoxide. PM₁₀ is both directly emitted and created in the atmosphere as a chemical reaction. Concentration levels are directly related to inversion layers due to the limitation of mixing space.

Surface or radiation inversions are formed when the ground surface becomes cooler than the air above it during the night. The earth's surface goes through a radiative process on clear nights, where heat energy is transferred from the ground to a cooler night sky. As the earth's surface cools during the evening hours, the air directly above it also cools, while air higher up remains relatively warm. The inversion is destroyed when heat from the sun warms the ground, which in turn heats the lower layers of air; this heating stimulates the ground level air to float up through the inversion layer.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are lowest. Periods of low inversions and low wind speeds are conditions favorable to high concentrations of CO and PM₁₀. In the winter, the greatest pollution problems are carbon monoxide and oxides of nitrogen (NO_x) because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and oxides of nitrogen to form photochemical smog.

Figure 4.2.1: Air Quality Monitoring Stations

The following describes the six criteria air pollutants and their attainment status in the Basin based on ARB's Area Designations (Activities and Maps) (<http://www.arb.ca.gov/desig/desig.htm>). ARB provided the Environmental Protection Agency (EPA) with California's recommendations for eight-hour ozone area designations on July 15, 2003. The recommendations and supporting data were an update to a report submitted to the EPA in July 2000. On December 3, 2003, the EPA published its proposed designations. EPA's proposal differs from the State's recommendations primarily on the appropriate boundaries for several nonattainment areas. ARB responded to the EPA's proposal on February 4, 2004. EPA finalized the eight-hour ozone designations in April 2004. The EPA issued the final PM_{2.5} implementation rule in fall 2004 and issued the final designations on December 14, 2004.

Ozone

Ozone (smog) is formed by photochemical reactions between oxides of nitrogen and reactive organic gases, rather than being directly emitted. Ozone is a pungent, colorless gas. Elevated ozone concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors such as the sick, elderly, and young children. Ozone levels peak during the summer and early fall months.

Carbon Monoxide

Carbon monoxide (CO) is formed by the incomplete combustion of fossil fuels, almost entirely from automobiles. It is a colorless, odorless gas that can cause dizziness, fatigue, and impairments to central nervous system functions. CO passes through the lungs into the bloodstream, where it interferes with the transfer of oxygen to body tissues.

Nitrogen Oxides

Nitrogen dioxide (NO₂), a reddish-brown gas, and nitric oxide (NO), a colorless, odorless gas, are formed from fuel combustion under high temperature or pressure. These compounds are referred to as nitrogen oxides, or NO_x. NO_x is a primary component of the photochemical smog reaction. Nitrogen oxides also contribute to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition. NO₂ decreases lung function and may reduce resistance to infection.

Sulfur Dioxide

Sulfur dioxide (SO₂) is a colorless irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO₂ levels in the region. SO₂ irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight.

Particulate Matter

Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles are those that are larger than 2.5 microns but smaller than 10 microns, or PM_{10} . $PM_{2.5}$ refers to fine suspended particulate matter with an aerodynamic diameter of 2.5 microns or less that is not readily filtered out by the lungs. Nitrates, sulfates, dust, and combustion particulates are major components of PM_{10} and $PM_{2.5}$. These small particles can be directly emitted into the atmosphere as by-products of fuel combustion, through abrasion, such as tire or brake lining wear, or through fugitive dust (wind or mechanical erosion of soil). They can also be formed in the atmosphere through chemical reactions. Particulates may transport carcinogens and other toxic compounds that adhere to the particle surfaces, and can enter the human body through the lungs.

Reactive Organic Gases

Reactive organic gases (ROG) are not a criteria pollutant, but are precursors to ozone formation. They are formed from combustion of fuels and evaporation of organic solvents. ROG is a prime component of the photochemical smog reaction. Consequently, ROG accumulates in the atmosphere much quicker during the winter when sunlight is limited and photochemical reactions are slower.

Table 4.2.A shows both federal and State standards for these criteria pollutants. Table 4.2.B lists the sources, primary health effects, and status of meeting the standards of these criteria air pollutants. These health effects would not occur unless the standards are exceeded by a large margin or for a prolonged period of time. The State of California has also established standards (SAAQS) for criteria pollutants which are more stringent than the NAAQS.

Air quality monitoring stations are located throughout the nation and maintained by the local air pollution control district and state air quality regulating agencies. Ambient air data collected at permanent monitoring stations are used by the EPA to identify regions as "attainment" or "non-attainment" depending on whether the regions met the requirements stated in the primary NAAQS. Attainment areas are required to maintain their status through moderate, yet effective air quality maintenance plan. Non-attainment areas are imposed with additional restrictions as required by the EPA. In addition, different classifications of attainment such as marginal, moderate, serious, severe, and extreme are used to classify each air basin in the state on a pollutant-by-pollutant basis. Different classifications have different mandated attainment dates and are used as guidelines to create air quality management strategies to improve air quality and comply with the NAAQS by the attainment date.

A region is determined to be unclassified when the data collected from the air quality monitoring stations do not support a designation of attainment or non-attainment, due to lack of information, or a conclusion cannot be made with the available data.

Table 4.2.A: Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ¹		Federal Standards ²		
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷
Ozone (O ₃)	1-Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	--	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.070 ppm (137 µg/m ³)		0.08 ppm (157 µg/m ³) ⁸		
Respirable Particulate Matter (PM ₁₀)	24-Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m ³		50 µg/m ³		
Fine Particulate Matter (PM _{2.5})	24-Hour	No Separate State Standard		65 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	15 µg/m ³		
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m ³)	None	Non-Dispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 mg/m ³)		35 ppm (40 mg/m ³)		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		--		
Nitrogen Dioxide (NO ₂)	Annual Arithmetic Mean	--	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m ³)	Same as Primary Standard	Gas Phase Chemiluminescence
	1-Hour	0.25 ppm (470 µg/m ³)		--		
Sulfur Dioxide (SO ₂)	Annual Arithmetic Mean	--	Ultraviolet Fluorescence	0.030 ppm (80 µg/m ³)	--	Spectrophotometry (Pararosaniline Method)
	24-Hour	0.04 ppm (105 µg/m ³)		0.14 ppm (365 µg/m ³)	--	
	3-Hour	--		--	0.5 ppm (1300 µg/m ³)	
	1-Hour	0.25 ppm (655 µg/m ³)		--	--	
Lead ⁹ (Pb)	30 Day Average	1.5 µg/m ³	Atomic Absorption	--	--	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	--		1.5 µg/m ³	Same as Primary Standard	
Visibility-Reducing Particles	8-Hour	Extinction coefficient of 0.23 per kilometer - visibility of ten miles or more (0.07-30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards		
Sulfates	24-Hour	25 µg/m ³	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence			
Vinyl Chloride ⁹	24-Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography			

Table 4.2.A: Ambient Air Quality Standards (Cont.)

Source: ARB, November 29, 2005.

Footnotes:

- ¹ California standards for ozone; carbon monoxide (except Lake Tahoe); sulfur dioxide (1 and 24 hour); nitrogen dioxide; suspended particulate matter - PM₁₀, PM_{2.5}, and visibility-reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
- ² National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact EPA for further clarification and current federal policies.
- ³ Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- ⁴ Any equivalent procedure that can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
- ⁵ National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
- ⁶ National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- ⁷ Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.
- ⁸ New federal eight-hour ozone and fine particulate matter standards were promulgated by EPA on July 18, 1997. Contact EPA for further clarification and current federal policies.
- ⁹ The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Table 4.2.B: Public Health Impacts Summary of the Major Criteria Air Pollutants

Pollutants	Sources	Health Effects
Particulate Matter (PM10: less than or equal to 10 microns)	<ul style="list-style-type: none"> • Cars and trucks, especially diesels • Fireplaces, woodstoves • Windblown dust, from roadways, agriculture and construction 	<ul style="list-style-type: none"> • Increased respiratory disease • Lung damage • Premature death
Ozone (O3)	<ul style="list-style-type: none"> • Formed by chemical reactions of air pollutants in the presence of sunlight. Common sources: motor vehicles, industries, and consumer products 	<ul style="list-style-type: none"> • Breathing difficulties • Lung damage
Carbon Monoxide (CO)	<ul style="list-style-type: none"> • Any source that burns fuel such as cars, trucks, construction and farming equipment, and residential heaters and stoves 	<ul style="list-style-type: none"> • Chest pain in heart patients • Headaches, nausea • Reduced mental alertness • Death at very high levels
Nitrogen Dioxide (NO2)	<ul style="list-style-type: none"> • See Carbon Monoxide sources 	<ul style="list-style-type: none"> • Lung damage
Toxic Air Contaminants	<ul style="list-style-type: none"> • Cars and trucks, especially diesels • Industrial sources such as chrome platers • Neighborhood businesses, such as dry cleaners and service stations • Building materials and products 	<ul style="list-style-type: none"> • Cancer • Chronic eye, lung, or skin irritation • Neurological and reproductive disorders

Source: CARB 2001

The attainment status in the San Joaquin County area of the SJVAB is shown in Table 4.2.C as follows:

Table 4.2.C: Attainment Status in San Joaquin County Area

POLLUTANT	STATE	FEDERAL
Ozone - 1 hour	Non-attainment/Severe	No Federal Standard
Ozone 8 hour	No State Standard	Non-attainment/Serious
PM ₁₀	Non-attainment	Non-attainment/Serious
PM _{2.5}	Non-attainment	Non-attainment
CO	Attainment	Attainment/Unclassified
NO ₂	Attainment	Attainment/Unclassified
Sulfur Dioxide	Attainment	Unclassified
Lead	Attainment	No Designation
Hydrogen Sulfide	Unclassified	No Federal Standard
Sulfates	Attainment	No Federal Standard
Visibility Reducing Particles	Unclassified	No Federal Standard

Maps & Tables of the Area Designations for the State and National Ambient Air Quality Standards and Expected Peak Day Concentrations and Designation Values, Air Resources Board, January 1998; Classification letter, ARB Staff, March 16, 1993; ARB Action, November 9, 1994; ARB Action, November 21, 1996; CO: (1) 40 CFR Parts 52 and 81 -- Fresno Urbanized Area, Bakersfield Metropolitan Area, Stockton Urbanized Area and Modesto Urbanized Area redesignated on March 31, 1998, effective June 1, 1998

Note: The Federal One Hour Ozone National Ambient Air Quality Standard was revoked on June 15, 2005.

Source: CARB

Local Air Quality

The SJVAPCD, together with the ARB, maintains ambient air quality monitoring stations in the Basin. The air quality monitoring station closest to the site is the Stockton-Hazelton Station, and its air quality trends are representative of the ambient air quality in the project area. The pollutants¹ monitored are CO, O₃, PM₁₀, PM_{2.5}, and NO₂.

The ambient air quality data in Table 4.2.D show that CO and NO₂ levels are well below relevant State and federal standards. PM_{2.5} levels were consistently lower than standards. O₃ and PM₁₀ levels occasionally exceeded State and federal standards during the last three years. Also shown in Table D, SO₂ levels are not monitored in the San Joaquin Basin.

¹ Air quality data. 2002-2005; EPA and ARB Web sites.

Table 4.2.D: Ambient Air Quality at Stockton-Hazelton Street Air Monitoring Station

Pollutant	Standard	2005	2004	2003
Carbon Monoxide (CO)				
Maximum 1 hr concentration (ppm)		3.2	3.7	5.8
Number of days exceeded:	State: > 20 ppm	0	0	0
	Federal: > 35 ppm	0	0	0
Maximum 8 hr concentration (ppm)		2.9	2.5	3.1
Number of days exceeded:	State: ≥ 9.0 ppm	0	0	0
	Federal: ≥ 9 ppm	0	0	0
Ozone (O₃)				
Maximum 1 hr concentration (ppm)		0.099	0.096	0.104
Number of days exceeded:	State: > 0.09 ppm	3	1	3
Maximum 8 hr concentration (ppm)		0.086	0.080	0.088
Number of days exceeded:	State: > 0.07 ppm	ND	ND	ND
	Federal: > 0.08 ppm	1	0	1
Coarse Particulates (PM₁₀)				
Maximum 24 hr concentration (μg/m ³)		79.0	60.0	88.0
Number of days exceeded:	State: > 50 μg/m ³	8	3	3
	Federal: > 150 μg/m ³	0	0	0
Annual arithmetic average concentration (μg/m ³)		29.8	29.4	28.4
Exceeded for the year:	State: > 20 μg/m ³	Yes	Yes	Yes
	Federal: > 50 μg/m ³	No	No	No
Fine Particulates (PM_{2.5})				
Maximum 24 hr concentration (μg/m ³)		44.0	41.0	45.0
Number of days exceeded:	Federal: > 65 μg/m ³	0	0	0
Annual arithmetic average concentration (μg/m ³)		ND	13.2	13.6
Exceeded for the year:	State: > 12 μg/m ³	No	Yes	Yes
	Federal: > 15 μg/m ³	No	No	No
Nitrogen Dioxide (NO₂)				
Maximum 1 hr concentration (ppm)		0.087	0.079	0.088
Number of days exceeded:	State: > 0.25 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.017	0.017	0.018
Exceeded for the year:	Federal: > 0.053 ppm	No	No	No
Sulfur Dioxide (SO₂) (Bethel Island, Contra Costa)				
Maximum 1 hr concentration (ppm)		0.017	0.015	0.016
Number of days exceeded:	State: > 0.25 ppm	0	0	0
Maximum 3 hr concentration (ppm)		0.010	0.009	0.013
Number of days exceeded:	Federal: > 0.5 ppm	0	0	0
Maximum 24 hr concentration (ppm)		0.006	0.006	0.008
Number of days exceeded:	State: > 0.04 ppm	0	0	0
	Federal: > 0.14 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.002	0.002	0.002
Exceeded for the year:	Federal: > 0.030 ppm	No	No	No

Source: ARB and EPA Web sites.

ppm = parts per million

μg/m³ = micrograms per cubic meter

ND = No data. There was insufficient (or no) data to determine the value.

Methodology

There are a number of air quality modeling tools available to assess air quality impacts of projects, however, certain air districts such as the SJVAPCD have created guidelines and requirements to conduct air quality analysis. SJVAPCD's document, Guide for Assessing and Mitigating Air Quality Impacts (1998) was adhered to in the assessment of air quality impacts for the proposed project. The air quality models of URBEMIS 2002 and CALINE4 are recommended by SJVAPCD and were used in this air quality assessment. A brief discussion of each model is described below.

The air quality assessment includes estimating emissions associated with short-term construction and long-term operation of the proposed project. Criteria pollutants with regional impacts would be emitted by stationary or area (direct) sources and mobile (indirect) sources associated with the proposed project. Long-term stationary or area sources emissions include electricity and natural gas usage. Long-term mobile sources emissions include vehicle trips associated with the proposed project. In addition, localized air quality impacts, i.e., higher carbon monoxide concentrations (CO hot spots) near intersections or roadway segments in the project vicinity would potentially occur due to project generated vehicle trips.

The URBEMIS 2002 (Urban Emission Model) computer program is the most current air quality model available for estimating emissions associated with land use development projects such as residential development, shopping centers, office buildings, and hotels. URBEMIS 2002 calculates long-term stationary or area sources emissions and long-term mobile sources emissions associated with these land uses.

The CALINE4 model is widely used by Caltrans to predict CO concentrations near roadways. Caltrans also developed a document, Transportation Project-Level Carbon Monoxide Protocol (Caltrans, 1997) to provide guidance and consistency for air quality analysis conducted in the State of California. The CALINE4 model estimates CO concentrations at designated receptor locations near intersections or roadway segments based on traffic volume, roadway geometry, topography, and meteorological data. Receptor locations are placed at areas accessible by the public such as sidewalk, school, residential property, and any other locations deemed sensitive to bad air quality. The purpose is to determine the impact of the proposed project on the general public in the local vicinity. CALINE4 estimates the CO concentration at these receptor locations and the results are used to determine the significance of the project's impact on local air quality.

The results from the air quality models, URBEMIS 2002 and CALINE4, were used to determine the net changes in ambient air pollutants concentrations between the baseline (future with approved projects) scenario, and the horizon (future with proposed project) scenario. Because the baseline emissions would occur if the proposed project is not approved and implemented, the net changes of pollutant concentrations determine the significance and impact on regional and local air quality as a result of the proposed project. The results also allow the local government to determine whether the proposed project will deter the region from achieving the goal of reducing pollutants in accordance with the AQAP in order to comply with federal and State ambient air quality standards.

Construction Emission Measures

Specific criteria for determining the potential air quality impacts of a project are set forth in the SJVAPCD's Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI, 1998). A project's construction phase produces many types of emissions, but PM₁₀ is the pollutant of greatest concern. The SJVAPCD's approach to CEQA analyses of construction impacts is to require implementation of effective and comprehensive control measures rather than to require detailed quantification of emissions. The SJVAPCD has determined that compliance with Regulation VIII for all sites and implementation of all other control measures indicated in Tables 4.2.I and 4.2.J below (as appropriate, depending on the size and location of the project site) will constitute sufficient mitigation to reduce PM₁₀ impacts to a level considered less than significant.

The control measures listed in Table 4.2.I (Regulation VIII Control Measures) are required for all construction sites by regulation. Table 4.2.J lists additional measures that may be required due to sheer project size or proximity of the project to sensitive receptors. Table 4.2.J also lists additional control measures (Optional Measures) that may be implemented if further emission reductions are deemed necessary by the Lead Agency.

The SJVAPCD recognizes that the measures listed in Tables 4.2.I and 4.2.J focus on PM₁₀ emissions from fugitive dust sources. It indicates that Lead Agencies seeking to reduce emissions from construction equipment exhaust should also consider the mitigation measures listed in Table 4.2.E. The SJVAPCD recognizes that these measures are difficult to implement due to poor availability of alternative fueled equipment and the challenge of monitoring these activities.

Rule 9510-Indirect Source Review The San Joaquin Valley Air Pollution Control District is required by federal law to adopt control measures to reduce smog-forming and particulate emissions generated by new projects within their jurisdiction. All construction emissions must comply with these emission standards.

Table 4.2.E: Construction Equipment Mitigation Measures

Emission Source	Mitigation Measures
Heavy duty equipment (scrapers, graders, trenchers, earth movers, etc.)	<ul style="list-style-type: none"> • Use of alternative fueled equipment or catalyst equipped diesel construction equipment. • Minimize idling time (e.g., 10 minutes maximum) • Limit the hours of operation of heavy duty equipment and/or the amount of equipment in use • Replace fossil-fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set) • Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak-hour of vehicular traffic on adjacent roadways • Implement activity management (e.g., rescheduling activities to reduce short-term impacts)

Source: SJVAPCD 2002

4.2.2 Impact Significance Criteria

State CEQA Guidelines indicate that a project would normally have a significant adverse air quality impact if project-generated pollutant emissions would:

AQ-a: Cause a violation of an ambient air quality standard or worsen an existing violation;

Air pollutant emissions associated with the project would occur over the short term from construction, such as fugitive dust from grading, site preparation, and equipment exhaust. Long-term emissions would result from the occupation and use of the proposed land uses. There would be long-term emissions with regional effects associated with project related vehicular trips and long-term emissions with local impacts associated with congested intersections or roadway segments. In addition, long-term stationary or area source emissions would occur due to energy consumption such as natural gas and electricity usage by the proposed land uses. Feasible mitigation measures are required whenever a significant impact is identified to minimize the amount of pollutants emitted.

Project operational emissions refer to the pollutants generated by the stationary area (direct) sources and mobile (indirect) sources. Stationary sources include electricity and natural gas consumption; mobile sources are the motor vehicles traveling to and from the development. These sources contribute to the deterioration of air quality and potentially prevent the region from compliance with the Clean Air Act. Hence, pollutant thresholds are created to determine the significance of a project's impact on air quality. The thresholds of significance from operation are as follows:

Emissions Thresholds for Pollutants with Regional Effects

- a. 10 tons per year of ROG
- b. 10 tons per year of NO_x

Projects in the region with operation-related emissions that exceed any of the emission thresholds are considered significant by the SJVAPCD.

Emission Standards for Pollutants with Local Impacts

- a. California State one hour CO standard of 20.0 ppm
- b. California State eight hour CO standard of 9.0 ppm

The significance of localized project impacts depends on whether ambient CO levels in the vicinity of the project are above or below State and federal CO standards. If ambient levels are below the standards, a project is considered to have significant impacts if project emissions result in an exceedance of one or more of these standards.

AQ-b: Contribute substantially to an existing or projected air quality violation;

AQ-c: Expose sensitive receptors to substantial pollutant concentrations; or

AQ-d: Conflict with adopted environmental plans, policies, or regulations for air pollutants

AQ-e: Threshold for Odor

Offensive odors rarely cause any physical harm, but they can be unpleasant. Any project with the potential to frequently expose members of the public to objectionable odors will be deemed to have a significant impact.

AQ-f: Threshold for Hazardous Air Pollutants

Any project with the potential to expose sensitive receptors (including residential areas) or the general public to substantial levels of hazardous air pollutants (HAP) would be deemed to have a potentially significant impact. The significance of localized project impact depends on the following criteria:

- a. Probability of contracting cancer for the Maximally Exposed Individual (MEI) exceeds ten in one million.
- b. Ground-level concentrations of non-carcinogenic hazardous air pollutants would result in a Hazard Index greater than 1 for the MEI.

4.2.3 Impacts and Mitigation Measures

Effects Considered to be Less than Significant

Impact AIR-1: Long-term air quality impacts with localized effects are not expected with project implementation.

Vehicular trips associated with the proposed project would contribute to the congestion at intersections and along roadway segments in the project vicinity. As indicated in the traffic analysis, the proposed project would generate a total of 14,300 daily vehicular trips.

The primary mobile source pollutant of local concern is CO. Carbon monoxide concentration is a direct function of vehicle idling time and, thus, traffic flow conditions. Carbon monoxide disperses rapidly with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations proximate to a congested roadway or intersection may reach unhealthful levels, affecting local sensitive receptors (residents, school children, elderly, hospital patients, etc.). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes. In areas with high ambient background CO concentration, modeling of CO concentrations is recommended in determining a project's effect on local CO levels.

Existing CO concentrations in the immediate project vicinity are not available. The EPA has recommended that in areas without available CO levels, the higher of the second highest monitored CO levels in the last two years should be used as the existing or future baseline ambient CO levels for the project area. These second highest CO concentrations are 4.9 ppm and 3.0 ppm, respectively, for

the one hour and eight hour concentrations. These CO concentrations were used as baseline ambient air level to determine the significance of impact as a result of the proposed project.

The highest CO concentrations typically occur during peak traffic hours, which would best represent a worst case analysis for the calculation of CO impacts. Modeling of the CO hot spot analysis was based on the traffic volumes generated by Fehr & Peers Associates (2005). This traffic study identified existing (year 2005), cumulative (year 2025) conditions, and future conditions (year 2035) without and with project traffic volumes during the morning and afternoon peak hours. The CO hot spot analysis was conducted using the afternoon peak hour period because the project and ambient traffic volumes are slightly higher than the morning peak hour period and would provide for a worst case analysis. CO concentrations were calculated for the one hour averaging period and compared to the State one hour CO standard of 20 ppm. Carbon monoxide eight hour averages were calculated from the one hour CO calculations, using techniques outlined in the Caltrans Carbon Monoxide Protocol and compared to the State eight hour CO standard of 9.0 ppm. Concentrations are expressed in parts per million (ppm) at each receptor location.

The impact on local CO levels was assessed using methodology outlined in the SJVAPCD guideline, GAMAQI. The guideline recommended using the protocol, Transportation Project-Level Carbon Monoxide Protocol (Caltrans, 1997), to conduct the CO analysis. The protocol provides guidance, screening methodology, and modeling data requirements for estimation of CO concentrations along roadway corridors or near intersections. The protocol was adhered to for the air quality analysis conducted for this project.

As shown in Table 4.2.F, the intersection of Trinity Parkway and Eight Mile Road exceeds the eight-hour CO concentration under the existing (2005) plus approved project with and without project. However, as CO concentrations would decrease with the implementation of the project due to roadway improvements on Eight Mile Road, the proposed project would not have a significant impact. Also, as shown in Tables 4.2.G and 4.2.H, none of the nine intersections analyzed would have a one-hour CO concentration exceeding the State standard of 20 ppm under the 2025 and 2035 conditions. The eight-hour CO concentration at these intersections would also be below the State standard of 9.0 ppm. Therefore, the proposed project will not have a significant impact on local air quality for CO, no mitigation measures would be required, and the conditions outlined in **Significance Criterion AQ-a** will not occur.

Impact AIR-2: The project is not expected to create objectionable odors.

Heavy-duty equipment in the project area during construction would emit odors. However, the construction activity would be short-term and would cease to occur after individual construction is completed. No other sources of objectionable odors have been identified for the proposed project. No mitigation measures are recommended, and the conditions outlined in **Significance Criterion AQ-e** will not occur.

Impact AIR-3: The project is not expected to create Hazardous Air Pollutants Impacts.

The proposed project is not expected to generate any HAPs that would result in significant air quality impacts. Compliance with the City and SJVAPCD rules and regulations will ensure that no

significant HAPs impacts will occur. No mitigation measures are recommended, and the conditions outlined in **Significance Criterion AQ-f** will not occur.

Impact AIR-4: The proposed project will contribute to short-term/incremental cumulative air quality impacts. The project is consistent with the Air Quality Attainment Plan.

A number of individual projects in the City will be under construction simultaneously with the proposed project. Depending on construction schedules and actual implementation of projects in the area, generation of fugitive dust and pollutant emissions during construction may result in substantial short-term increases in air pollutants. This contribution will be incremental and short-term.

Air Quality Attainment Plan Consistency Analysis

An Air Quality Attainment Plan (AQAP) describes air pollution control strategies to be taken by counties or regions classified as nonattainment areas. The AQAP's main purpose is to bring the area into compliance with the requirements of federal and State air quality standards. CEQA requires that projects resulting in a General Plan Amendment be analyzed for consistency with the AQAP. For a project to be consistent with the AQAP, the pollutants emitted from the project must not exceed the SJVAPCD significance thresholds or cause a significant impact on air quality. However, if feasible mitigation measures are implemented and are shown to reduce the impact level from significant to less than significant, the project is deemed consistent with the AQAP. The AQAP uses the assumptions and projections by local planning agencies to determine control strategies for regional compliance status. Therefore, any projects causing a significant impact on air quality would impede the progress of the AQAP.

A consistency analysis determination plays an essential role in local agency project review by linking local planning and unique individual projects to the AQAP in the following ways. It fulfills the CEQA goal of fully informing local agency decision makers of the environmental costs of the project under consideration at a stage early enough to ensure that air quality concerns are fully addressed. It provides the local agency with ongoing information, assuring local decision makers that they are making real contributions to clean air goals defined in the most current AQAP. Since the AQAP is based on projections from local General Plans, projects that are consistent with the local General Plan are considered consistent with the AQAP.

Air quality models are used to demonstrate that the project's emissions will not contribute to the deterioration or impede the progress of air quality goals stated in the AQAP. The air quality models use project specific data to estimate the amount of pollutants generated from the implementation of a project. The results for the "without project" and the "with project" scenarios in the horizon year are compared to the AQAP's air quality projections. If the analyses comply with the requirements, it is considered to be consistent with the AQAP.

Currently, the region is in non-attainment for ozone and PM₁₀. Implementation of the proposed project, in conjunction with other planned developments within the cumulative study area and the region, would contribute to the delay of the attainment in the region. However, the proposed project land use has been designated in the adopted General Plan and, therefore, is consistent with the AQAP. Conditions outlined in **Significance Criterion AQ-b** will not occur.

Table 4.2.F: Existing (Year 2005) Plus Approved Project without and with CO Concentrations

Intersection	Receptor Distance to Road Centerline (Meters)	Project-Related Increase 1 Hr/8 Hr (ppm)	Without/with Project One-Hour CO Concentration (ppm)	Without/with Project Eight-Hour CO Concentration (ppm)	Exceeds State Standards? ¹	
					1 Hr	8 Hr
Regatta Drive and Eight Mile Road	14 / 14	0.0 / 0.0	7.5 / 7.5	4.8 / 4.8	No	No
	14 / 14	0.0 / 0.0	7.1 / 7.1	4.5 / 4.5	No	No
	10 / 10	0.0 / 0.0	7.0 / 7.0	4.5 / 4.5	No	No
	7 / 7	0.0 / 0.0	6.9 / 6.9	4.4 / 4.4	No	No
Trinity Parkway and Eight Mile Road	15 / 17	-1.1 / -0.7	15.1 / 14.0	10.1 / 9.4	No	Yes
	15 / 17	-0.5 / -0.3	13.8 / 13.3	9.2 / 8.9	No	Yes
	10 / 14	-1.0 / -0.7	13.3 / 12.3	8.9 / 8.2	No	No
	7 / 7	-0.4 / -0.3	12.2 / 11.8	8.1 / 7.8	No	No
Trinity Parkway and McAuliffe Road	14 / 14	0.3 / 0.2	8.9 / 9.2	5.8 / 6.0	No	No
	14 / 14	0.2 / 0.2	8.5 / 8.7	5.5 / 5.7	No	No
	14 / 14	0.4 / 0.3	8.0 / 8.4	5.2 / 5.5	No	No
	10 / 10	0.3 / 0.2	7.9 / 8.2	5.1 / 5.3	No	No
Aksland Drive/Otto Drive	17 / 17	1.6 / 1.2	6.8 / 8.4	4.3 / 5.5	No	No
	17 / 17	1.1 / 0.8	6.8 / 7.9	4.3 / 5.1	No	No
	17 / 17	1.4 / 0.9	6.4 / 7.8	4.1 / 5.0	No	No
	14 / 14	1.4 / 1.0	6.3 / 7.7	4.0 / 5.0	No	No
Mariners Drive/Otto Drive	12 / 12	2.5 / 1.8	8.2 / 10.7	5.3 / 7.1	No	No
	12 / 12	1.9 / 1.3	8.0 / 9.9	5.2 / 6.5	No	No
	8 / 8	1.8 / 1.3	7.5 / 9.3	4.8 / 6.1	No	No
	7 / 7	1.8 / 1.2	7.3 / 9.1	4.7 / 5.9	No	No
Mariners Drive/Whitewater Lane	12 / 12	1.7 / 1.2	7.2 / 8.9	4.6 / 5.8	No	No
	12 / 12	1.5 / 1.1	7.1 / 8.6	4.5 / 5.6	No	No
	12 / 12	1.6 / 1.1	7.0 / 8.6	4.5 / 5.6	No	No
	8 / 8	1.6 / 1.2	6.8 / 8.4	4.3 / 5.5	No	No
Mariners Drive/Blackswain Place	12 / 12	1.7 / 1.2	7.2 / 8.9	4.6 / 5.8	No	No
	8 / 8	1.5 / 1.1	7.1 / 8.6	4.5 / 5.6	No	No
	8 / 8	1.5 / 1.1	7.1 / 8.6	4.5 / 5.6	No	No
	8 / 8	1.6 / 1.1	6.7 / 8.3	4.3 / 5.4	No	No
Mariners Drive/Sturgeon Road	12 / 12	1.7 / 1.2	7.3 / 9.0	4.7 / 5.9	No	No
	12 / 12	1.5 / 1.1	7.2 / 8.7	4.6 / 5.7	No	No
	12 / 12	1.5 / 1.1	7.1 / 8.6	4.5 / 5.6	No	No
	8 / 8	1.5 / 1.1	6.8 / 8.3	4.3 / 5.4	No	No
Mariners Drive/Hammer Lane	20 / 20	1.7 / 1.2	9.7 / 11.4	6.4 / 7.6	No	No
	14 / 14	1.7 / 1.2	9.1 / 10.8	5.9 / 7.1	No	No
	14 / 14	1.2 / 0.8	8.9 / 10.1	5.8 / 6.6	No	No
	8 / 8	1.3 / 0.9	8.7 / 10.0	5.7 / 6.6	No	No

Source: LSA Associates, Inc., April 2006.

Table 4.2.G: 2025 Without and With Project CO Concentrations

Intersection	Receptor Distance to Road Centerline (Meters)	Project Related Increase 1 Hr /8 Hr (ppm)	Without/with Project One-Hour CO Concentration (ppm)	Without/with Project Eight-Hour CO Concentration (ppm)	Exceeds State Standards? ¹	
					1 Hr	8 Hr
Regatta Drive and Eight Mile Road	21 / 21	0.0 / 0.0	5.2 / 5.2	3.2 / 3.2	No	No
	21 / 21	0.0 / 0.0	5.2 / 5.2	3.2 / 3.2	No	No
	21 / 21	0.0 / 0.0	5.2 / 5.2	3.2 / 3.2	No	No
	15 / 15	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
Trinity Parkway and Eight Mile Road	17 / 17	0.0 / 0.0	6.0 / 6.0	3.8 / 3.8	No	No
	17 / 17	0.0 / 0.0	6.0 / 6.0	3.8 / 3.8	No	No
	17 / 17	0.0 / 0.0	6.0 / 6.0	3.8 / 3.8	No	No
	17 / 17	0.1 / 0.1	5.8 / 5.9	3.6 / 3.7	No	No
Trinity Parkway/ McAuliffe Road	14 / 14	0.0 / 0.0	5.7 / 5.7	3.6 / 3.6	No	No
	14 / 12	0.1 / 0.1	5.5 / 5.6	3.4 / 3.5	No	No
	12 / 10	0.1 / 0.1	5.5 / 5.6	3.4 / 3.5	No	No
	10 / 10	0.1 / 0.1	5.5 / 5.6	3.4 / 3.5	No	No
Aksland Drive/ Otto Drive	17 / 17	0.2 / 0.1	5.4 / 5.6	3.4 / 3.5	No	No
	17 / 17	0.3 / 0.2	5.3 / 5.6	3.3 / 3.5	No	No
	17 / 17	0.1 / 0.1	5.3 / 5.4	3.3 / 3.4	No	No
	14 / 14	0.1 / 0.1	5.3 / 5.4	3.3 / 3.4	No	No
Mariners Drive/ Otto Drive	17 / 17	0.2 / 0.1	5.3 / 5.5	3.3 / 3.4	No	No
	16 / 16	0.1 / 0.1	5.3 / 5.4	3.3 / 3.4	No	No
	14 / 14	0.1 / 0.1	5.3 / 5.4	3.3 / 3.4	No	No
	14 / 14	0.1 / 0.1	5.3 / 5.4	3.3 / 3.4	No	No
Mariners Drive/ Whitewater Lane	12 / 12	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
	12 / 12	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
	8 / 8	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
	8 / 8	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
Mariners Drive/ Blackswain Place	12 / 12	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
	12 / 12	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
	8 / 8	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
	8 / 8	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
Mariners Drive/ Sturgeon Road	12 / 12	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
	12 / 12	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
	8 / 8	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
	8 / 8	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
Mariners Drive/ Hammer Lane	21 / 21	0.1 / 0.0	5.4 / 5.5	3.4 / 3.4	No	No
	20 / 21	0.1 / 0.1	5.3 / 5.4	3.3 / 3.4	No	No
	14 / 20	0.1 / 0.1	5.3 / 5.4	3.3 / 3.4	No	No
	14 / 14	0.0 / 0.0	5.3 / 5.3	3.3 / 3.3	No	No

Source: LSA Associates, Inc., April 2006.

¹ The State one-hour standard is 20 ppm, and the eight-hour standard is 9 ppm.

Table 4.2.H: 2035 Without and With Project CO Concentrations

Intersection	Receptor Distance to Road Centerline (Meters)	Project Related Increase 1 Hr /8 Hr (ppm)	Without/with Project One-Hour CO Concentration (ppm)	Without/with Project Eight-Hour CO Concentration (ppm)	Exceeds State Standards? ¹	
					1 Hr	8 Hr
Regatta Drive and Eight Mile Road	21 / 21	0.0 / 0.0	5.4 / 5.4	3.4 / 3.4	No	No
	21 / 21	0.0 / 0.0	5.4 / 5.4	3.4 / 3.4	No	No
	21 / 21	0.0 / 0.0	5.4 / 5.4	3.4 / 3.4	No	No
	16 / 16	0.0 / 0.0	5.3 / 5.3	3.3 / 3.3	No	No
Trinity Parkway and Eight Mile Road	24 / 24	0.0 / 0.0	5.8 / 5.8	3.6 / 3.6	No	No
	24 / 24	0.0 / 0.0	5.7 / 5.7	3.6 / 3.6	No	No
	17 / 17	0.1 / 0.1	5.6 / 5.7	3.5 / 3.6	No	No
	17 / 17	0.0 / 0.0	5.6 / 5.6	3.5 / 3.5	No	No
Trinity Parkway/ McAuliffe Road	14 / 14	0.0 / 0.0	5.4 / 5.4	3.4 / 3.4	No	No
	14 / 12	0.1 / 0.1	5.3 / 5.4	3.3 / 3.4	No	No
	12 / 10	0.1 / 0.1	5.3 / 5.4	3.3 / 3.4	No	No
	10 / 10	0.1 / 0.1	5.3 / 5.4	3.3 / 3.4	No	No
Aksland Drive/ Otto Drive	21 / 21	0.1 / 0.1	5.5 / 5.6	3.4 / 3.5	No	No
	21 / 21	0.2 / 0.1	5.4 / 5.6	3.4 / 3.5	No	No
	19 / 19	0.1 / 0.0	5.4 / 5.5	3.4 / 3.4	No	No
	17 / 15	0.1 / 0.0	5.4 / 5.5	3.4 / 3.4	No	No
Mariners Drive/ Otto Drive	14 / 16	0.1 / 0.1	5.5 / 5.6	3.4 / 3.5	No	No
	14 / 14	0.1 / 0.0	5.4 / 5.5	3.4 / 3.4	No	No
	14 / 14	0.1 / 0.0	5.4 / 5.5	3.4 / 3.4	No	No
	14 / 14	0.0 / 0.0	5.4 / 5.4	3.4 / 3.4	No	No
Mariners Drive/ Whitewater Lane	12 / 12	0.0 / 0.0	5.0 / 5.0	3.1 / 3.1	No	No
	12 / 12	0.0 / 0.0	5.0 / 5.0	3.1 / 3.1	No	No
	8 / 8	0.0 / 0.0	5.0 / 5.0	3.1 / 3.1	No	No
	8 / 8	0.0 / 0.0	5.0 / 5.0	3.1 / 3.1	No	No
Mariners Drive/ Blackswain Place	12 / 12	0.0 / 0.0	5.0 / 5.0	3.1 / 3.1	No	No
	12 / 12	0.0 / 0.0	5.0 / 5.0	3.1 / 3.1	No	No
	8 / 8	0.0 / 0.0	5.0 / 5.0	3.1 / 3.1	No	No
	8 / 8	0.0 / 0.0	5.0 / 5.0	3.1 / 3.1	No	No
Mariners Drive/ Sturgeon Road	12 / 12	0.1 / 0.0	5.0 / 5.1	3.1 / 3.1	No	No
	12 / 12	0.1 / 0.0	5.0 / 5.1	3.1 / 3.1	No	No
	8 / 8	0.0 / 0.0	5.0 / 5.0	3.1 / 3.1	No	No
	8 / 8	0.0 / 0.0	5.0 / 5.0	3.1 / 3.1	No	No
Mariners Drive/ Hammer Lane	24 / 24	0.0 / 0.0	5.6 / 5.6	3.5 / 3.5	No	No
	24 / 24	0.0 / 0.0	5.5 / 5.5	3.4 / 3.4	No	No
	22 / 22	0.0 / 0.0	5.5 / 5.5	3.4 / 3.4	No	No
	16 / 16	0.0 / 0.0	5.4 / 5.4	3.4 / 3.4	No	No

Source: LSA Associates, Inc., April 2006.

¹ The State one-hour standard is 20 ppm, and the eight-hour standard is 9 ppm.

Potentially Significant Impacts

Impact AIR-5: The project will generate short-term fugitive dust impacts.

Construction activities such as grading, excavation and travel on unpaved surfaces can generate substantial amounts of dust, and can lead to elevated concentrations of PM₁₀. Fugitive dust control measures are required of all construction projects within SJVAPCD jurisdiction. However, if the amount of fugitive dust generated is substantial, enhanced and additional control measures may be required by SJVAPCD to reduce PM₁₀ emissions.

The SJVAPCD Regulation VIII, Control Measures for Construction Emissions of PM₁₀, as shown in Tables 4.2.I and 4.2.J, are required to be implemented at all construction sites. Compliance with the above Regulation VIII requirements and implementation of applicable control measures, indicated in Tables 4.2.I and 4.2.J, would lessen the fugitive dust impact during construction to a level considered less than significant. Conditions outlined in **Significance Criterion AQ-a** will not occur.

Mitigation Measure AIR-1a: The SJVAPCD Regulation VIII, Control Measures for Construction emissions of PM₁₀, is required to be implemented at all construction sites.

Mitigation Measure AIR-1b: Architectural coatings and asphalt paving conducted on site shall adhere to rules and regulations stated in the SJVAPCD Rulebook, specifically the project will comply with Rule 4601, Architectural Coatings, and 4641, Asphalt Paving.

Table 4.2.I: Regulation VIII Control Measures for Construction Emissions of PM10

<p>Regulation VIII Control Measures. The following controls are required to be implemented at all construction sites (includes changes effective May 15, 2002).</p> <ol style="list-style-type: none">a. All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover.b. All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.c. All land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.d. With the demolition of buildings up to six stories in height, all exterior surfaces of the building shall be wetted during demolition.e. When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained.f. All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions.) (Use of blower devices is expressly forbidden.)

- g. Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.
- h. Within urban areas, trackouts shall be immediately removed when they extend 50 or more feet from the site, and at the end of each workday.
- i. Any site with 150 or more vehicle trips per day shall prevent carryout and trackout.

Source: SJVAPCD, 2002.

Table 4.2.J: Enhanced and Additional Control Measures for Construction Emissions of PM₁₀

<p>Enhanced Control Measures - The following measures shall be implemented at construction sites when required to mitigate significant PM₁₀ impacts (note, these measures are to be implemented in addition to Regulation VIII requirements):</p>
<ul style="list-style-type: none"> • Limit traffic speeds on unpaved roads to 15 mph; and • Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with slope greater than one percent.
<p>Additional Control Measures - The following control measures are strongly encouraged at construction sites that are large in area, located near sensitive receptors, or which for other reason warrant additional emissions reductions:</p>
<ul style="list-style-type: none"> • Install wheel washers for all exiting trucks, or wash off all trucks and equipment leaving the site; • Install wind breaks at windward side(s) of construction areas; • Suspend excavation and grading activity when winds exceed 20 mph; and* • Limit area subject to excavation, grading, and other construction activity at any one time.

Source: SJVAPCD 2002

Notes: *Regardless of windspeed, an owner/operator must comply with Regulation VIII's 20 percent opacity limitation.

Implementation of Mitigation Measures AIR-1a and AIR-1b will lessen fugitive dust impacts to a less than significant level.

Impact AIR-6: The project is not expected to create short-term impact from architectural coatings and asphalt paving.

The proposed project will not create impacts regarding architectural coatings or asphalt paving with implementation of the following regulations:

Architectural coatings and asphalt paving conducted on the project site shall adhere to rules and regulations stated in the SJVAPCD Rulebook. Implementation of Mitigation Measure AIR-1b (Rule 4601, Architectural Coatings, and Rule 4641, Asphalt Paving) would lessen impacts from

architectural coatings and asphalt paving to a level considered less than significant. Conditions outlined in **Significance Criterion AQ-a** will not occur.

Implementation of Mitigation Measure AIR-1b will lessen impacts regarding architectural coatings and asphalt paving to a less than significant level.

Impact AIR-7: The project will create short-term construction equipment exhaust-related impacts.

Air pollutant emissions associated with the project would occur over the short-term from construction activities, such as fugitive dust from site preparation and grading and emissions from equipment exhaust. The SJVAPCD's approach to CEQA analyses of PM₁₀ impacts is to require implementation of effective and comprehensive control measures rather than detailed quantification of emissions. Implementation of Mitigation Measure AIR-1a (Compliance with Regulation VIII and implementation of applicable control measures, indicated in Tables 4.2.I and 4.2.J) will reduce PM₁₀ impacts during construction to a level considered less than significant. No additional measures are recommended, and the conditions outlined in **Significance Criterion AQ-a** will not occur.

Implementation of Mitigation Measure AIR-1a will lessen construction equipment exhaust impacts to a less than significant level.

Impact AIR-8: The project would create long-term air quality impacts.

The land uses associated with the proposed project consists of approximately 933 single family residential units, 129 cluster residential units, 96 condominium units, and a school. The emissions from the proposed project are calculated using URBEMIS. Stationary source emissions from these land uses would be generated from consumption of natural gas, landscaping, and consumer products. The traffic study prepared for this project predicted vehicular trips associated with the proposed project that would contribute to the congestion at intersections and along roadway segments in the project vicinity. As indicated in the traffic analysis, the proposed project would generate a total of 14,300 additional daily vehicular trips. Using the ARB model URBEMIS2002 (version 8.7.0), emissions associated with project-related vehicular trips were calculated and are included in Table 4.2.K. The total projected emissions from long-term project operations of the proposed project are shown in Table 4.2.K.

Table 4.2.K: Project Operational Emissions

Source	Pollutants (tons/year)	
	ROG	NO _x
Proposed Emissions		
Stationary sources:	16.91	4.14
Vehicular traffic:	33.91	46.59
Proposed Subtotal	50.83	50.73
SJVUAPCD Threshold	10	10

Exceeds Threshold?	Yes	Yes
Significant Impact?	Yes	Yes

Source: LSA Associates, Inc., April 2006

As shown above, the project's additional emissions would exceed the SJVAPCD annual emissions thresholds. Implementation of mitigation measures is required to minimize these impacts to the extent feasible. The project would result in total (vehicular and stationary) daily emissions exceeding the daily emissions thresholds established by the SJVAPCD. Mitigation measures are not available that would completely reduce the impacts to less than significant. However, the proposed project will be required to comply with Title 24 of the California Code of Regulations established by the Energy Commission regarding energy conservation standards.

Mitigation Measure AIR-2 - Project Operations Related Impacts

The project applicant shall incorporate the following in building plans:

- a. Solar or low-emission water heaters shall be used with combined space/water heater units.
- b. Double-paned glass or window treatment for energy conservation shall be used in all exterior windows.
- c. Buildings shall be oriented north/south where feasible.

Implementation of Mitigation Measures AIR-1a, AIR-1b, and AIR-2, as well as GCC-1 through GCC-9 will help to reduce the project's air quality impacts. Even with the implementation of these mitigation measures, this impact will remain significant and unavoidable.

Cumulative Impacts

Cumulative Projects. Past development in the county and throughout the San Joaquin Valley has resulted, in combination with meteorological conditions and transport of pollutants from other air basins, in substantial to severe air quality problems in the San Joaquin Valley Air Basin (SJVAB). As above, San Joaquin County is in nonattainment for ozone and particulate matter 10 microns or less in diameter (PM10). As a result, the San Joaquin Valley Air Pollution Control District (SJVAPCD) has established a significance threshold of 10 tons per year (tpy) for oxides of nitrogen (NOX) and reactive organic gases (ROG), ozone precursors, during construction. For PM10, SJVAPCD requires implementation of effective and comprehensive control measures and compliance with applicable rules and regulations rather than detailed quantification of construction emissions. Construction of the project would contribute cumulatively to the local and regional air pollutants, together with other projects under construction. The project would result in significant operational air quality impacts. Thus, it is anticipated that these additional emissions would result in significant cumulative air quality impacts.

Construction Impacts. A number of individual projects in the City will be under construction simultaneously with the proposed project. Depending on construction schedules and actual implementation of projects in the area, generation of fugitive dust and pollutant emissions during construction may result in substantial short-term increases in air pollutants. However, all construction projects in the San Joaquin Valley are required to meet the requirements of Regulation VIII. The SJVAPCD has determined compliance with Regulation VIII reduces construction related air impacts to a less than significant level. Additionally, the SJVAPCD has included construction emissions as part of the Air Quality Attainment Plan. Therefore construction of this project and cumulative projects in the region would not impede the regions attainment of air quality standards.

Long-Term Operational Impacts. The incremental daily emission increase associated with project operational trip generation is identified in Section 4.2, Air Quality for reactive organic gases (ROG) and nitrogen oxides (NO_x) (two precursors of ozone) and coarse particulate matter (PM₁₀). The SJVAPCD has established thresholds of significance for ozone precursors and fugitive dust of 10 pounds per day. The project regional emissions are based on the additional vehicle trips generated by the proposed project. The emissions associated with the project would be considered significant.

Long-term emissions from related projects, considered in light of the nonattainment status of the air basin, would be cumulatively significant. The proposed project would result in significant and unavoidable long-term regional (operational)-related air quality impacts and would exceed the SJVAPCD thresholds. It would, therefore, contribute considerably to the cumulative air quality impact. Related projects would contribute to a similar degree. Project-related air emissions, cumulative development air emissions, and air emissions from other reasonably foreseeable future projects in the SJVAB as a whole would continue to contribute to long-term increases in emissions that would exacerbate existing and projected nonattainment conditions. Thus, the proposed project would contribute considerably to a significant and unavoidable cumulative air quality impact. With respect to mitigation, the DEIR includes all available feasible mitigation to reduce the proposed project's contribution to cumulative air quality impacts. However, while mitigation measures would substantially reduce air emissions from the proposed project, they are not sufficient to reduce the proposed project's cumulative contribution to below a level that is not considerable. Therefore, the proposed project would contribute considerably to cumulatively significant and unavoidable air quality impacts associated with ROG and NO_x during long-term operation of the proposed project.

Toxic Air Contaminants. Given that compliance with applicable rules and regulations would be required for the control of stationary-source emissions of toxic air contaminants (TACs), both on- and off the site, the proposed project's contribution to longterm cumulative increases in stationary-source TAC concentrations would be considered minor. Construction of proposed project would result in temporary, short-term diesel exhaust emissions from on-site heavy duty equipment. Construction of the proposed project would result in the generation of diesel particulate matter (PM) emissions from the use of off-road diesel equipment required for site grading and excavation, paving, and other construction-related activities. The use of mobilized equipment would be temporary and there are few sensitive receptors located immediately adjacent to the construction site.

4.2.4 Level Of Significance After Mitigation

The above mitigation measures combined with Mitigation Measures GCC-1 through GCC-9 will assist in reducing the project impacts on air quality although impacts cannot be completely mitigated. The proposed project will result in project-level and cumulative-level air quality impacts that are significant and unavoidable.

4.15 GLOBAL CLIMATE CHANGE

In June of 2008, the Office of Planning and Research (OPR) issued a technical advisory concerning CEQA and climate change. The technical advisory is provided by the OPR as a service to CEQA practitioners. OPR publishes technical guidance from time to time on issues that broadly affect the practice of CEQA and land use planning. The following section has been prepared in accordance with this technical advisory.

4.15.1 Existing Setting

Global climate change is happening not because of natural processes, or gradually over thousands of years. Rather, temperatures are rising quickly and dramatically, climbing with the concentrations of greenhouse pollutants that are released into the Earth's atmosphere. Global climate change is a result of human activities.

The effects of global climate change are already present - disappearing glaciers, shrinking snow pack, droughts, coastal erosion, bigger and more regular storms, and more extreme heat waves. Since 2006, eleven of the past twelve years are on the list of the twelve warmest years since reliable record keeping began in 1850. Arctic sea ice declined in 2006 by the largest amount ever, losing an area roughly the size of Texas and California combined.

Greenhouse gases (GHG), including carbon dioxide, methane, water vapor, nitrous oxide, and other atmospheric gases, play an important role in regulating the surface temperature of the Earth. The Earth's atmosphere acts like a greenhouse, warming the planet similar to a greenhouse warming the air inside its glass walls. GHGs allow light to penetrate, and prevent heat from escaping. GHGs are transparent to solar radiation and are effective in absorbing infrared radiation. As a result, radiation that otherwise would reflect back into space is retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect.

The increased consumption of fossil fuels (wood, coal, gasoline, etc.) has substantially increased atmospheric levels of greenhouse gases. As atmospheric concentrations of greenhouse gases rise, so do temperatures. Over time this rise in temperatures would result in climate change. Theories concerning climate change and global warming existed as early as the late 1800s. By the late 1900s that understanding of the earth's atmosphere had advanced to the point where many climate scientists began to accept that the earth's climate is changing. Many climate scientists agree that some warming has occurred over the past century and will continue through this century.

Common Greenhouse Gases:

Carbon dioxide (CO₂) is an odorless, colorless gas, which has both natural and anthropogenic sources. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources of carbon dioxide are from burning coal, oil, natural gas, and wood. Concentrations of carbon dioxide were 379 parts per million (ppm) in 2005, which is an increase of 1.4 ppm per year since 1960. In California, the most common GHG is CO₂, which constitutes approximately 84 percent of all GHG emissions. CO₂ emissions in California are mainly associated

with in-state fossil fuel combustion and with fossil fuel combustion in out-of-state power plants supplying electricity to California. Other activities that produce CO₂ emissions include mineral production, waste combustion, and land use changes that reduce vegetation.

Methane (CH₄) is a flammable gas and is the main component of natural gas. When one molecule of methane is burned in the presence of oxygen, one molecule of carbon dioxide and two molecules of water are released. There are no adverse health effects from methane. A natural source of methane is from the anaerobic decay of organic matter. Geologic deposits, known as natural gas fields, also contain methane, which is extracted for fuel. Other sources are from landfills, fermentation of manure, and cattle.

Water vapor (H₂O) is the most abundant and important GHG. Water vapor maintains a climate necessary for life. The main sources of water vapor are evaporation, sublimation (change from solid to gas of ice and snow), and transpiration from plants.

Nitrous oxide (N₂O) is a colorless greenhouse gas produced by microbial processes in soil and water, including reactions in fertilizer containing nitrogen. Anthropogenic sources include vehicle emissions, fossil-fuel fired power plants, nylon production, nitric acid production, etc. Nitrous oxide is produced by microbial processes in soil and water, including those reactions that occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load.

Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone; therefore, their production was stopped as required by the Montreal Protocol in 1987.

Hydrofluorocarbons (HFCs) are synthetic man-made chemicals that are used as a substitute for CFCs for automobile air conditioners and refrigerants.

Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light. Aerosols can also affect cloud formation. Sulfate aerosols are emitted when fuel-containing sulfur is burned. Black carbon (or soot) is emitted during bio mass burning or incomplete combustion of fossil fuels. Particulate matter regulation has been lowering aerosol concentrations in the United States; however, global concentrations are likely increasing.

Sulfur hexafluoride (SF₆) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It has the highest GWP of any gas evaluated, 23,900. Concentrations in the 1990s were about 4 ppt (EPA 2006). Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

Individual GHGs have varying warming potentials and atmospheric lifetimes. The potential for a GHG to hold heat in the atmosphere is considered its global warming potential (GWP). Carbon Dioxide (CO₂) is the reference gas for measuring GWP. CO₂ has a GWP of one. Methane (CH₄) is a more potent GHG than CO₂. Each ton of CH₄ has 21 times the effect on global warming as one ton of CO₂. Therefore, CH₄ has a GWP of 21. Multiplying the GWP for each non-CO₂ GHG provides a standardized carbon dioxide equivalent (CO₂ e), which enables a project's combined global warming potential to be expressed. Table 4.15.A presents the GWPs and estimated lifetimes of common GHGs.

Table 4.15.A: Green House Gases Lifetimes

Greenhouse Gas	Atmospheric Lifetime (Years)	Global Warming Potential (100 Year Time Horizon)
Carbon Dioxide (CO ₂)	50-200	1
Methane (CH ₄)	12 ± 3	21
Nitrous Oxide (N ₂ O)	120	310

Source: Intergovernmental Panel on Climate Change, 2001

Greenhouse gases in the atmosphere provide hospitable surface temperatures necessary to sustain life on earth. Human activities, however, such as the burning of fossil fuels, have contributed increasing concentrations of heat-trapping GHGs into the atmosphere. Over the past 200 years the global concentration of CO₂ has substantially increased, and it is widely accepted that anthropogenic sources of GHGs are contributing to global climate change.

The specific climatic mechanisms, duration, and severity of effects, however, are not fully understood. A variety of mechanisms and complex feedback loops interact to establish the average global temperature. A change in ocean temperature, for example, may alter circulating ocean currents, which may change ocean temperatures (as seen in el Niño and la Niña events).

According to the National Oceanic and Atmospheric Administration and the National Aeronautics and Space Administration, the Earth's average surface temperature has increased by about 1.2 to 1.4 Degrees Fahrenheit since 1900. The United Nations Intergovernmental Panel on Climate Change (IPCC) predicts that global mean temperature from 1990 to 2100 is expected to rise by 1.1°C to 6.4°C (IPCC 2007).

California is one of the largest contributors of GHGs in the U.S., and has been listed as the sixteenth largest emitter in the world. Transportation activities contribute about 40 percent of the state's total GHG emissions, and electricity generation, the second largest source in the state, contributes over 20 percent of our GHG emissions. Other sources of GHG emissions include manufacturing, agriculture, and other activities.

Worldwide, U.S. & California Emissions of GHG

In 2004, total worldwide GHG emissions were estimated to be 20,135 Tg CO₂ Eq., excluding emissions/removals caused by removal of vegetation and forestry. (Note that sinks, or GHG removal processes, plays an important role in the GHG inventory as forest and other vegetative land uses such as agriculture and rain forest absorb carbon).

In 2004, GHG emissions in the U.S. were 7,074.4 Tg CO₂ Eq. In 2005, total U.S. GHG emissions were 7,260.4 Tg CO₂ Eq., a 16.3 percent increase from 1990 emissions, while U.S. gross domestic product has increased by 55 percent over the same period. Emissions rose from 2004 to 2005, increasing by 0.8 percent. The main causes of the increase were: (1) strong economic growth in 2005, leading to increased demand for electricity; and (2) an increase in the demand for electricity due to warmer summer conditions. However, a decrease in demand for fuels due to warmer winter conditions and higher fuel prices moderated the increase in emissions.

California is a substantial contributor of GHG emissions as it is the second largest contributor in the U.S. and the sixteenth largest in the world. In 2004, California produced 492 Tg CO₂ Eq., which is approximately seven percent of the total nationwide GHG emissions. On the other hand, among the states, California has the fourth lowest per capita rate of GHG emissions, due to its temperate climate and to its enhanced energy regulations. The major source of GHG in California is transportation, contributing 41 percent of the State's total GHG emissions. Electricity generation is the second largest source, contributing 22 percent of the State's GHG emissions.

A study of California's greenhouse gas emissions from 1990 to 2004 concluded emissions from burning gasoline and jet fuel topped other sources, making up 40.7 percent of carbon dioxide pollution. Electricity generation accounted for 22.2 percent, industrial sources for 20.5 percent and agriculture and forestry for 8.3 percent. Other sources rounded out the equation at 8.3 percent. Carbon dioxide made up 84 percent of the state's total greenhouse gas emissions.

Effects of Global Climate Change in California

The impacts from global warming are widespread and potentially devastating. The impacts are immediate, and they will continue to grow. As stated in a report to the Governor in March 2006,

Today's climate variability and weather extremes already pose significant risks to California's citizens, economy, and environment. They reveal the State's vulnerability and existing challenges in dealing with the vagaries of climate. Continued climate changes, and the risk of abrupt or surprising shifts in climate, will further challenge the state's ability to cope with climate-related stresses.

The Earth's average surface temperature will increase between 2.5° and 10.4°F (1.4°-5.8°C) between 1990 and 2100 if no major efforts are undertaken to reduce the emissions of greenhouse gases (the "business-as-usual" scenario). This is significantly higher than what the Intergovernmental Panel on Climate Change (IPCC) Panel predicted in 1995 (1.8°-6.3°F, or 1.0°-3.5°C), mostly because scientists expect a reduced cooling effect from tiny particles (aerosols) in the atmosphere, secondary impacts to the natural environment in California may include:

- a. **Eroding Coastlines:** Rising sea levels along the California coastline, particularly in San Francisco and the San Joaquin Delta. During the past century, sea levels along California's coast have risen about seven inches. If global warming emissions continue unabated, sea level is expected to rise an additional 22 to 35 inches by the end of the century, inundating coastal areas with salt water, accelerating coastal erosion, threatening vital levees and inland water systems,

and disrupting wetlands and natural habitats. In particular, saltwater intrusion would threaten the quality and reliability of the state's major fresh water supply that is pumped from the southern edge of the Sacramento/San Joaquin River Delta into the system of aqueducts which carry it to Southern California.

- b. **Severe Heat:** Extreme-heat conditions, such as heat waves and very high temperatures, which could last longer and become more frequent. As temperatures rise from global warming, the frequency and severity of heat waves will grow—as will the potential for bad air days. The risk of illness and death due to dehydration, heart attack, and stroke, will increase as a result. Those most likely to suffer are children, the elderly, and other vulnerable populations.
- c. **Air Quality:** An increase in heat-related human deaths, infectious diseases, and a higher risk of respiratory problems caused deteriorating air quality. Global warming increases the frequency, duration, and intensity of conditions conducive to the formation of smog. Most vulnerable are the elderly, those whose health is already compromised (such as children with asthma).
- d. **Losses to the Sierra Snow Pack:** Reduced snowpack and stream flow in the Sierra Nevada Mountains, affecting winter recreation and water supplies. Higher temperatures diminish snowfall and cause the snow that does fall to melt earlier. This reduces the amount of water stored in the Sierra snow pack, which accounts for approximately half of the surface water stored in the State. Reductions and early melting of the snow pack will aggravate the State's already overstretched water resources and cause increased flooding.
- e. **Severity of Storms:** Potential increase in the severity of winter storms, which can affecting peak stream flows and increase flooding along waterways and low line area. These heavy runoffs of remove natural minerals which are important to local ecosystems. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.
- f. **Damage to Agriculture:** Changes in growing season conditions that could affect California agriculture, causing variations in crop quality and yield. By reducing the State's natural water storage capacity, raising temperatures, increasing salt water intrusion in agricultural regions, causing flooding, and increasing the risk of pest infestations and other calamities, global warming poses a serious threat to California's \$68 billion agricultural industry. In fact, during the period 1951 to 2000, the growing season lengthened by about a day per decade, this increased crops' exposure to heat ("degree days"). Such changes threaten many of the State's most valuable crops, including stone fruits, grapes, tomatoes and lettuce. Global warming also threatens livestock. The 2006 summer heat wave killed thousands of dairy cows in California's Central Valley and caused a decrease in milk production in surviving animals.
- g. **Habitat Modification and Destruction:** Changes in distribution of plant and wildlife species due to changes in temperature, competition from colonizing species, change in hydrologic cycles, and other climate-related effects. While it is difficult to generalize what impacts the changing climate has on the State's varied ecosystems, it already is clear that rising temperatures, altered water supplies, and other environmental variations make some habitats less hospitable for sensitive plants and animals. For example, some local populations of the threatened checkerspot butterfly already have disappeared due to changes in the weather (Stanford Report, May 14, 2004). A similar fate could await other species, such as trout and salmon, which favor cold water and are extremely sensitive to slight changes in temperature. Further, marine algae blooms, associated in part with increases in ocean temperatures, have

proliferated in the past eight years and may help explain the alarming increase in beachings and mass die-offs of whales, dolphins, and other ocean mammals that the federal government has documented over the last quarter century. In California alone, more than 14,000 seals, sea lions and dolphins have landed sick or dead along the shoreline in the last decade.

- h. **Higher Risk of Wildfires:** Pest infestation and increasing temperatures make forests more vulnerable to fires. Wildfires are a major environmental hazard that have historically cost California more than \$800 million each year and contribute to "bad air days" throughout the state. As global warming accelerates, so will these wildfires, and the damage to health and property that they cause. By century's end, the State may have as many as 55 percent more large wildfires.
- i. **Increase Demand for Electricity:** Rising temperatures lead to increased demand for electricity and pressure on the State's supply system. During the summer of 2006 heat wave, power usage in Los Angeles rose so dramatically, that it caught power officials completely off guard.
- j. **Financial Cost to Californians:** Apart from the potentially devastating impacts that climate change will have on California's natural resources, public health, and its economy, global warming already places a tremendous strain on the State finances. The State must pay for programs to re-build levees that protect agricultural lands against salt water infiltration; to study and respond to the impacts of a reduced Sierra snow pack on California's water supply; to protect wildlife and habitats from climate-related degradation; to respond to coastal erosion; to prepare for the increased risk of wildfires; to respond to the increased health risks associated with rising temperatures and declining air quality, and more.

These changes in California's climate and ecosystems are occurring at a time when California's population is expected to increase from 34 million to 59 million by the year 2040 (California Energy Commission 2005). As such, the numbers of people potentially affected by climate change as well as the amount of anthropogenic GHG emissions expected under a "business as usual" scenario are expected to increase. Similar changes as those noted above for California would also occur in other parts of the world with regional variations in resources affected and vulnerability to adverse side effects.

State-wide temperature increases due to fossil-fuel consumption are correlated to the severity of the natural environmental impacts as noted in Table 4.15.B.

Regulatory Setting

A variety of governmental agencies have initiated programs directed towards the regulatory environment. These include the United Nations Agreements, and recent California State Legislation and regulations that specifically address greenhouse gas emissions and global climate change. At the time of writing, there are no known applicable regulations setting ambient air quality emissions standards for greenhouse gases.

Table 4.15.B: Climate Change Scenarios for California

IPCC Emissions Scenarios	Summary of Projected Global Warming Impacts (2070-2099, as compared to 1961-1990)	State-wide Temperature Rise
<p>Higher Emissions: Rapid, fossil-fuel intensive growth</p>	<ul style="list-style-type: none"> • 90% loss in Sierra snow pack • 22-30 inches of sea level rise • 3-4 times as many heatwave days in major urban centers • 2.5 times the number critically dry years • 4-6 times as many heat-related deaths in major urban centers • 20% increase in electricity demand • Increase in days meteorologically conducive to ozone formation 	<p>Higher Warming Range: 8-10.4 °F</p>
<p>Medium-High Emissions: Primarily fossil-fuel dependent growth with some green technology</p>	<ul style="list-style-type: none"> • 70- 80 % loss in Sierra snow pack • 14-22 inches of sea level rise • 2.5-4 times as many heatwave days in major urban centers • 2-6 times as many heat-related deaths for major urban centers • 75-85% increase in days meteorologically conducive to ozone formation • 2-2.5 times the number critically dry years • 11% increase in electricity demand • 30% decrease in forest yields (pine) • 55% increase in the expected risk of large wildfires 	<p>Medium Warming Range: 5.5-7.9 °F</p>
<p>Lower Emissions: Shift to service & information economy with lots of green technology</p>	<ul style="list-style-type: none"> • 30-60 % loss in Sierra snow pack • 6-14 inches of sea level rise • 2-2.5 times as many heatwave days in major urban centers • 2-3 times as many heat-related deaths for major urban centers • 25-35% increase in days meteorologically conducive to ozone formation • Up to 1-1.5 times the number critically dry years • 3-6 % increase in electricity demand • 7-14% decrease in forest yields (pine) • 10-35% increase in the risk of large wildfires 	<p>Lower Warming Range: 3.0-5.4 °F</p>

Source: Cayan, D., Luers, A., Hanemann, M., Franco, G. and Croes, B. 2006.

California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, were established in 1978 and are updated periodically to allow incorporation of new energy efficiency technologies and methods. The latest amendments require new homes to use half the energy they used a decade ago. Electricity production by fossil fuels results in GHG emissions. Energy efficient buildings require less electricity. Increased energy efficiency, therefore, results in decreased greenhouse gas emissions.

Assembly Bill 1493: In 2002, Governor Gray Davis signed Assembly Bill (AB) 1493. AB 1493 requires that the California Air Resources Board (ARB) develop and adopt, by January 1, 2005, regulations that achieve "the maximum feasible reduction of greenhouse gases emitted by passenger vehicles and light-duty trucks and other vehicles determined by the ARB to be vehicles whose primary use is noncommercial personal transportation in the state." However, setting emission standards on automobiles is solely the responsibility of the federal Environmental Protection Agency (USEPA). The Federal Clean Air Act allows California to set state-specific emission standards on automobiles if it first obtains a waiver from the USEPA. On December 19, 2007 the USEPA denied California's request for a waiver. In response, California sued the USEPA claiming that the denial was not based on the scientific data.

Executive Order S-3-05: Executive Order S-3-05, which was signed by Governor Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. The order declares that increased temperatures could reduce the Sierra's snow pack, further exacerbating California air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the Executive Order established total greenhouse emission targets. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80% below the 1990 level by 2050.

The Executive Order directed the Secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce greenhouse gas emissions to the target levels. The Secretary will also submit biannual reports to the governor and state legislature describing: (1) progress made toward reaching the emission targets; (2) impacts of global warming on California's resources; and (3) mitigation and adaptation plans to combat these impacts. To comply with the Executive Order, the Secretary of the CalEPA created a Climate Act Team (CAT) made up of members from various state agencies and commission. CAT released its first report in March 2006. The report proposed to achieve the targets by building on voluntary actions of California businesses, local government and community actions, as well as through state incentive and regulatory programs.

Assembly Bill 32, The California Climate Solutions Act of 2006: In September 2006, the Global Warming Solutions Act of 2006 (AB 32) was signed into law by Governor Arnold Schwarzenegger. It was the first legislation cutting global warming pollution in the United States. AB 32 requires that statewide greenhouse gas emissions are reduced to 1990 levels by the year 2020, this result in roughly a 25% reduction under business as usual estimates. This reduction will be accomplished through an enforceable statewide cap on greenhouse gas emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs ARB to develop and implement regulations to reduce statewide greenhouse gas emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address greenhouse gas emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then ARB should develop new regulations to control vehicle greenhouse gas emissions under the authorization of AB 32.

AB 32 requires that the California Air Resources Board (CARB) adopt a quantified cap on greenhouse emissions representing 1990 emissions levels and disclose how it arrives at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the state achieves reductions in greenhouse gas emissions necessary to meet the cap. AB 32 also includes guidance to institute emissions reductions in an economically efficient manner and conditions to ensure that businesses and consumers are not unfairly affected by the reductions.

Senate Bill 1368: SB 1368 is the companion bill of AB 32 and was signed by Governor Schwarzenegger in September 2006. SB 1368 requires the California Public Utilities Commission (CPUC) to establish a greenhouse gas emission performance standard for base load generation from investor owned utilities. On January 25, 2007, the CPUC adopted an interim GHG Emissions Performance Standard (EPS), which is a facility-based emissions standard requiring that all new long-term commitments for baseload generation to serve California consumers be with power plants that have GHG emissions no greater than a combined cycle gas turbine plant. That level is established at 1,100 pounds of CO₂ per megawatt-hour (MW-hr). Further, on May 23, 2007, the California Energy Commission (CEC) adopted regulations that establish and implement an EPS of 1,100 pounds of CO₂ per MW-hr (see CEC order No. 07-523-7).

These standards cannot exceed the greenhouse gas emission rate from a base load combined-cycle natural gas fired plant. The legislation further requires that all electricity provided to California, including imported electricity, must be generated from plants that meet the standards set by the PUC and CEC.

Senate Bill 97: California Senate Bill 97 (SB 97), passed in August 2007, is designed to work in conjunction with CEQA and AB 32. SB 97 requires the Office of Planning and Research (OPR) to prepare and develop guidelines for the mitigation of GHG emissions or the effects thereof, including but not limited to, effects associated with transportation and energy consumption. These guidelines must be transmitted to the Resources Agency by July 1, 2009, to be certified and adopted by January 1, 2010. The OPR and the Resources Agency shall periodically update these guidelines to incorporate new information or criteria established by CARB. SB 97 will apply retroactively to any EIR, negative declaration, mitigated negative declaration, or other document required by CEQA, which has not been finalized. Under SB 97, transportation projects funded under the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006, and projects funded under the Disaster Preparedness and Flood Prevention Bond Act of 2006 are exempted from analyzing the effects of GHGs in an EIR, negative declaration, mitigated negative declaration, or other CEQA document.

Massachusetts v. Environmental Protection Agency: There has also been activity at the federal level with respect to the regulation of GHGs. In *Massachusetts v. Environmental Protection Agency*, 127 S.Ct. 1438 (2007), the U.S. Supreme Court held that not only did the USEPA have authority to regulate greenhouse gases, but that the agency's reasons for not regulating this area did not fit the statutory requirements. The U.S. Supreme Court ruled that CO₂ and other greenhouse gases are pollutants under the Federal Clean Air Act, which USEPA must regulate if it determines they pose an endangerment to public health or welfare. To date, the USEPA has not made such a finding or developed a regulatory program for greenhouse gas emissions

4.15.2 Impact Significance Criteria

California has not adopted thresholds of significance for GHG emissions. As noted above, California has established a goal of reducing statewide GHG emissions to below 1990 levels. The climate theories, methodologies and threshold discussions are evolving at a rapid pace with new ideas constantly emerging with respect to global climate change as acknowledged by the Attorney General's office and the scientific community. Disagreements among professionals and the governmental institutions continue to dominate current events leading to the uncertainty for accurately forecasting the potential changes due to any individual project, decision or circumstance. Nevertheless, it is generally agreed that the application of mitigation measures directed towards reducing air quality degradation, energy savings and reduction on the dependency of vehicular usage will lessen the contribution of greenhouse gas emissions and ultimately slow down the consequences associated with global climate changes.

This EIR considers the GHG emissions from the project significant, or "cumulatively considerable," if implementation of the project would:

GCC-a: Substantially increase the total contribution of GHG emissions above current levels.

4.15.3 Impacts and Mitigation Measures

Impact GCC-1: GHG emissions associated with the implementation of the project could result in direct, indirect, and other project-related GHG emission that could substantially increase the total contribution of GHG emissions above current levels.

An analysis of The Preserve's three most important GHG emissions (CO₂, CH₄, and N₂O) is presented below. The emissions of the individual gases were estimated and then converted to their CO₂ equivalents (CO₂e) using the individually determined global warming potential (GWP) of each gas. Thus, total GHG emissions = total CO₂ emissions + total CO₂e emissions from CH₄ and N₂O.

Implementation of the proposed Preserve Development Plan would generate greenhouse gases through the construction and operation of new residential and recreational uses. GHG emissions from the project would specifically arise from project construction and from sources associated with project operation, including direct sources such as motor vehicles, natural gas consumption, solid waste handling/treatment, and indirect sources such as electricity generation.

Average annual uses of electricity and natural gas for residential land uses combined with vehicle trips per day are estimated for the proposed project in Table 4.15.C. Also shown in Table 4.15.C are the estimated project-related greenhouse gas emissions.

Table 4.15.C: Project Specific Analysis

Project Parameters	
	2009
Vehicles (trips/day)	12,000
Electricity used (MWh/year)	10,700
Natural Gas burned (cf/day)	299,000

Emission Source	Emissions (tons per year)				%
	CO ₂	CH ₄	N ₂ O	CO ₂ e ¹	
Vehicles	16,000	6.22	1.72	16,700	63%
Electricity Production	3,260	0.0358	0.0198	3,270	12%
Natural Gas Combustion	6,550	0.126	0.12	6,590	25%
Total Annual Emissions	25,800	6.38	1.86	26,560	100%

Based on the above emissions, the total CO₂e are calculated below and are expressed in metric tonne per year (Tg).

Emission Source	Total CO ₂ e (Tg per year)
Vehicles	0.0151
Electricity Production	0.0030
Natural Gas Combustion	0.0060
Total (CO ₂ e.)	0.0241

1.1025 tons/metric tonne
1,000,000 metric tonne/Tg

Area GHG Usage		Year of data	
State	492 Tg/year		2004

Global warming potentials (GWPs) are used to compare the abilities of different GHGs to trap heat in the atmosphere. GWPs are based on the radiative efficiency (heat-absorbing ability) of each gas relative to that of CO₂, as well as the decay rate of each gas (the amount removed from the atmosphere over a given number of years) relative to that of CO₂. The GWP provides a construct for converting emissions of various gases into a common measure, which allows climate analysts to aggregate the radiative impacts of various GHGs into a uniform measure denominated in carbon or CO₂ equivalents.

The generally accepted authority on GWPs is the Intergovernmental Panel on Climate Change (IPCC). In 2001, the IPCC updated its estimates of GWPs for key GHGs. The table below lists the GWPs to calculate carbon dioxide equivalents (CO₂e.)

¹ CO₂e represents total emissions (equivalent) inclusive of a conversion factor for the Global Warming Potential.

Global Warming Potential

Gas	Atmospheric Lifetime (years)	Global Warming Potential (100 year time horizon)
Carbon Dioxide	50-200	1
Methane	12 ± 3	21
Nitrous Oxide	120	310
HFC-23	264	11,700
HFC-134a	14.6	1,300
HFC-152a	1.5	140
PFC: Tetrafluoromethane (CF ₄)	50,000	6,500
PFC: Hexafluoromethane (C ₂ F ₆)	10,000	9,200
Sulfur Hexafluoride (SF ₆)	3,200	23,900

Construction GHG Emissions

The project would emit greenhouse gases during construction of the project from the operation of construction equipment and from worker and building supply vendor vehicles. Because the specific size, location, and construction techniques and scheduling that will be utilized for development occurring within the project site is not currently known, the provision of precise emission estimates for development is not currently feasible and would require the City to speculate regarding future projects' potential environmental impacts. As such, the City is not required to engage in such speculation (CEQA Guidelines, Section 15145).

Operational GHG Emissions

The Preserve Development Plan would generate GHG during its operation, principally from motor vehicle use, electricity and natural gas consumption, and solid waste disposal.

Motor Vehicle GHG Emissions: The largest source of GHG emissions associated with the proposed project would be on-and-off site motor vehicle use. CO₂ emissions, the primary greenhouse gas from mobile sources, are directly related to the quantity of fuel consumed. Two important determinants of transportation-related GHG emissions are vehicle miles traveled (VMT) and vehicle fuel efficiency. VMT in the California region has steadily increased over the last quarter-century.

However, while gross incremental global warming impacts related to vehicle or energy usage associated with a project can be quantified, gross calculations result in over counting of emissions because they do not take into account the fact that these emissions are not "new" in a global sense, even if they are newly attributable to a particular project. For example, to determine the increment of change in GHG emissions that is a result of a proposed project's vehicle trips, it would not be sufficient or accurate simply to quantify GHG emissions based on vehicle miles traveled, unless those vehicle miles can be compared to the vehicle miles that are already being traveled by persons who may move to an area that is proposed to be developed. There is not yet any methodology for determining the increment of change that should be attributed to a project, which might result in some drivers relocating from other areas. Further, these calculations are "today's current numbers" in that

they do not take into account anticipated regulatory changes in vehicle efficiency standards which will reduce per vehicle GHG emissions over time.

CO₂ emissions during operation of the project at buildout were estimated using URBEMIS2007. Total CO₂ emissions related to the operation of motor vehicles would be 16,000 tons per year. Combustion of fossil fuels also generates CH₄ and N₂O.

In total, the proposed project would be anticipated to increase greenhouse gas emissions (CO₂e) attributable to mobile sources by 16,700 tons per year. Although motor vehicle energy consumption would increase under the proposed project, the transportation demand management plan and traffic improvements proposed for the project are designed to improve energy efficiency of the transportation system by increasing use of more fuel-efficient public transit, carpools, and vanpools, and improving circulation system levels of service. Any reductions in traffic congestion realized through implementation of enhanced transit operations would also allow for more energy-efficient vehicular travel.

Electricity and Natural Gas GHG Emissions: The proposed project would use electricity for its residential, school, park and other components, which would contribute to GHG emissions. The generation of electricity through the combustion of fossil fuels typically yields CO₂ and, to a much smaller extent, CH₄ and N₂O. CO₂ emissions during operation of the project at buildout were estimated using URBEMIS2007. Total CO₂ emissions related to electricity and natural gas is 9,860 tons per year.

Solid Waste GHG Emissions: The Preserve Development Plan includes a school, parks and residential homes. Solid waste generated by the project would contribute to State's GHG emissions. Treatment and disposal of municipal, industrial and other solid waste produces significant amounts of CH₄. In addition to CH₄, solid waste disposal sites also produce biogenic CO₂ and non-methane volatile organic compounds (NMVOCs) as well as smaller amounts of N₂O, nitrogen oxides (NO_x) and carbon monoxide (CO). CH₄ produced at solid waste sites contributes approximately 3 to 4 percent to the annual global anthropogenic GHG emissions (IPCC, 2001).

Waste management practices in California have changed significantly over the last decade. State mandated waste minimization and recycling/reuse policies have been introduced to reduce the amount of waste disposed of in landfills, and alternative waste management practices to solid waste disposal on land have been implemented to reduce the environmental impacts of waste management. Landfill gas recovery has become more common as a measure to reduce CH₄ emissions from solid waste disposal sites.

Other Greenhouse Gas Emissions: At present, there is a federal ban on CFCs; therefore, it is assumed the project will not generate emissions of CFCs. The project may emit a small amount of HFC emissions from leakage and service of refrigeration and air conditioning equipment and from disposal at the end of the life of the equipment. However, the details regarding refrigerants to be used in the project and the capacity of these are unknown at this time. PFCs and sulfur hexafluoride are typically used in industrial applications, none of which would be used by the project. Therefore, it is not anticipated that the project would contribute significant emissions of these additional greenhouse gases.

Project Findings

Based on project-related greenhouse gas emissions estimates, it is anticipated that the project emissions will contribute to the global inventory of greenhouse gas emissions. The quantitative analysis above indicates that the project's greenhouse gas emissions would not be considered substantial.

The design concept for The Preserve Development Plan is based upon a set of guiding principles that are intended to result in successful residential neighborhoods and communities. These principles balance the requirements for vehicular access with pedestrian access, density with open space, and facilities with community needs. A well balanced land development plan ultimately reduces vehicular dependency, conserves energy, and reduces project emissions ultimately contributing less or even reversing long-term climate changes and the consequences of global warming.

The issue of global climate change has become increasingly important in the CEQA process. As a result, the City of Stockton, recognizing the significant issue of global climate change and greenhouse gas emissions, has encouraged the development industry to consider implementing new programs such as the Build It Green program. Therefore, the City and the applicant have agreed that additional design features to further reduce the project's greenhouse gas emissions are appropriate.

To further ensure that the proposed development minimizes its contribution to global warming/climate change, the following applicable mitigation measures will be implemented:

Build It Green Program

Mitigation Measure GCC-1. The owners, developers and/or successors-in-interest (ODS) shall be subject to and comply with the City's adopted "Build It Green" Program, green point rated guidelines in effect at the time of construction. In the absence of a City adopted program, the ODS shall adhere to the guidelines of the California Green Builder Program, which is recognized by the California Energy Commission. Accordingly, the ODS shall adhere to the following standards:

- a. The builders of non-residential construction in the Preserve Planned Development Project will comply with LEED Silver-certified standards in effect at the time of construction. The builders of non-residential construction will be required to participate in the formal LEED Silver inspection and certification process.
- b. Utilize building insulation that exceeds Title 24 standards. Utilize high-performance windows that employ advanced technologies, such as protective coatings and improved frames, to retain heat during winter and prevent heat during summer.
- c. Incorporate building techniques that ensure tight building construction and efficient duct systems. Require the use of efficient heating and cooling equipment for all residential buildings.
- d. Utilize efficient building products with standards the meet *EnergyStar*TM criteria. *EnergyStar*TM qualified homes may also be equipped with *EnergyStar*TM qualified products-

lighting fixtures, compact fluorescent bulbs, ventilation fans, and appliances, such as refrigerators, dishwashers, and washing machines.

- e. Require the use of reflective, *EnergyStar*TM cool roofs on all building structures in the project.

Emission Reduction/Air Quality

Mitigation Measure GCC-2. The owner, developer, and/or successor-in-interest (ODS) shall address the impacts from project-related emissions through the implementation of the following measures:

- a. File an application for each proposed tentative subdivision map or other final entitlements to the San Joaquin Valley Air Pollution Control District (APCD) for a permit pursuant to Rule 9510 indirect Source Rule (ISR), if applicable. The ODS shall incorporate emission reduction measures into the project and pay ISR fees as required by the APCD.
- b. Prohibit wood-burning fireplaces and wood stoves within the project.

Land Use

Mitigation Measure GCC-3. The owner, developer and/or successors-in-interest are required to implement the following measures regarding land use to reduce greenhouse gas emission impacts for the proposed project.

- a. Provide sidewalks and pedestrian paths throughout as much of the project as possible and connect to open space areas, parks, and schools to encourage walking and bicycling.
- b. Mid-block paths shall be installed to facilitate pedestrian movement through long blocks and cul-de-sacs.
- c. To the extent practicable, the comprehensive bicycle circulation system shall provide access to all neighborhoods and amenities within the proposed project and enhances comfort and safety for pedestrians by offering ample lighting, planted medians, tree lined streets, crosswalks and wide sidewalks.

Public Infrastructure/Services

Mitigation Measure GCC-4. The owner, developer, and/or successors-in-interest are required to implement the following measures regarding public services to reduce greenhouse gas emission impacts for the proposed project.

- a. A non-potable source of water (e.g., reclaimed) shall be utilized for landscape irrigation in public spaces.
- b. Provide transit-enhancing infrastructure that includes bus shelters, benches, street lighting, route signs and displays and bus turn-outs.

Building Construction & Energy Conservation

Mitigation Measure GCC-5. The following measures shall be used to accomplish an overall reduction in residential energy consumption relative to the requirements of State of California Title 24:

- a. Energy-efficient design shall be provided for homes and buildings, including automated control systems for heating and air conditioning, lighting controls and energy-efficient lighting in buildings, increased insulation, and light-colored roof materials to reflect heat.
- b. Residences shall be constructed with energy efficient appliances and home systems such as Energy Star appliances, energy efficient (i.e., Low E2) windows, tightly sealed ducts, florescent or energy efficient light bulbs with motion sensors where practicable, backyard outlets for electrical mower and other yard equipment operations, R-6 duct insulation, radiant roof barrier sheathing, 14 Seasonal Energy Efficiency Ratio air conditioning and ventilation systems, air conditioning with Thermostatic Expansion Valve metering devices that help regulate flow of liquid refrigerant, 0.95 Annual Fuel Utilization Efficiency furnaces, and gas dryer stubs.
- c. Buildings and outdoor structures shall include green-building materials, such as low-emission concrete, recycled aggregate, recycled reinforcing, or waffle pods to be used in foundations; recycled plastics to be used in community structures such as fencing or playground equipment; wood flooring materials treated with low emission varnishes and floor board substrates to be made from low emission particleboard; compact fluorescent light bulbs in all buildings; and use of recycled building materials such as recycled aluminum for window frames or post-consumer plastic for piping.
- d. Contractors shall minimize the production of waste and shall recycle construction-related waste where possible.
- e. Use locally made building materials for construction of the project and associated infrastructure to reduce truck trips.
- f. Large canopy trees shall be carefully selected and located to protect buildings from energy-consuming environmental conditions and shade-paved areas. Trees shall be selected to shade 50% of paved areas within 15 years.
- g. Optimize building's thermal distribution by separating ventilation and thermal conditioning systems.
- h. For pool and spa heating and maintenance, use solar heating and automatic covers.
- i. Design buildings to accommodate solar power systems; solar panels on homes, carports over parking areas; solar and tankless hot water heaters; and energy-efficient heating ventilation and air conditioning.
- j. Incorporate the principles of passive solar design shall be incorporated into building structures, including basic design principles are large south-facing windows with proper overhangs, as well as tile, brick, or other thermal mass material used in flooring or walls to store the sun's heat during the day and release it back into the building at night or when the temperature drops.

- k. Include energy-conserving features as options for home buyer. These include:
- o increased energy efficiency;
 - o high-albedo (reflecting) roofing materials;
 - o cool paving;
 - o radiant heat barriers;
 - o installation of solar water-heating systems;
 - o low NOx-emitting or high-efficiency, energy-efficient water heaters;
 - o installation of clean-energy features that promote energy self-sufficiency (e.g., photovoltaic cells, solar thermal electricity systems);
 - o installation of programmable thermostats for all heating and cooling systems;
 - o awnings or other shading mechanisms for windows;
 - o porch, patio, and walkway overhangs;
 - o ceiling fans or whole-house fans;
 - o passive solar cooling and heating designs (e.g., natural convection, thermal flywheels);
 - o daylighting (natural lighting) systems such as skylights, light shelves, and interior transom windows;
 - o electrical outlets around the exterior of units to encourage the use of electric landscape maintenance equipment;
 - o use of low and no-VOC coatings and paints;
 - o natural gas fireplaces (instead of wood burning fireplaces or heaters) and natural gas lines (if available to the project area) in backyard or patio areas to encourage the use of gas barbecues;
 - o pre-wire units with high-speed modem connections/DSL and extra phone lines; and
 - o use of low or nonpolluting landscape maintenance equipment (e.g., electric lawn mowers, reel mowers, leaf vacuums, electric trimmers and edgers).

Water Conservation

Mitigation Measure GCC-6: The owner, developer and/or successors-in-interest are required to prepare a water conservation plan for the proposed project to the satisfaction of the Director of Municipal Utilities. The plan shall address the following, as appropriate:

- a. Water-efficient landscapes shall be provided for all publicly landscaped areas, including parks, roadway medians and roadside landscaping.
- b. Water-efficient irrigation systems and devices shall be required in all landscaped areas.
- c. All buildings shall include water-efficient fixtures and appliances.

Solid Waste

Mitigation Measure GCC-7: The owner, developer and/or successors-in-interest are required to implement the following to reduce the solid waste impacts from the proposed project.

- a. Reuse and recycle construction and demolition waste (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard).
- b. Provide interior and exterior storage areas for recyclables and green waste and adequate recycling containers located in public areas.

Transportation System Management

Mitigation Measure GCC-8: The owner, developer and/or successors-in-interest of the commercial and industrial land uses are required to form a Transportation Management Association or join an existing association to address the following:

- a. Provide bicycle enhancing infrastructure that includes bikeways/paths connecting to a bikeway system.
- b. Promote ride sharing programs by designating a certain percentage of parking spaces for ride sharing vehicles, designating adequate passenger loading and unloading and waiting areas for ride sharing vehicles, and providing a web site or message board for coordinating rides.

Trip Reduction

Mitigation Measure GCC-9: The owner, developer, and/or successor-in-interest (ODS) shall address the following measures during the preparation of improvement plans to address an overall reduction in project-related vehicle miles traveled (VMT), including:

Traffic Calming

- a. Traffic calming measures shall be included as part of the proposed project design with the objective of improving the overall quality of life for neighborhood residents by reducing safety hazards and nuisance impacts resulting from speeding vehicles, careless drivers and cut-through traffic.
- b. Vehicle speeds within the project should be maintained at a level that provides maximum safety for residents. Consistent with the City's adopted Traffic Calming Guidelines, the project shall incorporate roundabouts, short block lengths, traffic circles, and high visibility crosswalks to reduce traffic speeds and enhance pedestrian safety.

Pedestrian Sidewalks & Pathways

- a. Sidewalks and bikeways shall be designed to separate pedestrian and bicycle pathways from vehicle paths.
- b. Sidewalks and pedestrian pathways shall be easy to navigate and designed to facilitate pedestrian movement through the project and create a safe environment for all potential users from obstacles and automobiles.
- c. Sidewalks shall be designed for high visibility (e.g., brightly painted, different color of concrete, etc.) when crossing parking lots, streets, and similar vehicle paths.

Bicycle

- a. The bicycle circulation system should be planned to act as a regional circulation system connecting the proposed project to Stockton's roadway/bikeway system.
- b. Incorporate bicycle lanes and routes into the street system.
- c. Incorporate bicycle-friendly intersections into street design.
- d. Create bicycle lanes and walking paths directed to the location of schools, parks and other destination points.
- e. The bicycle circulation system should be planned to act as a regional circulation system connecting the proposed project to Stockton's roadway/bikeway system.

Transit

- a. A through roadway should connect adjacent developments so as to permit transit circulation between developments.
- b. Shielded openings in subdivisions sound walls should be provided to facilitate more direct pedestrian access to transit stops.
- c. The project would encourage public transportation by incorporating bus turnouts, shelters, and walkways into the design. As detailed in the *City of Stockton's Traffic Calming Guidelines*, the San Joaquin Regional Transit District (SJRTD) will review project site plans and identify potential bus stop locations.
- d. Locate the highest density land use at or within ¼ mile of a transit stop.
- e. Contact San Joaquin Regional Transit District (SJRTD) to identify appropriate location(s) for bus stops within the community
- f. Provide transit-enhancing infrastructure that includes bus shelters, benches, street lighting, route signs and displays and bus turn-outs.
- g. Prior to approval of the Vesting Tentative Map, contact San Joaquin Regional Transit District (SJRTD) to identify appropriate location(s) for bus stops within the community.

Based on the project GHG emissions noted in Table 4.15.C, at a project level, the application of reasonable and feasible measures will assist in reducing the global climate change effects. However, as a result of the uncertainties and professional/scientific disagreements, the ability to forecast project conclusions with absolute certainty remains elusive, irrespective of the implementation of mitigation measures. It is therefore concluded that the project will have a significant and adverse effect absent conclusive findings and measurable thresholds. For this reason, even with the implementation of mitigation measures, including state-of-the-art programs such as Build It Green, the project will have a significant and unavoidable impact on global climate change. The conditions outlined in Significance Criteria GCC-a will occur.

Cumulative Impacts

Operation-related activities would result in The Preserve generated emissions of greenhouse gases (GHGs). The proposed project would accommodate more than 4,366 new residents, which is substantial. Although the overall percentage contribution of project GHG emissions is incremental, when combined with other significant development projects in the City of Stockton and greater San Joaquin County region, the proposed project's contribution to long-term atmospheric GHG emissions would be considered significant on a cumulative basis. The proposed project would produce substantial levels of new GHG emissions, based on a per-capita calculation and a substantial number of new residents, resulting in a significant and unavoidable impact. Mitigation measures would reduce GHG from the proposed project, but they are not sufficient to reduce the proposed project's cumulative contribution to less than significant levels. Because the impact would be significant on a project-by-project basis, it would also result in a significant contribution to global warming impacts on an incremental basis. Thus, the proposed project would result in a substantial contribution to a significant and unavoidable cumulative impact.

Based on the cumulative projects proposed in the City of Stockton and the surrounding region, the incremental contribution of GHG from these projects is substantial in size and scale. When considered collectively, the cumulative effects combine together to create the potential for measurable changes. Even with the application of the proposed measures and design features, the potential climate-related changes will remain significant and unavoidable on a cumulative level. The conditions outlined in Significance Criterion GCC-a will occur.

4.15.4 Level of Significance After Mitigation

Implementation of the additional design features listed above will help reduce the project's contribution to greenhouse gas emissions. However, despite implementation of the project's sustainable design and the mitigation measures, GHG emissions at a project level cannot be completely mitigated and will have an incremental, significant and adverse effect on the environment. When combined with projected growth, the GHG emissions from the project and the total GHG from the region are expected to substantially increase when compared with current conditions. Therefore, estimated cumulative GHG emissions would be considered significant and unavoidable on a cumulative basis.